THE
THIRD FIVE YEAR PLAN
1985–90

PLANNING COMMISSION
MINISTRY OF PLANNING
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
DHAKA
DECEMBER, 1985

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بسم الله الرحمن الرحيم

FOREWORD

The Third Five Year Plan is already in its first year of implementation since July 1985. Its publication has been a little delayed because of the Planning Commission's endeavour to reach a broad based consensus on the major objectives, strategies, policies and targets of the Plan through discussion with informed groups and individuals in the country. It is unrealistic to expect unanimity on many issues relating to so complex a matter like development planning for a poor country. Attempts have, however, been made to formulate the Plan based on the generally accepted national priorities, availability of resources and feasible targets. In doing this, the concerned intelligentsia of the country were associated besides the application of professional inputs necessary for formulation of such a medium-term Plan.

2. Alleviation of poverty through higher production and employment continues to be the major objective of the Third Five Year Plan. This also constituted, to a certain extent, the basic theme of all the earlier development plans in the post liberation period. In the past, development efforts generally focussed on improving the quality of life of the economically disadvantaged group of the society, commonly known as the target group approach of development, in an overall rural development framework. Unfortunately, successive efforts for planned development had largely been marred by external developments and natural calamities including droughts, floods and cyclones in the country.

3. Despite the fact that a large number of projects have spilled over from the Second Five Year Plan, mostly due to failure in their timely implementation, the Third Five Year Plan represents a major redirection of the Bangladesh economy. First, the wide scale decentralisation and devolution of administration and development process that was initiated towards the end of the Second Plan period will be completed when all the administrative and physical infrastructures required for successfully sustaining the system will have been built leading to accelerated development activities undertaken and executed at the local level by the upazila parishads. Secondly, there will be a rational sharing of developmental responsibilities between the Public Sector and the Private Sector. It is intended to entrust with the Private Sector all those enterprises, operations and institutions which can be more efficiently handled in the Private Sector. This will be done through continuous review of both the public sector economic enterprises as well as the private sector undertakings. Thirdly, monetary stability and price rationalisation are important planks for implementation of the Plan towards achieving a relatively stable economy in the face of adverse external circumstances like protectionism, fluctuating terms of trade and aid flow.

4. With emphasis on comprehensive rural development through local level planning and execution of projects, provision of adequate energy supply to run the industries and irrigation facilities, production of basic goods and services, higher employment level, higher level of literacy, improved health

facilities and higher family planning acceptance rates, the Third Five Year Plan sets no more than modest heights to reach. However, achievement of these expectations depend on the implied assumptions such as good weather conditions, political stability, more conducive external circumstances and the like. Moreover, there is great reliance of the Plan on the Private Sector and as such, achievement of the plan targets depends to a large extent on the performance of the Private Sector as well.

5. A Plan is only as good as its implementation. The measure of it lies in its performance and the benefit which accrues to the nation. The Plan can help the nation to attain its objectives only if it is translated into action through timely execution of suitable projects. Alongside with the emphasis on efficient project implementation, it is also necessary to reckon that if our project preparation capability continues to remain weak, which has so long been an unfortunate feature, the Plan itself will lose its strength and vitality. A medium term Plan essentially represents an indicative programme of action which will require necessary adjustments as we go along. The targets of the Plan can only be achieved with the fullest participation of the people which the Plan cherishes most ardently.

6. The cooperation received from my Colleagues in the Cabinet and the officials of the Ministries and Agencies is deeply appreciated. The ungrudging hard work put in by the Members and officials of the Planning Commission in concert with efforts of the planners, economists, educationists, scientists, social thinkers, development administrators as well as entrepreneurs from various sectors deserve due acknowledgement. We are extremely grateful to the Honourable President who is also the Chairman of the Planning Commission for his kind support, encouragement and guidance in the preparation of the Third Plan.

7. In the past, we had not been fully successful in reducing the poverty of the masses. That is however no reason to give up the fight against it. We learn from the very history of our liberation struggle that with dedication we can overcome all adversities and reach our cherished goal. As we have succeeded in our liberation struggle to assert our nationhood, I have all the confidence that this nation can liberate the society from poverty also.

(SULTAN AHMED CHOWDHURY)
Bar-at-Law
Minister for Planning
Govt. of the People's Republic of Bangladesh.
3-12-1985.

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PART I

MACRO CHAPTERS

CHAPTER 1

REVIEW OF PLANNED DEVELOPMENT

SECTION I : AN OVERVIEW

Bangladesh has followed the course of planned development since her independence. The path however has not been primrose-strewn. The economy was in a shamble when the country emerged as an independent State from the War of Liberation : so there was the immediate need for a massive programme for rehabilitation and reconstruction of the economy. However, the expectation that was kindled by the newly won freedom also made it imperative to adopt a planned development of the economy in order to steer it through the difficulties to prosperity which everyone could share. But planned efforts made over the last 12 years for socio-economic development were frustrated by external and internal events. Externally, the world economy worsened as it passed through a period of rapid inflation and stagnation during the last decade, followed by recession in the first half of 1980's. They affected adversely both external resource inflow and export and, in turn, retarded the growth of the economy of Bangladesh. Internally, frequent natural calamities like floods, droughts and cyclones caused significant loss of crops which sapped the vitality of the rural population. The economy of Bangladesh continued to remain fragile as over half of GDP coming from agriculture remained precariously dependent on nature. In spite of the drive for development of mechanical irrigation in the winter season, only one-fourth of the cropped land (net) could be brought under irrigation by the close of the Second Plan. In short, for lack of resources and organizational limitations the desired technological transformation of the agrarian economy of Bangladesh could not make much progress. The investment targets could not be realised during the First and the Second Plans due to external and internal resource constraints.

1.2 The table below shows the size of the successive plans and development outlays :

TABLE 1.1

Plan Size and Outlay

(Tk. in crore)

Plans	Plan Size	Actual Outlay	Gross Aid Inflow
(i) First Plan (1973—78)	4,455	2,074	1,491
(ii) Two Year Plan (1978—80)	3,861	3,359	2,581
(iii) Second Plan (1980—85)	17,200	15,297	9,708

Note : Outlays adjusted to base year wholesale price indices and aid disbursement at base year import prices converted by base year exchange rate.

1.3 One important feature of development planning is that all the three plans remained overwhelmingly dependent on foreign aid. Share of external aid was 71·9% in the First Plan, 76·8% in the Two Year Plan and 63·5% in the Second Plan. An important trend characteristic of aid inflow was its unevenness rising in the terminal year. In general, the economy was characterised by two types of external dependences—dependence on foreign aid and dependence on nature and both grew adverse to the steady growth of the economy.

1.4 Given the difficult environments the government took a number of measures for improvements of development administration to make it more cost effective and efficient. These consisted of measures from reorganisation of ministries and public corporations to relieving the economy from excessive public control. The scope of the private sector has been continuously expanded since 1975 climaxing in the declaration of the New Industrial Policy in June, 1982 under which only six industries (including some utilities) were kept in the reserved list for the public sector while all others were placed in either free list or concurrent list for the private sector. Further, to stimulate private investment incentive structure was rationalised and expanded together with the adoption for a flexible exchange rate for stimulating export and making import less attractive against domestic production. Between 1972 and 1985 taka depreciated by over 450% and export at constant prices increased by 57% only at the rate of 3·6% a year. In the public sector price control was relaxed and subsidies were reduced to mobilize more domestic resources for development of the public sector which, even after expansion of the scope of the private sector, continued to have a critical position in the development of economic, social and physical infrastructures.

1.5 The public sector's efforts for resource mobilisation can be seen from the table below :

TABLE 1.2

Major Price Adjustments
(1973 to 1985)

Goods/Services.	Price in 1973	Price in 1980	Price in 1985	%Increase 1973 to 1985
(i) Ration Rice (Tk/Kg)	1·07	3·75	7·10	564
(ii) Urea Fertilizer (Tk/Kg)	0·80	1·87	4·33	441
(iii) Cement (Tk/bag)	31·0	79·00	98·00	216
(iv) Electricity (Tk/Kwh)	0·19	0·99	1·52	700
(v) Kerosene (Tk/gl)	1·70	17·65	32·78	1828
(vi) Gasoline (Tk/gl)	6·76	47·00	68·46	913
(vii) Natural Gas (Tk/MCF)	2·31	8·86	20·42	784
(viii) Furnace Oil (Tk/gl)	1·24	15·60	24·56	1880
(ix) Rly. Passenger (Tk/Km)	0·04	0·10	0·14	250

Note : Price prevailing as on 30th June of each year ; Rly. passenger fare of 1973 is for 1974/75.

It is to be noted that price adjustments generally lagged behind inflation in 1970's and accelerated in 1980's when resource crunch had a crushing effect on the size of the public sector development programmes which are discussed in short in the following sections.

1.6 The size of the First Plan was Tk. 4,455 crore (at 1972/73 prices)—Tk. 3,952 crore for the public sector and Tk. 503 crore for the private sector. The first Annual Development Programme (ADP) of 1973/74 was of the size of Tk. 332·2 crore; by the end of the First Plan it was Tk. 527·8 crore and rose to Tk. 830·8 crore in 1979/80 and to Tk. 718·1 crore in 1984/85—all at 1972/73 prices (wholesale price deflator). The growth of ADP over different plans is shown in table 1·3 below :

TABLE 1·3

Annual Development Programme

(Terminal Years of Plans starting with 1973/74)

[Tk. in crore]

Year	Revised ADP at current prices	RADP at 1972/73 prices
1973/74	464	332
1977/78	1203	528
1979/80	2330	831
1984/85	3498	718

Note : Deflator used is WPI with 1972/73 as base.

1.7 At constant prices the annual growth rate of ADP was only 7·3% between 1973/74 and 1984/85 ; the rate however varied significantly from Plan to Plan. During the First Plan annual development programme grew at 12·3% growth mainly occurring after 1975/76 ; during the Two Year Plan it grew at twice this rate (25·6%), but in the terminal year of the Second Plan it declined in real terms. As the public sectors programme came under severe resource constraint, efforts were directed to restructure ADP as an instrument of growth. First attempt was however made in 1975/76 through the formulation of the Hard-core Programme and various stabilization measures such as demonetization of high denomination notes and devaluation of taka by over 58%. These measures helped tax-GDP ratio rise from 4·2% in 1972/73 to 7·5% in 1977/78 and saving ratio from zero to 4·6% over the same period. But while the ongoing schemes continued to restrain resources new projects also continued to be added to the programme with a view to reaching the cherished goals. This increased the severity of competition for limited resources resulting in cost and time over-run. By the end of the First Plan there were 1322 projects incomplete, too many to be effectively implemented with limited resources; hence a planned respite was taken by interposing between the First and the Second Plans, a Two Year Plan in order to complete maximum number of ongoing schemes within the available resources and contain the tyranny of ongoing schemes. In two years more projects were completed than in the previous 5 years and the carry-over schemes declined from 1322 in 1978/79 to 1054 in 1980/81 though more new schemes were added in two years.

1.8 It was in 1982/83 when a thorough review of ADP was undertaken with rising resource problem. At that time there were 1675 schemes in the ADP and large number of schemes were dropped or deferred for lack of high priority, which enabled more efficient use of resources for completion of important projects. Total number of projects undertaken, new and ongoing during the Second Plan were 1948 including ATAP and self-financing projects; of which 298 projects were dropped/deferred, 1037 were completed and 613 schemes were thrown forward.

1.9 Though public policy towards the private sector was gradually relaxed it could gather momentum only slowly. First Plan allocated Tk. 503 crore and private investment during the First Plan was Tk. 887 crore (at current price) only; it increased to Tk. 1135 crore during the TYP and to Tk. 6871 crore over the Second Plan period. At 1972/73 prices private investment was as follows over the different plans :

TABLE 1·4

Private Investment (1973—85)

[Tk. in crore]

Plans	Plan Allocation (at base year prices)	Investment (at current prices)	Investment (at 1972/73 prices)	Investment (at base year prices)
(i) First Five Year Plan ..	503	887	439	439
(ii) Two Year Plan	600	1,135	421	957
(iii) Second Five Year Plan ..	6,100	6,871	1,772	4,969

Note : Deflated by wholesale price indices.

Since 1973/74 private investment increased from Tk. 68·0 crore to Tk. 134·6 crore in 1977/78, to 285·0 crore in 1979/80 and to Tk. 406 crore in 1984/85 giving an annual growth rate of 17·7% over the entire plan period.

1.10 But in spite of this rapid growth of private investment total planned outlay (public plus private) increased at the rate of 9·9% a year from Tk. 400·0 crore in 1973/74 to Tk. 1124·4 crore in 1984/85 at constant prices of 1972/73. Development outlay was 7·8% of GDP in 1973/74 rising to 11·3% in 1977/78 and to 17·2% in 1979/80; but in 1984/85 it declined to 15·7%.

1.11 The impact of this trend in outlay was not however proportionate to growth in development outlay. During the First Plan, though the development outlay as a ratio of GDP was low, the existence of large unutilized capacities in the economy after independnce helped a significant growth to be achieved with the rehabilitation and reconstruction of the war-torn economy. The economy reached its normal level of output in 1976/77 after which more output also needed more investment. Thus existence of large idle capacity in the beginning of the planned development and increasing

investment for capacity creation with gestation lag resulted in the variation of growth rate over the different plan periods as shown in the table below:

TABLE 1.5

Macroeconomic Changes in the Economy

Macro-indicators	First Plan (1973—78)	Two Year Plan (1978—80)	Second Plan (1980—85)
(i) GDP Growth (%)	6·1	3·5	3·8
(ii) Export Growth(%)	1·8	—3·2	4·9
(iii) Import Growth (%)	0·5	12·3	4·5
(iv) Foreign Aid Growth	—2·1	2·3	3·3
(v) Investment as a % of GDP (Terminal Year) ...	13·5	15·9	17·3
(vi) Saving as a of % GDP (Terminal Year) ..	4·6	4·2	4·2
(vii) Tax-GDP Ratio (Terminal Year)	7·5	8·0	8·2

1.12 In spite of reduced development outlays and debilitating external conditions including unfavourable weather the economy made significant progress. By 1976/77 the economy reached its pre-independence level of GDP though it suffered severe damages and dislocation during the War of Liberation. In 1972/73 GDP was Tk. 4530 crore and it reached Tk. 7829 crore in 1984/85 at 1972/73 prices giving an annual growth rate of 4·7%. During this period (1973—85) most significant achievement was in food sector where output increased from 10·0 million tons in 1972/73 (11·9 million tons in 1969/70) to 15·8 million tons in 1984/85; this gives an annual growth rate of 3·9%. In general, agriculture sector achieved a significant progress due to increasing emphasis on rural development with food and agriculture as its centre piece growing at the rate of 3·8% a year. Since this growth was less than that of GDP, share of agriculture in GDP declined from 60·1% in 1972/73 to 54·3% in 1984/85. On the other hand, industrial output which had severely declined during the War of Liberation about doubled in value added term between 1972/73 and 1984/85. Annual growth rate of the industries sector for the entire period (1972—85) was 6·2% and its share in GDP rose from 7·3% in 1972/73 to 8·6% in 1984/85 at 1972/73 factor cost. The rest of the economy grew at 5·8% a year increasing its share in GDP from 32·6% in 1972/73 to 37·1% in 1984/85. Among the other sectors rapid growth took place in the power and gas (14·0% a year) sector. Power and gas sector received emphasis because of the oil crisis which led to phenomenal increase in oil import bill from $ 30·5 millions in 1972/73 to its highest level of $ 547 millions in 1981/82 after which it declined to $ 359 millions in 1984/85.

1.13 The following table gives the growth and changes in the structure of GDP in a simplified form from 1972/73 to 1984/85.

TABLE 1.6

Growth and Structure of GDP

(At 1972/73 factor cost)

[*Tk. in crore*]

Sectors	GDP of 1972/73	GDP of 1984/85	Annual Growth Rate (%)	Share of GDP (%) 1972/73	Share of GDP (%) 1984/85
(i) Agriculture	2722·0	4248·6	3·8	60·1	54·3
(ii) Industries	329·8	676·8	6·2	7·3	8·6
(iii) Other Sectors]	1478·2	2903·6	5·8	32·6	37·1
Total ..	4530·0	7829·0	4·7	100	100

SECTION 2: EVALUATION OF THE SECOND PLAN

The Second Plan was prepared within a broad framework of a Twenty Year Perspective Plan taking into consideration objective realities obtaining within the country and outside and the development experiences of the recent past. At the beginning of the Plan even after seven years of efforts, the country was beset in abject poverty, chronic unemployment and above all jugged social inequality. Only an intense desire and determined efforts to overcome them in a planned way could make things change. After a frustrating start of the First Plan, the economy began to improve reaching a growth rate of 5·2 in the second half of 1970s. In the background of this promising turn in the domestic economy the Second Plan (1980—85) was formulated with a total cost of Tk. 17,200 crore (at 1979/80 prices) Tk. 11,100 crore for the Public Sector and Tk. 6,100 crore for the Private Sector. The Plan envisaged a growth of 5·4% annually as compared to 6·1% in the FFYP and 3·5% in the TYP.

Planned Objectives and Targets

2.2 Like the preceding plans the Second Plan's objectives were determined by the socio-economic imperatives of endemic poverty, unemployment and malnutrition, alarming growth of population, illiteracy and above all, dependence on foreign aid. The main strategy of the Plan to accelerate growth was the particular emphasis on agriculture to meet food gap and harness its growth potential through water resources development. However, because of the resource constraints the output and physical targets of the SFYP were set keeping in view the overall growth prospect of 5·4% annually. Total merchandise imports were projected to grow marginally from $ 2366 millions in 1979/80 to $ 2399 millions in 1984/85 (at 1979/80 prices) and exports from $721 millions to $ 1095 millions

over the same period. In the Plan however relatively greater emphasis was laid on the energy and social sectors. In the energy sector the focus on power generation, gas production and transmission and rural electrification was sharpened and their targets were to contain import bill of fuel. Primary enrolment target was fixed at 130 lakh and contraceptive prevalence rate at 37·5%.

Financial Performance

2.3 The planned outlay was Tk. 17,200 crore at constant prices or Tk. 25,060 crore at current prices. It is estimated that the actual utilisation through RADPs amounted to Tk. 13,929 crore (at current prices) against Tk. 16,060 crore envisaged in the Plan. ADP (revised) allocation was however Tk. 15,293 crore, 95% of the planned outlay, and the actual utilization was 13·3% short of planned outlay. Price-adjusted public sector outlay under ADP remained more or less unchanged during the plan period, around Tk. 2,000 crore a year and total outlay amounted to Tk. 10,330 crore at 1979/80 prices (deflated by wholesale price) attaining 93·1% of the plan allocation for the Public Sector.

2.4 The development impact of public sector outlay was diluted as the limited resources were spread over a large number of projects. This was a great concern during the Second Plan. Total number of schemes including ATAP and self-financing undertaken during the plan period was 1948 and the highest number of projects in execution in a single year was 1675 in 1981/82. In view of continuing financial stringency 298 schemes were dropped/deferred during Second Plan. In all 1037 schemes were completed during the plan period while 613 schemes have been carried forward to the Third Plan as compared to 1054 schemes inherited from the preceding Plan.

2.5 In addition to reduction of the number of schemes to accommodate ADP to resource constraints the schemes under Annual Development Programme were divided into two categories—core and non-core, so that the schemes in the first category could be protected against unexpected resource shortfall. Both these changes were intended to reduce the intensity of competing claims on limited resources and accelerate project implementation with adequate funding. As a result the number of completed projects increased from 160 in 1980/81 to 323 in 1984/85. The Second Plan experiences however revealed the fact that resource is not the only constraint to project implementation, though it re-established one of the basic principles of planning decision through the exclusion of a large number of ongoing schemes that no decision in planning is irreversible and a plan commitment is good so long as the assumption and external conditions hold, thereby exploding the fiction of the so-called tyranny of ongoing schemes.

2.6 Financial performance of the private sector suffered more seriously than the public sector's due to poor recovery of loan by the development financial institutions (DFIs) which led to the freezing of their lines of credits. This break of the credit line brought the DFIs virtually to a stand-still situation and together with them the activities in the modern industries of the private sector in the last year of the Plan.

The silver-lining in this situation was the private remittances which helped finance a number of industries and the disinvestment process initiated in late seventies which was accelerated in the second half of the plan period. This along with the New Industrial Policy declared in June 1982 helped maintain the spirit of the private sector in an otherwise debilitating environment. Total private investment is estimated at Tk. 4969 crore—about 18·5% less than envisaged in the Plan. Annual growth of private investment was 7·5% only.

Growth of GDP

2.7 The Plan envisaged a 5·4% annual rate of GDP growth ; but because of resource constraint and natural calamities the target could not be achieved. It is estimated that actual growth was 3·8% a year. There was however considerable see-saw fluctuations in year-to-year growth rate over the plan period, mainly because of weather. Best performance was in 1980/81 when a bumper crop was harvested to be followed by an equally bad crop in 1981/82, when agricultural growth was negative and the overall growth of GDP was brought down from 6·1% in 1980/81 to 0·9%. In these respects some observations are in order. First, 1980/81 growth followed a relatively drought year of 1979/80 which, besides the bumper crop of 1980/81, affected the growth rate of the latter year. Secondly, the more usual pattern of a low economic growth followed by a high one was broken in 1982/83. The negligible growth of 0·9% in 1981/82 was followed by only a moderate growth of 3·7% such that over those two years (1981—83) per capita income failed to increase. In 1982/83, though agriculture recovered attaining a growth rate of 4·7%, overall growth was dampened by the adjustment measure taken in that year resulting in a slow-down of industrial growth from 8·8% in 1980/81 to 2·9% in 1981/82 and decline in the construction activities.

2.8 The experiences of the Second Plan bare open once again the basic nature of the economy—its overwhelming dependence on weather. During the Second Plan the weather played a more dominant role than before. Out of the 5 years of the Plan the economy faced three years of bad harvest against a more usual 3-year cyclical pattern. In 1984 over a million tons of rice were lost due to repeated floods and only a part of it could be recouped through stepped-up activities in the following seasons. Other crops like jute and sugarcane were also severely damaged in 1984. The economy lost about a percentage point of GDP a year due to natural causes, which had also secondary effect on non-agricultural sectors, particularly industries, due to both short supply of raw materials (*e.g.* jute and sugarcane) and reduced demand for consumer goods. What follows from this is that the growth potential of the economy is much higher than what was experienced during the Second Plan period.

2.9 Nor should it be overlooked that international environment was not congenial for growth over the Second Plan period. World trade and aid were generally stagnant in the early years. Deflationary policy pursued in developed economies and revival of protectionism led to a decline in world trade in 1982/83. Bangladesh lost over a billion $ of resources in her trade with the rest of the world as a result of decline in the terms of trade. During the first three years aid inflow in real terms remained below the benchmark level of $ 1223 millions — $ 1075 millions in 1980/81, $ 1196 millions in 1981/82 and $ 1191 millions in 1982/83, and the overall growth of foreign aid in real terms was 3·3% against GDP growth of 3·8%, showing again the untapped potential of the economy.

2.10 The following table shows the growth and changes in the structure of GDP in a simplified form :

TABLE 2·1

Growth and Structure of GDP
(at 1979/80 factor cost)

[Tk. in crore]

Sectors	GDP of 1979/80	GDP of 1984/85	Annual Growth Rate (%)	Share of GDP (%)	
				1979/80	1984/85
(i) Agriculture	8,919·1	10,584·6	3·5	51·6	51·0
(ii) Industries	1,421·6	1,773·3	4·8	8·2	8·7
(iii) Other Scetors	6,938·3	8,365·1	3·8	40·2	40·3
Total ..	17,279·0	20,743·0	3·8	100	100

2.11 It is to be noted that during the Second Plan period the differential rate of growth among agriculture, industries and the other sectors was not substantial enough to effect any significant change in the structure of GDP. If weather effect is considered, even the little change in the structure as observed will be wiped out. In fact, the long-term structural change as seen in developed economies could not be initiated during the Second Plan for lack of investible fund. Whatever limited resources were available had to be allocated to priority sectors such as food and energy, which only can satisfy the essential conditions (cheap food and energy) for long-term structural shift. Food production, in spite of losses, increased at the rate of 3·5% exceeding population growth by half; electricity generation and gas production grew at 3 and 4 times the rate of industrial growth respectively.

Consumption, Saving and Investment

2.12 Income (GDP) growing at a rate of 3·8% against a population growth of around 2·4% left no happy choice between consumption and saving growths. As domestic resource remained a severe constraint to development efforts in a world of trade and aid becoming increasingly stingy over the Plan period, a set of price readjustment measures was taken in the middle of the Plan to mobilize additional resources in the public sector while simultaneously encouraging private saving and investment through fiscal and monetary incentives. All these led to a substantial improvement in domestic saving. The terminal year (1984/85) domestic saving rate reached 4·2% against the planned target of 7·4%, envisaged at a much higher level of income. More than one-third of the incremental income was saved, giving a marginal rate of saving of 34·4% against 14·7% assumed in the Plan, thus, less than two-thirds of incremental income went to finance additional consumption against 96% spent on this account on average. The international environment as well as domestic conditions led to a very slow growth of consumption 1·8% a year against 2·4% population growth. Though monetary expansion and

foreign remittances encouraged consumption and speculative trade, inflationary pressure created thereby dissipated saving propensity. This brought about the 1982 measures in both the monetary and fiscal areas to encourage saving and depress aggregate demand. Interest rates on bank deposits were raised to ensure positive real interest rates over inflation to encourage saving and prices of public goods and services were raised to reduce subsidies or losses. All these affected income distribution, saving and consumption. Their dampening effect on aggregate demand was reflected in the reduced industrial growth on one hand and building up of foreign exchange reserve on the other. While domestic demand was depressed by various price and fiscal measures, export growth (4·9%) helped production in some sectors to expand. Lack of domestic demand inhibited investment which was further hurt by the freezing of credit lines to development institutions.

2.13 **Food Situation:** Major constraint on consumption was in basic needs such as food and cloth which was due to lack of employment and income. During the Second Plan as well as in earlier period a number of development programmes were executed to alleviate rural poverty; but their impact was not strong enough to stem the deteriorating poverty level and ensure common man access to basic needs. The proportion of rural households falling below the minimum standard nutrition (2273 kcals) increased from 59% in 1975/76 to 76% in 1981/82. So, during the Second Plan twice as much food was distributed through the Food for Work Programme as had been done in the preceding 5 year period to reach food to poor families through short-term employment, though food production increased at one and half times the rate of population growth. The Second Plan experience in the food front clearly demonstrated the fact that production alone was not sufficient to ensure consumption. In a situation of pervasive poverty and wide-spread unemployment, employment and income generation and distribution are as important as production. Overall per capita calorie intake has risen only marginally between 1981/82 and 1984/85, from 1943 kcals to 1950 kcals, the level still being below the 1975/76 level of 2094 kcals; while protein intake declined further from 48·4 gm. in 1981/82 to 45·5 gm in 1984/85 against 58·4 gm in 1975/76. However, against this depressed level of consumption it appears that the proportion of rural households below the minimum nutrition standard declined in 1984/85 to 64% from 76% in 1981/82 due to massive food intervention and the recovery of agriculture after its decline in 1981/82.

2.14 **Saving and Investment:** In spite of substantial effort for saving mobilization Bangladesh continued to live under the spell of saving-investment and export-import gaps during the plan period, though the growth of remittance and domestic adjustment measures narrowed the gaps significantly. The external resource gap declined from Tk. 2544 crore in 1979/80 to Tk. 1519 crore in 1984/85 at 1979/80 prices. Even if terms of trade losses are ignored export-import gap of 1984/85 (Tk. 2558 crore) was at about the same level as in 1979/80. In real terms export grew at 4·9% against 4·5% growth in import at 1979/80 prices. Narrowing down of export-import gap also reduced per force the saving-investment gap. Declining export-import and saving-investment gaps speak themselves of the efforts made by Bangladesh to face the reality and its urge for development. Estimated total investment amounted to Tk. 14,635 crore against tre planned target of Tk. 16,579 crore, thereby having a short-fall of 11·7%. Public Sector investment was Tk. 9,666 crore and private sector Tk. 4,969 crore against their respective target of Tk. 10,479 crore and Tk. 6,100 crore.

2.15 Year-wise breakdown of estimated investment at 1979/80 prices for the Second Plan is shown below :

TABLE 2 2

Public and Private Sector Investment (1980—85)

[Tk. In crore]

Year	Public	Private	Total
1979/80	**2056**	**799**	**2855**
1980/81	2035	924	2959
1981/82	1633	863	2496
1982/83	2025	911	2936
1983/84	1996	1132	3128
1984/85	1977	1139	3116
Total (1980—85) ..	9666	4969	14635
% of Plan target	92·2%	81·5%	88·3%

Note : Current investment deflated by wholesale price indices.

Domestic Resource Position

2.16 Second Plan suffered a serious resource crunch from its very beginning. During the first two years of the Plan the actual aid inflow was $ 2387 millions against the projected inflow of $ 3084 millions—a shortfall of 23%. In fact, average annual inflow of aid was virtually stagnant at the level of 1979/80 ($ 1223 millions). This shortfall in aid affected import and import tax collection. On the other hand export earning also failed to meet the planned expectation due to recessionary condition prevailing in developed countries. During the first two years export earning was $ 1674 millions against the planned projection of $ 1788 millions at 1979/80 prices, though actual export at current prices was $ 1337 millions because of decline in unit price of export. Increased inflow of remittances partly eased the problem of import financing, but the combined effect of aid stagnation and slow growth of export was a retarded growth of import. Import level was $ 4698 millions at 1979/80 prices ($ 5105 millions at current prices) during the first two years against their planned target of $ 5282 millions. As a result of lower import, dutiable import (at current $) increased slowly at average annual rate of 5·7% during the first two years ; only rapid depreciation of taka from $=Tk. 15·5 in 1979/80 to $=Tk. 20·0 in 1981/82 helped import tax collection to increase at the rate of 16% on average.

2.17 Besides the above direct effect, tardiness of aid, export and import adversely affected expansion of domestic output, particularly in the industrial sector and consequently, internal revenue collection like excise. Unfortunately, the situation was aggravated by the harvest failure of 1981/82 which not only led to the negative growth of agriculture, but also brought industrial growth to slump to 2·9% from 8·8% in the previous year.

Overall economic growth was about 3·5% on average a year against the planned growth rate of 5·4%. This failure of growth severely handicapped domestic resource mobilization according to planned expectation. During the first two years estimated expenditure amounted to Tk. 4268 crore only at 1979/80 prices.

2.18 In the private sector the situation was better in the first two years than the planned expectation due to adoption of an ever increasing liberal policy towards the private sector. The level of private investment increased from Tk. 799 crore in 1979/80 to Tk. 924 crore in 1980/81 and to Tk. 863 crore in 1981/82. In two years it realized 97·7% of the projected private investment.

2.19 Due to resource constraints both internal and external, the Plan was finalized at Tk. 17,200 crore. In view of the performance of the private sector it was given a greater allocation (Tk. 6,100 crore) and new industrial policy was announced in June, 1982 to stimulate private investment further. Domestic resource was estimated at Tk. 8,132 crore and net foreign aid at Tk. 7,091 crore. The estimate of domestic resource implied a saving rate of 7·4% and a tax-GDP ratio of 9·5% in 1984/85 against 4·2% and 8·0% respectively in 1979/80.

2.20 However, the planned expectation about resource mobilization, particularly that of domestic resource, did not fully materialize over the plan period because of unexpected developments in both domestic and external sectors. In 1982/83 world trade declined and the international aid and trade situations remained depressed until 1984/85. This late recovery had little impact on aggregate resource mobilization for the Plan. Aid inflow increased slowly and amounted to $ 3,766 millions during the last three years of the Plan. Compared with the stagnant condition of nominal aid, export increased at the rate of 14·5% a year in nominal term and import at the rate of 1·7%. Their adverse effect on import tax collection was compensated by the depreciation of Taka from $ = Tk. 15·5 in 1979/80 to $ = Tk. 26·0 in 1984/85 giving an annual rate of depreciation of taka of 10·9%. As it increased the cost of import in taka terms, taka value of import increased at about 13% a year. Balance of payments problems also affected growth of domestic manufactures as there were frequent shortage of raw materials and spares. Industrial growth was also adversely affected by frequent loss of crops due to bad weather which retarded growth of rural income and demand for manufactures.

2.21 In 1982/83 a number of price and fiscal adjustments were made to ease balance of payments and resource problems. Prices of a number of public sector goods and services were raised in order to reduce subsidies and losses and to mobilize domestic resources. Such upward price adjustments, as intended, depressed demand such that industrial growth failed to maintain its momentum; in 1982/83 it really stumped to 0·3%. Overall industrial growth for the plan period was 4·8% only a year against 3·8% GDP growth. This slow growth of the industries sector affected internal revenue collections.

TABLE 2·3

Price Adjustments
(1979/80 to 1984/85)

[Fig. in Taka]

Items.	Price in 1979/80	Price in 1984/85	% change
I. Food Items :			
(1) Ration Rice (per md.)	137·0	262·0	91·2
(2) Ration Wheat (per md.)	107·0	167·0	56·1
(3) Ration Suger (per md.)	5·6	13·0	132·1
II. Intermediate Goods :			
(4) Cotton Yarn (32 c/lb)	20·45	32·92	61·0
(5) Cement (per bag)	79·00	98·00	24·1
(6) Urea (per md.)	70·00	161·48	130·7
III. Services and Utilities :			
(7) Rly. Services (per mile passenger fare) ..	0·10	0·14	40·0
(8) Electricity (per Kwh)	0·99	1·52	53·5
(9) Natural Gas (per M. cft.)	8·86	20·42	130·5
(10) Postal Rates (per envelope)	0·40	1·00	150·0

2.22 The second important development in the management of the economy was the adoption of the new industrial policy in 1982 which expanded the area for private investment. In support of this policy fiscal structure was rationalized and the incentive structure expanded. This included reduced rate of duties on imported machinery and raw materials, reduced personal and company taxes, enhanced rebates on export, increased tax exemptions and investment allowances, etc. During the Second Plan effective import duty declined from 27% in 1979/80 to 26% in 1984/85. As a result, import duty collection increased by 101·5% over the plan period than the combined rate (91·0%) of increase of dutiable import in $ and exchange rate depreciation. The rate of growth of tax revenue was 14·3% a year against an inflation rate of 11·7%; that is, in real terms tax revenue growth was 2·5% against the GDP growth of 3·8%. Tax-GDP ratio grew from 8·0% to 8·2% against the planned target of 9·5%.

2.23 The revenue position for the plan period is shown below:

TABLE 2·4

Tax Collection during SFYP (1980—85)

(At 1979/80 prices)

[Tk. in crore]

Sources.	1979/80 (Actual).	SFYP			Average Growth Rate (%)
		Projection	Actual	Shortfall (%)	
(1) Customs Duties ..	625	4,618	4,455	3·5	12·4
(2) Excise Taxes	285	3,001	2,641	12·0	19·8
(3) Sales Taxes	284	2,162	1,735	19·8	7·6
(4) Income Taxes	182	1,504	1,562	..	16·5
(5) Others	84	468	761	..	21·5
Total ..	1,460	11,753	11,154	5·1	14·3

2.24 It is to be noted that tax revenue fell short largely in internal commodity taxes where tax administration is generally difficult. The shortfall would have been larger if new measures would not have been introduced during the plan period.

2.25 Because of flagging import and expansion of incentive structure for the private sector greater effort was made in increasing non-tax revenue through pricing of public sector goods and services as already mentioned. Non-tax revenue, as a result, more than fulfilled the planned target of Tk. 2,869 crore by Tk. 94 crore. Additional contribution came from the public sector financial institutions, mainly from the Bangladesh Bank as a result of its increased refinancing programme in a rapidly expanding credit programme. Though prices of many public sector goods were raised and price control was relaxed the contribution of public sector corporations was nominal. Six industrial sector corporations contributed only Tk. 96·8 crore.

2.26 Total government revenues increased from Tk. 1,771 crore in 1979/80 to Tk. 3,675 crore in 1984/85 and total contribution over the 5 year period of the Plan was Tk. 14,117 crore against the plan projection of Tk. 16,540 crore implying a shortfall of Tk. 2,423 crore (14·6%). Non-tax revenue which accounted for 1·7% of GDP in 1979/80 was 2·4% of GDP in 1984/85 and the share of total revenue increased from 9·7% to 10·6% over the same period. While the domestic resource mobilization effort in the public sector failed to reach the planned target few factors need also to be taken into view: first, tax exemption and reduction for promotion of private sector; secondly, as the prices of goods and services in the public sector were substantially raised in the face of slow growth of the economy, consequent depressed demand inhibited sales and revenues of public enterprises.

2.27 Against the slower growth of revenues there was also increased demand on resources from public administration due to decentralisation of administration, increased compensation of the public sector employees, food purchases, relief measures, etc. Revenue expenditure increased from Tk. 1,236 crore in 1979/80 to Tk. 3,128 crore in 1984/85 exceeding the total planned estimate of Tk. 10,278 crore by Tk. 454 crore. As a result, revenue surplus, having increased from Tk. 535 crore in 1979/80 to Tk. 929 crore in 1980/81 declined to Tk. 547 crore in 1984/85 and the total for the plan period amounted to Tk. 3,385 crore against the planned estimate of Tk. 6,262 crore—a shortfall of Tk. 2,877 crore (45·9%). In 1983/84 however government floated a special treasury bond to map up excess liquidity in the banking sector.

2.28 Though expanded tax incentives to private sector partly explain this shortfall in the public sector, there was no off-setting effect in the private sector. Private investment which was fixed at Tk. 6,100 crore could not be also reached, apparently for lack of institutional finance but the main reason was the failure of the private enterprises to generate resources for self-financing and debt repayment. Private sector investment amounted to Tk. 6,871 crore in current prices and Tk. 4,969 crore in 1979/80 prices implying a shortfall of 18·5%. Across the private sector 69% of the total investment of Tk. 6,871 crore was financed through institutional credit.

2.29 A substantial part of private investment came to be also financed from remittances. The Plan envisaged a total remittances of $ 2,542 millions at current prices over its 5 year period. Though during the first 3 years remittance increased quite rapidly from $ 263 millions in 1979/80 to $ 598 millions in 1982/83, it began to decline from 1983/84 due to slump in the world oil prices and deceleration of the pace of development in the Middle-East. Total remittance amounted to $ 2,383 millions giving a shortfall of 6·3%. This adversely affected both import and private saving and investment.

2.30 In spite of considerable efforts to mobilize domestic resources through fiscal and price adjustments, fiscal and monetary incentives for private saving and investment and flexible exchange rate to encourage remittances, saving failed to reach the planned target. National savings as a % of GDP was estimated at 7·0 in 1984/85 compared to the plan target of 11·2%.

Balance of Payments Situation

2.31 During the plan period the balance of payments came under serious strain due to increasingly difficult international trade and aid conditions. At the time of launching the Second Plan aid inflow which had been rising steadily in the second half of 1970s reached the level of $ 1,223 millions in 1979/80 and financed over half of imports of Bangladesh. It is in the light of this trend that the Second Plan projected its expectation of foreign aid, but in the very first year of the Plan aid inflow turned downward and continued for next two successive years, annual aid inflow remained below the 1979/80 level. The Plan envisaged foreign aid inflow of $ 6897 millions at current prices ($ 6094 millions at constant prices of 1979/80). Actual inflow of foreign aid amounted to $ 6153 millions for the plan period: at 1979/80 prices the inflow is estimated to have been $6,263 millions. Aid inflow which remained below or very close to the 1979/80

level during the first three years of the Plan recovered in 1983/84 and reached in the final year the level of $ 1,321 millions which was 8·0% above the benchmark. The foreign aid inflow fell short of the projection by 10·8% in nominal terms. It needs to be particularly mentioned here that the downward adjustment policies pursued since 1982/83 on ground of scarcity of resources dampened import demand. Further the remittances which enabled to maintain the level of import during the first two years of the Plan began to decline in 1983/84 after reaching its peak of $ 598 millions in 1982/83. In the terminal year it fell to $ 470 millions. Total remittances over the plan period nominally exceeded planned target of $ 2350 millions by $ 53 millions only.

2.32 Besides the level of total import, its structure and annual flow which are important for development showed considerable instability. At 1979/80 prices import between the base and terminal years increased at the annual rate of 4·5% but the average rate of growth was 1·7% only as in the intermediate period imports fluctuated. As a matter of fact, import remained below or very close to the 1979/80 level during the first three years of the Plan in real terms and made most of its gain in the final year of the Plan as shown below:

TABLE 2.5

Import Level

[In millions $]

Year	Nominal Import	Real Import
1979/80	**2,366**	**2,366**
1980/81	2,533	2,317
1981/82	2,572	2,381
1982/83	2,310	2,287
1983/84	2,342	2,497
1984/85	2,700	2,950
Total (Second Plan) ..	12,457	12,432

Note.—Real import at 1979/80 prices.

2·33 The overall aid situation is given in the following table :

TABLE 2.6

Aid Inflow

[*In million* $]

Year.	Actual Inflow	Inflow (at 1979/80 Prices).
1979/80	**1,223**	**1,223**
1980/81	1,147	1,075
1981/82	1,240	1,196
1982/83	1,177	1,191
1983/84	1,268	1,362
1984/85	1,321	1,439
Total ..	6,153	6,263

Though aid inflow exceeded the projection in real terms, it is to be recognized that, while the real increase was only 3·3% a year, a much slower growth of nominal aid adversely affected customs receipts. The latter effect was partly mitigated by the depreciation of domestic currency. Taka was depreciated by 67·7% over the plan period, from $=Tk. 15·5 to Tk. 26·0 in 1984/85 or by 11% a year.

2.34 Since the beginning of the Plan international trade environment also grew unfavourable due to deflationary policies followed by the developed countries such that by the third year of the Plan world trade actually declined. Deflationary policies, which constrained demand, also led to increased protectionism limiting further import from developing countries. Export from Bangladesh thus had to face a debilitating international trade environment. To maintain its export earning she had to take the position of a price taker even in such areas as jute and jute goods where she is a major supplier. The extent of her weakening position is reflected in the fact that in spite of a decline in import price index her terms of trade declined by 40% over the first two years of the plan period, which recovered only partly in the following 3 years, as the export prices for her goods declined faster than her import prices. It is estimated that in the first two years of the Plan Bangladesh lost about $ 2,000 millions in real resources through the terms of trade deterioration, as for one $ of import Bangladesh had to pay $ 1·15 in export at 1979/80 prices.

Export Performance

2.35 Despite the debilitating effects of international trade condition export earning increased from $ 721 millions in 1979/80 to $ 939 millions in 1984/85 at current prices and in real terms (at 1979/80 prices) to $ 917 millions. Eport price index declined to its lowest level in 1982/83 when it stood at 77% of 1979/80's; after 1982/83 it began to recover slowly reaching 106% level of the benchmark in the closing year. The annual growth rate of export in real terms was however below the planned target of 8·7%. Realized rate was 4·9% only and the total export over the plan period amounted to $ 4394 millions against the planned projection of $4790 millions. The annual breakdown of exports is shown below:

TABLE 2.7

Export Earnings

[In million $]

Year.	Nominal Value	Real Value
1979/80	**721**	**721**
1980/81	711	825
1981/82	626	849
1982/83	680	900
1983/84	786	902
1984/85	939	917
Total (Plan Period) ..	3,742	4,394

Note : Real value at 1979/80 prices.

2.36 Though export earning fell short of the target given the deterioration in international environment, the realised real growth rate of 4·9% shows a reasonably satisfactory performance and marked an improvement over the preceding 5 years' period (1975—80), when export grew at 4·7% only. Jute and jute goods exports, the main stay of export earning, declined in 1984/85 from $ 530 millions in 1979/80 to $ 549 millions at current price and $ 510 millions at 1979/80 price. Tea and frozen fish exports increased significantly, but the most impressive development took place in ready-made garments exports which increased from over half a million $ to $ 110 millions. As most of the gain in export originated in tea, leather and frozen food, the share of manufactures in export earning declined from 69·2% in 1979/80 to 66·1% in 1984/85, though the Plan had envisaged value of manufactured exports rising.

Import Level

2.37 Against the shortfall in export earning by $ 396 millions in real terms aid exceeded the planned target by $ 169 millions. In spite of their cancelling effect, import exceeded the planned target by $ 947 millions. Total import in real terms reached $ 12,432 millions against the planned target of $ 11,485 millions; but the average annual growth rate was 1·7% only, though the Plan projected a nominal growth of 0·3%. During the plan period debt servicing liability as percentage of export increased from 13% in 1979/80 to 21% thereby preempting a significant part of external resources. DSL increased from $ 93·6 millions in 1979/80 to $ 196·8 millions in 1984/85 and total payment on this account amounted to $ 666 millions for the plan period. Besides, such other factors had bearing on import growth as payment of short-term liabilities.

Money, Prices and Wages

2.38 In the background of rapid monetary expansion and inflation of the Seventies, the Second Plan formulated the monetary policy to contain liquidity expansion within a safe limit as might be warranted by the growth of GDP, rate of monetization of the subsistence sector and resource costs of goods and services. Accordingly, money supply was projected to grow from Tk. 1,699 crore in 1979/80 to Tk. 3,313 crore in 1984/85 and liquidity from Tk. 3,431 crore to Tk. 6,517 crore over the same period. Actual money supply in June, 1985 was however Tk. 4,439 crore—34% above the planned target and liquidity Tk. 10,767 crore which exceeded the planned target by 65%. These over-expansions have taken place when actual GDP was 30% below the planned target. A number of factors contributed to these expansions. First, domestic credit programme expanded by Tk. 8,803 crore, much faster than the planned expectation of Tk. 4,147 crore. The main recipient of this expanded credit was the Private Sector. There the credit expanded by 380%—increasing by Tk. 5,400 crore. This reflects the shift in policy towards increasing liberalization and privatization of the economy. An important factor contributing to the rapid increase in credit was the deterioration of the rate of recovery of loans in general. Secondly, condition of the external sector also added to the liquidity expansion. The Plan envisaged a significant decline in net foreign asset holding while in fact it increased; on the other hand increased foreign exchange reserve contributed to monetary expansion. Thirdly, establishment of the policy of a positive real rate of interest encouraged time deposits which in turn laid the base for credit expansion. Finally, during the plan period private sector credit attracted considerable attention of donors and a substantial amount of foreign resources flowed in support of special sector credits, particularly for the rural areas.

2.39 Monetary management had been in special focus since 1975 when major changes were initiated. These consisted of (i) 58% devaluation of taka in $ term, (ii) demonetization of 500 taka paper currency and (iii) discontinuation of deficit financing. But as the figures of credit and liquidity show monetary management in the Second Plan became more relaxed; so much so that the over expanded credit and liquidity led to discontinuation of the Extended Fund Facility of IMF. In a way, the Second Plan witnessed a reversal of what it was in the middle of 1970s. The only silverlining in the monetary sector was the establishment of the policy of positive real rate of interest in October 1980, when weighted average rate of interest on deposits was raised by two percentage points to 6·5% and correspondingly, the lending rate to around 13%. Since then there has not been any major change in the deposit and lending rates though monetary situation changed

drastically, except some charges made in lending rates on a selective basis such as for promotion of non-traditional export and development of Chittagong Hill Tracts. The highest deposit rate was 15% and the highest lending rate was 15·5% on general advance;—the latter was raised to 16% subsequently.

2·40 Rapid expansion of the monetary sector over the planned target against a slower growth of the real sector (GDP) created severe inflationary pressure on the commodity markets throughout the whole plan period. Wholesale Price Index rose by 11·7 % a year while the Consumer Price Index for the Dhaka middle classs families increased at an annual rate of 11·8% against 6·3% in the preceding 5-year period. However, the rate of inflation was more or less stable, except in 1981/82 when agricultural output declined pushing price of food too high. One major factor contributing to stable rate of inflation was intervention by the government in the food market as agriculture remained very susceptible to vagaries of weather.

2·41 The inflationary effect on saving was cushioned by the positive real interest policy, but high rate of inflation had disproportionate effects on various socio-economic groups. First the Consumer Price Index for high income families at Dhaka increased at an annual rate of 8·4% only against 11·6% for the middle class and 11·8% for the Dhaka low-income families. Secondly, Consumer Price Index for industrial workers at Chittagong increased at an annual rate of 11% while nominal manufacturing wage as a whole increased by 14·6% a year; this means that during the Second Plan period real wage for industrial workers increased by 3·6% a year. Large part of this increase however came in the final year of the Plan even though the gain was partly eroded as shown below:

TABLE 2·8

Real Wage of Industrial Workers

Year	Cost of Living Index	Index of Industrial Wage	Index of Real Industrial Wage
1979/80	539	389	100
1980/81	579	452	107
1981/82	662	515	108
1982/83	708	558	109
1983/84	807	720	124
1984/85	909	770	117

Note: Cost of Living Index is for Industrial Workers at Chittagong.

2·42. Inflation had also differential effect on the urban and rural households for the distribution system markedly differed between two areas. Commodity supplies in the urban areas tend to be more or less stable while rural areas are left to residual supplies; even in case of agricultural commodities like food rural areas are more vulnerable to rand m effects of nature. As a result, prices in rural areas are more unstable than in urban areas. Consumer Price Index of rural population in Dhaka region increased by 12·5% annually which is higher than the rate of inflation faced by the middle and low income groups at Dhaka. Inflation rate in the rural areas however significantly improved as a result of the recovery of agriculture after 1981/82 set-back and increased food intervention by the government. It has been mentioned already that the volume of food distributed under the Food for Work Programme was double the volume distributed in the preceding 5-year period.

Income and Employment

2·43. As already mentioned, in view of the wide-spread poverty and unemployment a good number of programmes were undertaken both within the Annual Development Programme and outside during 1970s to alleviate poverty. Food for Work Programme initiated in the aftermath of 1974 famine increased from 116 thousand tons in 1975/76 to 440 thousand tons in 1979/80, another year of crop failure. During the Second Plan period the volume ranged between 350 and 440 thousand tons except in the closing year when the volume rose to 571 thousand tons. The total quantity of food distributed under FWP during the Plan was 21·37 lakh tons against 11·93 lakh tons distributed during 1975—80. The Programme involved income transfer in the form of food through short-term employment. It is estimated that 21·37 lakh tons of food produced 1,149 million mandays of employment during the plan period. Other employment and income generating programmes consisted of area development programmes, Grameen Bank, Swanirvar Village Programme, and programmes of NGOs. The employment and income impact of area development programmes have not been generally significant—either in their total or individual impact because of their low employment content and relatively greater emphasis on production and infrastructure development. The expansion of irrigation technology was not also fast enough to create enough employment opportunities directly in agricultural activities. In fact, there was substantial shortfall in irrigation acreage. Rural unemployment continued to be high even after allowing for FWP. The problem has been accentuated by increasing landlessness. Landless households including the functional landless (below 1·5 acres) estimated to cover two-thirds of rural households and overall unemployment in rural area is estimated to be around 25%.

2·44. Because of limited capability of land and irrigation programme there has been increased emphasis on nonfarm employment. Such employment has been sought in the development of cottage industries. As they need very little investment, their development can create more job at low cost; but their labour productivity is also very low, about 60% of unskilled agricultural wage. Thus, while they help poor households eke out income, their total impact on poverty is not significant, though numerical impact on employment is large. In fact, as a result of low productivity some of the more important traditional nonfarm employment opportunities are declining in the face of competition from modern enterprises, e.g. rice husking, oil pressing and handlooms.

2·45. Because of limited domestic opportunities people increasingly sought overseas employment during the Second Plan. In 1981 the number of migrant labour increased from about 24 thousand in 1979 and 30 thousand in 1980 to 56 thousand and remained around that level in the following years of the Plan except in 1982 when it rose to about 63 thousand. After a short spell of decline in 1984, monthly outflow recovered in 1985. However, the opportunity for unskilled workers who suffer mainly from unemployment has decreased as development activities in the middle-East decelerated. The Plan envisaged a total oversea employment of 340 thousand in the five year period; actual placements have been nearly 300 thousands but remittances were $2383 millions at current prices against the planned target of $ 2542 millions.

2·46. Overall employment situation appears to have remained basically unaltered during the plan period. Total new employment projected to be 3·65 millions is estimated to have risen to 3·20 millions in 1984/85 against a total number of new entrants of 3·43 millions, leading to increased unemployment. Main areas of employment were the rural formal and informal sectors and the urban informal sector absorbed the spill-over. Urban formal sector, the public sector in particular, contributed very little toward alleviation of employment situation as investment level in the modern sectors had very little progress throughout the plan peiod.

Private Sector

2·47. Since the middle of 1970s the place of the private sector in the economy began to change with a greater role to play in national development efforts. During the Second Plan, under increasing strain on limited public resources and management capability, a more pronounced role was assigned to the private sector. This is reflected in larger investment allocations (over 35%) for the private sector in the Plan compared with 16% in the Two Year Plan (1978—80) and 11% in the First Five Year Plan (1973—78).

2·48 In continuation of the government policy for greater market orientation of the economy and greater reliance on the private sector the major changes effected during the Second Plan period included the following:

(i) A new industrial policy (NIP) was declared in June, 1982. Salient features of the NIP consist of (a) denationalisation of jute and cotton textile mills (by June 1985, 33 jute mills with 9578 looms and 27 cotton textile mills with 4·97 lakh installed spindles and 4771 looms were transferred to private sector); (b) expansion of the Free List Industries and (c) simplification and decentralization of investment approval and loan disbursement procedures including reduction of administrative layers.

(ii) The NIP also laid greater emphasis on foreign investment. The Foreign Private Investment Promotion and Protection Act of 1980 was introduced to promote foreign private investment either directly or in collaboration, particularly in the Export Processing Zone at Chittagong.

(iii) A number of institutional changes were also effected during the plan period. These consisted of (a) setting up private banks and insurance companies in the private sector, Industrial Development Leasing Company for procurement and leasing of equipment to potential investors, Saudi-Bangladesh Industrial and Agricultural Company, etc.

2·49 A National Council for Industrial Development has been constituted to undertake, *inter alia*, periodic review of the fiscal and other incentives for private investment and formulate policy recommendations.

2·50 As a result of improvement in policy environment, private investment began to pick up, though not large enough in quantitative terms. Private investment during the plan period is estimated at Tk. 6,871 crore (Table 2·9) compared with Tk. 1,786 crore invested in the previous five years (1975—80), indicating about four-fold increase. In respect of sectoral composition of the investment, agriculture continues to dominate while manufacturing investment was badly affected by the credit freeze of the two DFIs, though there has been substantial policy liberalization. Growth of private investment (monetized) has been somewhat steady during the last decade. It rose from 4·4% of GDP in 1979/80 to 5·7% in 1984/85. Disbursement of institutional credits to private sector during the Second Plan amounted to Tk. 4,770 crore accounting for 69% of the estimated private investment, while the remaining 31% was financed by the sponsor's own fund or equity contribution (Table 2·10).

TABLE 2·9

Private Investment during the Second Plan (1980—85)

(Tk. in crore)

Sectors.	1979/80	1984/85	Total (1980—85)
(i) Agriculture	200	777	2,465
(ii) Manufacturing	170	211	1,124
(iii) Physical Planning and Housing	164	449	1,252
(iv) Transport	115	239	925
(v) Trade and other Services	150	301	1,105
Total:			
(a) At current prices	799	1,977	6,871
(b) At constant price of 1979/80 ..	799	1,139	4,969

Note : Deflated by wholesale price indices with 1979/80 as base.

TABLE 2·10

Private Investment and Institutional Credits during the Second Plan (1980—85)

(Tk. in crore)

Year	Private Investment	Credit Disbursement	Credit as % of Investment
1980/81	996	620	62
1981/82	1,047	605	58
1982/83	1,167	850	73
1983/84	1,684	1,287	76
1984/85	1,977	1,408	71
Total (1980—85)	6,871	4,770	69

Plan Implementation and Development Administration

2.51 The success of a Plan depends largely on its implementation, from its building blocks in projects to policies underlying its objectives, strategies and programmes. In this broad perspective project implementation is only the beginning of implementation of a Plan; for a project to yield what is expected of it implementation of policies at macro and sector levels are as important as efficient implementation of a project, since such policies determine the environment in which a project is run after its completion to produce the intended benefit over its life time. A project in fact is a store of benefit to come into flow in future. This stock-flow differentiation makes a project like to a living organism, needing its continuous adaptation to changing environment. So viewed, plan implementation truly transcends its own planning period. Such a view will require development of appropriate management policy after completion of a project, without which a project may be sterile and its implementation meaningless. There are many instances where projects having been completed have not borne fruit. In this broad sense plan implementation is far more complicated than its formulation, particularly when a plan with its focus on the initial (base year) and terminal years' conditions is least concerned with the path of development of the economy and evaluation of its environment. In fact, if time and space are collapsed, formulation of a plan can be accomplished much more easily by a small group of well-trained people than its implementation in its broad sense, for implementation has to respond to objective world which is affected by time and geographical variations.

2.52 In both the above dimensions the Second Plan implementation faced challenges. First, the Second Plan period coincided with a very unstable world economic condition with rapid changes in trade, prices and policies. Secondly, as the Plan's thrust moved on to rural development the central development administration appeared inadequate to effectively respond to local needs. So in the early years of the Plan as well as before it varieties of experiments were carried out to meet the rural development need with their focus on local participation in development. These included Swanirvar Gram Sarkar, Swanirvar Bangladesh with its variants, canal digging, local committee-based food for work, Grameen Bank, Swanirvar Credit Programme and above all, the two-tier co-operatives, some of which eventually disappeared. All these approaches were characterised by two extreme characters, either they were personality oriented lacking institutional basis or too structured to be pervasive to local level initiative. In between there were few innovative efforts which encouraged group initiative, but as they rested on credit as the lever in a generally critical environment their success came to be measured by debt repayment with disproportionately larger on survival than on development.

2.53 Away from the local level, the Second Plan also witnessed almost a continuous evolution of public administration at the Centre with changing policy towards the private sector. There had been successive attempts to reorganize public administration and their parastatal agencies to meet the need of development in a cost effective way. An important development in the context of rural development was transformation of Integrated Rural Development Project into Bangladesh Rural Development Board, located at Dhaka, with its support organisations at field level. But until the far-reaching administrative reform of 1982, formal changes in public administration at national level were divorced from informal local level experiments, perpetuating the centre-periphery cleavage. It was the comprehensive reform of 1982 which outreached it by taking the public administration close to people through the decentralization of administration to the upazila level and setting up the upazila parishad (local council) system with the

authority over the local development programmes. The 1982 Reform also recast the central administration so that decentralization was effective and devolution of power to the upazila level was real. Since the 1982 Reform is both multi-facet and farfluing in character, its basic components deserve some discussion in the context of development need, which follows in the subsequent paragraphs.

Reorganisation of the Administrative Structure

2.54. From the point of development, the main recommendation of the Special Committee set up in 1982 to rationalize both the organization and the functions of the government was that the Secretariat as the core of the government was to focus on policy formulation and planning while implementation and execution of policies and programmes were to be the responsibilities of the executing agencies. Since this is a fundamental shift in outlook from adhoc short-term decision making to long-term policy making, it also needed reorganisation of the service structure along the line of different disciplines so that it would promote professionslism among the government functionaries. A second requirement was to improve the system of management; to this end, a number of specialized training institutions were set up and the four public administration training institutes were unified into a single public administration training centre (PATC) in order to protect dynamic character of administration linking its different levels. A national training council was also established to review training policy in a broader perspective to ensure linkage between the education system, personnel administration and development. The third element was the need for management guideline defining the responsibility of the officers and development of management information system; so the new organizational structure spelled out responsiblity of individual officer and for improvement of management information computer system for basic data management was introduced in many organisations.

Public Sector Compensation Policy

2.55. One of the widely recognized reason for low level of efficiency of the public sector was the continuous erosion of the purchasing power of the salary income. So, in addition to the reorganisation of the administrative structure the public sector compensation policy was reviewed in 1984 and purchasing power of the public sector employees was significantly restored through increase in public salary. However, since its objective is to improve the efficiency of the public sector it will be important to follow its effect on planned development, both in respect of implementation and management and evaluate its effectiveness by both cost and time saving and return, particularly when, as mentioned in discussing domestic resource mobilization, it means diversion of resource from development. But it is also to be acknowledged that its impact on the efficiency of the public sector will depend on the evaluation of prices and cost of living in furure. If price overtakes the salary adjustment the whole rational may collapse eventually. Therefore, it will be important to protect the salary income through a stabilization policy; otherwise, a race between price and salary will be self-destructive. A second point to mention in respect of compensation policy is the question of fringe benefits given to public sector employees. A substantial part of such benefits accrues in kind; as they mean a less efficient use of real resources their monetization will permit more efficient allocation of such resources.

Efficiency of Public Enterprises

2.56. Parastatal corporations and their enterprises occupy a critical place in the economy as they control the commanding heights of the economy from public utilities to some of the major industries. They were established before and after Independence and, though since then they have lost some ground with the gradual change in official policy, their dominance is still conspicious. During 1970s' parastatal corporations underwent several changes; so was their command over operating units. But it was on the recommendation of the Committee for Reorganization of Public Statutory Corporation that their role was significantly curtailed. Out of a total of 155 corporations, 13 were abolished, 30 were amalgamated into 12 and 21 were reorganized to improve their efficiency. Moreover, to reduce the burden on the management and in pursuance of the new industrial policy a number of public sector mills and factories were transferred to the private sector or disinvested. This is supposed to save scarce managerial skill of the public sector for its more efficient application in fewer public enterprises. A special unit was also set up in the Ministry of Finance for monitoring financial affairs of public enterprises. However, to recall the discussion under domestic resource mobilization, the external and domestic economic situations adversely affected the financial health of many of the corporations during the Second Plan period, though because of enhanced market risk, capital structure of corporations was rationalized to low gearing and price control was relaxed.

Decentralization of Administration

2.57. The 1982 Reform seriously addressed the question of public participation in development process. Though the First and the Second Plans emphasized rural development and equitable distribution of development benefit administrative instrument to bring about these desired results was lacking. It has been mentioned already that earlier efforts concentrated at the two poles, at central or local levels without any scope for their osmosis as they differed in character, one being formal and the other being informal. It is the decentralization of the administration to the upazila level and establishment of the Upazila Parishad system under the 1982 Administrative Reform that brought the two levels of activities into contact to ensure a harmonious development of local communities in a national perspective. To encourage local participation in development and promote local initiative a number of development subjects were transferred to the local parishad to be financed from central grant. Local government has also been given revenue power to augment its resources. To ensure that such development activities fall within the overall national development priorities, a guideline has been issued, which provides a flexible choice for allocation of local government grant fund to different activities. To keep track on development activities a monitoring system has been set up in the Local Government Division. In addition to planning and development within their jurisdiction, local government is also being used for execution of some central government programmes and projects.

2.58. In addition, to provide the basic infrastructure for accelerated development of rural areas there is also central government programme in the Upazilas. This programme consists of connection of Upazilas with their nearest metalled road and development of Upazila headquarters. Since 1982, Tk. 371 crore was spent under the first programme (grant to Upazila) and Tk. 525 crore under the second programme.

2.59 As a new institution it is too early to measure the impact of the Upazila administration system on development; but it can be asserted from the experiences in other countries that local government is a *sine quanon* for local development. This

however will depend on the representative character of local government. Therefore, the upazila parishad consists of elected members in the large; though it is likely that such representation will come to reflect the dominant character of the traditional rural society in the initial stage, its closeness to people with their right to periodically exercise their choice to elect parishad members, expected development process will change the face of the rural society in the long run.

Project Implementation

2.60 Timely implementation of projects has always been a major concern for the government particularly in a state of severe resource constraint. As time and cost over-runs cause sacrifice of potential benefit from investment, a number of measures were taken during the Second Plan for improvement of project implementation. These consisted of two sets of measures, one set directed towards efficient allocation of resource and the other set for accelerating resource use. The first set consisted of cost rationalization and prunning of unnecessary project components, dropping and stalling of projects of lesser importance and introduction of core programme concept in ADP for automatic release of fund. The second set consisted of increased financial delegation to line ministries and their agencies, enhancement of financial authority of project directors for development expenditure for local and foreign purchases, simplification of land acquisition procedure and streamlining of procedure for processing of schemes. A particular problem that needed urgent attention for accelerating utilization of aid was the processing of aided projects starting from negotiation to commitment of aid. Three important steps were taken in this respect: first, consideration of aid proposals in interministerial committee; secondly, introduction of preliminary project proforma for negotiation of aid and lastly, provision of block allocations for technical assistance and customs clearance.

2.61 The overall effect of cost rationalization and restructuring of ADP during the Second Plan was, in the first instance, reflected in the drop of a large number of projects from the annual development programme in 1982/83. The number of projects in the ADPs declined from 1520 in 1980/81 to 938 in 1984/85. The reduction, in turn, allowed higher resource allocation to critical projects for acceleration of the pace of their execution. There was, as a result, substantial improvement in the completion of schemes. While in 1980/81 the number of completed projects was 160, in 1984/85 it rose to 323. The result of restructuring and rationalization of ADP looks much better when the number of completed projects is compared with the number of schemes included in the ADP. In 1980/81 only 11% of the projects were completed; in 1984/85 the rate was 35%. The increase in the number of completed projects means higher impact of ADP on development. Further it has brought to the surface that shortage of fund is not the only reason for slow implementation of projects. There are many other nonfinancial reasons which the Second Plan continuously strived to address and has also brought about some improvements; in a state of resource scarcity underutilization of ADP fund in some sectors is one of such reasons.

2·62 The following table shows the operation of ADP as a development tool :

TABLE 2·11

ADP under Second Five Year Plan

Year	Revised ADP (Tk. in crore)	Actual Utilization (Tk. in crore)	No. of schemes Undertaken[1]	No. of schemes Completed
1979/80 ..	**2,330**	**2,188**	**1,406**	**359**
1980/81 ..	2,369	2,466	1,520	160
1981/82 ..	2,715	2,706	1,675	133
1982/83 ..	3,126	2,690	1,178	176
1983/84 ..	3,585	3,127	992	245
1984/85 ..	3,498	3,232	938	323

[1]including ATAP and self-financing schemes

SECTORAL DEVELOPMENTS

2·63 Sectroral developments have been discussed in detail in the respective chapters as prelude to the Third Plan; only important aspects of development in various sectors of the economy are mentioned in the subsequent paragraphs.

Agriculture, Water Resources and Rural Development

2·64 A number of sigificant developments took place in these areas during the Second Plan. First , a Medium Term Food Production Plan (MTFPP) was adopted to achieve a production target of 20·7 million tons in 1984/85. The target was reduced to 17·5 million tons because of resource constraint. The main focus of this programme was on development of quick yielding minor irrigation projects, expansion of fertilizer distribution, more use of HYV and LIV seeds, expansion of agricultural credit, etc. The input programmes consisted of targets for distribution of 1·6 million tons of fertilizer and 20·5 thousand maunds of HYV rice and wheat seeds through the official channel and irrigation of 7·21 million acres of land in 1984/85. Food production however failed to reach the target by 1·7 million tons though it grew significantly from 13·4 million tons in 1979/80 to 15·8 million tons in 1984/85. The annual growth rate of food output was 3·5%. A number of factors contributed to the shortfall. There were more frequent floods and droughts during the plan period, causing extensive crop losses. By intensification of winter cultivation only a part of the loss could be recouped due to constraint of irrigation facilities. Area under irrigation reached only 6·12 million acres. The Plan envisaged a target of fielding 60,000 LLP, 250,000 shallow tubewells, 450,000 hand tubewells and 18,000 deep tubewells; but in 1984/85 their numbers were actually 48,000, 154,000, 300,000 and 17,000 respectively. There was also severe shortfall in fertilizer offtake which reached only 12·6 lakh tons in 1984/85 against the target of 16 lakh tons. These shortfalls were the cumulative

effect of many factors such as weather affecting water regime, reduction of subsidies on inputs, privatization policy and organizational weaknesses. As a result of all these, food self-sufficiency continued to be ever fleeting a target as before, though substantial progress was made in that direction.

2·65 Second important development in the area of agriculture was the adoption of an articulated food policy with its focus on price support for expansion of food production and market stabilization. In 1980/81 when the farmers had a bumper crop government procured 1·1 million tons of food to ensure remunerative prices to farmers; thereafter also the price support policy was pursued but it had a subsidiary role to play as market prices continued to rise because of frequent losses of crops. The other important feature of the food policy was to shift 'public food distribution towards the needy one by reducing the share of priority groups and statutory rationing system. Their share declined from 58% in 1979/80 to 46% in 1983/84. This together with increase in ration price (91·2% increase in rice) helped strengthen market demand for food to the advantage of the farmers.

2·66 Third important development was in the area of rural development. A number of rural development projects was undertaken on area basis with focus on production and employment and IRDP was upgraded into a Board as BRDB with an expansion of its operation from KSS to BSS and MSS. By the close of the Second Plan the area-based rural development programmes covered 383 upazilas of rural areas while BRDB covered the entire country under 62,000 KSS involving 2·6 million members. In addition, 7700 BSS and 5760 MSS were formed.

2·67 Fourth important development was in the area of agricultural credit from institutional sources. It increased from Tk. 272 crore in 1979/80 to Tk. 1,150 crore in 1984/85 giving a growth rate of 33·5% a year. In spite of this growth however the proportion of such institutional credit to the gross value of all agricultural output. (Tk. 15,169 crore) was only 7·6%. As the proportion was low, the less fortunate small farmers had to largely depend on traditional sources of credit. Though relatively low, rapid expansion of credit has resulted in some decline in recovery rate. It needs no saying that recovery rate needs to be improved to keep the credit base working.

2·68 Finally, it is to be recognized that there had been significant shortfall in many crop production programmes. Amongst all, jute, the main cash crop, gives a deplorable picture. Jute production suffered an absolute decline from approximately 6 million bales in 1979/80 to 4·6 million bales in 1984/85, though no change in the output level was assumed by the Plan. The decline was due to the early flooding of jute fields in 1984. This decline had however had severe repercussion on jute export and domestic jute mills. Jute export reached the lowest level of 14 lakh bales in 1984/85; though this pushed the world price of jute, it also disrupted the world trade in jute. On the other hand, high domestic price of jute increased the cost of manufactures which the jute mills could not shift forward to external buyers under condition of recession prevailing in developed countries; as a result the jute mills suffered huge loss (Tk. 143·5 crore) in 1984/85 in the public sector in their effort for keeping their mills running. The only strong point in the jute sector was the stabilization of jute acreage around the old JJCS' areas. As this stability has been achieved under a market condition in which jute price remained less attractive than rice price, it is likely that 1984/85 high price of jute will

upset the seeming stability of jute acreage. The table below shows target and actual output for the major agricultural products :

TABLE 2·12

Target and Actual Output of Major Agricultural Products

Agricultural Products	Unit	1979/80 Actual Output	1984/85 Target	1984/85 Actual Output
(1) Foodgrains	Lakh tons	133·5	175·0	158·3
(2) Jute	Lakh bales	59·6	6·0	46·0
(3) Tea	Million lbs.	80·7	95·0	96·8
(4) Sugarcane	Lakh tons	65·7	77·6	70·0
(5) Cotton	'000' bales	6·0	56·0	12·0
(6) Tobacco	'000' tons	38·9	57·7	54·0
(7) Fish	Lakh metric tons	6·5	10·0	7·7

Industries

2·69 There had been three important developments in the industries sector. First of all, there was the declaration of the new industrial policy (NIP) in June, 1982 as a culmination of a number of discrete steps started in 1975. The new policy expanded the opportunities for the private sector as the reserved list for the public sector was reduced. In pursuance of this policy a number of jute and cotton textile mills were transferred to their original local owners. The policy also led to substantial improvement in private investment, from Tk. 863 crore in 1981/82 to Tk. 1,139 crore in 1984/85 both at 1979/80 prices, though private investment was retarded by the freezing of credit lines of ESB and ESRS. This phase of the plan period also witnessed a spurt of investment activities in garments and power loom industries. The second important development in industries sector was the long awaited commissioning of the Zia Urea Fertilizer Factory which more than doubled the urea production capacity. Against these two very postive developments during the Second Plan, industries faced a serious problem, in respect of demand, both at home and outside which stunted its growth (4·8% only). raised the idle capacity and reduced productivity. Except for cotton textiles and fertilizer, labour productivity was around 80% of 1979/80 level. In general, targets for output remained unfulfilled in all the major industries by about 20% to 30% except in steel and sugar where shortfall was even much greater. Depressed demand adversely affected the liquidity of many industrial enterprises which in the public sector led to restructuring of capital but to large scale defaults in capital repayment in the private sector

bringing the DFIs to a standstill position in industrial financing. Table below shows the Second Plan's targets and outputs in important industrial areas :

TABLE 2·13

Target and Acutual Output of Major Industrial Products

Industrial Products	Unit	1979/80 Actual	1984/85 Target	1984/85 Actual
(1) Jute Textiles	'000' tons	525·0	650·0	561·0
(2) Cotton Textiles (yarn only) ..	Million kgs.	43·2	83·2	59·4
(3) Fertilizer	'000' metric tons	442·0	1037·0	806·0
(4) Cement	Do	343·0	450·0	240·0
(5) Paper & Newsprint ..	Do	71·9	93·0	90·0
(6) Sugar	Do	93·2	200·0	88·0
(7) Steel Ingots	Do	133	225	101·0

Power and Gas

2·70 During the Second Plan the energy sector was considered as a high priority area. The Plan's allocation to the sector was Tk. 3,021 crore at current prices; actual expenditure was Tk. 3,061 crore (Tk. 2,130 crore for power and Tk. 931 crore for gas). Major developments in the power sector were the integration of the east and west grid-lines into a national grid through the east-west inter-connector for transfer of cheap gas-based energy from the eastern zone to the western zone and improvement of reliability of power supply. The singular impact of the inter-connector from the point of view of the economy was substitution of oil as fuel for power generation in the western zone. However, the power sector continued to remain under severe resource constraint because of its inherent characteristics of long lead time and lumpiness of investment ; so, though a number of projects for power generation were initiated but could not be completed. The resource problem was accentuated by the financial difficulty of the Power Board to finance a certain proportion of its investment from internal earnings. The financial base of the Board continued to be eroded by high system loss (37·5% in 1984/85) during the plan period. In spite of all the limitations there was substantial expansion of the system as shown in the Table below ;

TABLE 2·14

Targets and Achievements of Power Sector

Major Items	Unit	1979/80 Actual	1984/85 Target	1984/85 Actual
(1) Generation Capacity ..	MW	624	1342	1018
(2) Generation	GWH	2353	4507	4545

TABLE 2.14 (*Contd.*)

Major Items	Unit	1979/80 Actual	1984/85 Target	1984/85 Actual
(3) Distribution Lines (including 33KV line)	'000' KM	19·9	51·4	42·8
(4) Energy Sales	GWH	1,406	3,472	2,840
(5) No. of Consumers	'000' Nos	522	847	810
(6) Electrified Villages	Nos.	2,181	25,181	7,888

2.71 During the Second Plan gas sector development was regarded as the key to the success for substitution of imported fuel for relieving the pressure of high cost of fuel import bill on balance of payments. In pursuance of this policy a number of significant developments took place during the Second Plan. First, gas supply to the main industrial belt of the country in Chittagong was completed. Secondly, the Bakhrabad gas field was connected with the Titas—Dhaka system at Demra, connecting the two major gas fields of the country into a single grid. Thirdly, the number of producing wells increased from 9 in 1979/80 to 21 in 1984/85. Lastly, 6 exploration wells were drilled; out of which 4 were found to contain gas reserve. As a result of increase in the number of working wells and expansion of transmission and distribution line, the supply of gas increased from 44,500 MMCF in 1979/80 to 94,600 MMCF in 1984/85. This increased the share of gas in primary commercial energy from 36·5% in 1979/80 to 56·3% in 1984/85 and reduced the share of imported fuel from 53·2% to 36·6% over the same period.

Transport and Communication

2.72 An important development in this area was the integration of the upazilas with the national road network through the connection of each upazila to the nearest metalled road (except the off-shore areas). Alongside tele-communication system was developed to bring all the upazilas within the tele-communication network. Besides these two far reaching developments, engineering studies of a number of important bridges were completed during the period. *e.g.* Buriganga Bridge to connect the south bank with Dhaka, Meghna Bridge and Meghna-Gumti Bridge on Dhaka-Chittagong highway. Government also took momentous decision to build a bridge over the river Jamuna which dissects the country into two halves and Jamuna Multipurpose Bridge Authority was established for this purpose. Other developments worth mentioning are increase of metalled road from 4112 KM in 1979/80 to 4830 KM in 1984/85; introduction of international dialing system in Dhaka and Chittagong, improvement of the Chittagong Port to handle containerships; establishment of a township of Mongla Port; expansion of the diesel locomotive fleet of Bangladesh Railway from 192 (in 1980) to 289 (in 1985). etc.

2.73 Although addition of locomotives created additional carrying capacity for the railways, there has been a general decline in the level of efficiency of the railways operation. Kilometre per engine on line declined from 285 per day in 1980 to 193 in 1984/85 for BG and from 192 to 161 for MG and ton KM per wagon per day on line declined from 183 (in 1980) to 161 (in 1985) for BG and from 150 to 122 for MG; but over the

same period passenger KM improved in both BG and MG sections from 195 to 222 and 154 to 174 respectively. Freight traffic declined from 3·18 million tons to 2.82 million tons while passenger traffic increased from 88·5 million to 132·5 million and the overall impact on railway finances was an increase in operating ratio. It increased from 104·5% in 1979/80 to 121·7% in 1984/85 resulting in a loss of Tk. 92·1 crore over the plan period from Tk. 4·1 crore in 1979/80. Road transport increased substantially as the number of all types of on-road trucks increased from 16,118 to 17,270 to which railway lost its traffic. In inland water transport passenger traffic also gained. In general model split of traffic was in favour of road both in case of passenger and freight traffic. In shipping the total dead weight ton (DWT) declined from 3·78 lakh tons in 1979/80 to 3·44 lakh tons due to retirement of some of the vessels of the Bangladesh Shipping Corporation, though the DWT capacity in the private sector expanded from 10,000 tons to 80,000 tons as a result of emphasis on the private sector. The decline in the total tonnage resulted in the decline of share of the Bangladesh Shipping Corporation in ocean traffic from 17 per cent in 1979/80 to 15 per cent in 1984/85.

Physical Planning and Housing

2.73 The main thrust of the Second Plan in Physical Planning and Housing Sector was on the improvement of housing condition in the public and private sectors and water supply. In the public sector 4,731 housing units were constructed at different urban centres and 1,160 staff quarters and 145 dormitories were constructed at upazila levels in support of the decentralization of administration. For the private sector the government adopted the policy to provide seed fund to develop housing plots in small city areas for selling them among private owners and 5,400 plots were actually developed and sold by the government. In addition, House Building Finance Corporation provided house building loan. Concessional loan was given for house-building at upazila level. It is estimated that Tk. 1,252 crore was invested in construction by the private sector in this sector.

2.74 Water supply programmes covered all human settlement from rural areas to metropolitan areas. In the rural areas, against the target of providing one hand tubewell for every 150 people, actual achievement was one tubewell for 138 people. Tap water supply capacity was expanded at Dhaka, Chittagong and 56 district headquarters (target 64).

Education

2.75 Two programmes in the education sector received the highest emphasis during the Second Plan; they were universal primary education and mass literacy. However, in both the areas very little progress was made. The Plan envisaged an increase in the primary enrolment by 47 lakh, but only about 6 lakh children could be brought under the system though expenditure on primary education amounted to Tk. 210·7 crore against an allocation of Tk. 227·6 crore through RADPs and the plan provision of Tk. 331·7 crore. In mass education programme the achievement was even worse. The programme was to cover 400 lakh people in the age group of 10 to 45 years, but only 7 lakh people could be effectively covered as the programme suffered from conceptual and institutional weaknesses and the programme was virtually dropped in 1982 following an evaluation exercise and it only remained nominally in the ADP. The SFYP sought to reverse the trend of the progressive diversion of resources from the lower tiers to general education at tertiary level.

In higher education, particularly at the university and college levels, the pressure of student for admission however turned out to be acute. In education achievements were as follows:

TABLE 2.15

Targets and Achievements in Education

Major Parameters	Units	1979/80 Actual	1984/85 Target	1984/85 Actual
(1) Primary Education Enrolment	Lakh student ..	83	130	89·2
(2) Secondary Ecucation Enrolment	Lakh student ..	20	25	24·8
(3) University Education Enrolment	'000' student ..	30	34	38·3
(4) Mass Education Enrolment ..	Lakh student ..	..	400	7·0

Health

2.76 During the Second Plan the government adopted the goal of "health for all by 2000 AD". At the beginning of the Plan only 30% of the population was covered by essential health care service though some major epidemics and endemic diseases were eradicated (*e.g.* small pox) or were virtually under control (*e.g.* cholera). During the Second Plan the emphasis was on the development of infrastructures in rural areas; accordingly 341 upazila health complexes (target, 365) became functional. 1275 rural dispensaries were upgraded to Union Health and Family Planning Welfare Centres and 1,054 new centres were constructed to deliver the health services to the rural population. There was also the emphasis on the expansion of hospital beds from 14,445 to 25,381 in a network of a multilevel referal system; however the number increased. Under the objective of health for all major efforts were to control diseases through immunization and increasing supplies of basic medicines. A drug policy was adopted in 1982 to make drug supply cheaper. The government also undertook plans for setting up plants for manufacture of basic drugs in the government sector to supply hospitals. Supplies of oral rehydration packets, diptheria vaccine, tetanus toxoid, intravenous fluid, etc. were expanded; but immunization programme could reach only 2% of the population in the target age groups. The sector suffered from shortage of manpower. The number of graduate doctors fell short of the target of 17,000 by one thousand and the number of trained nurses was also short of the target (6864) by 364. 3600 medical assistants were trained in 18 training schools and 28,000 Palli Chikitshaks were trained at the Upazila Health Complexes to meet the need of the rural areas.

Population Control and Family Planning

2.77 In view of the fast growing population adversely affecting socio-economic progress population control and family planning received the highest emphasis in the Second Plan. This led to very ambitious setting of targets also in terms of population growth rate, contraceptive prevalence rate (CPR) and net reproduction rate (NRR). The Plan envisaged reductions of population growth rate to 1·8% in 1984/85 and CBR to 3·2% and increase CPR to 37·5% with a view to reaching NRR=1 in 1990. The actual achievements in all these areas were far below those envisaged. The growth rate of population in 1984/85 was around 2·4%; CBR 3·9% and the prevalence rate 25% against 14% in 1979/80. Considered against a substantial expansion of field level staff development and physical infrastructure in rural areas and adoption of multi-disiciplinary programmes, the achievements were less than satisfactory. It is however to be

recognized that family planning concerns attitude and culture of a tradition-bound people in a predominantly rural society; so in assessing the impact of population programme it is also necessary to take a longer view which shows that since 1960 there has been decline in growth rate from 2·7% to 2·4% though not as fast as the problem warrants.

Social Welfare and Manpower Development

2.78 An important condition for equitable distribution of benefit of development which every plan of Bangladesh pursued, is to ensure access of every member of the society to the development process and one of the instruments therefore is the development of individual capability; so besides its augmentation through the formal educational system, there is need to train not only those who are already empolyed but also those who are seeking employment or are handicapped socially, economically or physically to participate in the development process. These two categories encompass children, youth and women and are being catered for by a number of agencies in the government like Social Welfare, Women Affairs, Youth Development and Manpower and Labour and also agencies in the private sector, while the training needs of those in the public and private sector employment are being met by various public and semi-public institutions. For the physically, socially and economically handicapped members of the society, such as, the landless, school dropouts, orphans, destitute women, blinds and mentally and phycically retarded children, the Social Welfare Ministry runs a number of institutions and homes and trains them to become productive and self-dependent. The activities are spread over both in rural and urban areas. During the Second Plan, a rural community development programme was undertaken with the focus on disadvantaged groups like school drop-outs, the landless and the women for skill training and education. The programme covered 100 Upazilas and established 196 community centres. At old Sub-Division level, 70 craft training centres were also set up. About 4 lakh people were covered by all these activities. Special attention was given to the women population as they play an important role in a traditional society, even within the socio-cultural limitations of such a society. The importance of the women population was recognized by the establishment of a separate Ministry for Women Affairs. The main handicap of the women population in the way to their increasing participation in development is lack of education. Female literacy rate is 13·2% only against 26% among the male population; so, during the Second Plan, women education received special attention and a number of programmes were undertaken for this purpose. These included setting up girls' schools and colleges, one each at every Zila Headquarter, scholarships for girl students, provisions of vocational and nonformal education in 200 community schools, establishement of 50 seated hostels for women at each of the primary teachers training institutes, etc., as it was realized that without female education and their participation in development, population problem could not be effectively tackled. In the health sector, maternity services were being provided in rural areas through 1225 family welfare centres. Besides health and education, the need for employment opportunities for women, particularly through skill training, also received special attention. During the Second Plan 204 skill training and production centres and 38 union development centres were set up. Two special employment programmes were initiated on a pilot basis in weaving and watch and radio repairing. Because of social problems originating from lack of formal employment opportunities causing stress and strain on the younger generation, a number of programmes were undertaken for youth development. They included training in livestock and poultry raising, tele-communication, secretarial works, etc. As development means improvement of both material and cultural base of life, development of sports, fine arts, drama, library activities

were encouraging. Public library system was extended to upazila level. Development of mass media made significant progress and the radio transmission now covers 90% of population. Training of public sector employees received great care because of the need of expanded development programmes. There exists a network of training institutions operating at the level of various line ministries. For training of public employees in the field of development planning and implementation, a training institute ,called the Academy for Planning and Development, was set up under the Ministry of Planning during the Second Five Year Plan. In order to develop integrated training facilities for training of officers of the BCS Cadres and other organisations from foundation level to senior management level, the Public Administration Training Centre (PATC) was established by merging the former COTA, NIPA and BASC. This established a vertical integration of public administration, so long latterally organized, in order to reflect a total view of public administration in training programmes.

Sectoral Allocation and Realization

2·79 During the Second Plan growth of different sectors were affected by diverse factors such as weather affected agricuiture and demand affected the performance of the industries sector but factors common to all were, first, constraint of resource and second, instutional weakness. Both these problems have been separately discussed earlier in general; here only the resource constraint as it turned out to directly affect individual sector is brought out. This is reflected in the table below:

TABLE 2·16

Sectoral Allocation and Realization in the Public Sector during SFYP
(At current prices)

(Tk. in crore)

Sector	Allocation		Realization	
	Amount	Percentage of total	Amount	Percentage of total
1. Agricuture and Related Activities	5552	34·6	4149	29·8
(a) Agriculture	2149	13·4	1776	12·8
(b) Irrigation	2702	16·8	1911	13·7
(c) Rural Institutions and Development. ..	701	4·4	462	3·3
2. Industry	2042	12·7	1254	9·0
3. Power and Natural Resources ..	3021	18·8	3061	22·0
4. Physical Planning and Housing ..	820	5·1	746	5·3
5. Transport	1819	11·3	1774	12·7
6. Communication	341	2·1	308	2·2
7. Education and Religious Affairs ..	707	4·4	511	3·7
8. Health	413	2·6	371	2·7
9. Population Control and Family Planning ..	368	2·3	346	2·5
10. SCYSWAM	280	1·7	231	1·7
11. Manpower and Labour	88	0·6	90	0·6
12. Public Administration	55	0·3	48	0·3
13. STR	129	0·8	110	0·8
14. Upazila Infrastructure and Development Assistance and ..	425	2·7	930	6·7
Others (CHT, Paurashava, etc.) ..	..	..	..	..
Total ..	16,060	100	13,929	100

CHAPTER II

MACRO ECONOMIC FRAMEWORK OF THE THIRD PLAN

Development in Retrospect

Socio-economic imperative for planned development is alleviation of poverty. It constituted the basic theme of all the three development plans in the post-Independence period. They all emphasized rural development so as to reach the benefit of planned development to the largest number of population living in the rural areas, unlike the earlier development process for industrialization, largely by-passing the rural communities. Post-Independence development efforts were increasingly focused on socio-economically disadvantaged groups. The underlying objective was to ensure employment and minimum basic needs to the populace.

2. But successive efforts for planned development of the economy in the desired direction have been frustrated by unforeseen developments. There had been recurrent floods and droughts, more so in recent years, which continuously sapped the vitality of the farming population. The economy continued to remain in a fragile state because of its predominantly agricultural sector depending on weather. On the other hand, since Independence international economic environment also grew increasingly adverse having debilitating effect on the economy of Bangladesh. They led to sagging growth of the economy against a rising population and to further deterioration of the economic status of the rural people. Ever increasing proportion of rural households fell below the minimum calorie requirement of 2273 kcals. Along with continued poverty, unemployment, malnutrition, illiteracy and rapid population growth remain the endemic problems of the country.

Third Plan Objectives

3. Given the prevailing socio-economic conditions poverty alleviation will have to continue as the primary objective of the Third Plan. But its sheer magnitude and complexity require also taking a long term view. Further poverty, unemployment, rapid population growth, malnutrition, illiteracy—all are so interactive that they all need to be addressed simultaneously in the national plan to establish their relative priority critically in a broader and longer term perspective taking into consideration resource constraint, institutional capability and cultural characteristics of the society. It is recognized that the nature of individual problems is also different; some problems are inherently progressive in character such that less they are attended to more complicated they will grow, e.g. population. The Third Plan therefore takes an integrated view of development in a long term perspective and has formulated the objectives accordingly.

4. The major objectives of the Plan are:

(1) Reduction of population growth.

(2) Expansion of productive employment.

(3) Universal primary education and human resource development.

(4) Development of technological base for bringing about a long term structural change.

(5) Food self-sufficiency.

(6) Satisfaction of minimum basic needs of people.

(7) Acceleration of economic growth.

(8) Promotion of self-reliance.

Goals and Strategies

5. As the ultimate goal of planned development is alleviation of poverty and all planned objectives emanate directly and indirectly from this uniqueness of the goal of planned development they cannot be viewed as mutually exclusive. The Third Plan has to ensure proper and concurrent emphasis on individual objectives; that is, a minimum achievement in each of the areas of objectives will need to be ensured in the Third Plan. The second feature of the Third Plan lies in its strategies. It is to emphasize that the critical difference between plans in a poor country like Bangladesh does not lie in their objectives but in the strategies they adopt to achieve the objectives.

6. The strategies of the Third Plan in relation to goals and objectives are discussed below:

6.1 *Population Control* : Population size and its growth have two direct bearings on the poverty condition. First, a rapid population growth implies higher rate of dependency, higher rate of consumption and lower rate of saving, impeding thereby the rate of growth of the economy. The second effect of rapid population growth which is dynamic in nature is that at certain point in time increasing proportion of population will enter into labour market seeking employment when saving and investment will be constrained to absorb them, thereby leading to further deterioration of unemployment situation. Because of this dynamic relationship any effort to tackle poverty and unemployment problems successfully will need to be supported by a vigorous population control and family planning programmes. The Plan therefore envisages to step up family planning programmes to bring down the population growth from around 2·4% to 2·0% for the plan period and to 1·8% in the terminal year of the Plan. The emphasis should be on strengthening the field services, particularly the maternal and child health care services. However on the receiving end community consciousness about the population problem must be raised through the participation of community leaders such as Union and Upazila Parishad chairmen and members in population control programmes.

6.2 *Employment Strategies* : The general approach of the Third Plan to poverty alleviation is to provide productive employment to the populace so that the labouring population has such command over resources and income as is necessary for satisfaction of their basic needs. To this end, the Plan emphasizes the importance of efficient use of the two primary resources of the country, *i.e.* land and labour. The prime mover of planned development will be the improvement of their productivity through technological and manpower development. Traditional agriculture has already moved along this direction. But the modern agricultural technology covers only one-fourth of the agricultural land and its diffusion will need to be accelerated over the Third Plan to create further employment opportunities in agriculture. While the improved technology for raising productivity of land is known, what is yet missing for an all round development of the rural economy is the technological development of traditional industries

which constitute the second most important sector after agriculture. There is a polarity in the present industrial structure of Bangladesh between high technology of modern industries and the traditional technology of cottage industries. The Plan considers the existing rural technology an anachronism from the point of view of its objective for poverty alleviation. Therefore, technological improvement of cottage and rural industries has been emphasized in the Plan alongside the need for rapid diffusion of the new agricultural technology. Without the improvement of the technology of the cottage industries, it will be impossible to stem the growth of unemployment, which will be swelled by the desertion of moribund cottage industries in the rural areas. As the other pole, modern industries use capital intensive technologies and hence will offer only limited scope for absorption of labour. From productivity point of view also they leave much to aspire. In between the large, medium and the cottage industries what is pathetically missing is a dynamic small industries sector due to shortage of fund and absence of suitable technologies. The Plan emphasizes meeting this void, mainly through upgrading and promotion of the cottage industries into a dynamic rural industries sector. This will create more employment opportunities per unit of capital and improve productivity of labour and capital. Only in case of technological specificity and economics of scale, large modern industries will be undertaken as a deviation from the dual goal of employment and productivity provided such industries like urea fertilizer have strong linkage with the rest of the economy. Besides technological linkages, such industries should also be appraised by their direct and indirect effects on employment. For identification of potential of employment and technological improvements of the rural economy a number of studies have been completed for the Third Plan. These cover crop processing, fisheries, livestock, forestries and rural industries, which will provide the basis for formulation of employment oriented development programmes.

6.3 *Development of Education* : Given the planned objective of productive employment and its dependence on technological development, education and skill formation will be the key for attaining the goal of poverty alleviation. The Plan has therefore attached great importance to the development of education. It is felt that if family income can be raised through improvement of productivity, it is likely that school enrolment will also go up. The Plan proposes to increase both development and current expenditures on education. To overcome the current imbalance between education and labour market a manpower plan will need to be formulated as early as possible as necessary adjunct to education and employment.

6.4 *Food, Nutrition and Basic Needs* : It has been mentioned that access to food and basic needs can be continuously ensured to the common man through productive employment. So with the expansion of productive employment output of basic needs will also need to be expanded, particularly of cereal food, fish, pulses, milk, edible oil, cotton textiles, drinking water and housing and health services. The Plan envisages to increase output of food grain to 207 lakh tons in 1989/90. It is however recognized that, while growth of output can only provide a sound foundation for welfare programme it will be necessary to continue over the medium term some welfare programmes like food-for-work and vulnerable group feeding because of the pervasive nature of poverty and large scale malnutrition prevailing in the country and impossibility of reducing substantially the level of unemployment during the plan period. It has been already mentioned that three-fourths of the rural households consume less than what is considered to be the minimum dietary standard and over one-third of the labour force of 311 lakh people is unemployed. Over such a medium term as that of the Third Plan

it is not possible to raise per capita income to the threshold level to ensure people an access to basic needs. The major targets for the basic needs are shown below:

TABLE 1

Basic Needs Supplies (Output)

Items	1984/85 (Actual)	1989/90 (Target)
1. Food grains (lakh metric tons)	161·2	207·0
2. Fish (lakh metric tons)	7·7	10·0
3. Pulses (lakh tons)	2·0	3·0
4. Cloth (ml. metre)	771·0	1215·0
5. Primary School Enrolment (lakh student)	89·2	116·0
6. Hospital Beds ('000' numbers)	27·6	40·7
7. Rural Drinking Water Supply ('000' of hand tubewells)* ..	618·8	792·8
8. Electrified Villages ('000' numbers)	7·9	22·1

*This includes shallow, deep and deep set hand tubewells.

6.5 *Employment and Growth* : Given its overall strategy the Plan will seek mainly to raise growth through productive employment of its labour force and land. Though saving will be the critical constraint to growth, productive use of existing facilities and efficient allocation of its limited resources can harness the economic potential of the country to attain the planned growth rate of 5·4%. It may be recognized that in spite of several losses of crops in recurrent floods and droughts during the SFYP period the economy achieved a growth rate of 3·8%. However, the need for investment will deepen more over the Third Plan than in the past in order to minimize the effect of weather and bring about further technological development. The Third Plan provides for a capital-output ratio of 4. Deepening of capital and technological base of the economy will be moderated by the planned emphasis on the development of small and rural industries, where improvement in technology and productivity can be achieved at a much lower level of investment than in the large/medium industries and the use of existing capacity at a higher rate.

6.6 *Self-reliance and Resource Mobilization* : The Plan assumes a somewhat slower rate of growth (3·1%) of external resource inflow than it was during the Second Plan (3·3%). The country has already a large built up pipeline of project aid to draw upon in the Third Plan. There has been some improvement in the utilization of project aid also in the recent years. But what will be needed for this are: (i) firstly, to seek a a change in the intramural character of aid in favour of commodity aid and (ii) secondly, to step up efforts for domestic resource mobilization to provide complementary fund. Net external resource inflow is estimated to be Tk. 21,028 crore and domestic resource amounting Tk. 17,572 crore (at 1984/85 prices) can be raised to finance a Plan of the

size of Tk. 38,600 crore. An important step towards self-reliance will be to promote an outward looking industrialization in order to overcome the balance of payments constraint.

Plan Size and Allocation

7. The Plan size of Tk. 38,600 crore compares with the Second Plan as follows:

TABLE 2

Comparison of Third Plan Allocation with Second Plan

(Tk. in crore)

	Second Plan Actual (at current prices)	Second Plan Actual (at 1984/85 prices)	Third Plan (at 1984/85 prices)
(a) Public Sector	13,929	17,944	25,000
(b) Private Sector	6,871	8,632	13,600
Total ..	20,800	26,576	38,600

The overall Third Plan size implies an increase of 45·2% over the actual outlay of the Second Plan. Share of the private sector has been increased from 33·0% as realised in the Second Plan to 35·2%. It needs to be mentioned here that the private sector investment is more or less indicative; actual expenditure will depend on the investment climate, macro-economic policies, domestic and external economic environment and above all, on the entrepreneurship of the private sector. The Plan has built-in policy parameters such as prices and taxes with bounds for switch over from one policy instrument to another in order to achieve desired results. So it will be feasible to attain the private investment target if policy response is correct. In fact the Plan will vigorously pursue macro-economic policies to realize the New Industrial Policy in making the private sector a dynamic partner in development.

Financing of the Plan

8. Against the severe resource constraints that were experienced during the Second Plan, a 45·2% increase in plan size will require tremendous efforts for domestic resource mobilization, though such an increase in plan size against a fast rising population and labour force means only a nominal increase in per capita investment over the presently low level. Without gradual increase in per capita investment the required improvement in technology and labour productivity will not be attainable and the economy will remain locked up in poverty syndrome. The share of domestic resource is estimated to be 45·5% which is at about the same level as was in the Second Plan but in absolute term domestic resource need will be larger. In view of the increased need for domestic resources, the Plan emphasizes the need for mobilization of both public and private savings, the latter on a broad-based household saving. Resource position has

been discussed in detail in Chapters on Domestic Resources and Balance of Payments and External Resources and to a certain extent in the Chapter on Private Investment. The following table shows the plan financing in broad categories:

TABLE 3

Financing of the Plan

(1985—90)

(Tk. in crore)

Sources	*Amount*
(a) Domestic Financing :	
(i) Public Savings	5,960
(ii) Private Savings	11,612
	17,572
(b) Net Foreign Aid	21,028
Total ..	38,600

Resource Mobilization Strategies

9. Past development efforts have been repeatedly frustrated by shortage of domestic resources; even use of foreign aid has been limited by such shortage as saving-investment gap outreached the export-import gap. Therefore, Bangladesh has increasingly sought reimbursable project aid to finance local cost of aided projects. When such need will continue in the final analysis, given the experience with the Second Plan, the success of the Third Plan will depend on the success of domestic resources mobilization efforts. To this need the importance of adopting effective strategies for domestic resources mobilization cannot be overemphasized. As discussed in Chapter III, strategies to be adopted for this purpose during the Third Plan will consist of promotion of public and private savings; efficient use of national resources; austerity in public consumption and reduction of subsidies to the minimum; improvement of tax administration and rationalization of the tax structure. The latter will be pursued to make the tax system more responsible to domestic economic growth rather than heavily relying on foreign trade for revenue receipts. Both the fiscal and monetary systems will be directed to broaden the domestic resource base through encouragement of household saving and channel it into the financial market. In recent years some institutional developments have already taken place with the expansion of the role of the private sector and the market. These trends will be encouraged and strengthened during the Third Plan through the fiscal and monetary systems to attain the domestic resource target of Tk. 17,572 crore, two-thirds of which will have to be made up by private savings. Through fiscal efforts tax-GDP ratio is proposed to be raised from 8·2% in 1984/85 to 9·4% in 1989/90 and tax revenue is to increase at the rate of 8·5% a year from Tk. 2,847 crore to Tk. 4,271 crore. Domestic savings as a percentage of GDP will increase from 4·2% in 1984/85 to 7·0% in 1989/90 and national savings rate from 7·0% to 9·3%.

Balance of Payments Strategies

10. Balance of payments situation continued to be critical during the Second Plan because of world trade and aid problems; therefore one of the main strategies of the Plan to achieve its objectives will be to contain the balance of payments gap within the limit of available external aid. The implication of this strategy is to promote export so that higher import can be permitted to support growth with the supply of required volume of industrial raw materials and spares and essential development inputs and to attain the basic need targets with such consumer goods imports as may not be adequately produced in the country. Accordingly, export is expected to increase at an annual rate of 4·6% from Tk. 2,442 crore in 1984/85 to Tk. 3,057 crore in 1989/90. During the Second Plan export in real terms increased at the rate of 4·9%. Besides, the fact that the 1984/85 export base is more than one-third larger than in 1979/80, it is also recognised that the slow recovery of the developed market economies will mean a slower growth of export from Bangladesh. Export will continue to be dominated by the traditional items like jute goods, tea and leather, though economic policies will vigorously try to promote nontraditional items, seek openings for new exports and make industries more export-oriented. Trade and industrial policies will be redesigned to make best use of comparative advantage of local products.

11. Against the annual growth of export at the rate of 4·6%, import will grow at the rate of 2·8% a year, from Tk. 7,020 crore to Tk. 8,076 crore against 4·5% growth in the Second Plan. This implies that trade deficit will increase from Tk. 4,698 crore in 1984/85 to Tk. 5,447 crore in 1989/90 and the current account deficit from Tk. 3,658 crore to Tk. 4,199 crore (exchange rate Tk. 26 per $). Part of the trade deficit will be met from remittances which are expected to grow at 3·8% a year, from Tk. 1,040 crore to Tk. 1,248 crore. The remaining gap will be met by aids, loans and foreign investment which are expected to grow from Tk. 4,303 crore in 1984/85 to Tk. 4,607 crore in 1989/90. With export projected to grow at the rate of 4·6% against import growth of 2·8% and foreign aid growth of 3·1% against corresponding growths of 4·9%, 4·5% and 3·3% in the Second Plan the economy will become more self-reliant.

12. During the Third Plan import structure will undergo some significant changes. Food import will decline due to expansion of domestic output and other consumer goods import will increase at a slower rate (3·9%) due to increasing substitution by domestic outputs; intermediate goods imports will grow faster at 7% a year, to ensure supply of raw materials and spares for a significant improvement in capacity utilization of local industries and the capital goods import will increase at the rate of 3·4% a year.

13. An important element of balance of payments strategies will be the management of foreign exchange resource of the country with the objective of its efficient use. The problem here will need to be addressed in two ways, namely, allocation between commodity imports and that over years. These necessities arise from the weakness of the export regime due to its overwhelming dependence on jute and jute goods which are susceptible to wide fluctuations over years in respect of both supply and demand. Given such fluctuations in main commodity export the balance of payments strategy should seek to cushion such shocks from spreading to other sectors such as import and through it, to other industries. Such a strategy will require discreet use of foreign exchange in a year of high export of jute and jute goods to build foreign exchange

reserve so that in a year of low export earning such reserve can be drawn upon to maintain a steady flow of import for sustained industrial growth. Foreign exchange management is particularly important for the vulnerability of the food sector. As a logical extension of foreign exchange management the flexible exchange rate policy pursued over the Second Plan period will need to be continued in order to ensure efficient allocation of scarce foreign exchange resource to competing imports and encourage export and remittances.

GDP and its Growth and Structure

14. Projections of import and export and their structures have been made taking in view the growth potential of the economy. As mentioned earlier, the projected growth of GDP is 5·4% a year. In the terminal year GDP will rise to Tk. 42,710 crore at constant factor cost of 1984/85 from Tk. 32,834 crore in 1984/85. The composition of GDP is shown below at factor cost :

TABLE 4

GDP Composition

(constant factor cost of 1984/85)

(Tk. in crore)

Sectors	1984/85		1989/90		
	GDP	Share of GDP (%)	GDP	Share of GDP (%)	Annual Growth Rate (%)
1. Agriculture	16,538	50·4	20,052	46·9	4·0
2. Industries	3,125	9·5	5,063	11·9	10·1
3. Gas and Electricity ..	238	0·7	376	0·9	9·6
4. Construction	761	2·3	965	2·3	4·9
5. Transport and Communication	1,722	5·2	2,407	5·6	6·9
6. Trade and other Services ..	7,319	22·4	9,975	23·3	6·4
7. Housing Services	986	3·0	1,182	2·8	3.7
8. Public Services	2,145	6·5	2,690	6·3	4·6
Total ..	32,834	100	42,710	100	5·4
(i) Domestic Savings as % of GDP	4·2	..	7·0	..	..
(ii) Investment as % of GDP	17·3	..	19·0	..	..
(iii) Tax-GDP Ratio (%) ..	8·2	..	9·4	..	..

It appears from the table 4 that there will be some change in the structure of GDP in 1989/90 from that in 1984/85; but still GDP will be dominated by the agriculture sector. This necessarily follows from the agriculture oriented strategy adopted for Third Plan for the purpose of attaining food self-sufficiency within 1989/90 and generating new employment opportunities close to the homesteads of people at the minimum cost. Though industries will grow at about twice the rate of GDP, its share in GDP will

increase only marginally from 9·5% in 1984/85 to 11·9% in 1989/90. However, during the Plan's time positive actions will be taken to bring the existing heavy industries base to further use and also expand them to initiate a long term change in the structure of the economy. As the capacity of agriculture to absorb labour force will gradually diminish because of the ultimate constraint of land, industrial sector will have to expand even faster to absorb the labour force. This growth will not be feasible unless metal and machineries industries base is developed during the Third Plan.

Sectoral Targets

15. Major sectoral targets are shown in the table below:

TABLE 5

Major Sectoral Targets

Items	Units	1984/85 (Actual)	1989/90 (Target)
Agriculture			
1. **Foodgrains**	ml. metric tons	**16·1**	**20·7**
(a) Rice	Do	14·6	18·0
(b) Wheat	Do	1·5	2·6
(c) Others	Do	..	0·1
2. Jute	ml. bales	4·6	6·0
3. Tea	ml. lb	96·8	115·0
4. Sugar cane	lakh tons	70·0	82·0
5. Pulses	Do	2·0	3·0
6. Oil Seeds	Do	2·0	3·5
7. Potato	Do	13·0	17·0
8. Fish	'000' tons	774	1000
Industries			
1. Jute Textiles	'000' tons	561	650
2. Cotton Textiles :			
(a) Yarn	ml. kg.	59·4	95·6
(b) Cloth	ml. metre	771·0	1215·0
3. Fertilizer	'000' metric tons	806	2150
4. Paper and Newsprint	Do	90	105
5. Sugar	Do	88	225

TABLE 5 (Contd.)

Items	Unit	1984/85 (Actual)	1989/90 (Target)
6. Cement	'000' metric tons	240	850
7. Basic Metals (Steel)	Do	101	230
Energy			
1. Electricity			
(a) Generation	GWH	4545	899
(b) Sales	GWH	2840	7146
2. Gas			
(a) Output	MMCFD	450	750
(b) Customers Connections ..	'000' numbers	240	400
(c) Development Wells	Numbers	21	38
Transport and Communication			
1. Paved Roads	KM	4830	6118
PPH			
1. Rural Drinking Water Supply ..	'000' of hand tubewells.*	618·8	792·8
Education			
1. Primary School Enrolment	lakh students	89·2	116
2. Secondary Education Enrolment ..	Do	24·8	27·5
3. College Education Enrolment ..	Do	4·3	4·4
4. University Education Enrolment ..	'000' students	35·0	38·6
5. Technical Education Enrolment ..	Do	20·4	22·0
6. Vocational Education Enrolment (including community schools) ..	Do	554	756
7. Madrasa Education Enrolment ..	Do	319	350
Health			
1. No. of Hospital beds	'000' numbers	27·6	40·7
2. No. of Doctors	Do	16·0	22·5
3. No. of Nurses	Do	6·5	10·2
Population Control			
1. Population Growth Rate ..	In %	2·4	1·8
2. Contraceptive Prevalence Rate (CPR)	Do	25	40

* This includes shallow, deep and deepset hand tubewells.

Income, Consumption and Distribution

16. The Plan envisages GDP to grow at the rate of 5·4% a year.. Given the domestic resource need for financing the Plan it is estimated that consumption of goods and services will increase at the rate of 4·8% a year which is twice the rate of current population growth. Since it is planned to significantly reduce the population growth rate during the plan period, the estimated growth of GDP over saving requirement will leave a substantial margin for improvement of the standard of living, per capita consumption will grow at the rate of 2·6% a year; that is, by the end of Plan it will be 13·6% higher.

17. But it is recognized that given the present level of per capita GDP of Tk. 3511 ($ 135) the planned growth rate will raise it to Tk. 4119 ($ 158) in the terminal year; it will be far below the level of threshold income which is considered necessary to bring about an improvement in income distribution. Thus, income remaining low over the plan period compared to the threshold income there will need for greater emphasis on policies and institutional support so that the benefit of development reaches the poor also.

18. The development of local government will undoubtedly help people's participation in development programmes and reflection of their felt needs in such programmes. But as the poverty alleviation is a national concern there is need for closely monitoring the effect of development on the various section of the population. In view of this necessity the Third Plan has adopted a social accounting matrix (SAM) as an essential component of its macro-frame work. There are 10 socio-economic groups in the matrix. Eight of these groups are in the rural areas and two in the urban areas. Socio-economic traits of these groups cover land holding and nature of employment such as formal and informal and their participation in income and consumption. The country has been divided into urban and rural areas depending on the size of population. Any settlement area having less than 5,000 people has been defined as rural areas. Poorest 40% of population in an area has been defined as informal sector.

19. The ten socio-economic groups are : (i) the landless agricultural workers; (ii) small farmers (0·0—1·5 acres of land) ; (iii) medium farmers : owner-*cum*-tenant (1·5—5·0 acres) ; (iv) medium farmers : owners cultivators (1·5—5·0 acres); (v) large farmers (5·0—10·0 acres) ; (vi) very large farmers (above 10·0 acres) ; (vii) rural informal (poor 60% of employment group) ; (viii) rural formal (rich 40% of employment group); (ix) urban informal (poor 60% of employment group) and (x) urban formal (rich 40% of employment group).

20. To ensure the desired economic status for each of these groups within the broad objective for poverty alleviation the national government will have a number of economic instruments to wield during the plan period. These will consist of investment programme, tax and price policies and food for work programme. The effect of all these on the different socio-economic groups will be closely monitored during the Third Plan. As the model underlying the macro-framework has the characteristic of simulation with one year lag, it will be feasible to institute such a monitoring system. But it will have great demand on data in respect of quality and timeliness for which the Bureau of Statistics will require both strengthening and reorientation.

Major Sectoral Issues and Strategies

21. Achievement of the various targets set for the Third Plan will depend not only on the volume of investment to be made but also on efficient use of resources, implementation and management capability of the public and private sectors and adoption of correct strategies and macro-economic policies. In the following paragraphs only major sectoral issues and strategies are briefly discussed, while a fuller discussion will follow in respective sectoral chapters.

21.1 *Food Self-sufficiency* : Foodgrain production target has been set at 20·7 million tons to ensure a consumption of 16 oz. a day *per capita* and a security reserve of 1·5 million tons in 1989/90. This means that output has to increase at an annual rate of 5·1% against 3·5% achieved in the Second Plan under very unfavourable weather conditions. The strategy to attain this target is to accelerate the diffusion of modern irrigation-fertilizer-seed technology to raise yield. This strategy will require concentration on cultivation of boro and wheat which made most of the contribution to incremental output during the Second Plan. During the Second Plan output of foodgrain increased by over 2·6 million tons ; of this amount 2·38 million tons came from boro and wheat. While the physiographical conditions for expanded output in the winter season is good from the point of view of availability of land, it has however, to address two appurtinent issues. First is the need for augmentation of water resources for winter cultivation in the process of exploiting available surface and ground water. This strategy makes water conservation the most critical determinant of increased production in a very complex water regime characterized by flood and drainage problems in the monsoon season and low flow in the winter. Taking these extremes into consideration along with the uncertainty of monsoon weather an optimal strategy for water resources management needs to be enunciated for steady growth of the agriculture and food sector. The second problem relates to storage of boro rice crop which comes to the market as wet grain in the rainy season; so as an extension of support programme, Government procurement system must address its concomitant problem of drying of paddy in the interest of attaining the food self-sufficiency objective of the Plan.

21.2 *Development of Minor Crops* : Major crops (rice, jute and sugarcane) and minor crops (pulses, oil seeds, cotton, etc.) intertact with each other through the farmers' preferences given their market opportunities. While the inherent relationship between jute and rice is well-known, this relationship between major and minor crops has been generally overlooked because of overriding interest in food production. But as foodgrain cultivation has steadily expanded to the winter season under irrigated conditions it is posing serious problems to such important minor crops as pulses and oil seeds for availability of irrigation water had led to withdrawal of land from such crops to foodgrain cultivation; as a result important minor crops have been increasingly pushed to marginal land thereby reducing their yields. So agricultural research and development and expansion strategies must move away from their monocrop outlook to multiple cropping to constitute the farm system research. Formulation of an optimal cropping policy is urgently needed for efficient use of limited land and water resources and for reducing instability in crop production from year to year in an improved water regime. Stabilization of agricultural output will be one of the major strategies of the Third Plan.

21.3 *Livestock Development* : Bangladesh has very high density of cattle heads in terms of both area and population ; yet she has chronic shortage of draft power as well as milk. During the Third Plan these two problems will need to be addressed specially Dairy farming will be encouraged for employment of the landless as a special husbandry and significant improvements of breeds, veterinary services and cattle feed supply will need to be brought about to augment the draft power.

21.4 *Fisheries Development* : After suffering decline in 1970's, fisheries output turned up during the Second Plan though there was a significant shortfall in the target. Development programmes in the recent years have been focused mainly on the development of infrastructures. During the Third Plan greater focus will be on the development of Pond fishery through the organization of the disadvantaged groups.

21.5 *Jute Policy*: Over the Second Plan jute output suffered from the relative price disadvantage *vis-a-vis* rice till the terminal year of the Plan when a sharp decline in output led to the reversal of the trend that followed the good harvests of 1978/79 and 1979/80. Jute acreage is now concentrated largely in the area of the old Intensive Jute Cultivation Scheme. Given this stability of jute area, around 15 lakh acres, the major problems to be addressed during the Third Plan are: (i) improvement of jute seed to reach higher yield to make it cost-effective in competition with rice in the domestic market and with other fibres in the world market and (ii) stabilization of the domestic jute market in the event of weather induced fluctuation in output. The focus of the latter policy is to ensure a stable supply of raw jute to the world market and a stable price for the farmers and mills in the domestic market.

21.6 *Cotton Textiles Policy*: During the Third Plan cotton textiles industry will be used as the main vehicle for the promotion of the private sector; so the future expansion as planned will be all located in the private sector; but such expansion will have to address two important issues, one with respect to supply of cotton and the other with respect to handlooms. The sector's target is to increase spindlage by 50% and yarn output by about the same percentage. This means a substantial increase in demand for cotton which has to be mainly imported. Cotton import is projected to increase from 236 thousand bales in 1984/85 to 415 thousand bales in 1989/90 and cost of its import from Tk. 205 crore to Tk. 360 crore ($1 = Tk. 26). This is bound to increase the pressure on the balance of payments. In this context, it is to be recognized that, though the cotton textile industry has played the leading role in industrial development of many countries, it has been also export market oriented. In the light of the trend towards trade restrictions greater efforts must be made during the Third Plan for diversification of cotton textiles export including fabrics. Particularly to protect the interest of handloom textiles weaving mills should increasingly search market for its goods outside in order to perform its historical role. On the other hand, in the interest of both common man and handloom weavers, there is need to improve both productivity and quality of handloom products. Handloom industry has an inherent problem in both respects which have contributed to its decline. Its labour wage is lower than the wage of unskilled farm labour failing thereby to remain attractive as an economic activity; so there is great need to improve handloom technology as well as its products.

21.7 *Private Industries and Investment Schedules*: To attain the investment target of the Third Plan in the industries sector, industrial investment schedules will need to be used as an instrument for guidance rather as a control mechanism. For this purpose the industrial investment schedules must be well defined and flexible so as to reflect the choice of the private investors. The two schedules should also play an effective role for linkage between large and small industries. For this purpose small industries should be protected by exclusion of their products and processes from the large and medium scale industries schedule. Any imbalance in investment should be avoided through periodical review of the private sector's investment performance and close monitoring.

21.8 *Energy Development*: As a critical input to modern economic development energy sector development was given a high priority in the Second Plan. This thrust will continue over the Third Plan through the development of gas and its substitution for imported fuel. Substantial progress was made in this direction during the last Plan. The aim of the Third Plan is to raise its share to 68.2% in 1989/90. In the gas

sector priority will be given on development of gas fields, appraisal drilling and exploration, particularly in the west zone. Attempts will be made to attract foreign private investment in oil and gas exploration on production sharing basis. To meet the demand of the rural community with traditional energy, the development of community forests and strip forests will be emphasized along with the village electrification programme. Since the development of gas and power sector is highly capital intensive the operation of the energy sector as a whole has to be based on financial prudence. Appropriate pricing of gas and power and reduction of system loss in the power sector must be the major issues to address during the Third Plan.

21.9 *Transportation and Communication* : The main issue to be addressed here particularly during the Third Plan is the question of operation and maintenance of physical facilities for improvement of efficiency. Railways operating efficiency will need to be geared up along with tariff adjustments in order to reduce its losses. In case of roads and highways maintenance has become a serious problem because of inadequate provision in revenue budget. In this connection it is necessary to recognize that development, operation and maintenance are three interlocking phases of the development process but in recent years they have come locked up in serious resource problem because of operational shortcomings resulting in losses or inadequate revenue generation and inadequate maintenance. This has unwittingly allowed continuous accumulation of repairs and maintenance works at the cost of efficiency and benefit till a stage is reached eventually when replacement becomes unavoidable as a charge against the development budget. As a result a large part of the development budget is being incurred not for capacity expansion but for maintenance of existing assets with no added benefit to the economy. Hence maintenance and repairs of physical facilities should be given higher priority in this as well as in other sectors.

21.10 *Physical Planning and Housing* : Bangladesh being a land scarce country can hardly allow unplanned use of land and its loss to agriculture ; yet in cities and rural areas settlements are taking place at the cost of valuable arable land. In urban areas the problem is self-manifesting though not so in the rural areas, because of urban blight. This does not mean that the problem is less in rural areas because of ever increasing pressure on land. During the Third Plan therefore special attention should be given to land use for various development purposes. The setting up of upazila authority augurs well for efficient use of land in the rural areas ; in fact, the upazila centres can work as a catalytic factor for promotion of organized settlements in the rural areas. Development of such settlements with modern facilities such as roads, electricity, education and health services can also help reduce the drift of rural population to cities and the problems of urban congestion and slums. Preparation of a national land use and settlement plan should receive earliest attention during the Third Plan.

21.11 *Education* : Though universal primary education (UPE) and mass literacy programmes were earnestly launched during the Second Plan, progress in both the areas was slow. Since human resource development and skill formation will be the prime input for productive employment and poverty alleviation there is no option other than pushing on this frontier of socio-economic problems of the country. What needs to be sought in these respects is community participation in education development and management. An effective devolution of authority to local administration for management and development of primary schools is hoped to make the Third Plan a turning point in UPE.

For this two main problems in UPE which must be effectively addressed during the Third Plan are low rate of enrolment and high rate of dropouts. These are very likely to be positively affected by the improvement of economic status of the poor households in the rural areas, but a more direct approach will be needed to improve these rates. This may require change in the rule for spatial distribution of primary schools in favour of smaller area. The present standard is one school per 2 sq. km ; in India it is 1 sq. km. Though Bangladesh has high density of population, its topographical condition is also severe for communication for most of the time in a year. Close location of school will not only reduce the travelling distance from house to school but also ensure closer participation of the community in school management and improve teacher-parent relationship.

21.12 *Health* : Primary health service is the main focus of the health programmes including the immunization programme under the overall objective of health for all by 2000 AD. In pursuance of this policy delivery system is being developed in the rural areas. Beyond that two important areas need to be emphasized more for attaining the objective of health for all. These are environmental health science and nutrition education for only through them the households and the community at the receiving end can make the primary health care a success.

21.13 *Population and Family Planning* : Besides improving the efficiency of the delivery system of family planning and maternal and child health care services, there is greater need for community consciousness. Though available demographic data show that population growth rate has started to decline, there has been considerable shortfall in various population targets. Thus, for example, Second Plan's target for contraceptive prevalence rate was 37·5%, but actually 25% was achieved by the end of the Plan. The NRR-1 horizon has also been continuously shifting since Independence. All these show lack of adequate awareness among people for family planning. Therefore the Third Plan should be focused on community participation in family planning rather than viewing it as a problem of individual married couples which the delivery system is addressed to.

Cyclone Warning System and Coastal Area Development

22. During the Third Plan the development programmes will be especially focused on the coastal areas which have been frequently ravaged by cyclones and tidal bores costing human lives and miseries. The coastal belt was hit by a catastrophy in 1970 and again in 1985. In view of these repeated disasters there is need for a special development programme within the framework of the national plan. The objective of such a programme is to minimize the effect of such natural calamities on human life and property. The Third Plan strategies to this end will consist of (a) cyclone preparedness of the community and government agencies for evacuation of people from the vulnerable areas, (b) development of an efficient cyclone warning system, (c) provision of safer shelters in time of cyclones, (d) development of protective measures such as forests and crossdams (polders) and finally, (e) development of coastal resources so that people can better endure cyclones. Based on these strategies preparation of a cyclone rehabilitation programme is underway. The important areas to develop in the coastal areas are crossdams, forests and fisheries, communication, roads and coastal transport, schools and health facilities.

Sectoral Allocation of Planned Outlay

23. The sectoral allocation of planned outlay has been made in order to achieve the sectoral targets of the Third Plan and shown in Table 6.

TABLE 6

Sectoral Allocation During TFYP

(At 1984/85 Prices)

(Tk. in crore)

Sector	Public Sector	Private Sector	Total
1. Agriculture, Water Resources & Rural Development	7,060	4,400	11,460
2. Industries & Minerals	2,600	3,200	5,800
3. Energy & Natural Resources	5,675	500	6,175
4. Transport and Communication	**3,025**	**1,500**	**4,525**
(a) Transport	2,637	1,500	4,137
(b) Communication	388	..	388
5. Physical Planning, Housing & Water Supply ..	550	3,650	4,200
6. Education & Religious Affairs	1,220	150	1,370
7. Health	550	50	600
8. Population Control & Family Planning ..	870	70	940
9. SCYSWAM	**307**	**15***	**322**
(a) Social Welfare	75	..	75
(b) Women's Affairs	50	..	50
(c) Youth Development	17	..	17
(d) Mass Media	50	..	50
(e) Cultural Development	51	..	51
(f) Development of Sports	64	..	64
10. Scientific and Technological Research (STR) ..	60	..	60
11. Manpower & Labour	93	..	93
12. Public Administration	65	..	65
13. Block Allocation	2,925	..	2,925
(a) Zila and Upazila Infrastructures ..	1,000	..	1,000
(b) Development Assistance to Upazila Parishads	1,250	..	1,250
(c) Development Assistance to Pourashava ..	92	..	92
(d) Special CHT Plan	213	..	213
(e) Customs Duty and Sales Tax (CDST) ..	120	..	120
(f) Annual Technical Assistance Programme (ATAP)	250	..	250
14. Other Sectors	..	65	65
Total ..	25,000	13,600	38,600

Note: The list of the projects of the TFYP along with expenditure incurred by the end of the SFYP, fund to be required during TFYP and other relevant information will be published as a separate document of the Plan entitled "Blue Book of the Third Five Year Plan."

*This is for all sub-sectors under SCYSWAM.

Annual Phasing of Development Outlay

24. Although strong efforts will be made to mobilize internal resources from the beginning of the Plan, it is not likely that the domestic resource problem will ease quickly; in fact, it will take time for the measures to gather momentum and have their cumulative effect felt on the size of available resources from year to year. Considering the limitation of resources in the initial years and the problems of resource augmentation in the public sector the following annual phasing of development outlay has been planned:

TABLE 7

Annual Phasing of Development Outlay (1985-90)

(at 1984/85 prices)

(Tk. in crore)

Year	Total	Public	Private
1984/85	6,209	3,232	1,977
1985/86	6,385	3,825	2,560
1986/87	7,010	4,360	2,650
1987/88	7,686	4,970	2,716
1988/89	8,419	5,610	2,809
1989/90	9,100	6,235	2,865
Total ..	38,600	25,000	13,600

Zila and Upazila Infrastructures : Sectoral Allocation

25. The amount kept as block allocation during SFYP for Zila and Upazila Infrastructures was distributed by NICAR in various sectors through ADPs taking into account the need of infrastructure development arising from time to time in the Zila and Upazila Headquarters. No predetermined sectoral sharing is followed from this distribution. However, based on the past trend of distribution made by NICAR, a possible sectoral allocation of Tk. 1,000 crore kept as block for Zila and Upazila Infrastructures is offered below :

TABLE 8

(Tk. in crore)

Sectors.	Allocation.
(i) Transport (Upazila Roads) ..	243
(ii) Communication ..	52
(iii) Physical Planning and Housing (Construction of office and residential buildings) ..	592
(iv) Rural Development and Institution (LG Division for UTDC and Water supply) ..	105
(v) Public Administration ..	8
Total ..	1,000

Development Assistance to Upazila Parishads : Sectoral Allocation

26. An indicative pattern of sectoral allocation of Tk. 1,250 crore kept as block for Development Assistance to Upazila is given below. This has been done in the light of the Guidelines for Upazila Parishads.

TABLE 9

(Tk. in crore)

Sectors.	Allocation.
(i) Agriculture and Irrigation ..	250
(ii) Rural Development and Institution (Road Construction, RWP through Upazila and Union parishads, Hats and Bazars development). ..	550
(iii) Small and Cottage Industries ..	100
(iv) Education ..	112
(v) Health and Population ..	176
(vi) Sports, Culture and Social Welfare ..	62
Total ..	1,250

Special CHT Plan : Sectoral Allocation

27. In 1984/85 government launched a special five year plan for accelerated development of Chittagong Hill Tracts (CHT). The Plan costing Tk. 264·41 crore will run as a supplement to the national plans. The main objectives of the Plan are :

(i) creating conditions for rapid material progress of the area through agriculture and small industries development ;

(ii) development of transport and communication for integrated development of the area; and

(iii) improvement of education and health facilities.

Of the total cost of Tk. 264·41 crore, Tk. 51·00 crore was spent during the SFYP and Tk. 213·00 crore has been provided for in the TFYP. The Third Plan allocation by major sectors is shown below :

TABLE 10

(Tk. In crore)

Sectors.		Allocation
(i) Agriculture (Crop, Forestry, Livestock and Fisheries)	..	48·63
(ii) Industries (Small and Cottage Industries)	..	3·34
(iii) Power (Distribution programme for 16 Upazilas)	..	31·39
(iv) Transport (Roads and Upazila connecting Roads)	..	102·24
(v) Communication	..	7·00
(vi) Physical Planning and Housing (Water supply and Tourism)	..	12·16
(vii) Education (Development of Primary and Secondary Schools and Colleges)	..	5·61
(viii) Health and Population (9 Upazila Health Complexes)	..	2·63
	Total :	213·00

CHAPTER III

DOMESTIC RESOURCES

Mobilization of domestic resources holds the key to the realization of the investment target of the Third Plan. The necessary implication of the overall size of the Plan, given the expected level of foreign aid, is that nearly half of the total outlay would be required to be financed by domestic resources. Out of the planned outlay of Tk. 38,600 crore, Tk. 21,028 crore is expected to be externally financed; the balance Tk. 17,572 crore will need to be raised internally. This implies 45·5 percent share of domestic financing in the Third Plan against 43·6 percent actually achieved under the Second Plan. Though this implies only a marginal shift in the relative share of domestic and external financing, absolute increase in domestic resource need will, however, be substantial, particularly given the experiences with domestic resource mobilization efforts in the Second Plan. Both public and private savings would have to increase substantially to finance the Plan. The strategy of the Plan would be to ensure that the required overall level of saving activity takes place in the economy and the share of savings that is required by the public sector is effectively mobilized. At the same time, it will have to be ensured that resource mobilization for the public sector does not impinge on the savings required for financing private investment, nor is it fretted on unnecessary consumption expenditures. In these respects much of the success of the Plan to mobilize resources would depend on the actual policy instruments to be used to this effect. The Plan envisages Tk. 5,960 crore in public savings and transfers and Tk. 11,612 crore in net private savings. In view of the experiences of the Second Plan, it is thus envisaged to mobilize about one-third of the domestic resources in the public sector and two-thirds through the private sector.

Resource Mobilization in Retrospect

2. The prospect of domestic resource mobilization of the amount envisaged in the Third Plan needs to be critically assessed in the backdrop of developments during the Second Plan period, especially in respect of tax, finances of public sector enterprises, current expenditure and subsidies. First to note is that tax/GDP ratio of Bangladesh is one of the lowest even among the developing countries. Tax/GDP ratio which stood at 4·2 percent in 1972/73, rose to 7·5 percent at the end of the First Plan period and 8·0 percent in 1979/80. Second Plan projected the tax/GDP ratio at 9·5 percent to meet the public sector resource need. Actually in 1980/81 the ratio rose to 8·7 percent ; thereafter the ratio declined as tax concessions neutralized additional tax efforts; it is, however, to note that in spite of liberal tax concessions given to the private sector to help it play greater role in the national economic development, tax/GDP ratio rose to 8·2 percent in the terminal year. It cannot be also ignored that there are some structural rigidities inherent in the tax system which is primarily responsible for low tax/GDP ratio. The tax base is narrow, tax elasticity is low and tax administration is weak. The focus on agriculture and food production in development programme contributed to the decline in tax/GDP ratio as this sector is very little taxed, is difficult from tax administration point of view and is more consumption oriented. Secondly, the share of direct tax, though improved slowly from 16 percent in 1972/73 to an average of 20 percent in the Second Plan, is rather low compared with many low income countries. Direct tax/GDP ratio is only 1.6 percent. Unless

income is more or less equitably distributed, income tax is more responsive to growth in GDP but its share is only 14 percent of total tax revenue. Because of emphasis on agricultural development, a graduated land tax (in place of flat rate system and high exemption limit) was introduced during the Second Plan. Though a step forward, it fell short of tax collection target due to the existing system of land records and consequent problem of land revenue administration. Thirdly, indirect taxes contributing about 80 percent of tax revenue are largely dominated by taxes on foreign trade (import duty and sales tax on imports). These taxes together accounted for 54 percent of total tax revenue and 68 percent of total indirect taxes during 1980-85 compared with 41 percent and 49 percent respectively in 1972/73. Heavy dependence of the tax system on foreign trade, which has grown over time, in turn means dependence on external aid which finances about half of import trade. This makes the tax system vulnerable to changes in international trade and aid environment. The vulnerability of the tax system is further accentuated because of the dominance of primary commodities and manufactures thereof in the export trade and the dependence of export on jute and jute goods as demand and prices of such commodities are very susceptible to world economic condition.

3. Operations of public sector industrial enterprises and public utilities remained far from satisfactory. According to Census of Manufacturing Industries, 303 public sector manufacturing units in 1978/79 had fixed assets of Tk. 598 crore which was about 78 percent of total fixed assets of the industries sector for that year. Financial performance of most of the enterprises had been generally poor due to a variety of factors: inadequate operational freedom; lack of flexibility in pricing in response to changes in production costs and market demand; absence of cost consciousness among the enterprises and a sense of accountability in the management; shortage of skilled manpower; power system breakdown; fiscal anomalies etc. A disturbing aspect has been the sharp deterioration in labour productivity in major industries during the Second Plan. As a result, the industries suffered heavy losses and many of them survived on cash subsidy from public Exchequer and borrowing from commercial banks. During the 11-year period ended in 1983/84, six public sector industrial corporations (BJMC, BTMC, BSFIC, BCIC, BSEC and BFIDC) suffered losses in 6 years amounting to Tk. 401·10 crore while net profit in 5 years amounted to Tk. 334·40 crore. The ratio of profit to sales in many years was negative and did not exceed 5·3 percent which is by no means commensurate with funds invested in the enterprises having alternative uses. It may be noted that these losses would have aggravated and profits reduced had depreciation of their assets been accounted at their replacement cost rather than book value. Sustained efforts have been made by the government since the middle of 1970s to put the public enterprises back on the rails. These measures included greater operational freedom, flexible pricing policy, infusion of fresh capital into sick enterprises, divestment of inefficient and unprofitable cotton textile mills and enterprises taken over by the government for management purposes, introduction of a management cadre and management training, introduction of MIS as management tool and restitution of the purchasing power of the working class on the recommendations of Wage Commission, etc. The effect of all these measures brought about significant improvement in the financial position of most of the public sector industrial corporations. In fact, a number of interesting developments have taken place. First, out of the 5 years of the Second Plan, in 3 years they jointly made profit against only one year in the previous 5-year period. Secondly, the number of corporations constantly making profit increased from 2 in the previous period to 3 in the Second Plan. Thirdly, the number of such corporations also increased to 4 in the second half of the Plan.

4. Current expenditure of the government continued to grow at an accelerated pace ever since 1972/73 for meeting obvious needs of a national government but the growth does not seem to have settled down even after the 3 plan periods of 13 years. The rate of growth, though declined in the Two-year Plan to 14·6 percent from 26·4 percent during the First Plan, is estimated to have gone up again to reach at the rate of 20·5 percent during the Second Plan period against 14·3 percent growth in tax revenues. Because of this growth of revenue expenditure public savings needed for development expenditure increased only at the rate of 0·4 percent during the Second Plan.

REVIEW OF SECOND PLAN

5. One of the objectives of the Second Plan was to take the economy towards self-reliance through greater domestic resource mobilization. This was sought to be achieved by greater tax effort including rationalization of tax structure, austerity in non-development expenditure, reduction of consumption and production subsidies, improvement of financial performance of public sector enterprises, stimulating private savings and investment and relaxation of price regulations. Out of the total planned outlay of Tk. 17,200 crore, it was envisaged to raise Tk. 8,132 crore in domestic resources and Tk. 10,947 crore in external resources of which Tk. 7,091 crore in foreign aid (net). This would have raised saving/GDP ratio to 7·4 percent in 1984/85 against 4·3 percent in 1979/80 and tax/GDP ratio to 9·5 percent from 8·0 percent over the same period.

6. Of the planned development outlay of Tk. 11,100 crore (at 1979/80 prices) in the public sector, Tk. 4,904 crore (44·2 percent) was estimated to come from domestic resources and the balance of Tk. 6,196 crore from external aid. At current prices, public sector outlay was estimated at Tk. 16,060 crore.

7. The Plan expectation about domestic resources mobilization failed to fully materialize because of unforeseen developments in both internal and external environments and increased expenditure on public administration. Prolonged global recession immediately after the Plan was launched accentuated balance of payments problems. Virtual stagnation of aid inflow and stifled growth of export adversely affected import and import-related taxes. They in turn necessitated adjustment measures which depressed demand or imports and domestic products. On top of that, frequent adverse weather affecting agricultural output, particularly food, further retarded domestic demand for non-agricultural goods and led to the use of cash foreign exchange for food import limiting import of taxable items. Thus, international trade and aid conditions together with frequent natural calamities set a chain reaction which depressed economic growth in the Second Plan below its target as well as below the rate achieved in the previous five-year period, adversely affecting government tax collection and making government efforts for domestic resources mobilization less productive. On the other hand, the New Industrial Policy of June 1982, emphasizing private investment, was followed by liberal tax concessions having their obvious effect on government tax revenue. As a cumulative result of all these, tax revenue grew only slowly such that tax/GDP ratio increased nominally from 8·0 percent in 1979/80 to 8·2 percent in 1984/85 against the planned target of 9·5 percent. In fact, tax/GDP ratio began to decline in 1981/82 after reaching 8·7 percent in the first year of Plan and snapped in 1983/84 to the level of 1979/80 (8·0 percent). Partly compensating this development on the tax front, the adjustment measures consisting of price adjustments for public sector goods and services helped substantially reduce budget subsidies. Price of rice in ration was more than doubled and that of wheat

raised by 76 percent, fertilizer (urea) price by 127 percent and railway tariff by over two-thirds; but price adjustments had only nominal impact on the profitability of the public corporations. Adjustment of commodity prices yielded handsome revenue to the Exchequer—about 37 percent of non-tax revenue—and yet overall government revenue fell short of the planned target by 14·6 percent or by Tk. 2,423 crore against the target of Tk. 16,540 crore. On the other hand, inflation, salary adjustment and administrative reform increased the revenue expenditure by 4·4 percent beyond the planned estimate of Tk. 10,278 crore. As a combined effect of reduced receipt and increased expenditure government savings (revenue surplus) was realized up to 54 percent only *i.e.*, Tk. 3,385 crore against the target of Tk. 6,262 crore.

Trend in Revenue Receipts

8. Total revenue receipts during the Plan period (at current prices) is shown in Table 1. Total revenue receipts amounted to Tk. 14,117 crore against the projection of Tk. 16,540 crore of which Tk. 13,671 crore was to be in tax revenue and Tk. 2,869 crore from non-tax sources. Actual tax collection (at current prices) amounted to Tk. 11,154 crore indicating a shortfall of 18 percent and an annual growth rate of 14·3 percent over 1979/80. Average annual inflation rate (CPI) over the Second Plan was 11·8 percent. Thus real growth of tax revenue was 2·5 percent a year.

TABLE 1

Public Sector Resources Position

(At current price)

(Tk. in crore)

Particulars	1979/80	1980/81	1981/82	1982/83	1983/84	1984/85 (R.E.)	Total Resource (Actual) (1980-85)	Annual Compound Growth Rate (%)	Total Resource (Target) (1980-85)
1. Tax Receipts ..	1,460	1,821	1,979	2,135	2,372	2,847	11,154	14.3	13,671
2. Non-tax Receipts ..	311	555	503	490	587	828	2,963	21.6	2,869
3. Total Revenue ..	1,771	2,376	2,482	2,625	2,959	3,675	14,117	15.8	16,540
4. Revenue Expenditure	1,236	1,447	1,789	1,947	2,421	3,128	10,732	20.5	10,278
5. Revenue Surplus ..	535	929	693	678	538	547	3,385	0.4	6,262
6. Cost of Living Index (Middle Class) (1973/74=100)	226.55	254.97	296.50	325.95	357.47	396.58	..	11.8	..
7. Tax/GDP Ratio (%) ..	8.0	8.7	8.5	8.0	7.8	8.2	..	..	9.5

9. *Import Duty* : Sluggish import growth as mentioned before affected the collection of import duty. Total merchandise imports rose to $ 2,700 millions in 1984/85 from $ 2,366 millions in 1979/80, after a decline in 1982/83 to $ 2,310 millions. This recovery of import had little effect on government revenue as it was mainly due to food import which is non-taxable. Value of dutiable imports increased from $ 1,389 millions in 1979/80 to $ 1,712 millions in 1984/85 after a decline in 1982/83 to $ 1,228 millions. The average annual growth of dutiable import was 4·3 percent over the plan period against 2·7 percent for import as a whole. Slow growth of dutiable import together with tax incentives such as on machinery and rationalization of duty structure had depressing effect on collection of import duties, but for the continuous depreciation of home currency at an annual rate of 10·9 percent from $ 1 = Tk. 15·5 in 1979/80 to $ 1 = Tk. 26 in 1984/85. Since Taka depreciated by 67·7 percent over the Plan period and $ value of dutiable import increased at less than half of this rate (23 percent), the main source of revenue collection on import was depreciation of Taka. Table 2 shows the trend of merchandise imports, dutiable imports and collection of import duties during the Plan period.

TABLE 2

Imports and Dutiable Imports
(1980—85)

Year	Total Imports (Million $)	Dutiable Imports		Import Duty (Crore Tk.)	Average Rate of Duty (%) (5÷4)
		Million $	Crore Tk.		
1	2	3	4	5	6
1979/80	2366	1389	2150	583	27
1980/81	2533	1651	2698	703	26
1981/82	2572	1370	2747	758	28
1982/83	2310	1228	2917	850	29
1983/84	2342	1300	3242	919	28
1984/85	2700	1712	4452	1175	26

10. *Excise Duty* : Among the taxes on domestic output and income, the most important one is excise duty. During the Plan period, as the growth of non-agricultural sector was slow excise revenue was also affected. The index of industrial production which remained stagnant at 143 during 1980/81 and 1981/82 dipped to 136 in 1982/83;

subsequent recovery was also slow. Table 3 shows the trend of production of some major excisable goods.

TABLE 3

Trend of Production of Important Excisable Goods
(1979/80 to 1984/85)

Commodity	Unit	1979/80	1980/81	1981/82	1982/83	1983/84	1984/85
1. Cigarette ..	(Billion sticks)	13.8	14.9	15.8	14.0	14.7	15.5
2. Biri ..	„ „	20.0	21.6	24.1	28.2	28.2	31.3
3. POL ..	('000' M. Ton)	1181	1208	1135	919	1020	943
4. Gas ..	(MM cft.)	44,500	49,936	64,781	72,104	83,090	94,600
5. Cement ..	('000' M. ton)	336	345	326	307	273	240
6. Sugar ..	(„ „)	94.7	145.2	202.2	177.7	151.2	88.0
7. Cotton Yarn ..	(Lakh lbs.)	953	1020	953	998	1019	1062
8. Cotton Fabrics (mill-made)	(Lakh yds.)	886	860	725	654	643	686
9. Steel Ingot ..	('000' M. Ton)	138	139	109	47	73	101
Total Excise Revenue	(Tk. in crore)	284.92	386.05	453.90	497.51	597.57	705.00

11. *Income Tax*: Income tax revenue during the Plan period increased at an annual rate of 16·5 percent. Total number of income tax assessees increased to 3,75,000 in 1984/85 from 2,62,000 in 1979/80. Efforts were made during the Plan period to improve income tax administration and rationalize and simplify assessment and collection procedures. A self-assessment scheme was introduced in 1981/82 under which assessees up to an annual income of Tk. 25,000 could assess their tax liability without the rigours of normal assessment procedures; the scheme was expanded to include income up to one lakh taka. The Income Tax Act, 1922 was also thoroughly revised to make it more comprehensible to both officials and assessees.

12. Tax/GDP ratio during the plan period virtually remained stagnant. It increased to 8·2 percent in 1984/85 against the Plan target of 9·5 percent and actual of 8·0 percent in 1979/80. Though it showed marked improvement to 8·7 percent in 1980/81, the first year of the Plan, it suffered declines between 1981/82 and 1983/84 to be back to 8·2 percent in 1984/85. The real rate of growth of tax was only 2·5 percent during the Second Plan against 3·8 percent growth of GDP which

means an elasticity of tax of less than unity. Both tax elasticities and buoyancies declined during the Second Plan as shown in Table 4 below :

TABLE 4

Elasticity and Buoyancy of Taxes

Tax	Base	Elasticity		Buoyancy	
		1972/73 to 1979/80	1972/73 to 1984/85	1972/73 to 1979/80	1972/73 to 1984/85
1. All taxes ..	GDP at current market prices	1·27	1·04	1·43	1·22
2. Import duty	Dutiable value of imports	0·93	0·81	0·94	0·89
3. Sales tax ..	Duty-paid value of imports	1·16	0·93	1·15	0·91
4. Excise duty..	GDP at current market prices	0·91	0·86	1·12	1·23
5. Income tax..	Non-agricultural GDP at current market prices	1·16	0·92	1·22	1·04

13. While inflexible tax base explains retarded growth of taxes, it also reflects the rigidity of the tax structure and inadequate response of tax administration to capture part of the benefit of development from the expanding sectors. The Plan had estimated Tk. 1,918 crore (Tk. 1,367 crore at 1979/80 prices) from new tax measures but the effects of the new measures taken during the Plan period amounted to Tk. 1,290 crore. These measures included a development surcharge on dutiable imports; modification of land tax through a graduated rate structure in place of flat rate; upward adjustment of some excise rates especially on gas; expansion of excise net to new items and introduction of some taxes like turnover tax, foreign travel tax and shop tax. It may be noted that in respect of new land tax, administrative problems prevented full realization of the tax potentials.

14. There has been only a marginal change in tax structure during the Plan period. To the extent a rise in the ratio of direct taxes relative to total taxes is an indication of progressive taxes and improvement in the distributive justice, the change in that direction has been only marginal. The ratio of direct taxes to total taxes which was 18 percent at the end of First Plan and 17 percent in 1979/80 improved to 20 percent in 1984/85. The proportion of income tax to total tax increased from 12 percent to 14 percent but the share of land tax remained stagnant at 1 percent during the Plan period. Tax on foreign trade, though slightly decline, continued to be predominant reflecting its dependence on foreign aid and its vulnerability to fluctuations in external trade and aid situations. During the Second Plan, therefore, efforts were made to shift the structure towards domestic income and output. As a result, the share of customs duty and sales tax thereon fell from 61·0 percent in 1979/80 to 53·2 percent in 1984/85 while that on domestic goods and services increased from 22·1 percent to 25·5 percent during the same period. Table 5 shows composition of tax revenue along with the growth of major taxes during the Plan period.

TABLE

Composition of
(1980—

Tax	1979/80		1980/81		1981/82	
	Amount	Percent	Amount	Percent	Amount	Percent
I. Indirect ..	**1,207**	**83**	**1,498**	**82**	**1,575**	**80**
Of which						
Customs ..	625	43	748	41	783	40
Excise ..	285	20	386	21	454	23
Sales ..	284	20	352	19	325	16
II. Direct ..	**253**	**17**	**323**	**18**	**404**	**20**
Of which						
Income ..	182	12	227	12	280	14
Land Development	19	1	20	1	20	1
Total ..	1,460	100	1,821	100	1,979	100

5—*Concld.*

Tax Revenue
85)

[Tk. in Crore]

1982/83		1983/84		1984/85 (R.E.)		Total (1980—85)		Annual Growth Rate (%)
Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	
1,681	**79**	**1,898**	**80**	**2,264**	**80**	**8,916**	**80**	**13·4**
870	41	934	39	1,120	39	4,455	40	12·4
498	23	598	25	705	25	2,641	24	19·8
298	14	350	15	410	14	1,735	16	7·6
454	**21**	**474**	**20**	**583**	**20**	**2,238**	**20**	**18·2**
326	15	339	14	390	14	1,562	14	16·5
20	1	30	1	40	1	130	1	16·1
2,135	100	2,372	100	2,847	100	11,154	100	14·3

15. During the Plan period considerable attention was given to improve tax administration. The National Board of Revenue was upgraded as a separate Division of Ministry of Finance. Training programme for tax officials was strengthened and logistic support was considerably improved. As already mentioned procedures for assessment and collection of taxes were simplified and Income Tax Act was thoroughly revised to make it more comprehensible.

Non-tax Receipts

16. Non-tax receipts during the Plan period increased at an impressive rate of 21·6 percent per annum and exceeded the Plan target. Non-tax revenue for the Plan period (at current prices) was estimated at Tk. 2,869 crore; actual receipt during the period amounted to Tk. 2,963 crore, an increase of Tk. 94 crore over the Plan expectation. The increase is attributed to all major components except interest receipts. Against Tk. 580 crore envisaged in the Plan, interest receipts amounted to Tk. 475 crore. It may be noted that interest receipt from public sector corporations and agencies was much less than expected as many of them failed to maintain the schedule of payment because of financial difficulties to redeem, while capital structure of most corporations was rationalized by infusion of fresh capital to bring the debt-equity ratio at an appropriate level. A number of measures were taken during the Plan period to improve the management efficiency and financial performance of the public sector enterprises. Since 1979/80, administered prices of a number of public sector goods and services such as petroleum products, fertilizer, paper and newsprint, cement, sugar, electricity, gas, railway and other services have been raised. The public sector enterprises have also been given the freedom to adjust prices up to 10 percent for increase in production cost. As nearly half of all jute and cotton textile mills were transferred to their previous Bangladesh owners while some sick cotton mills were divested, the pressure on public management resources was reduced. Along with restructuring of debt-equity ratio, lending/relending terms were simvlified for lebt servicing. These measures started yielding positive results and a number of public enterprises started earning net operating surpluses. These surpluses, however, constitute only a small proportion of their fixed assets at book value and will be totally wiped off if assets valued at replacement cost to avoid capital consumption. Sustained efforts would, therefore, be needed in future to improve the financial viability of these enterprises so that economic return commensurate with their investments may be earned. Table 6 shows the financial performance of major public industrial enterprises since 1979/80.

TABLE 6

Financial Performance of Major Public Industrial Enterprises (a)
(1980—85)

[Tk. in Crore]

Year	Net Profit (b)	Gross Sales	Profit/Sales Ratio (%)
1979/80	87·6	1661·7	5·3
1980/81	58·6	1931·1	3·0
1981/82	(—)90·4	1956·0	(—)4·6
1982/83	91·2	1772·8	5·1
1983/84 (R.E)	71·7	2244·5	3·2
1984/85 (B.E)	89·3	2437·9	3·7

(a) Include BJMC, BTMC, BSFIC, BSEC, BCIC, BFIDC.
(b) Pre-tax profits or losses.

17. Contribution from public financial institutions was higher than expected; total contribution from Bangladesh Bank, nationalized commercial banks and specialized banks amounted to Tk. 584 crore compared with Tk. 483 crore estimated in the Plan. The major contribution was from the Bangladesh Bank amounting to about Tk. 514 crore. The surplus of the Bank resulted from increased refinancing and foreign exchange transaction against a continuously depreciating home currency.

18. Against these positive developments from the resource point of view, most of utility services fell far below Plan expectations. Railway remained in deficit throughout the Plan period. Though its gross earning increased at the rate of 12·8 percent a year, operational expenses increased faster at the rate of 15·8 percent. To meet the increased costs, Railway fares were increased by 40 percent from Tk. 0·10 per passenger-mile to Tk. 0·14 and freight rate by 93·8 percent from Tk. 0·81 per tonnage-mile in 1979/80 to Tk. 1·57 respectively in 1984/85. Total deficit of the Railway during the Plan period amounted to Tk. 83·75 crore. The deficit of the Post Office Department was less than envisaged in the Plan as over the Plan period postal rates were doubled. The tariff on ordinary domestic mail was increased from Tk. 0·50 to Tk. 1·00 in 1984/85 and on foreign mail (aerogram) from Tk. 2·75 to Tk. 5·50 for Europe. The only utility service that made profit was the Telegraph and Telephone. During the Plan period, net surplus of the T & T Board increased at the rate of 19·3 percent from Tk. 10·18 crore in 1979/80 to Tk. 24·67 crore in 1984/85. The improvement reflects the expansion of telephone network and increase in rates and fees. Telephone rate was increased from Tk. 0·50/ call to Tk 1·00/call.

Current Expenditure

19. The Plan visualized that current expenditure would grow at no more than 4·2 percent (at 1979/80 prices) annually so as to allow public savings to grow in line with development needs of the economy. However, despite some measures to curb expenditures, revenue expenditure exceeded the Plan target. Total revenue expenditure in current prices during the Plan period increased at the rate of 20·5 percent. It not only exceeded the target rate of 15·5 percent envisaged in the Plan but also the rate (15·8 percent) of growth in revenues. The measures to restrain the growth of expenditures during the Plan period included moratorium on new employment in public services especially at lower level, reorganization of Ministries/Divisions and reduction in their number and austerity in the use of transport, telephone and entertainment. The increase in current expenditure over the Plan estimate was mainly on account of payment of food subsidy. The Plan had assumed that subsidies especially on food would be reduced gradually to the minimum only for the target group. Total subsidy under revenue budget during the Plan period amounted to Tk. 970 crore against the estimate of about Tk. 531 crore. Other factors which pushed up current expenditure were salary adjustments of public employees; creation of new administrative units at the local level; expenditure on health and education and relief operations, etc.

Table 7 shows the growth of current expenditure by functional categories during the Plan period.

TABLE 7

Current Expenditure

(1980—85)

[*Tk. in crore*]

Item	1979/80	1980/81	1981/82	1982/83	1983/84	1984/85 (RE)	Total (1980—85)
1. General Services ..	512·96	600·36	659·50	872·42	982·91	1142·96	4268·15
2. Economic Services ..	216·74	315·12	360·03	194·07	388·13	476·48	1733·83
3. Social Services ..	263·88	321·24	396·44	453·11	600·37	921·91	2693·07
4. Debt Services ..	69·52	99·05	180·53	228·44	237·41	318·30	1063·73
5. Subsidy ..	172·84	111·06	182·93	199·17	211·86	264·85	969·87
(a) Food	(165·40)	(109·38)	(182·03)	(193·00)	(160·00)	(250·00)	(894·41)
(b) Others	(7·44)	(1·68)	(0·90)	(6·17)	(51·86)	(14·85)	(75·46)
Total ..	1,235·94	1,446·83	1,789·43	1,947·21	2,420·68	3,127·80*	10731·95*

*Includes Tk. 3·30 crore of contingency.

20. The Plan assumed a total expenditure of Tk. 10,278 crore on revenue account but the actual expenditure was Tk. 10,732 crore, thereby, exceeding the target by Tk. 454 crore. The excess expenditure was 4·4 percent only against a revenue shortfall of 14·6 percent (Tk. 2,423 crore) but given the revenue shortfall it had a significant effect on public saving.

21. The share of expenditure on development ministries which contributed 56·6 percent of total current expenditure in 1979/80 increased to 60·1 percent in 1984/85 while that on administrative ministries declined to 19·4 percent from 43·4 percent during the same period. Current expenditure of the development ministries increased at the rate of 22·5 percent and non-development ministries 19·4 percent.

Revenue Surplus

22. Revenue surplus during the Plan period fell significantly short of Plan target; total revenue surplus amounted to Tk. 3,385 crore compared to Plan estimate of Tk. 6,262 crore. The major shortfall was in tax revenues amounting to 18 percent which was partly compensated by increased non-tax revenues to bring the shortfall down to 14·6 percent while current expenditure exceeded the estimates by 4·4 percent.

Capital Account

23. Capital account includes net receipts from Savings Certificates, Post Office Saving Bank deposits, Postal Life Insurance, Bonds, Government Employees' Provident Fund and deposits under various government funds. Total capital receipts during the Plan period was estimated at Tk. 451 crore at 1979/80 prices; at current prices the estimate was Tk. 621 crore, but actual capital receipts estimate is Tk. 492 crore (at current prices) indicating a shortfall of about 21 percent. Net receipt from various savings schemes sponsored by the government during the Plan period was Tk. 204 crore against the Plan target of Tk. 274 crore. Thus there was ashortfall on capital and saving account of Tk. 129 crore.

THIRD FIVE YEAR PLAN (TFYP)

Domestic Resource Projection

24. The financial outlay of the Third Plan amounting to Tk. 38,600 crore is proposed to be financed by Tk. 17,572 crore in domestic resources and Tk. 21,028 crore in net foreign capital inflow. Thus about 45·5 percent of development outlay is to be financed by domestic resources, which is slightly above the actual level of Second Plan. Against ever increasing resources constraints on development, a 22·7 percent increase in Plan size over actual outlay of the Second Plan will require relentless effort for domestic resources mobilization. The Plan outlays, their breakdown between public and private sector and broad financing pattern are set out in Table 8.

TABLE 8

Financing of the Third Plan Outlays

(At 1984/85 prices)

[Tk. in crore]

Financing	Total.	Public	Private
Plan size	38,600	25,000	13,600
Domestic	17,572	5,960	11,612
External	21,028	19,040	1,988

25. As the Table shows, in the public sector, foreign assistance is expected to be utilized to the tune of Tk. 19,040 crore and Tk. 5,960 crore of domestic resources will need to be raised to finance the remaining outlays. In the private sector, the total investment programme of Tk. 13,600 crore is planned to be financed by Tk. 1,988 crore of foreign resources and Tk. 11,612 crore of domestic resources.

Financing of Public Sector Outlays

26. The proposed financing of the public sector outlays is presented in Table 9.

TABLE 9

Financing of Public Sector Outlays

(At 1984/85 prices)

[Tk. in crore]

Source	Amount
(1) External Resources	19,040
(2) Domestic Resources :	5,960
(a) Total Current Revenue	21,833
Tax Revenue (at 1984/85 rate)	17,845
Non-tax Receipts	3,988
(b) Current Expenditure	16,850
(c) Current Revenue Surplus	4,983
(d) Capital Receipts	977
Total	25,000

27. The Plan envisages a revenue budget surplus of Tk. 4,983 crore on the basis of tax and other rates existing during the 1984/85 budget year. The underlying assumptions are that total tax revenue is projected to increase at the rate of 8·5 percent and non-tax receipts at 8·0 percent annually while current expenditure would grow at the rate of 3 percent in real terms. Thus the Plan assumes stronger measures for mobilization of domestic resources than in the recent past and a total austerity in revenue expenditure. The implied assumptions behind the revenue projection are : (i) customs duties are projected to grow at an annual rate of about 7·0 percent on an expected real growth of merchandize imports of 2·8 percent (dutiable value of imports at 6·3 percent) and growth of tea and leather exports; (ii) sales tax levied on dutiable imports has been projected to increase at the rate of 9·2 percent per annum which is slightly higher than the growth of customs revenue; (iii) revenue from excise duties has been projected on the basis of targets set for production/consumption of exciseable goods and services in their sectoral programmes; and (iv) income tax related to value added in non-agricultural sector is projected to grow at the rate of 7·4 percent a year.

28. Table 10 gives the projection of tax revenue during the Third Plan period.

TABLE 10

Projection of Tax Revenue

(At 1984/85 prices and rates)

[Tk. in crore]

Tax	1984/85 (R.E.)	1989/90	Total (1985-90)
1. Customs Duty	1,120	1,564	6,718
2. Sales Tax	410	636	2,640
3. Excise Duty	705	1,142	4,686
4. Income Tax	390	558	2,347
5. Land Development Tax	40	78	250
6. Other	182	293	1,204
Total ..	2,847	4,271	17,845

29. Non-tax revenue is projected to grow at the rate of 8 percent annually from Tk. 630 crore* to Tk. 925 crore in 1989/90. It is assumed that public financial and non-financial institutions would make significant contribution towards non-tax receipts. Railway and Post Office Department which incurred substantial losses during the Second Plan period would be able to reduce their losses substantially through efficient management.

30. A major goal of fiscal management during the Third Plan period will be to restrain the growth of current expenditure which increased at an accelerated pace ever since independence in 1971. Efficient functioning of administration and reduction of wasteful expenditure will be the keynote of public expenditure policy. It is estimated that current expenditure in real term will increase at the rate of 3 percent from Tk. 2,930 crore in 1984/85 to Tk. 3,385 crore in 1989/90. The growth of current expenditure at this rate assumes that expenditure on public administration including law and order, social services, debt services and defence will be kept to the indispensable minimum. Expenditure on operation and maintenance of public assets which had hitherto been given inadequate attention will be substantially increased. As development projects in various sectors are completed, their subsequent running expenses have been included in these estimates. One reason contributing to the nominal increase in revenue expenditure is the assumption that subsidy on public distribution of foodgrains will be phased out early in the Plan period. Once self-sufficiency in cereal output is attained, the government responsibility will be confined to procurement operations for intervention purposes only. It will, however, still be necessary to feed the vulnerable group which can be provided under special projects. A committee is now working to review the existing public food distribution system and recommend future policy.

* In Table 1, under non-tax receipts, Railway receipts are on gross basis while for TFYP projection it is on net basis.

Strategies and Policies

31. The required mobilization of domestic resources on the scale envisaged will call for strong will to make tax administration efficient and effective, raise prices of public utilities and of public sector goods and services, avoid totally low priority investment projects, return from which is doubtful and restrict public consumption. The overall policy framework would have to be tailored appropriately to achieve these goals. A desirable strategy would be to minimize borrowing from the banking system except for financing food procurement.

32. As noted before the present tax/GDP ratio in Bangladesh is one of the lowest even among the developing countries. The Plan envisages to raise tax/GDP ratio from 8·2 percent in 1984/85 to around 9·4 percent in the terminal year of the Plan. In order to increase tax revenue, emphasis will be given on broadening the tax base to bring more goods within the scope of indirect taxes. Indirect taxes will continue to predominate the tax regime, but effort will have to continue to raise the share of direct taxes to reduce the existing inequity in the tax system.

33. With recent emphasis on efficient import substitution, import and related taxes would be used more for protective purposes and hence more reliance will be placed on domestic output and income. The on-going TIP study would help to formulate appropriate policy framework in this field. The tax base will be diversified by collecting more revenue from those who will have higher income. In view of continued emphasis on agricultural development in the Third Plan, a large part of incremental GDP will arise in the agricultural sector. To mop up a higher proportion of this income during the Third Plan as well as to make the tax system more equitable, an agricultural income tax based on "potential income" would need to be given high priority as the existing assessment procedure i.e., integration of agricultural income with general income has failed to effectively collect tax from agricultural income. Modification of rates on higher land holdings under the existing land development tax may also raise yield from this tax. Various concessions, exemptions and deductions allowed especially in income tax have eroded the effective base of income tax. A recent study on these concessions has revealed their futility as incentive for investment and if withdrawn would substantially increase yield; but it will need substitution by more effective incentive system.

34. There exists considerable 'slack' in tax administration with significant leakage of revenue. The Taxation Enquiry Commission, 1979 dealt elaborately with this issue and made useful recommendations. Implementation of recommendations of the Commission made distinct improvement in tax administration during the Second Plan period. There is, however, still scope for further improvement specially through modernization of tax administration. Assessment and collection of various taxes will continue to be simplified and better rapport will be established between tax administrators and tax assessees. Training, research and logistics will be improved and strengthened.

35. Public sector corporations will be called upon to contribute to the revenue budget on the basis of minimum target on their profits. The divestment programme has relieved the public corporations of many of their inefficient enterprises and they are now left with relatively efficient ones. Much, therefore, will be demanded of these corporations to help increase the resources needed for the Plan. It will be necessary to distinguish between enterprises that are to be run on purely commercial basis and those to be run on

social considerations. A minimum return from commercial enterprises has to be prescribed while the latter would be expected to make at least breakeven. The higher contribution from the commercial enterprises would have to be realized by a combination of measures such as improved capacity utilization, timely supply of materials, uninterrupted power supply, flexible pricing policy, better management efficiency and strict enforcement of accountability.

Financing of Private Sector Investment

36. The Plan anticipates a bigger role to be played by the private sector than before. Both its investment and savings targets have been placed at much higher levels than before. The Plan provides Tk. 13,600 crore for investment in the private sector (at 1984/85 prices). In view of the past performance of the sector, it is considered that the private sector can achieve this target under rational fiscal and monetary policies. During the First Plan, Tk. 439 crore was invested in the private sector at 1972/73 prices giving an annual average rate of investment of Tk. 87 crore; the amount increased to Tk. 210 crore a year in the Two-year Plan and Tk. 354 crore a year in the Second Plan at 1972/73 prices. The latter amount was Tk. 1,725 crore at 1984/85 prices. The New Industrial Policy, 1982 has opened new opportunities for private initiative in the manufacturing sector. Private investment will continue to be encouraged in other sectors such as agriculture, housing and transport. Part of the finance for this investment amounting to Tk. 1,988 crore is expected from abroad. While accelerated credit supplies from the institutional sources including specialized financial institutions is envisaged, vigorous efforts will be needed to encourage household savings through such policy instruments as interest rates, expansion of insurance business, introduction of new saving and investing portfolios, *e.g.*, mutual funds and strengthening the existing saving institutions.

Management of Money and Price

37. The success of the Plan in alleviating poverty and meeting basic needs of common man will crucially depend on the development in the monetary sector along with that in the real sector of goods and services; for money supply if not planned and managed properly, can lead to price instability affecting the well-being of labour population. The experience of the Second Plan is a pointer to that. Because of average inflation of 11·1 percent a year calculated on the basis of Cost of Living Index for industrial workers at Chittagong the real wage increased at the annual rate of 3·2 percent only against the GDP growth of 3·8 percent a year. This means that income distribution moved against the working class during the Second Plan. The situation would have been worse if the losses were not restituted by wage adjustments in 1983/84 and 1984/85. This was true for public sector employees also which led to significant upward revision of pay scale by the close of the Second Plan. It was widely recognized during the second half of the Plan that loss of purchasing power of the public employees was sapping the efficiency of the public sector management. Besides loss of efficiency and discipline a high inflation rate can lead to erosion of saving also, thereby becoming counter productive from development point of view. At a low level of income a high inflation rate may in fact encourage consumption and reduce saving level.

38. During the Second Plan the rate of inflation in terms of the Consumer Price Index for middle income families at Dhaka was 11·8 percent a year against 6·3 percent during the previous five-year period (1975-80). This shows considerable deterioration in the price situation during the Second Plan. Though autonomous price decisions contributed significantly to accelerated inflation there was monetary drift also away from the discipline introduced in the second half of the First Plan. The reason for this development

is not far to seek. Narrow money supply during the Second Plan increased at the rate of 19·5 percent a year against the GDP growth of 3·8 percent; corresponding growth rates were 17·5 percent and 5·2 percent respectively. There was faster money supply in the economy during the Second Plan when GDP was growing slowly. There was considerable concern for money and credit management during the later years of the Plan and some rules were established for indirect pressure so that money and prices were contained within certain limit. Two of such rules were establishment of positive interest rate and real exchange rate policies so that money interest rate would rise and currency would depreciate along with the inflation rate. Money interest rate for general borrowing has been significantly above the inflation rate since 1982/83; this implies high cost of borrowing and a damper on low yield investment. High inflation also means erosion of the export bonus that follows from currency depreciation. Thus though currency depreciated by over 68 percent during the Second Plan, export incentive was much less. Between 1979/80 and 1983/84, for example, nominal exchange rate depreciated by 61 percent from $=Tk. 15·5 to $=Tk 24·9; but price deflated and trade-weighted exchange rate depreciated by 21 percent only, from $=Tk. 13 to $=Tk. 15·7 correspondingly; thus the real exchange rate depreciation was much less than that of nominal exchange rate. That inflation affects income distribution and welfare and saving, investment and export makes money and price management extremely important for the Third Plan because of its focus on poverty in the domestic sector and balance of payments problem in the external sector.

39. *Monetary Expansion* : The Third Plan will, therefore, require significant improvement in the management of the monetary sector in step with the developments in the commodity sector. Given the necessity of price stability in attaining the goal of poverty alleviation and the growth of real income of the poor households, the monetary norm will proceed from the demand for money in a growing economy. Such demand will increase faster than the growth of the economy projected for the Third Plan. First, because of the focus on agricultural development and employment, monetized sector will expand faster than GDP, and secondly, real resource inflow will entail increased monetary transactions. On the other side, it is to acknowledge that because of faster expansion of the monetary sector during the Second Plan, there will exist significant overhang in the economy. Hence, considerable discretion will have to be exercised during the Third Plan in monetary management so as not to jeopardize its basic objective. In the light of the experience of the last ten years, monetary expansion should not exceed the rate of 17·5 percent a year so as to keep the inflation rate below 10 percent.

40. *Role of the Banking Sector* : In containing inflation, commercial banks will have a significant role to play in mobilizing financial saving. It is estimated that domestic saving rate will increase from 4·2 percent to 7·0 percent. Further, it is noted, such saving will accrue largely to the rural sector; therefore, rural banking will be strengthened further. In this respect Grameen Bank will have a special role to play in mobilizing small saving. During the Second Plan, bank deposits (time and demand) increased at the rate of 27 percent a year from Tk. 2,710·6 crore to Tk. 9,072·1 crore, against 19·9 percent growth in the preceding 5-year period. This increase has given the commercial banks a greater role to play in the development of the monetary sector and in directing financial resources to productive sectors for containing inflation. Integration of their role in the overall management of monetary sector will need formulation of an effective interest rate policy for the Third Plan, not in the sense of being positive only but in the sense of playing a positive role in curbing inflation. Such an interest rate policy will have to be continuously reviewed with the evolution of both the real and monetary sectors.

CHAPTER IV

BALANCE OF PAYMENTS AND EXTERNAL RESOURCES

Like many other developing countries, Bangladesh suffers from both saving-investment and export-import gaps. Since Independence both the gaps have widened because of the development need of the new nation. The export base of the country was narrow having preponderence of agricultural commodities. In 1979/80 about 40% of export value of $ 721 millions was accounted by primary commodities and semi-processed agricultural produces consisting of jute, tea, leather, fish and vegetables and about three-fourths were accounted by jute and jute goods showing a heavily lop-sided structure of the export regime. On the other hand, imports consisted of noncompressible essential commodities. In 1979/80 around one-third of imports was on account for foodgrains ($ 623 millions), edible oil and oil seeds ($ 76 millions) and cotton and yarn ($ 68 millions) and another half was accounted by such essential development imports as petroleum ($ 384 millions), fertilizer ($ 134 millions), cement ($ 36 millions) and capital goods ($ 475 millions) in a total import of $ 2,366 millions. Overtime, as export growth was sluggish the structure of export regime also did not change by any significant extent and predominance of agricultural produces and manufactures thereof particularly of jute and jute goods, continued. As a result, export remained very much susceptible to external factors like weather, often affecting jute and tea and world demand for jute goods. The level and structure of export suffered seriously from both during the Second Plan. On the other hand, due to slow export growth import became increasingly dependent on foreign aid. In 1979/80 export was only 30% of import value. As import had to increase to absorb foreign aid the export-import ratio declined from 40% in 1973/74 to 30% in 1979/80 and the gap increased about three fold from $ 555 millions in 1973/74 to $ 1,645 milions in 1979/80 in nominal terms.

2. Though export-import gap is a necessary condition to close the saving-investment gap through foreign aid, the Second Plan faced great difficulty to meet its import need because of stagnation of aid inflow over most of the plan period. Foreign aid inflow (disbursement) increased only by $ 98 millions from $ 1,223 millions in 1979/80 to $ 1,321 millions in 1984/85. Its restrictive effect on import growth for a growing economy could be luckily avoided with the help of workers' remittances which increased from $ 210 millions in 1979/80 to $ 400 millions in 1984/85 and substantially helped import grow from $ 2,366 millions to $ 2,700 millions in 1984/85.

REVIEW OF THE SECOND PLAN

Balance of Payments Situation

3. The main balance of payments objective of the Second Plan was to restrain export-import gap from widening beyond the level of foreseeable external assistance inflow through a greater emphasis on growth of exports, substitution of imports and overseas employment. But as world trade and aid situation deteriorated during the initial years of the Plan, exports were projected to grow at an annual rate of 8·7% while the import was projected to grow at a negligible rate of 0·3% over the plan period. The projection of total foreign aid disbursement was $ 6,094 millions.

4. The total value of merchandise exports during the plan period was projected at Tk. 7,425 crore ($ 4,790 millions) while those of merchandise imports at Tk. 17,802 crore ($ 11,485 millions), both at 1979/80 prices. After adjusting for invisible receipts and payments, the net capital inflow to cover the export-import gap was projected at Tk. 10,919 crore ($ 7,044 millions)

5. A comparative statement of the projections and estimated actuals of import, export and net foreign capital inflow during the Second Plan is presented in the following table :

TABLE 1

Projections and Actuals of the External Sector during the SFYP

(at 1979/80 prices)

Category	Projection		Estimated Actual	
	Crore Taka	Million $	Crore Taka	Million $
I. Import Payments	**20,377**	**13,146**	**21,740**	**14,025**
Goods (c.i.f.)	17,802	11,485	19,270	12,432
Invisibles	2,575	1,661	2,470	1,593
II. Export Earnings	**9,458**	**6,102**	**9,230**	**5,955**
Goods (f.o.b.)	7,425	4,790	6,810	4,394
Invisibles	2,033	1,312	2,420	1,561
III. Capital Inflow	**10,919**	**7,044**	**12,510**	**8,070**

Export Growth

6. The Second Plan projected an export growth of 8·7% a year but actual growth was 4·9% at compound rate. The value of export increased from $ 721 millions in 1979/80 to $ 917 millions in 1984/85 against the planned projection of $ 1,095 millions, giving a shortfall of 16·3% in the terminal year of the Plan. However, because of year to year variations in export total value of exports over the plan period amounted to $ 4,394 millions against the planned projection of $ 4,790 millions giving an overall shortfall of 8·3%.

7. Shortfall in export is attributable to persistent recession in the world economy, growing protectionism in the industrially developed countries and domestic supply problems. The shortfall was mainly on account of raw jute and jute goods. Their combined value declined from $ 530 millions in 1979/80 to $ 510 millions in 1984/85 against the planned projection of $ 666 millions at 1979/80 prices. Raw jute export fell below target in both value and quantity. Quantity of raw jute export was projected

to rise from 19·7 lakh bales to 21 lakh bales in 1984/85; it was actually down to 14 lakh bales in that year due to decline in raw jute output. Target value of export was $ 153 millions; actual export was $ 102 millions. Shortfall in jute goods export was even serious; the value fell short of the target of $ 513 millions by $ 105 millions and quantity by 1·1 lakh tons of the target of 5·9 lakh tons. Export earnings from frozen food and readymade garments exceeded their targets.

8. Contrary to the Plan's emphasis on increasing value-added by replacing export of primary products by manufactured exports, the share of manufactures in total exports declined from 69·2% in 1979/80 to 66·1% in 1984/85. Though the export of manufactures increased in terms of value during the plan period, their rate of growth lagged behind that of the primary commodities; the primary product exports increased at a higher annual rate of 7% than that of the manufactures which grew at an annual rate of 4% and their share in total exports increased from 30·8% to 33·9% over the same period.

9. Projected and actual merchandise exports by commodities in the terminal year of the SFYP compared with the base year are presented in the following table:

TABLE 2

Projections and Actuals of Merchandise Exports during the SFYP

(at 1979/80 f.o.b. prices)

[*Value in million dollars*]

Commodity	Unit	1979/80		1984/85			
		Quantity	Value	Projection		Actual	
				Quantity	Value	Quantity	Value
1. Raw Jute ..	Lakh bales	19·68	143	21	153	14·08	102
2. Jute Goods ..	'000' tons	456	387	590	513	480	408
3. Tea	Million kgs.	23·88	33	35·38	49	25·85	35
4. Leather ..	Million sft.	82·86	65	..	115	80·87	64
5. Frozen Food ..	Million lbs.	11.89	37	..	93	43.94	137
6. Fruits, Vegetables & Spices.	..	..	2	..	9	..	6
7. Naphtha & Furnace Oil.	..	..	23	..	35	..	26
8. Newsprint Paper	..	..	11	..	17	..	8
9. Readymade Garments	..	..	1	..	45	..	110
10. Handicrafts ..	..	..	3	..	6	..	2
11. Others ..	..	..	16	..	60	..	19
	Total	..	721	..	1,095	..	917

Import Growth

10. Import has a crucial role to play in a developing country short of capital. For Bangladesh it is of particular significance because of food deficit and lack of many natural resources. So the Plan projected a rapid increase of import, but as foreign aid failed to come forth as envisaged in the first two years the projection of import was revised downward. Actual import is estimated at Tk. 19,270 crore ($ 12,432 millions at 1979/80 prices) which is 8·2% higher than the Plan's projection of Tk. 17,802 crore ($ 11,485 millions). In current prices also the total value stood higher at $ 12,457 millions representing an increase of 8·5%. The increase in imports in value terms both at current and constant prices is attributed mainly to higher than projected volumes of food and other essential consumer goods imports which is evident from the fact that, in sharp contrast to the Plan's expectation of a negligible growth of 0·3% per annum, imports grew, in real terms, at an annual average rate of 4·5%.

11. There was thus significant change in the import structure from the planned one, mainly due to continued food import. The Plan's target of attaining self-sufficiency in foodgrains by the terminal year could not be achieved as the production of foodgrains continued to suffer from the random effects of weather during the plan period. The actual import of foodgrains over the plan period totalled about 88 lakh tons which is around 38% higher than the Plan target of 64 lakh tons. Prolonged droughts and consecutive waves of floods caused serious damages to Aus, Aman and Boro crops over the plan period necessitating such a huge quantity of foodgrains import. Additional import of foodgrains was needed to avoid distress, stabilize the food market and to build up a reasonable security reserve. However, in spite of setbacks import of food in 1984/85 was at about the same level as it was in 1979/80 in quantity terms as both the base year and the terminal year of the Plan were hit by natural calamities.

12. The Plan aimed at increasing the non-food imports at an average annual rate of 5·5%. The realised growth of non-food imports was 4·7% in nominal terms and 6·3% in real terms. However, the total value of non-food imports was significantly higher in the terminal year than in the base year. The capital goods imports increased significantly as the project aid increased both in real and nominal terms over the years. Consumer goods imports exceeded their projected levels mainly due to fall in domestic production of some important items like sugar and consequent larger imports through WES. Intermediate goods imports also exceeded the target reflecting higher capacity utilization in the industries sector. Of the total non-food imports, intermediate goods, capital goods and consumer goods consisted respectively of 52%, 30% and 18% which were very close to the Plan's targets of 51%, 31% and 18%. Because of the shift in import structure under stringent resource condition with increasing preference for project aid, the ratios of intermediate goods and consumer goods imports to the total non-food imports declined to 52% and 19% respectively in 1984/85 from 53% and 20% in 1979/80 while capital goods imports as a percentage of total non-food imports increased to 29% from 27% over the same period, signifying some improvement in the level of productive investment. Although very little progress was made in most of the import substitution areas like foodgrains, edible oil, cotton, cement, etc, the Plan's objective of expeditious substitution of imported liquid fuel by indigenous natural gas in power generation has been achieved substantially which is reflected in the reduction of consumption of petroleum products to 1·39 million tons in 1984/85 from 1·57 million tons in 1979/80. Excepting fertiliser, edible oil, yarn and textiles the import

of all other important commodities remained much below their projected levels as a result of deceleration of investment activities which together with loss of agricultural income due to floods and droughts weakened demand for their imports.

13. Projected as well as actual merchandise imports by major commodities in the terminal year of the Second Plan as compared with the base year are presented in the following table :

TABLE 3

Projections and Actuals of Merchandise Imports during the SFYP

(at 1979/80 c.i.f. prices)

[Value in million dollars]

Commodity	Unit	1979/80		1984/85			
		Quantity	Value	Projection		Actuals	
				Quantity	Value	Quantity	Value
1. Foodgrains ..	Lakh tons	28	623	6	125	26	581
2. Edible Oil ..	'000' tons	78	68	115	100	136	118
3. Oil Seeds ..	'000' tons	24	8	38	14	28	10
4. Petroleum Products	'000' tons	474	128	460	124	634	172
5. Crude Petroleum ..	'000' tons	1,277	256	1,400	281	985	197
6. Cotton (including staple fibres)	'000' bales	182	57	415	130	246	77
7. Cotton & Synthetic Yarn	Lakh lbs.	72	11	160	24	560	87
8. Textiles ..	..	..	34	..	31	..	48
9. Fertilizer ..	'000' tons	576	134	420	97	666	155
10. Cement ..	'000' tons	489	36	900	67	711	53
11. Capital Goods ..	..	..	475	..	794	..	665
12. Others ..	..	..	536	..	612	..	787
	Total	..	2,366	..	2,399	..	2,950

Terms of Trade

14. Bangladesh suffered from a sharp deterioration in the commodity terms of trade during the first two years of the Plan. A considerable fall in export prices of raw jute and jute manufactures caused by weak international demand against prolonged recession in the industrialized countries was the main cause of deterioration in the terms of trade. Non-traditional exports such as leather and frozen food and some manufactures like paper and newsprint also faced declining market prices. Overall export price indices declined by 5·2%; combined with an increase in average import prices (mainly because of a rise in oil prices) of 12·5% this led to a further deterioration in the terms of trade over the plan period. The terms of trade deteriorated sharply in 1980/81 and 1981/82 by about 40% and turned around in 1982/83 recovering substantially by the end of 1984/85 as a result of upturn in world trade.

15. Import and export price indices and the terms of trade of Bangladesh from 1979/80 are shown in the following table:

TABLE 4

Bangladesh's Terms of Trade during the SFYP

(1972/73=100)

Year.	Import Price Indices	Export Price Indices	Terms of Trade
1979/80	300·2 (27·2)	211·3 (16·0)	70·4
1980/81	352·6 (17·5)	181·2 (—14·2)	51·4
1981/82	368·1 (4·4)	155·5 (—14·2)	42·2
1982/83	349·5 (—5·1)	163·1 (4·9)	46·7
1983/84	339·3 (—2·9)	193·2 (18·5)	56·9
1984/85 (Estimate)	339·1 (—0·06)	224·8 (16·4)	66·3

Notes: 1. Figures in parentheses indicate annual percentage changes.
2. Value weights of 1984/85 have been used in calculating the price indices.

Workers' Remittances

16. The total outflow of migrant workers by the end of the Plan was projected at 3·4 lakh and the total inflow of remittances at $ 2,330 millions in real terms. Actual outflow of workers and inflow of remittances are estimated at 3 lakh and $ 2,383 millions (at current prices) respectively. There was thus a shortfall of about 12% in the number of outflow of migrant workers. The rate of inflow of remittances continued to rise steadily during the first half of the Second Plan, reaching a peak of $ 598 millions in 1982/83, mainly because of high rate of net migration. The outflow of migrant workers as well as remittances, however, started declining since then as a result of deceleration of development activities in the Middle-East with the fall in oil prices and oil production.

17. As development activities in the Middle-East slowed down, the composition of expatriated migrants also underwent change shifting in favour of more skilled workers. The change in migration along with the remittance flow is shown in table below :

TABLE 5

Migration and Workers' Remittances

Year	No. of migrants (000)	Remittances (million $)
1980	31	339
1981	56	382
1982	63	531
1983	59	642
1984	57	499
1985 .. .. (January—June)	36	221

Exchange Rate and Impact on Trade

18. Maintaining a realistic exchange rate policy is important for promoting export and containing import and debt service liability. With these objectives in view, Bangladesh pursued a flexible exchange rate policy since mid-1979 fixing her Taka value in terms of a basket of currencies of her major trading partners. The reference currency was pound sterling for intervening in exchange rate; but since early 1983, because of relative trade weight and international trade practices dollar was introduced as intervening currency. This provided a mechanism for gradual adjustment of the nominal exchange rate of Taka with fluctuations in the currencies of Bangladesh's major trading partners in relation to reference currency. Following the adoption of this method of adjustment, exchange value of Taka underwent substantial depreciation during the] SFYP. The exchange value of Taka with dollar depreciated by about 68·4 percent in 1984/85 compared with 1979/80 level. Taka-dollar exchange rate stood at Tk. 26·00 in 1984/85 against Tk. 15·50 in 1979/80.

19. While Taka depreciated by 68·4% exports increased in real terms by 4·9 percent as against the plan target of 8·7% percent. Depreciation of the exchange value of Taka helped export growth though not in a major way due to three main reasons. First, there was the demand constraint in depressed developed economies. Secondly, at the low level of the economy adjustment of production structure in favour of tradables was not easy to bring about because of investment lag. Thirdly, it is to note that though in nominal terms taka was depreciated by 68·4% over the plan period, the effect of such depreciation on export was partly neutralized by domestic inflation. It is estimated that though the exchange rate on nominal terms was Tk. 24·9 per $ in 1983/84, the price-deflated and trade-weighted real exchange rate was Tk. 15·7 only; so while the nominal [exchange rate depreciated by 61% during this period, depreciation in real rate was 21% only; yet under its limited impetus along with tax incentives non traditional exports showed relatively greater flexibility than the exports of the organized sectors because of their shorter investment lag and gained in both prices and volume. On the other hand, fall

in the Taka value made imports costlier which depressed the demand for imports. It is to be recognized that further expansion of non-traditional items cannot be simply brought about by currency depreciation unless investment resources are also increasingly directed towards their production. Shrimp export is a case in point. Further to be noted is that Bangladesh, having a small share in world trade, is basically a price taker and hence, success of her efforts for expansion of exports depends largely on the strength of competetiveness of her products in terms of both quality and cost. The other side of the picture for a price taker is the price of imports. Depreciation of Taka is one of the reasons for the unfavourable movement of the terms of trade which means that the cost of imports in terms of exports has gone up.

External Assistances

20. The Plan envisaged a foreign aid inflow of $ 6,897 millions at current prices but the actual disbursement amounted to $ 6,153 millions. There was thus a shortfall of about 10·8% in aid inflow in nominal terms. But because of the change in import prices, foreign aid inflow amounted to $ 6,263 millions at 1979/80 prices against the Plan's expectation of $ 6,094 millions. Of the total disbursement, food aid amounted to $ 1,202 millions, commodity aid $ 2,129 millions and project aid $ 2,822 millions compared with the Plan's projection of $ 1,064 millions, $ 2,409 millions and $ 3,424 millions respectively (all in current prices). While actual disbursement of commodity and project aid stood about 12% and 18% below their respective targets, food aid disbursement was substantially higher than that projected as more food was needed to cope with the situation created by crop failures. However, as a percentage of total, food aid disbursements still declined from 30·6% in 1979/80 to 18·6% in 1984/85, while the proportion of project aid increased substantially from 38·4% to 49·2% and commodity aid from 30·9% to 32·2% only. It follows therefore that food aid decline was largely compensated by increase in project aid which contributed to the problem of absorption of project aid over the Second Plan period and led to the build-up of project aid pipeline. The impact of this change in the intramural character of aid has been only partly cushioned by the provision of reimbursable project aid as its proprotion in total project aid was 26·5% only ($172 millions) in 1984/85.

21. The following table presents the pipeline, commitment and disbursement of external assistances to Bangladesh during the plan period :

TABLE 6

Commitment and Disbursement of Foreign Aid to Bangladesh during the SFYP

(at current dollars)

[In million dollars]

Year	Food Aid	Commodity Aid	Project Aid	Total
1979/80				
Opening Pipeline	154·7	491·9	1,874·6	2,521·2
Fresh Commitment	270·0	285·5	597·9	1,153·2
Total Available	424·7	777·2	2,472·5	3,674·5
Disbursement	374·7	378·5	469·9	1,223·1

TABLE 6 (*Contd.*)

[In million $]

Year	Food Aid	Commodity Aid	Project Aid	Total
1980/81				
Opening Pipeline	50·0	398·7	2,002·6	2,451·3
Fresh Commitment	202·9	354·9	1,001·5	1,559·3
Total Available	252·9	753·6	3,004·1	4,010·6
Disbursement	194·1	392·5	559·9	1,146·5
1981/82				
Opening Pipeline	58·8	361·1	2,444·2	2,864·1
Fresh Commitment	220·6	513·0	1,189·3	1,922·9
Total Available	279·4	874·1	3,633·5	4,787·0
Disbursement	230·5	419·8	589·3	1,239·6
1982/83				
Opening Pipeline	48·9	454·3	3,044·2	3,547·4
Fresh Commitment	248·3	474·4	799·8	1,522·5
Total Available	297·2	928·7	3,844·0	5,069·9
Disbursement	255·5	452·0	469·9	1,177·4
1983/84				
Opening Pipeline	41·7	476·7	3,374·1	3,892·5
Fresh Commitment	285·2	528·2	881·7	1,695·1
Total Available	326·9	1,004·9	4,255·8	5,587·6
Disbursement	276·4	439·2	552·8	1,268·4
1984/85				
Opening Pipeline	50·5	565·7	3,703·0	4,319·2
Fresh Commitment	380·2	249·9	1,342·3	1,972·4
Total Available ..	430.7	815.6	5,045·3	6,291·6
Disbursement	246·0	425·0	650·0	1,321·0
1980—85				
Opening Pipeline	249·9	2,256·5	14,568·1	17,074·5
Fresh Commitment	1,337·2	2,120·4	5,214·6	8,672·2
Total Available	1,587·1	4,376·9	19,782·7	25,746·7
Disbursement	1,202·0	2,129·0	2,822·0	6,153·0

Note.—Estimates for 1984/85 are provisional

Debt Servicing Liabilities

22. During the initial years, Bangladesh received foreign aid mostly in the form of grants and concessionary loans. But the situation changed with the passage of time. Loans have assumed greater proportion in recent years. Bangladesh has borrowed up to 30 June, 1985 about $ 6,440 millions. She has so far repaid about $ 626 millions and received debt relief to the extent of about $ 546 millions. Thus the outstanding debt liability of Bangladesh stood at about $ 5,268 millions on 30 June, 1985. Although the amount of debt liability does not appear large either in absolute terms or in terms of GDP, it constitutes a heavy burden on the meagre export earnings of the country. Debt servicing liability and its ratio to export earnings for the Second Plan period are shown in the following table :

TABLE 7

Debt Servicing Liability of Bangladesh
(1980— 5)

[In million dollars]

Year	Interest	Principal	Total	Total Export Earnings	DSL as a % of Total Export Earnings
1979/80..	43·3	50·3	93·6	721·0	13·0
1980/81..	41·7	49·6	91·3	711·0	12·8
1981/82..	47·2	39·7	86·9	626·0	13·9
1982/83..	48·9	73·8	122·6	680·0	18·0
1983/84..	64·0	104·2	168·2	786·0	21·4
1984/85 (Estimate) ..	72·2	124·6	196·9	939·0	21·0

Note.—IMF facilities excluded.

23. Debt servicing liabilities have grown at an average annual rate of 16% over the Second Plan against 5·5% growth in export earnings in nominal terms thereby increasing pressure on the capacity of the country to service its international loan. The pressure will accentuate as old loans become due for payments. Payments which started with a modest amount of $ 17·5 millions in 1973/74 increased to $ 93·6 millions in 1979/80 and $ 196·9 millions in 1984/85. The ratio of debt service payments to export earnings increased from 13·0% in 1979/80 to 21·0% in 1984/85. Underlying this rapid growth of debt service liabilities (DSL) was that international aid has become increasingly costly.

THIRD FIVE YEAR PLAN

Balance of Payments Strategies

24. Because of the existing balance of payments gap and the limited prospect of foreign aid improving in near terms the Third Plan strategies for the management of balance of payments situation will continue to focus on containing the gap to the limit of aid likely to be available over the plan period. During the Second Plan foreign aid inflow (disbursement) increased from $ 1,223 millions in 1979/80 to $ 1,439

millions in 1984/85 in real terms giving an annual growth rate of 3·3%, even though the international economy was in a very difficult situation. Third Plan assumes a slower growth rate (3·1%) for aid over the plan period which is on the conservative side compared with the projection in the Country Economic Report of the World Bank. Given this projection of aid against country's increasing need for basic imports, the Third Plan strategies will consist of accelerating the pace of growth of exports, exploiting the scope of further imports substitution on a competitive basis and encouraging over-seas employment and home remittances. On the export side preponderance of primary commodities will continue for some time as any substantial structural change in terms of enhancing the share of manufacturing export will require a gestation period for investment. However, share of manufacturing items in total exports is expected to increase after completion of several export oriented industrial units both within the Export Processing Zone as well as outside. In addition to the exising one at Chittagong two more export processing zones are planned to be established around the airports at Dhaka and Khulna. While the programmes for exports development and diversification will be undertaken within the envisaged long-term development framework, endeavour will be accelerated in the short and medium terms to utilise fully the existing exports potentials of both non-traditional and traditional items such as frozen fish, vegetables, garments, leather, jute, jute goods and tea. Among the non-traditional items, readymade garments have made significant progress in recent years. This industry involves considerable labour intensive production processes and will need to be pursued in spite of restrictions on some categories of garments. Various promotional and development measures aiming at product improvement, diversification, and marketing will be undertaken during the plan period in order to fully utilise its export potentials to satisfy external market demand. At the same time, necessary measures will be initiated to increase the net value added in the garments industry by supplying quality fabrics from domestic production. Efforts should also be made for export of fabrics, not only to make the cotton textile industry pay part of the cost of imported cotton but also, because of the fact that it cannot perform its historical role without being outward looking. Existing export potentials of other non-traditional items such as vegetables, handicrafts and specialized textiles will be exploited in the medium term through production planning. The industrial programme will also be oriented in favour of labour intensive manufacturing and natural gas based products such as Urea where Bangladesh enjoys comparative advantages.

25. Implementation of the export development programme during the Third Plan will require development of necessary physical infrastructures such as industrial land at suitable locations, transport and shipping, port and warehousing facilities. Existing export incentives structure in the form of concessional credit, Export Performance Benefit (XPB), duty drawback, etc., will be reviewed on the basis of the findings of the TIP study to be soon completed and, if necessary, restructured keeping in view the greater role of the private sector. Home remittances of Bangladeshi workers abroad which provide crucial support to balance of payments will be facilitated by providing technical training in trade and crafts to potential candidates, simplifying recruitment rules and contract and promoting remittances facilities. The flexible exchange rate policy which worked as a stimulant to remittances will continue over the Third Plan period. But, after all, export depends on the partners of our trade and critically hinges on the most favoured nation treatment Bangladesh recieves for her export in the markets of the developed as well as developing countries. Bangladesh will therefore pursue the policy to encourage development of trade not only between the developed and the developing worlds but also between

the developing countries and continue to actively participate in various national and international forums such as UNCTAD, SARC and ESCAP towards that end.

26. Development of exports as discussed above will not be enough to ease the pressure on the country's balance of payments as export finances only about one-third of imports ; hence, *pari passu* with efforts for export development, efforts will have to be made also to contain imports so that the export-import gap does not go beyond tolerable limit. This will require having programmes for import substitution and policies for limiting non-essential imports. Bangladesh has already made significant progress in the area of import substitution by increasing domestic productions of substitutable imports such as food, POL, Urea fertilizers and cotton textiles. There is still potential to increase domestic production in both agriculture and industries replacing import of such items as foodgrains, edible oil, cotton, cotton goods, cement, pharmaceuticals, metal and engineering products. Achievement of food self-sufficiency within the Third Plan period is a major objective of the Plan and import of food will be reduced to the minimum as may be necessary to ensure food security and for direct intervention through the food for work and vulnerable group feeding on welfare ground. Domestic industries which have potentials to grow on a competitive basis will be protected from unhealthy competition at their infant stage. The TIP study will help determine the industries in which the country enjoys comparative advantage and such industries will be promoted for domestic and export markets.

27. It has been stated earlier that import is needed to absorb foreign aid. The Plan assumes a 3·1% growth in foreign aid to meet the saving investment gap. Investment rate is projected to rise to 19·0% in 1989/90 from 17·3% in 1984/85 and the saving rate from 7·0% in 1984/85 to 9·3% in 1980/90. In 1984/85 about 43% of import was financed from aid, net of reimbursable project aid. Bangladesh will continue to depend on increased real resource transfer from external sources in order to cover the foreign exchange gap in her balance of payments. The resources that the country needs from abroad in order to achieve the desired rate of growth are estimated at Tk. 21,619 crore ($ 8,315 millions) and Tk. 19,136 crore ($ 7,360 millions) net of Reimbursable Project Aid (RPA), against a total import payments estimated at Tk. 44,226 crore ($ 17,010 millions), thus having a share of 43·3%.

28. Projected resources in terms of payments and receipts for the external sector during the plan period are shown in a consolidated form in the table below :

TABLE 8

Projection of External Resources
(1985—90)

Categories	Projection (1985—90)	
	Crore Taka	Million $
A. Payments	**45,989**	**17,688**
1. Imports (Goods)	38,160	14,677
2. Invisibles	6,066	2,333
3. Debt Servicing	1,763	678
B. Receipts	**43,207**	**16,618**
1. Exports (Goods)	13,998	5,384
2. nvisibles	4,566	1,756
3. Remittances (net)	5,806	2,233
4. Foreign Aid (Gross)	18,837	7,245

Note : $ = Tk. 26

Import Projection

29. Value of total merchandise imports is projected to increase during the Plan from $ 2,700 millions in 1984/85 to $ 3,106 millions in 1989/90, or from Tk. 7,020 crore to Tk. 8,076 crore. The merchandise imports are estimated to total Tk. 38,160 crore ($ 14,677 millions) over the plan period implying an annual growth of 2·8%. Foodgrains imports are projected to fall to Tk. 679 crore ($ 260 millions) in 1989/90 from the level of Tk. 1,318 crore ($ 507 millions); thus the share of food import will fall to 8·4% of the total imports in 1989/90 from 18·8% in 1984/85. This decline in food import will help increase the imports of intermediate goods substantially during the Third Plan. While overall import will increase at the rate of 2·8%, import of intermediate goods will grow at the rate of 7% and share of total consumer goods imports including food will decline from 31·5% in 1984/85 to 22·4%. As the Plan envisages fuller use of local capacities for fabrication of tools and equipment and production of other investment goods, a relatively slower growth (3·5%) of import of capital goods is projected than that of intermediate goods but above the 3% increase in aid inflow. The underlying implications are that the composition of aid has to change in favour of commodity aid to accommodate local production in project aid.

30. Projection of merchandise imports by major commodities is presented in the table below :

TABLE 9

Projection of Merchandise Imports by Major Commodities

(at 1984/85 prices)

[Value in crore Taka]

Item	Unit	1984/85		1989/90	
		Quantity	Value	Quantity	Value
1. Foodgrains	Lakh tons	26	1,318	15	679
(Rice)	(Lakh tons)	(7)	(458)	..	..
(Wheat)	(Lakh tons)	(19)	(860)	(15)	(679)
2. Edible Oil	'000' tons	136	268	115	231
3. Oil Seeds	'000' tons	28	28	100	84
4. Petroleum Products ..	'000' tons	634	395	600	374
5. Crude Petroleum ..	'000' tons	985	588	1,000	597
6. Cotton	'000' bales	236	205	415	360
7. Staple Fibre ..	'000' bales	10	8	10	8
8. Yarn	Million lbs.	56	153	30	82
9. Textiles	..	..	117	..	120
10. Fertilizer	'000' tons	666	356	1,044	558
11. Cement	'000' tons	711	83	890	104
12. Capital Goods ..	..	..	1,602	..	1,889
13. Others	..	..	1,904	..	2,990
Total ..		..	7,020	..	8,076

31. Projection of the imports of different commodities and their underlying assumptions are discussed below:

(1) *Foodgrains* : Foodgrains production is projected to reach the self-sufficiency level of 207 lakh tons by the terminal year of the Third Plan. On the basis of the projected population growth and increase in real *per capita* income, total consumption of foodgrains are expected to rise to 186 lakh tons in 1989/90 which is equal to net availability; so under normal condition no foodgrains import would have been necessary. But food planning has to provide for two things : first, against emergency to build up security stock and secondly, to maintain FFWP and VGFP. Hence, import of foodgrain has been provided to meet these contingencies. It is to recognize that in view of cash reserve due to heavy commercial import of foodgrains in 1984/85 and its continued debt burden, further commercial import on commercial basis will be almost impossible; hence food aid is envisaged to continue for maintaining emergency stock and FFW and VGF programmes. Total imports of foodgrains are projected at 81 lakh tons during the plan period; imports are expected to decline to 15 lakh tons in 1989/90 from 26 lakh tons in 1984/85.

(2) *Fertilizers* : Use of chemical fertilizer has made quite significant progress during the last few years. The agricultural programme under the Third Plan estimates the use of chemical fertilizer at around 1,850 thousand tons compared with the actual use of 1,260 thousand tons in 1984/85. For timely and adequate supply of urea and other fertilizers stock level has also to increase with the increase in distribution. Bangladesh has reached self-sufficiency in urea and this will be maintained over the Third Plan. So import of fertilizers will normally consist of TSP and MP. Import requirement of fertilizers is estimated at 1,044 thousand tons in 1989/90 compared with 666 thousand tons in 1984/85.

(3) *Cotton and Textiles* : The industrial programme during the plan period envisages to increase production of cloth from 77·1 crore metres in 1984/85 to 121·5 crore metres in 1989/90. The industry will mainly depend on imported cotton and to a small extent on imported yarn. Past attempts to grow cotton have not been successful because of competition from food cereals. Though efforts will be continued to expand cotton cultivation it will be nothing compared to the total need of the expanded mill capacity; hence import of cotton on a large scale will continue during the Third Plan. About 425 thousand bales of cotton and staple fibre are estimated to be imported in 1989/90 compared with the actual import of 246 thousand bales in 1984/85.

(4) *Crude Petroleum and Petroleum Products* : With the pace of development, the demand for commercial energy will increase substantially. Presently, coal, petroleum and petroleum products provide about 60 per cent of the commercial energy; but the policy for their substitution by natural gas will be pursued vigorously to reduce dependence on imported fuel; power generation will be increasingly based on gas and use of diesel in irrigation and industries will be replaced by electricity and gas and that of kerosine by gas and electricity in cooking and lighting. Import requirement of POL during the Third Plan has been estimated on the basis of this policy for import

substitution taking fully in view the diversity of specific energy need of different sectors. During the plan period there will be no increase in POL imports but the composition will change slightly in favour of crude oil import for processing in the local refinery. The consumption of petroleum is expected to stabilise around 16 lakh tons in 1989/90 compared with 16·2 lakh tons in 1984/85, indicating a small decline.

(5) ***Cement*** **:** The requirement of cement including stock is estimated to increase to 1,740 thousand tons in 1989/90. Against this requirement, domestic production is expected to be around 850 thousand tons, leaving an import gap of 890 thousand tons in 1989/90. Past experiences show that a stock level equivalent to 2 months' requirements is needed to avoid periodic shortage of supply and disruption in construction activities. Taking this into consideration, import of cement is projected to be 890 thousand tons in 1989/90 compared with 711 thousand tons in 1984/85.

(6) *Capital Goods* : There exists a small base for expansion of output of capital goods as the capacity remained so far under-utilized for lack of domestic demand, competition from imports and short supply of raw materials. During the Third Plan full advantage will be taken to manufacture as much of capital goods within country as possible. Where such possibilities exist are machine tools, diesel engines and pumps, electrical and non-electrical equipment and machinery, transport and storage equipment and crafts and vessels; so imports within these broad categories will be limited to specific items for which domestic capacity does not exist. Under project aid import of raw materials or semi-processed goods will be preferred to import of such machinery and equipment as can be locally produced. The value of capital goods imports is estimated to increase to Tk. 1,889 crore (at 1984/85 prices) in 1989/90 from a level of Tk. 1,602 crore in 1984/85.

(7) *Other Raw Materials* : This category includes a wide range of industrial raw materials like pig iron and scraps, other various metals, dyes and chemicals, clinker, coal and coke, raw materials for pharmaceutical industries, tallow, rubber, phosphate, etc. While the requirements of these raw materials will increase for utilising existing and new industrial capacities in the country particularly in the private sector, no significant import substitution of these raw materials is expected during the plan period.

(8) *Other Consumer Goods* : This category covers items like milk food, drugs and medicine, spices, beverages, rubber products, books and periodicals, etc. Demand for these items is estimated to increase over the plan period; at the same time, expansion of domestic production is also planned to meet significant part of the total demand for these items and therefore, their import requirement has been projected at a lower level.

Export Projection

32. Earnings from exports are projected to increase from Tk. 2,442 crore ($ 939 millions) in 1984/85 to Tk. 3,057 crore ($ 1,176 millions) in 1989/90, implying an annual growth of 4·6% during the Third Plan period against 4·9% growth during the Second Plan. Traditional exports during the Third Plan are estimated to increase from Tk. 1,583 crore ($ 609 millions) in 1984/85 to Tk. 1,738 crore ($ 668 millions) in 1989/90 giving an annual growth rate of 1·9 per cent while non-traditional exports are expected

to reach Tk. 1,319 crore ($ 507 millions) in 1989/90 from Tk. 859 crore ($ 330 millions) in 1984/85 giving an annual growth of 9 percent. Against these, traditional exports declined by 0·6 percent while non-traditional exports increased by 18·7 percent during the SFYP. Earnings from jute and jute goods are projected to increase at a much slower rate—1·6 percent annually. The growth of non-traditional exports during the Third Plan has been estimated at lower rate than the actual achievement during the SFYP mainly because of expanded base in 1984/85 and problem facing export of readymade garments which was the principal contributor to high growth during SFYP, due to quota restriction by the importing countries. Other non-traditional exports such as newsprints, electrical and engineering goods, vegetables, etc. are expected to contribute significantly to total export earnings during the plan period. The export of readymade garments in value terms is projected on a very conservative basis to increase from the level of Tk. 301 crore ($ 116 millions) in 1984/85 to Tk. 501 crore ($ 193 millions) in 1989/90. For achievement of the projected earnings from garments during the Third Plan withdrawal of quota should be vigorously negotiated with the importing countries, while diversification of products and improvement of product quality will have to be pursued. The main emphasis during the plan period will be on increasing value added to improve net foreign exchange earnings through backward linkage of garments industry with the local cloth mills and handlooms.

33. The projections of export earnings by major commodities during the plan period are discussed in the subsequent sub-paragraphs. Export projections are presented in the Table below :

TABLE 10

Projection of Merchandise Exports

(at 1984/85 prices)

[*Value in crore Taka*]

Commodity	Unit	1984/85		1989/90	
		Quantity	Value	Quantity	Value
1. Raw Jute	Lakh bales	14·0	390	17·0	403
2. Jute Goods	Lakh tons	4·8	1,037	5·9	1,143
3. Tea	Million kgs.	25·9	156	34·0	192
4. Leather	..	..	178	..	325
5. Fish, Shrimps and Froglegs	'000' tons	20·0	225	37·4	320
6. Vegetables	'000' tons	2·6	10	3·9	15
7. Tobacco and Betel Leaf	..	..	7	..	7
8. Garments	Lakh pcs.	750	301	1,250	501
9. Newsprint and Paper ..	'000' tons	20·5	27	25·0	32
10. Others	..	..	111	..	119
Total..		..	2,442	..	3,057

Note : (i) $—Tk. 26 ; (ii) some adjustment in base prices of jute goods prices has been made for projection purposes as base prices were affected by 1984/85 short crop.

(1) *Raw Jute* : Over the Second Plan, jute output suffered from relative price disadvantages till the terminal year when output declined so much that jute market recovered from the crash it suffered in 1979/80. Jute production programme during the TFYP will be directed mainly towards stablising its production at around 60 lakh bales by the terminal year of the Plan to avoid any wide fluctuations in exports and prices. It is assumed that the targetted production of 60 lakh bales is achievable out of the old 15 lakh acres of land under IJCS provided production inputs are reached in time to the door steps of the farmers and quality of seed further improved. Through appropriate cost-effective measures and quality improvement, export to both developed and developing countries can be increased. Given the production targets of 60 lakh bales, export of raw jute, after allowing for consumption by the domestic mills and a reasonable level of inventory, has been projected to reach 17 lakh bales in 1989/90.

(2) *Jute Goods*: Since 1972/73, Bangladesh has increased her share in the world trade of jute goods from 4·2 lakh tons to over 5 lakh tons. The highest figure was 5·5 lakh tons in 1981/82 after which export began to decline reaching 4·8 lakh tons in 1984/85, partly due to decline in oil price and consequent increased competition from synthetics in a depressed world economy and partly due to high cost of raw jute. The recovery of jute goods exports will hence depend on recovery of the world economy, recovery of jute production and competitiveness of the prices of jute goods *vis-a-vis* synthetic substitutes. Competitiveness of jute goods can be regained through cost reduction, higher efficiency and quality improvement at both farm and mill levels and stabilising world supply of raw jute. As a price taker, Bangladesh could gain much by increasing her export of jute goods. To achieve this diversification of export markets as well as products will be the guiding principles for the programmes and policies during the TFYP. On the basis of prospect of demand and production programmes for jute goods, the export target has been fixed at 5·9 lakh tons for 1989/90.

(3) *Tea* : Supply constraints and inadequate marketing drive are largely to be accounted for the poor performance of tea export in the past. Various promotional and development measures such as operation of the Bangladesh Tea Centre in London, rehabilitation of the tea gardens through planting and replanting,, intensification of the production programme, etc., undertaken from late 70s are expected to bring about the projected expansion of tea production to 52·16 million kgs in 1989/90 from the 1984/85 level of 43·91 million kgs. After meeting domestic demand for consumption, export volume is projected to increase to 34 million kgs in 1989/90 from the 1984/85 level of 25·9 million kgs. Export value is expected to rise from Tk. 156 crore in 1984/85 to Tk. 192 crore in 1989/90. Bangladesh Tea Board should intensify its marketing and promotional efforts to enhance the supply of packeted tea, tea bags and bulk tea to the export markets and develop new markets.

(4) *Fish, Shrimps and Froglegs* : There is quite high demand for shrimps from Bangladesh, particularly for the sweet water shrimps, in the oversea markets. Overall supply constraints, lack of proper quality control and inadequate packing and shipping facilities in peak time are the main causes for past shortfall in the desired expansion of the shrimp exports. In general,

unitegrated and uncoordinated development of the food sector has hampered the growth of fisheries technology as the process of continuous squeezing and polluting its habitats went on unabated. The potential of off-shore and marine fishing is however yet to be fully harnessed. The fisheries programme during the TFYP envisages shrimp culture in the coastal areas, efficient operation of the existing fleet of trawlers and motorised boats to increase the catch of marine fish for exports and improvement of the fish landing, storage and processing facilities. Private sector is expected to play the leading role in export of fish and acquatic products within the overall policy framework of the Government for maintaining natural stock. The exports of shrimps, froglegs and marine fish are projected to increase from 20 thousand tons in 1984/85 to 37·4 thousand tons in 1989/90. Total export earnings are expected to be Tk. 320 crore in 1989/90 against the actual value of Tk. 225 crore in 1984/85.

(5) *Leather and Leather Products* : Bangladesh produces high quality goat skin which is in great demand for production of fashionable upper and glove leather. Similarly, her cowhides are also in great demand in the world market as quality-wise they compare well with the large calf skin in Europe. Export development strategy for this sub-sector will be to increase earnings through improvement of quality of wet-blue leather and production of high value items such as crust and finished leather and leather goods. Export earnings from leather are expected to reach a level of Tk. 325 crore in 1989/90 against the actual value of Tk. 178 crore obtained in 1984/85. High value tanned leather goods are expected to contribute to the expansion of projected export earnings; however, this will also require improved slaughtering, flaying and curing of hides. To keep pace with the fast changing styles in the world markets, financial and technical collaboration with foreign partners who can provide necessary technical know-how to produce high value modern leather goods and undertake marketing will be encouraged. Some such collaboration in the private sector is already in progress.

(6) *Readymade Garments* : As mentioned already, export of readymade garments was in a spurt during the Second Plan, particularly in its later years but unfortunately it also came under sudden pressure from the importing countries as restrictions were imposed. It is expected that such restrictions would be relaxed and eventually withdrawn towards free trade. There is also untapped potential for export which can be exploited through product diversification and still more, value added can be raised through quality improvement and use of local fabrics. Possibility of setting export house of the garment factories is also to be explored. Given the current world condition export is conservatively projected to increase from 750 lakh pieces in 1984/85 to 1,250 lakh pieces in 1989/90, becoming thereby the second largest export (Tk. 501 crore), rising from Tk. 301 crore in 1984/85.

(7) *Other Products* : These include paper and newsprint, tobacco and betel leaf, vegetables, handicrafts, etc. Their export will remain more or less unchanged increasing only at a slow rate from Tk. 155 crore in 1984/85 to Tk. 173 crore in 1989/90. These items have however quite high demand in the world market but are constrained by lack of product development,

appropriate quality control, proper standardisation and marketing efforts. Specific indications are there that Middle Eastern countries, particularly Saudia Arabia and Gulf States offer quite bright prospects for the exports of Bangladeshi fruits and vegetables. Exports earnings from these non-traditional items can even be significantly higher than projected if Bangladeshi exporters undertake coordinated and integrated efforts to enhance domestic production, establish supply links with foreign buyers and maintain supply schedules and quality.

Invisible Payments and Receipts

34. Invisible receipts from various sources such as foreign exchange earnings of the Bangladesh Biman and Bangladesh Shipping Corporation, income from supply of aviation fuel to foreign airlines and shipping lines, expenses of foreign ships calling at Bangladesh ports, expenditures of foreign missions in Bangladesh, etc. are projected to increase to Tk. 981 crore ($ 377 m.) in 1989/90 from the level of Tk. 806 crore ($ 310 m.) in 1984/85. On the other hand, payments on these accounts are expected to reach a level of Tk. 1,410 crore ($ 542 m.) in 1989/90 from Tk. 926 crore ($ 356 m.) in 1984/85. Increased foreign exchange expenditure of the Biman and Shipping Corporation and interest payments on foreign loans will be major factors contributing to the increase in invisible payments. As invisible payments will rise more rapidly than invisible receipts, net invisible payments will increase to Tk. 429 crore in 1989/90 from Tk. 120 crore in 1984/85.

Private Transfers

35. One of the significant features of the balance of payments development during the SFYP has been the considerable growth of home remittances by the Bangladeshi nationals working abroad. Foreign exchange earnings from this source reached a peak of $ 598 millions in 1982/83 and thereafter, started declining to reach a level of $ 400 millions in 1984/85 as economic development in the Middle East decelerated. Two fold purposes are served by the additional foreign exchange earnings from this source: it helps to liberalise import trade and it also provides opportunities to operate partially a free foreign exchange market. To these ends, inflow and use of remittances money are tied to WES and the secondary foreign exchange market called IP market. Future level of remittances will depend, among other things, on the outflow of migrant workers, their skill and investment opportunities available in Bangladesh. Consequent upon the slow-down of development activities in the oil rich countries, there has been some fall in the outflow of workers, but at the same time, there have been some changes in the composition of migrant workers also. Outflow of the number of skilled and semi-skilled workers has increased while that of the number of unskilled workers has gone down, which compensated the decline in overall migration in terms of remittances. Various promotional and development programmes are under implementation for coordinated and integrated training for potential overseas employment, market surveys and market promotion. Considering the situation of world price of oil it is not expected that the experience of the Second Plan can be repeated in terms of growth of migrant workers and remittances, though there has been some upturn in migration since the beginning of 1985. Foreign exchange earnings from home remittances are expected to reach a level of Tk. 1,248 crore in 1989/90 from the 1984/85 level of Tk. 1,040 crore implying a growth of 3·8% per annum in real terms against a growth of about 8% during the Second Plan.

Balance of Payments Position

36. Based on exports and imports projections the balance of payments position for the TFYP (1985—90) is shown below:

TABLE 11

Balance of Payments Projection for the TFYP
(At 1984/85 prices)

[In million $]

Categories	1984/85	1989/90	Total (1985—90)
1. **Import Payments**	**—3,056**	**—3,648**	**—17,010**
a. Goods (c.i.f.)	—2,700	—3,106	—14,677
b. Invisibles	—356	—542	—2,333
2. **External Earnings**	**1,249**	**1,553**	**7,140**
a. Goods (F.o.b.)	939	1,176	5,384
b. Invisibles	310	377	1,756
3. **Balance of Trade and Services Gap** ..	**—1,807**	**—2,095**	**—9,870**
4. **Net Remittances**	**400**	**480**	**2,233**
Current A/C Gap	—1,407	—1,615	—7,637
5. **MLT Debt Payments**	—107	—157	—678
6. **Balance of Payments Gap**	**—1,514**	**—1,772**	**—8,315**
7. **Change in Reserve**	**—141**	..	..
8. **Net Foreign Exchange Gap**	**—1,655**	**—1,772**	**—8,315**
9. **Aid Inflow (Gross)**	**1,321**	**1,540**	**7,245**
a. Food Aid	246	260	1,240
b. Commodity Aid	425	580	2695
c. Project Aid	650	700	3,310
10. **Other Sources of Finance**	**334**	**232**	**1,070**

Note.—Estimates for 1984/85 are provisional.

The above table shows that the trade gap will increase from $ 1,807 millions in 1984/85 to $ 2,095 millions in 1989/90 i.e., the trade gap will increase at the rate of 3% a year, slower than the rate of projected GDP growth. As a percentage of GDP trade gap will decline from 14·3% in 1984/85 to 12·8% in 1989/90 due to faster rate of growth of GDP (5·4%) and export (4·6%) against slower growth of import (2·8%).

Current Account gap will however grow at a slightly slower rate (2·8%) because of projection of a higher growth in net remittance. Still it will decline as percentage of GDP from 11·2% in 1984/85 to 9·8% in 1989/90; yet adverse Current Account Balance will increase by 14·8% over the plan period.

Foreign Aid Inflow

37. The estimated gap between foreign exchange receipts and payments on account of trade and remittances is expected to be met by the foreign capital inflow during the plan period. There are three sources to meet the gap namely, official aids and loans, balance of payments support from IMF and foreign private investment. Foreign aid is expected to grow at an annual rate of 3·1% over the plan period against the 3·3% growth of the same during the Second Plan and the amount to grow from $ 1,321 millions in 1984/85 to $ 1,540 millions in 1989/90 in gross terms for financing the foreign exchange gap. Third Plan envisages a slower growth of foreign aid than in the Second Plan in the light of prevailing aid climate; it may, however, improve with the improvement in the economic condition in developed countries. In fact, by 1984/85 aid climate grew somewhat brighter after remaining stagnant since its recovery in 1982/83. The projected slower growth of aid will be compensated by accelerating disbursement from aid already committed so that there is an increase of aid availability in real terms. Such acceleration will depend on improving implementation capability, augmentation of local fund, simplification of procurement procedures, etc., but it will also depend on increasing commodity aid which generates counterpart fund and on reimbursement component of project aid for local cost coverage; so the Plan assumes improvement in aid composition in favour of commodity aid, particularly to compensate decline in food aid. It will be also necessary to encourage local procurement of goods under project aid in order to make project aid productive for the economy.

37.1 *Food Aid*: As has been stated earlier, it has become imperative to enhance food production in order to achieve the self-sufficiency target of 20·7 million tons by 1989/90. But because of the vulnerability of agriculture and a large section of rural households and the landless requiring food for work and vulnerable group feeding food import, though in a lower scale, will continue over the plan period in order to build stock as a security reserve and to support the above programmes. Besides its nutrition effect on poor people and its critical role in times of natural calamities, food aid over recent years has also become an important instrument for agricultural and rural development. Sales proceeds of food aid distributed through monetized channels are being used for various agricultural and water management projects while a part of food for work has been commercialized to generate cash to finance non-labour components of rural infrastructures like culvert. Because of these important roles of food aid, food aid has been estimated a little less conservatively at $ 260 millions than domestic production would warrant.

37.2 *Commodity Aid*: Commodity aid is by far the most important category of aids for Bangladesh as it helps maintain the flow of essential raw materials for industries and generate counterpart fund in support of the development budget. Since Bangladesh has limited natural resources commodity aid has been generally larger in the past. It also helped liberalize import policy. A large range of commodities such as cotton, edible oil, milk food, pig iron and billets, fertilizer, clinker, cement, tallow, soda ash, dyes and chemicals, diesel, raw materials for pharmaceutical industries, spares and accessories for jute and textile mills and spares and raw materials for engineering industries, power and transport sectors are imported under commodity aid. As a result of such versatility of

commodities under commodity aid it has been possible to keep industries running at a higher level of production than otherwise would have been possible. It is because of this critical role of commodity aid that Bangladesh has received liberal commodity aid from both bilateral and multilateral sources. Unfortunately, however, in recent years aid modality has changed adversely against commodity aid in many ways. First, share of commodity aid during the Second Plan was significantly below the level of the 1970s. Starting at the level of 23·5% in 1973/74, it almost steadily increased to 46·8% in 1978/79 but snapped in 1979/80 to a level of 30·9%. It declined not only as a proportion but also in absolute amount from $ 483 millions in 1978/79 to $ 379 millions in 1979/80. Since 1979/80 it recovered its position somewhat in the aid regime during the Second Plan, to around one-third of all aid, but was still below the absolute level of 1978/79. The main reason for this decline in share of commodity aid was decline in its commitment as a percentage of total aid from 40·8% in 1976/77 to its lowest level of 21·6% in 1980/81 to be followed by a creeping rise only. Another reason for decline was late commitment of aid. Further in 1980s commodity aid became increasingly tied to the domestic market of donors, understandably because of their economic problems. This decline had serious implication as commodity aid provides local counterpart fund for the development programme; reduced share of commodity aid has also therefore contributed to project aid absorption problem. Considering the critical role of commodity aid it is expected that not only the level of commodity aid will pick up but also become untied. A further point to emphasize is its timely availability as it is mainly related to current output. Projected commodity aid inflow for 1989/90 is $ 580 millions.

37.3 *Project Aid* : Higher absorption of project aid is essential for steady growth of the economy but in the recent past its absorption suffered for reasons of local resource shortfall, both from domestic source and counterpart fund. Main user of project aid is public sector development programme which accounts over four-fifths of project aid; and here local resource constraint grew most stringent during the Second Plan. Starting at the level of 26·5% of project pipe line in 1980/81, disbursement of project aid declined to 15·1% in 1983/84, the lowest point in the history of foreign aid in Bangladesh since that of 1976/77 (16·3%). It has been affected by both the level of commodity aid and its share in aid disbursement and by public saving. In both the years, 1976/77 and 1983/84, the level of commodity aid disbursements was lower than that in the preceding years. As the pipeline of project aid had been continuously accumulating reaching a level of $ 3,703 millions in 1984/85 disbursement of around $650 millions, in spite of its improvement over the level of 1983/84 ($ 552 millions), looks unsatisfactory. In view of this huge pipeline in the background of domestic resources constraint future project aid commitment should be proceeded with on a selective basis, while a quick draw-down of the pipeline should be the main aim. The utilization of project aid, both old and new, will depend on increasing share of commodity aid and reimbursable project aid and mobilization of public saving. It is also to be emphasized that since saving-investment gap has become increasingly stringent, local resources will need to be so allocated that project aid utilization also increases. To ensure that it does not lead to compromise projects of national importance with aided projects simply because aid is available, the choice of new projects for commitment of aid will need to be based on national priority. This can be ensured only by undertaking project formulation ahead of aid offer. The last but not the least important point is that diversity of aid commitment and disbursement procedures complicate the problem for the receipient agencies; as aid procedure is determined by the legal and administrative systems of both the donors and the receipient countries, probably a uniform

procedure will be impossible to attain. Yet some simplification should be attempted. Disbursement of project aid has been projected to increase from around the level of $ 650 millions in 1984/85 to $ 700 millions in 1989/90. Besides official aid it is expected that direct foreign private investment as well as other forms of foreign exchange financing will accelerate as a result of increased scope of investment in the private sector.

38. Projected commitment and disbursement of foreign aid for the Third Plan are shown below :

TABLE 12

Projected Commitment and Disbursement of Foreign Aid (1985—90)

(at 1984/85 constant dollars)

[In million dollars]

Year	Category of Aid	Opening Pipeline	Fresh Commitment	Total Available	Disbursement.
1984/85					
	Food Aid	50	380	430	246
	Commodity Aid	566	250	816	425
	Project Aid	3,703	1,342	5,045	650
	Total	4,319	1,972	6,291	1,321
1989/90					
	Food Aid	33	262	295	260
	Commodity Aid	468	850	1,318	580
	Project Aid	5,968	1,836	7,804	700
	Total ..	6,469	2,948	9,417	1,540
1985—90					
	Food Aid	402	1,190	1,592	1,240
	Commodity Aid	1,802	3,245	5,047	2,695
	Project Aid	24,426	7,078	31,504	3,310
	Total ...	26,630	11,513	38,143	7,245

Foreign Trade Policy and Balance of Payments

39. The import-export policy should reflect national development programmes and priorities and encourage more efficient use of limited resources. Both these objectives will be better served through pursuing a liberal import policy which will allow market to allocate scarce foreign exchange resources. This will be also consistent with the policy for development of the private sector. During the Second Plan considerable progress was made in this direction; during the Third Plan the policy of import liberalization will be continued. Within this broad principle, import as well as export problems will have to be managed with the ultimate objective of redemption of balance of payments crises and addressed through exchange rate and tariffs so that unnecessary imports are discouraged and export is encouraged. In these respects, the aid will be directed to ensure supply of those raw materials which are not locally available so as to make fuller use of existing industrial capacities; to eliminate unfair competition between local products and imports; to avoid protection of inefficiency in the industrial sector and, above all, to improve the condition which will make the export markets as attractive to local products as the domestic markets, so that export-import gap is contained within the limit of available aid. To this end such policies as protection tariffs, export performance benefit, duty drawback, concessional rates of interest for export and exchange rate will need to be closely followed and evaluated in terms of their impact on balance of payments situation. Since exports will continue to largely depend on primary commodities and goods processed thereof, it is to be recognized that the balance of payments situation will continue to remain vulnerable to fluctuations in their output as well as demand; hence, given the exogeneity of foreign aid the management of the balance of payments will be cruicially dependent on the management of foreign exchange reserve of the country in relation to fluctuation in export earnings. It should focus on satisfying critical level of import need of the economy, rather than allowing import to fluctuate with export and thereby transmiting such fluctuation to other sectors of the economy.

CHAPTER V

EMPLOYMENT, HUMAN RESOURCES DEVELOPMENT AND TECHNOLOGY

Unemployment and under-employment are the chronic problems of the economy of Bangladesh. About one-third of the labour force is estimated to be unemployed and thus is in waste. The main reasons for the colossal wastage of this primary resource of development are high pressure on agricultural land, low level of investment and rapid growth of population. The pressure on scarce land is leading to increasing landlessness, contributing to more and more unequal access to this most important natural resource. The limited capacity of agriculture to absorb ever increasing labour force with its overwhelmingly traditional technology has not been matched by corresponding growth in non-farm employment to the required extent, nor could the potential of agriculture for employment be fully exploited for lack of investment in the diffusion of the modern agricultural technology. Though the modern water-seed-fertilizer technology is significantly labour intensive, only about a quarter of land is currently irrigated. The expansion of the bio-chemical technology can increase agricultural employment not only by bringing new areas under irrigation for double and triple cropping but also by the intensive cultivation that technology needs for best effect on agricultural yield. Lack of adequate investment in agriculture however constrained the use of this potential for absorption of increased labour force in land.

2. Land being limited, the obvious limitation to expansion of employment is investment. Want of it forces the masses to live close to the subsistence level, depend on informal employment and satisfy with a wage level that is even less than the unskilled agricultural wage. This relative wage position has two important implications for farm and non-farm employment. First, low non-agricultural wage depresses agricultural wage and therefore negatively affects the progress of the new agricultural technology. Secondly, low non-agricultural wage has resulted in the decay of cottage industries and their ultimate desertation by the craftsman. Their combined effect is a low level existence of the labouring population. Therefore, poverty of people is seen basically as a twin problem, employment and investment : low level of income follows from low level of investment and low level of technology which characterise the scene of rural employment. Employment condition in urban informal sector is no better than this for such employment is primarily a spillover of rural employment problem.

3. That poverty and unemployment are intertwined is not a new awareness. The First Five Year Plan envisaged expanding employment opportunities as a means to reduce poverty and improve income distribution, but frustration of its investment programme led to an employment increase of 3·0 million man-years against the planned target of 5·4 million man-years. Employment during the First Plan period also fell short of the actual growth of labour force, thus unemployment problem further deteriorated. The Two-Year Plan could not have a specific policy of employment expansion because of its interim nature, and focus on implementation of on-going projects, though the Plan's target for new employment was 1·8 million man-years. In view of the performances of the First Five Year Plan and Two Year Plan taken together, the unemployment situation at the end of 1979/80 was worse than what it was in 1972/73.

4. The Second Five Year Plan envisaged creation of 3·7 million job opportunities between 1980/81 and 1984/85, but the estimate of new employment is 3·2 million indicating a further deterioration of unemployment situation. Employment-oriented rural development programmes were mostly slow to start and had considerable time overrun. Their impact on employment was weak because of lack of focus on employment generating activities. As a result, Food for Work Programme remained the mainstay of rural employment in off season.

Populaton and Labour Force Participation

5. The 1981 Census put the population size at 89·9 million—an increase of over 77% during the past two decades. Based on age and sex structures and fertility and mortality behaviour of rural and urban population, mid-1984/85 population is estimated at 99·2 million giving a density of 1,808 persons per square mile. High growth rate of population in the past two decades has given an age-structure of population in which 46 percent of the population is below 15 years of age and the dependency ratio is high. Against the prevailing high level of unemployment, it means a high rate of consumption narrowing the margin of saving for productive investment. This pressure of family consumption further aggravated unemployment as in eking out living minor boys of the poor families also enter into the labour market. This is reflected in high male participation rate. According to the 1981 Census, the overall participation rates for the age-group 10 and above, were 73·9% and 4·3% for males and females respectively against the corresponding figures 87·6% and 10·8% in 1961. The higher participation rate for females in the 1961 Census was due to counting of housewives as working women. The decline in participation rate for males implies a higher dependency ratio resulting from high population growth. Female participation rate is likely to increase because of emphasis on female education, reservation of jobs for women and above all, deterioration of the economic status of rural households in large number. Some institutions in the government and outside are promoting women employment. The total labour force is therefore likely to increase faster than the population growth rate, reflecting the changing age structure and the official policies for female employment. The total labour force in the age group of over 10 years for the next 5 years is already determined. According to the Manpower Survey, 1980 over 31% of the population constitutes the civilian labour force; on the basis of this ratio the labour force will increase from 31·0 million in mid-1985 to 35·0 million in mid-1990 *i.e.*, labour force will increase by 4 million. Adding to this the existing unemployment which is estimated to be around 7 million the total number of people looking for employment will rise to 11 million. This is a colossal number to be absorbed in one or two plan periods. The employment policy should strive to bring about a gradual reduction of unemployment in a long term development framework.

Structure of Unemployment

6. It is not enough to know the dimension of unemployment problem; in seeking its solution first it is to recognise that the employment problem in Bangladesh is essentially a rural phenomenon, since 90 per cent of the people lives in rural areas crowding on limited land resource, unemployment has also burgeoned there with the increase in population. The increasing rural unemployment unequivocally leads to the conclusion that agriculture alone cannot absorb the growing labour force in its current state of the craft; it also means that employment opportunity outside agriculture also has not been able to expand fast to absorb the surplus labour. Implicitly it means flagging rural development and particularly, cottage industries, though marginal farmers tend to seek employment in

non-farm activities. Deteriorating employment situation in rural areas is reflected in the expanding volume of the Food for Work Programme and in its geographical and seasonal spreads. That during the Second Plan food production has increased at about one and half times the rate of population growth and yet Food for Work Programme has expanded at about one and half itmes the rate of growth of food production indeed indicates the severity of the rural unemployment problem. Rural unemployment problem has usually been seen as a seasonal problem and particularly associated with the winter season and therefore the Food for Work looked as a short-term employment programme; but its tune dilation in recent years points to the stronger time trend of unemployment in rural areas than mere seasonality. That the Food for Work Programme has spread over season reveals its inherent weakness for by nature of its work component it cannot fully respond to perennial unemployment problem. It is well to recognize here that increasing thrust of the programme on the development of durable infrastructures implies diminishing scope for short term employment while the emphasis is justified by its long term development benefit. Implicit in this shift is the choice for indirect employment that such development will effect against short term employment.

7. Since agriculture is the main occupation of rural people, the long term employment opportunity depends on the distribution of land for the access of rural households to employment depends on the access to land. The extreme form of this dependence is the landless group working as casually hired labourers. Small and marginal farmers partly work on their own land and partly as hired labourers. In 1977, of the total hired agricultural labour force, 72·2% was casual workers and only 8·9 percent was permanent workers; in between them 18·9% was temporary workers. There were 62·6 lakh farm holdings whereas the number of permanent workers (hired) were 16·7 lakhs indicating a limited opportunity for permanent employment in agriculture. Further, the 1977 Census shows that large farms are more dependent on casual labour relative to persons in agricultural occupation than small farms; in fact, such dependence increases with size. Thus the access to land determines the structure of rural employment. The decline of small holdings between 1960 and 1977 cannot therefore but contribute further to rural unemployment problem.

8. A second characteristic of rural unemployment problem is the use of large percentage of children in school-going age. According to the Manpower Survey between 1980 and 1984 labour force participation rate in the age group of 10 to 14 years is found to have increased from 33% to 39·7% among the male population; it increased even faster among the females—increasing from 3·9% in 1980 to 8·5% in 1984. This is undoubtedly a disturbing fact from education point of view; but more serious is the fact that the participation rate among the working age groups, between 15 and 64 shows a general decline between 1980 and 1984 indicating that more able-bodied labour force has less opportunity for employment. The latter trend is also observed between the Population Censuses of 1974 and 1981. Socially less acceptable is the fact that in 1983/84 there was over a million of child labour in the age group of 5 to 14 years about one-sixth of which was between the age of 5 to 9 years. Child labour constituted 12·9% of total employment of 28·7 million. The inescapable conclusion is that children in the school-going age group now work more than before, and the able-bodied labour force work less. On the other hand, the economic dependency ratio shows a secular increase from 2·26 in 1960 to 2·47 in 1981 according to Population Censuses and from 2·22 in 1980 to 2·34 in 1984 according to Manpower Surveys.

9. According to the Census of 1981 female population who constitutes 48·4% of the total population accounts for only 5·8% of the labour force excluding household works and only 5·5% of employment. The main reason is socio-cultural characteristic of the rural community; but lack of female education which helps perpetuate the cultural pattern also contributes to the low participation rate of the female population. But the participation rate was disproportionately low even in comparison with the literacy rate. Female literacy rate increased from 8·6% in 1961 to 13·2% in 1981; but the participation rate remained unchanged at 5·1% over the period. Thus socio-cultural influence on female employment continues in spite of advancement of female education. The other side of the picture is that in a situation of tardy growth of employment opportunities male labour force continues to dominate the employment market even though female literacy rate (8·6%) has increased from about one-third of that (26%) of male population in 1961 to over half in 1981 (13·2% against 26·0%) as the relative participation rate of the female population has not changed. Parallel to this, observed relationship between female literacy and female participation rate is found to exist among the unemployed educated in urban areas but for different reason—imbalance between job market and education rather than any cultural problem; on the contrary the imbalance has led to under-employment of the educated ones in jobs which need lower educational qualification. As the mirror image of rural labour market, urban labour market also shows the twin problem of unemployment and under-employment.

Poverty and Unemployment

10. The primary objective of the Third Plan is to alleviate poverty. The proportion of people below the poverty line has increased from about two-thirds to over four-fifths from 1964 to 1974. The proportion of the absolute poor also has increased sharply. The proportion of households having less than the prescribed minimum calorie intake has increased from 59% in 1975/76 to 76% in 1981/82 (2273 Kcals). This decline in calorie intake has been suffered in spite of increase in food output and food supply. This situation led to the awareness that parallel to the expansion of food output both employment and income generations were needed to provide an access of the common man to basic needs. The prevailing condition is however obverse of it. The volume of the unemployed, as already mentioned, has continuously swelled since Independence. On the other hand, income of the majority has declined. For example, agricultural wage in 1983/84 was only 64% of the 1963/64 level in real terms. The situation is even worse in non-farm employment such as cottage industries, where average daily wage was far below that of unskilled agricultural labour. As non-farm activities are viewed as extended family labour, there has been increasing marginalization of female and child labour. Even the appallingly low enrolment level and high drop-out rate at primary schools are logical consequences of rural poverty. Subsistence level of income, poverty, illiteracy and rapid population growth, all are closely interlinked; the lack of employment opportunities and of access to means of production have overtime aggravated the situation. Poverty focus of the Plan hence warrants the emphasis on generation of productive employment opportunities with a view to raising family income to a level that will help them break the vicious cycle of poverty and population growth. What will be sought over the plan period is not just marginal expansion of employment but a shift in the overall productivity level.

Employment Opportunities

11. *Labour Absorption in Crop Production* : Bangladesh has two primary resources, land and labour; but productivity of both is low. The yield rate of such important crop as rice is about one-third of that of South Korea and Japan and just over half

of that of Indonesia. Given the constraint of land Bangladesh has no option other than to vigoriously pursue intensive cultivation to meet its food need. The technology for this is available but constrained by resources. The water-fertilizer technology is not only labour intensive but can have also significant indirect effect on labour absorption in agriculture related activities such as crop processing, once output of cereal and minor crops are turned into surplus through technological advancement. On the hand, labour productivity in both non-farm formal and informal sectors is abjectly low compared to any standard. For example, according to the survey on rural industries of 1979/80, income per unit of labour-day in rice husking was Tk. 6·72 only against unskilled agricultural wage of Tk. 12·46; in handloom it was Tk. 11·66. Subsequent evaluation of some development programme also indicates existence of low level of non-farm wage compared with unskilled agricultural wage. In organized manufacturing sector productivity is not only low but has also suffered in recent years. Gross productivity of capital has declined from 1·11 in 1973/74 to 0·98 in 1983/84 and labour share declined by over one-third between 1973/74 and 1981/82. Part of this decline is attributable to external conditions like market constraint but there is hardly any scope to disagree that labour productivity also is low. There are two basic reasons for this unsatisfactory state of affair. First, there is lack of skilled labour force; particularly, skilled manpower is in short supply in the backdrop of general illiteracy of the population and the weaknesses of the education system that is biased towards general education. Secondly, the level of investment is low. According to a study of the World Bank on population and poverty, incremental capital-labour ratio in Bangladesh is slightly over one-third of that in India and Sri Lanka and less than two-fifths of that in Pakistan. Investment per labour is far worse in cottage industries; average investment per labour being only Tk. 3000 whereas the national average was twelve times as high as that. Currently industries sector suffers from dualism between cottage and large modern industries constituting a bipolar condition; but in spite of high investment in modern industries labour productivity failed to respond to their technology for lack of skilled labour force. It is in this background of low productivity and duality that skill human resource formation will constitute the basis for efficient use of the two primary resources of Bangladesh, i.e. land and labour. Technology will be its vehicle and investment its driving force.

12. A significant reduction in poverty and unemployment in the short term is not possible without accelerating the growth of agriculture, not only because it accounts for half of GDP and about two-thirds of employment but also because of the strong attachment of people to land. The present state of the agricultural art and its development prospect has a great potential for absorption of additional labour force. As the way to increasing productivity of land is the use of the new seed-fertilizer-irrigation technology which is both high yielding and labour absorbing, a substantial increase in employment can be expected to result from the expansion of the technology. Only about a quarter of the net cropped land is currently covered by the new technology; during the Third Plan this share will be raised to over 40% in 1989/90 and food output is planned to increase by 28·6%. As this increase will come from the use of new technology, it is estimated that labour input will increase by 14·3%. Food production accounts for over half of the agricultural employment which stood at 15·4 million in 1981 according to the Population Census and 16·4 million according to the Manpower Survey of 1983/84. Using the latter number and the food output of that year as benchmark the size of the labour force in food production will increase to 9·5 million in 1989/90 from 8·2 million in 1983/84; *i.e.* food production as planned will create over a million job during the Third Plan.

13. Prospects for accelerating the rate of growth of labour absorption in agriculture through the spread of the technology and changes in cropping patterns can be significantly influenced by changes in the tenancy arrangements and farm sizes. The technology shows a bias for land ownership and against share cropping. During the period between the two Agricultural Censuses (1960 & 1977), area operated by sharecroppers declined from 18·2% in 1960 to 16·8% in 1977 and so also that of holding of less than 1 acre and more than 7·5 acres while area under holdings of 1 to 2·5 acres and 2.5 to 7.5 acres increased by 25% and 8% respectively. The Pilot Agricultural Census of 1982 shows further concentration of land in the hand of small holdings between 0·5 to 2·5 acres; their share has increased from 19% in 1977 to 29%. Correspondingly, the share of holdings between 2·5 to 7·5 acres and that over 7.5 acres declined from 49% to 47% and from 32% to 24%. This shift in the structure of farm holdings in favour of small farms, if it continues, will positively affect the absorption of labour force in agriculture since the small farms, mainly dependent on family labour, use labour more intensively than the large ones and are also the source of surplus labour.

14. Another important point in favour of increased labour absorption in agriculture is that small and medium size farmers are more responsive to the new technology. Some studies at micro level indicate that they have higher cropping intensities, proportionately more cropped area under HYVs and higher per acre use of fertilizers. It is plausible that the observed shift in the structure of landholding is the result of greater response of small farms to the new technology.

Non-farm Employment

15. Even with the fullest development of possibilities for labour absorption in crop production there will remain a large surplus of labour for whom employment opportunities need to be created in the non-farm sector. Because of this and the high cost of modern industries to create employment, there has been increasing emphasis on nonfarm employment generation in rural areas, in non-crop sectors like fisheries and livestock, rural infrastructure and in rural industries. During the past decade, the growth of employment in modern industry has been very limited. Public sector investment was mostly directed to rehabilitation and much of the new capacity created in the public sector industry has been capital intensive. Modern industries employ only about 500,000 people (less than 2% of the labour force) and it would require huge amount of resources to absorb any significant proportion of the increase in labour force. But because of deteriorating employment condition in the rural areas and limited capacity of modern industries urban informal sector has expanded quite fast since Independence along with the rural to urban migration. A large number of people earn their livelihood working through self employment, consisting of a wide variety of trade and services. With the anticipated increase in urban population, the urban informal sector will expand further. Some of the activities in the informal sector such as road-side workshops have grown into small businesses which however lack in institutional credit, raw materials and better technology. With appropriate service support, the informal sector is expected to make a major contribution to the generation of productive employment opportunities.

16. The main thrust of the Third Plan will however be on the development of rural industries. There is already a broad rural industrial base in the cottage industries. Currently, about 1·5 million persons or about 7% of the labour force is directly employed in rural industries. But in a changing economy, the present production pattern of the industries can neither cater efficiently to urban demand nor the demand of the

small affluent rural population for production and consumption. They largely cater to largest number of rural households who are poor thereby creating a symbiotic relationship within the general poverty condition. The rural non-farm sector thus appears to be locked in a circle of low income depending on low demand and low level of investment and technology. A dynamic growth of the rural industry cannot be possible feeding on poor households. Hence a comprehensive rural development covering agriculture and industries will be necessary so that they reinforce each other by increased supply and demand of goods, increasing thereby employment opportunities. It is worth to reiterate here that a moribund non-farm sector such as cottage industries cannot but be a drag on agricultural development because of its depressing effects on labour as well as commodity markets.

17. Development of rural industries is the logical way of creating optimum possible employment opportunities close to the markets of their products and labour and should be encouraged to base mainly on locally available raw-materials and indigenous resources so that maximum benefit is derived from them through multiplier effect. In other words, it has to be built around the agricultural development programme. It will follow two specific lines emphasising agro-support and agro-process industries and consumer goods industries to satisfy rural demand mainly. To derive maximum benefit from the first set of activities for rural upliftment, development of consumer goods and service industries in the rural areas should be given equal emphasis so that increased rural income is largely spent on goods produced in the rural areas. For accelerating growth of agriculture and rural industries there will be also need for development of transport and communication, rural electrification, man-power training and credit and marketing facilities.

18. Rural industries should be by nature labour intensive than otherwise. However, along with the number, the productivity aspect of employment will have to be taken into account so that wage level is sufficient to enable the worker to have effective demand for their basic needs. So in promoting rural industries technological improvement of cottage and small industries along with agriculture will be given great importance. Improved technology can increase productivity and improve the quality of many of the products of rural economy and lead to lowering costs and prices to reach a larger market. Higher productivity and income is also likely to lower participation rate of family labour particularly in the school going age group. It has been mentioned that there are 37 lakh working children in Bangladesh in the age group of 5—14 years; so improvement of economic status of poor families may also improve school enrolment.

Infrastructure Development and Rural Employment

19. Rural industries development will call for development of infrastructures such as roads and civil structures using labour intensive methods which can provide substantial short-term employment in the operation and maintenance of the assets created. The policy of administrative decentralization has a great impact on the development of rural infrastructure besides those being created under FWP. The latter programme will generate considerable volume of employment on a temporary basis during the Third Plan. About 80—100 lakh man-days of employment will be created by year under this programme.

20. While the size of these programmes influences the number of people that can be employed directly in the construction of rural infrastructure, they should not blur the

focus on generation of long-term employment opportunities. Prospect of long-term employment effect of these programmes will depend on their direct and indirect effects on output and income in their neighbourhood. Therefore, rural infrastructures have to be properly designed, well constructed and adequately maintained to exploit the development potential of the rural economy.

21. FWP and RWP suffer from the lack of integrating approach in relation to development besides unsatisfactory planning methodology and processes and inadequacies in design, organisation and implementation. However, the recent reorganisation of the RWP, the establishment of planning and evaluation cell and management information system in the line Ministry together with the decentralisation of administration providing for engineering capability at the upazila level are expected to improve the capacity of these programmes to achieve both employment and development objectives.

Technology and Employment

22. The success of a development strategy which emphasises rural off-farm employment in its stride for poverty alleviation is closely linked to the country's capacity to choose and develop technologies appropriate to these objectives. In the absence of a necessary connection with appropriate choice and application of technology, it is found that many technologies used in Bangladesh have adverse effects on employment. As already mentioned there is a technological dualism which directly and indirectly affects employment adversely whether the technology is a modern sophisticated one or a traditional one with high labour demand. Taking the latter type of technology, for instance, crop processing provides an estimated 460 million days of work in rural employment. Over 80% of the work days in crop processing arises from rice processing which is the major source of employment and income for landless women. However, the rapid increase in mechanical milling of rice has led to the displacement of traditional employment opportunities at the rate of 3·5 to 5 million days per year. On the other hand such activities are of low return-wage being less than that of unskilled farm labourer, so looking from the demand side such activities have inhibiting effect on rural development as they perpetuate the vicious cycle of low income called low income trap. To break this trap there is invariably the need for improvement of rural technologies. Moreover in developing harmonious and efficient backward and forward linkages with the more advanced sectors, it is of crucial importance to follow a more careful and rational approach to the choice of appropriate technologies to avoid imbalances for the current technological dualism cannot develop effective backward and forward linkages to create additional employment opportunities through their product markets. Unless appropriate technologies are made available to rural areas, increased demand will have to be met by urban-produced or imported goods, thus causing leakage of resources from there and pre-empting opportunities for self-sustaining rural development.

23. Since improvement of rural technology is a necessity though it carries the danger of being over played, there is need for selectivity in technological choice. In this respect a technology must be understood in relation to man and market. In relation to man, improvement of technology must be addressed to the local need, human culture and behaviour so that it does not create a friction between machine and man. Improvement should be primarily such that it is labour absorbing rather than labour displacing, not in the narrow sense of an enterprise but in a wider sense of its impact on the development of the locality so that it is visible to people affected by it. It will

be therefore, necessary in improving rural technologies to impart training for skill formation so that machine and man can effectively communicate in improving their outputs. It is also to recognise that a new technology by increasing output potential turns its products into social goods for general consumption rather for the consumption of its producers. This makes management crucial for the ultimate success of the new technology. Thus training for skill formation should cover both technical and management skills.

24. Prevailing phenomenon of inappropriate technology emanates mainly from the lack of a well defined science and technology policy relating to the national economic development plan and secondarily from the existence of an array of economic policy measures—most of which undertaken without adequate appraisal of their impact on technology choice, resulting in conflict with each other. Present technologies imported as gift horses are directly subsidized, while local technologies languish in anachronism against planned development for lack of their improvement. Even where free choice could be made inappropriate pricing of capital such as low interest rate and low tariff favour capital intensive technology against the labour intensive one.

25. In order to solve the above mentioned problems, integrated approach is needed, consisting of :

(i) defining clearly the links between technology policy and employment policy and translating them into formulation of development projects ;

(ii) strengthening the monitoring of development projects; in terms of technology choice and employment creation ; and

(iii) developing capabilities of R&D institutions in terms of technology assessment, development, dissemination and evaluation.

These will require new sets of measures in the field of technology and employment.

Technology Assessment, Adaptation and Diffusion

26. Since a favourable economic environment is necessary for the successful diffusion of appropriate technologies, there is a need for a mechanism by which the technology needs of the economy, particularly of the rural sector, can be indentified and dealt with as part of employment generating activities. Experience of government and non-government organisations in the operation and diffusion of appropriate technologies to the rural areas indicate that there are constraints on the way, which need to be overcome to create a more efficient mechanism. To spell them out, there are:

(i) lack of interest or ability of existing R&D institutions to identify needs of the rural community and work for technological solutions to meet such needs ;

(ii) lack of adequate technical expertise on the part of agencies dealing with rural development programmes to respond to technological needs of the rural economy ;

(iii) lack of cooperation between the formal R&D institutions and the development agencies ;

(iv) lack of feed-backs to R&D institutions for adaptation of technologies to the field conditions ;

(v) lack of adequate emphasis on technology extension work; and

(vi) lack of appropriate skill training facilities and follow-up.

27. For a balanced development of technology and human resources, it will be necessary to identify technological options in different areas of economic development in relation to both employment and income generation and assess their feasibility in the background of manpower and other resource endowments for proper interfacing of the profiles of technology and skill. Since the ultimate goal of planned development is to raise per-capita income through productivity increase, shifts in both the profiles should be brought about in a planned way.

28. Attempts at planning a technology policy have however been limited. Though the importance of such a policy was recognised immediately after Independence through the establishment of the Science and Technology Division (STD), and subsequently in 1975, reaffirmed by the establishment of the National Council for Science and Technology (NCST), the absence of a national technology policy and plan not only diminished the effectiveness of past efforts but also led to incoherent development. Therefore in July, 1980 the NCST was reconstituted and given several major tasks including co-ordination and direction of R&D planning and work, and formulation of a comprehensive scientific and technological policies for S&T development, but a national S&T policy consistent with a national policy is yet to be formulated. For development of appropriate technology to the need of the rural economy, the Institute of Appropriate Technology also awaits rapid development with the support from all ministries concerned with agriculture, small industries, education and training and employment generation. A number of task forces should be set up to formulate action plans in all critical areas for development of appropriate technology. The first step in this direction is to prepare an inventory of indigenous technologies in different sectors and of intermediate technologies in the shelf to formulate the R&D activity profile. All projects should be properly examined in detail with regard to domestic resource cost, value added, creation of job opportunities and self-reliance. The question of setting up a national techno-economic consulting institute for screening competing technologies of critical importance should be considered in the early stage of the Plan.

29. The development and diffusion of appropriate technologies require an institutional infrastructure towards evolving policies affecting employment generation. Though a large number of agencies are already involved, there is need for some institutional arrangements at both the local and national level. Close to the field of economic activities at the local/upazila level, the creation of facilities for training and arrangements for technology diffusion will help the disadvantaged groups to gain access to the training necessary to improve their economic status in traditional activities through improved technologies and in 'second generation' activities arising out of growth of incomes and demand for consumer goods. The local/upazila level activities are to be supported at the national level by carrying out socio-techno-economic surveys at the upazila level to indentify availability of human and material resources, technological needs and nature and size of markets ; assisting with location and provision of necessary training and technical expertise not available within the upazila ; and providing support services with respect to credit, raw materials and marketing.

Employment Policy and Human Resource Development

30. An R&D policy is however relevant in the context of an employment and manpower policy. Bangladesh has a large labour force which can be turned into productive asset as human capital. Optimal utilisation of human resources involves, on the one hand, a viable employment strategy which seeks to progressively absorb the

large mass of unemployed and under-employed into productive employment and on the other, a manpower policy to raise the technical capability of the population through education and skill training. But a large majority of the people live in a subsistence condition with subsistence knowledge; as they are poor, they are also illiterate; so their productivity is also low. That there has been a complete neglect of human resource development in the past is reflected in the continuation of low rate of literacy. Since 1961 and 1981 literacy rate increased from 17% to 19·7%. Low priority in planning and resource allocation of education and training requirements of the vast multitude of population and the labour force and a still lower level of efficiency of resource management in education have accentuated the problem in an ever increasing population. Share of education and training in public development programme declined from 5·4% in the First Plan to 3·5% in the Two Year Plan. Though a rekindled awareness about human resource development during the Second Plan helped recover the share of education to 4·1% it remained a major victim of resource constraint; however, compensating this there was greater emphasis on resource use during the Second Plan and the current expenditure on education was increased from Tk. 176·8 crore in 1979/80 to Tk. 492·7 crore in 1984/85 giving an annual growth rate of 23% against 20% growth in revenue expenditure. The Third Plan envisages increase in the share of education in both development and revenue budgets. The allocation for education development has been raised from 4·1% in the Second Plan to 4·5% and current expenditure on education is envisaged to grow at the rate of 6%.

31. In view of deterioration of employment situation in spite of multiplicity of effort for income and employment generation by large number of agencies in different sectors it came to the realization in the process of development during the Second Plan that a coordinated approach was needed for effectively handling the poverty and unemployment problems. After a detailed study of the unemployment condition the necessity for setting up of an Employment Monitoring Evaluation and Policy Planning Unit as the national focal point was recognized during the Second Plan. The importance of the Unit can hardly be exaggerated simply because employment by nature is multisectoral and therefore needs to be approached as a macro-economic problem. The problem of unemployment is so vast that its description by parts needs to be pieced together to arrive at a total view. The Unit should be on the ground as early as possible so that a national employment policy can be enunciated before long. Planning Commission is developing a manpower plan which will provide necessary inputs for formulating an employment policy on one hand and a technology policy on the other hand on a realistic basis.

32. The development of human resources must be specifically addressed to the disadvantaged social groups for their participation in productive non-farm activities. The training need will involve two main groups: (a) the rural poor for whom employment opportunities are to be created and (b) those who would be involved in delivering the required skill and support services, consisting of government and locally elected officials as well as facilitators and motivators of the rural people. Particular attention is needed to be paid to literacy and numeracy training as a pre-requisite for access to skill. The government's new decentralisation strategy will initiate a new planning and development process in which training needs at the grass-roots level will be identified and appropriate capacity created.

33. Both the government and non-government agencies are involved in the basic training efforts intended to promote employment opportunities for the rural population. There are 54 Vocational Training Institutes (VTIs) and 7 Technical Training Centres (TTCs)

offering courses of duration between 6 and 24 months to train semi-skilled workers for the industrial sector and for overseas employment. The Community Schools have also been established to provide vocational training to unemployed rural men and women. Although these training programmes are relevant to the needs of the rural areas, they have a pre-requisite of five to eight years of schooling which excludes most of the rural population from skills training programmes.

34. In the new framework both for training and technology extension works the Bangladesh Small and Cottage Industries Corporation (BSCIC) will have a significant role to play. At present it is engaged in promoting and supporting family managed rural home industries and provides credit, extension services and occupational training to its clients. However, its coverage in the rural areas is limited. It is also handicapped by the lack of sufficient qualified instructors. In many cases, those who complete their training do not find wage employment or are unable to engage in self-employment. The Rural Social Services (RSS) programme of the Ministry of Social Welfare and Women's Affairs aims at generating employment opportunities through skill training programme and production-*cum*-training centres backed by credit to start productive activities are relatively successful. However, its improvement and expansion are handicapped by the lack of training equipment and sufficient field staff and instructors. Training at Upazila Training and Development Centre (UTDC) is inadequately planned. Attendance rates are low and the Centres are not geared to the needs of the assetless poor and do not reach them in the villages.

35. There are also more than hundred foreign and local non-government organisations (NGOs) which are involved in various ways in improving the living condition of the poor. Most of these NGOs started with relief and rehabilitation programmes. During recent years, however, many of them have emphasized the promotion of income and employment generating activities among the rural poor to make them self-supporting and self-reliant. They have developed considerable experience and competence in reaching the benefit to the landless poor in a productive way. Though most institutions involved in non-farm employment generation have not yet directed their efforts specifically to the delivery of a co-ordinated package of services and information to the rural poor, the activities of the Grameen Bank Project (GBP) and of Bangladesh Rural Advancement Committee (BRAC) have made some progress with regard to motivation, functional literacy, group formation and extension of easy credit. But all these activities do not have any scope for significant improvement in productivity as technology aspect has not received any great attention.

Rural Self-employment: A New Approach

36. Both the government and non-government programmes to create employment have so far reached only a fraction of the population. As it is not possible to create formal wage employment for more than a small fraction of the anticipated increase in labour force of 1 million a year, it calls for promotion of rural non-farm self-employment. In order to be effective in creating such informal employment opportunities, it is important:

(i) to select, motivate and organise the target population into small productive groups;

(ii) to equip the target group population with necessary skills, technology and identified vocations, credit and guidance to solve problems as they arise; and

(iii) to provide appropriate services such as training, technology and information on investment possibilities in different areas.

37. The approach is one of the components of the action plan for non-farm employment formulated for the Third Plan. Based on the experiences of a number of existing government and non-government programmes it recognizes the need for approaching the rural employment issues from close proximity. Taking advantage of the existence of upazila administration and local government the new approach envisages to set-up a number of employment resource centres (ERC) at upazila level beginning in 1985/86. The Centre will work as the focal point for all initiative regarding productive activity of the target groups in alleviating poverty. The Centre will be engaged in the promotion of group formation, functional literacy, credit, market information, skill training and new technologies for the target groups.

38. The strategy is based on a two-phased approach. The first phase consists of group formation, functional literacy and a credit programme designed to increase income of target groups by providing short-term finance for traditional activities such fish farming and livestock and poultry raising for which there is considerable scope for expansion. With continued functional literacy programme this phase will also prepare target groups for starting non-traditional activities and for absorbing new skills and technologies. The second phase will consist of identification of potential new activities and appropriate technologies and skills training to enable target groups to carry out such activities at a higher level of technologies. The strategy will entail minimum direct involvement of government agencies in developing the receiving mechanism leaving the responsibility with the independently operated autonomous ERCs. Acting as a specialised intermediary, the ERCs will identify the needs of the target groups and facilitate provision of a range of government and financial services, particularly skills training, and access to credit through commercial banks by providing necessary guarantees.

Prospect of Employment Generation

39. The planned investment programme combined with the strategies described in the earlier paragraphs regarding non-farm employment and human resource development is estimated to lead to the creation of 51 lakh job opportunities during the Third Plan against an entry of 40 lakh people in the labour market. It must be reemphasized here that the latter number is derived on the basis of current participation rate: but this rate is likely to go down because of greater emphasis that is being given on productive employment during the Third Plan. Moreover, a more successful education programme that may ensue from the improvement in the economic status of the rural households may lead to greater enrolment and lower drop-out rates and thus reduce the pressure on the labour market. To repeat, there were 37 lakh child-labour in Bangladesh in 1983/84. It is therefore expected that by the end of the Third Plan there will be a significant drop in the number of unemployed.

40. It is appropriate to mention here that of all the statistics, employment statistics are hard to collect and therefore less reliable. Main reason is that employment in the informal sectors far outweighs that in the organized sector, while increasing pressure on the labour market leads to the growth of floating populace. As a result of these difficulties employment and under-employment data show significant variation. 'Point of time' estimates give very low level of unemployment in Censuses and Surveys. The last Population Census (1981) puts the unemployment rate at 2·3% and the 1983/84 Manpower Survey at 2·5%. These are not much different from those of 1961 and 1974

Censuses and 1980 and 1981 Surveys. The estimate of employment for 1984/85 which has been arrived at by sectors and socio-economic groups from the Social Accounting Matrix (SAM) developed for the Third Plan is 192·9 lakh in man-year terms. Given the participation rate of 31%, the civilian labour force stood at 311 lakh on the basis of mid-1985 population of 1005 lakh; this gives an unemployment rate of 38%. There is however a concensus that unemployment rate would be close to one-third including disguised unemployment, which itself poses a difficult estimation problem. The point is that since the Third Plan looks on employment as the only viable way to reach the goal of poverty alleviation there is need to strengthen employment statistics for evolving effective employment and manpower policies.

41. The breakdown of planned target of creating 51 lakh new employment against various sectoral activities is shown below:

TABLE—1

Employment Target

[In lakh of man-year]

Sector.	1984/85 (Benchmark).	1989/90 (Target).	Increase over Benchmark.
1. Agriculture	116·4	150·6	34·2
2. Industries	19·0	24·3	5·3
3. Public Utilities	16·9	18·7	1.8
4. Construction	5.9	7·3	1·4
5. Public Services	20·0	25·2	5·2
6. Trade and Others	14·7	17·7	3·0
Total ..	192·9	243·8	50·9

It is to point out that about 67·2% of the additional employment will arise from expanded activities in the agricultural sector during the Third Plan which follows from the agricultural thrust of the Plan particularly, on food production. Total employment will increase at the rate of 4·8% per annum against the projected growth rate of 5·4% for GDP as during the plan period some improvement in productivity growth is expected.

CHAPTER VI

ECONOMIC MANAGEMENT AND DEVELOPMENT ADMINISTRATION

An important condition for the success of a plan is the management ability of people in both the private and the public sectors. There are three distinct phases in national economic management which need to be clearly understood in order to make a plan succeed. First is the formulation of a plan in response to country's socio-economic needs. Clear perception of the problems and development of correct strategies, policies and programmes under given conditions constitute the first phase of management problem and determine the prospect of a plan being successful. Wrong perception or prescription cannot but find a plan doomed to fail. This phase of planned administration is probably the most difficult one, for what may be perceived or prescribed may not be shared by the society. The case or difficulty at this phase of administration will depend on the social system determining the extent of regimentation and freedom, social expectation against objective reality, social belief and value system determining its inertia *vis-a-vis* its dynamism, social preferences over time and, above all, the external conditions. In all these respects planned administration of an economy has to make a number of assumptions, make a number of predictions about future events in a changing world and make some autonomous decisions. The success of development administration will depend on the relative strength of these three elements entering into the plan formulation in the first phase of planned administration. Its strength is proportionate to the realism of assumptions and efficiency of predictions on one hand and the extent of autonomous decisions on the other hand in a changing world. It is to stress that a plan formulation expecting to bring about desired social changes has to have some socio-political constraints in the form of autonomous decisions, which in fact give a plan its basic character. It is this feature of plan formulation in the face of a changing world that makes the first phase of development administration crucial for the success of a plan. This phase of planned administration is however least appreciated partly because of tradition and partly because of the intricacies involved but mainly because of frustration with plan outcome. Whatsoever, the importance of this phase has vastly increased as a result of (i) increasing concern for deteriorating economic status of the populace leading to greater thrust on rural development, decentralisation of public administration and emphasis on people's participation in development; (ii) greater reliance on the private sector requiring greater dependence on macro-economic instruments like fiscal and monetary policies than on direct control of the course of the economy and (iii) changes in the world economy. All these call for emphasis on policy planning parallel with production programming to make the latter attainable.

2. The second phase of planned administration of an economy concerns with the implementation of a plan. In recent past it is this phase which attracted the greatest attention among the planners and development administrators. The reason is obvious for it relates to the very building-block of a plan *i.e.* project of which follows the observable benefit. But that a number of projects having been implemented have failed to yield appreciable benefit casts doubt on what is considered obviously important. As a building-block a project is important only in the context of the framework of which it is an element. If the framework is weak or a building-block has no relevance to it or is not in proper relation with the rest of the framework, its effectiveness is bound to be affected.

The problem with plan implementation at the project level is due to some weakness of the basic frame of a plan inasmuch as it is due to lack of strength of the building block. In fact, the implementation problem can be traced to the overestimation of resources which in turn leads to over programming of too many projects to be sustained by available resources. Both the First and the Second Plans suffered from this limitation resulting in carryover of large number of schemes from one plan to another. The consequent time and cost over-runs delayed benefit from projects and probably, in some instances, turned some projects irrelevant to be pursued. During the Second Plan, for example, 452 schemes were dropped as they lost their importance in the face of reduced resource availability.

3. It is to be emphasized that a building-block is related to the overall framework not only through its claims on resources and the corresponding promise of benefit to the economy but also through the policies which underlie the success of projects and plan. A project however efficiently it may be implemented may fail to deliver the good if it lacks appropriate policy support. Fiscal anomalies and import competition are issues in point. It is this relationship between projects and policies which constitutes the third phase of successful plan implementation. Implementation of a project may be also affected by varieties of factors other than by the availability of resources such as lack of trained personnel, administrative rules, legal system (*e.g.* land acquisition) and above all, by the external conditions all involving national policies. A plan has to address all these at its formulation stage with a view to facing events rather than allowing events to overtake a plan.

4. As already pointed above the third phase of development administration is the macro-economic policy management. From the point of view of building-block it means adoption of suitable macro-economic policies to make such project productive. In this sense a plan really transcends its own time frame for a project created under a plan extends beyond the plan period in terms of its future benefit. It is this feature that gives planning process a continuity; but it is also least understood for the success of a plan is generally evaluated in terms of its final year targets, not by what will happen to the economy after a plan is successfully terminated. Such a view of a plan is parallel to an economy of point-input and point-output though in reality a plan because of investment requires decision now for output in future. The existing narrow view of plan success is an unfortunate result of target-orientation of plan. The paradox of such a view of development may be painfully brought by the over exploitation of non-renewable resources where growth may totally stop if such resources (*e.g.* gas) are exhausted in one plan period. This makes overwhelmingly clear the need for taking a longer view of development. A medium term plan (*e.g.* 5 year plan) should in fact be viewed as an integral part of a long-term (perspective) plan for efficient management of economic resources. In case of Bangladesh such a view is all the more important because there is no short-term solution to all the problems she is beset with. Accumulated problems of poverty, unemployment, illiteracy and above all, rapid population growth etc. all of them have accumulated over time so much so that they have in a sense become accommodated in the social behaviour. Because of this characteristic only sustained effort over a long period can overcome them. It is for this reason as well as for the reason that development process is a continuum that the Third Five Year Plan (TFYP) is viewed as a step in a long term development perspective. So planned economic management and development administration will have to concentrate on longer term issues rather than on short-term ephemeral crisis management.

5. The three phases of development administration are not only related to each other in logical sequences over time but their relationships are also interactive. This two-way relationship makes the various agencies involved in development administration from planning to implementation and to operation interdependent requiring to view them as constituents of a single system of economic management. Therefore, the efficiency of the system is as much dependent on developing and maintaining correct relationship among them as is important the strength of individual unit.

6. As a system public sector development administration should in turn be viewed in the totality of the government. It is often said that the success of a plan is contingent on the commitment of the government. Such a view has a historical origin. Since the concern of government for economic development is of recent origin relative to the classical, moral and welfare role of a government, it is not unusual to view development administration as something different from general administration, though socio-economic development is the major concern of the government and each of its agencies has some direct or indirect role to play in development. In fact, development gives material strength to the moral force of a government. Any separation of development administration from general administration is bound to be unproductive and even counterproductive. Therefore, TFYP looks on public administration as a whole.

Development of Administration

7. Since Independence development of public administration has passed through three distinct phases. First phase spreading between 1972 and 1975 constituted of rapid development of the administrative system. Three main forces determined the course of development in this phase. First, there was the inescapable necessity of the new nation state to transform the hitherto provincial administration into an administration of a national government with vastly expanded and intrinsically different sets of activities. Secondly, the new orientation of the economy created the need to build new institutions. Thirdly, transcending both the preceding arguments was the need of a national economy for accelerated development to meet the expectation of a liberated people. Cumulative effects of all these were the increase in the number of ministries to 27 in 1972 and increase of the number of industrial corporations from 3 to 9, mainly because of splitting of the provincial Industrial Development Corporation. This expansion of the public sector had momentous effect on the character of the administration. Public administration that was built up in the tradition of competitive examination in the past yielded to the need of the national government for professionalism in government for efficiency of economic management.

8. Subsequent events in the second phase starting in 1975 were largely related to the consolidation of the rapidly expanded administrative structure for improvement of its effectiveness. It followed the liberalization of the economy and expansion of the role of the private sector and involved a number of significant measures to improve the efficiency of public administration. First, number of small enterprises taken over by the government for absence of their management were disinvested in order to reduce the burden on public sector management. This enabled concentration of limited management resources on important areas. Secondly, corporations and ministries were restructured and grouped on the basis of their functional characteristics. The number of ministries were reduced to 24 and the number of public corporations were reduced from 155 to 109. Thirdly, the most important development of this period (1975—82) was the reorganization

of the service structure in the public sector on professional lines for promoting professional excellence in the public service; accordingly, all the public sector services were grouped into 28 cadre services. Finally, as a follow-up special emphasis was laid on training of manpower in individual services and new institutions were set up.

9. The most significant development in public administration took place after 1981 constituting the third phase. It was the phase of reform of public administration. Its far-reaching administrative reform consisted of decentralization of administration to the upazila (old thana) level and the establishment of upazila parishad (council) for local development. A number of functions of the national government having bearing on local development or on people convenience were transferred to the upazila administration. These comprised of both development and general administration.. Local level development activities were placed under the authority of the upazila parishad mainly composed of elected members, so that local level development would proceed according to the aspiration of local people and their felt needs. Besides this local thrust of the administrative reform, central administration also underwent structural changes. The basic theme of this change was that the main function of ministry was planning and policy formulation while the execution of policies and programmes was the responsibility of the field agencies (*e.g.* directorates and corporations). This laid down the ground rule for delegation of authority to the executing agencies. This phase also witnessed a substantial expansion of the role of the private sector under the declaration of new industrial policy which led to the transfer of a number of public sector enterprises to the private sector. The other important event was the adoption of a new compensation (salary and wages) policy for the public employees to reinstate their purchasing power which had been continuously eroding due to inflation since Independence. All these measures were taken to improve the efficiency of the public administration. In a sense the Third Plan begins in the background of a significantly improved public administration.

10. Paralleling administrative reforms and strengthening of development administration there also proceeded measures for macro-economic policy reform which actually started in 1975. Lingering resources constraint and changes in public policy toward the private sector brought about many adjustments in macro-economic policies in succession, which moved the economy increasingly towards the market economy with lesser and lesser institutional control. Macro-economic policy reforms included increased pricing freedom of public corporations and reduced price control on essential commodities; increasing participation of the private sector in the distribution of inputs; adoption of flexible exchange rates and import liberalization under the secondary exchange market (IP); credit and fiscal disciplines; etc. All these have the singular effect that the role of the government changed from elaborate direct control of the economy to greater reliance on macro-economic policy instruments. The ground rules for macro-economic management have thus fundamentally changed from what they were in the early years of Independence; the economy has moved away significantly from its unimodal character of early '70s to a bi-modal system in which both the public and the private sectors have important role to play—the government in the development of the critically needed infrastructures and basic industries and the private sector in production.. This fundamental change in the character of the economy has significant bearing on further development of administration in the Third Plan. It cannot be denied that these changes will need reorientation of the perspective of public administration from one controlling the economy to one of guiding the economy towards socio-economic goals.

THIRD PLAN PERSPECTIVE

11. Direction of future development of administration in the Third Plan has already been set by the development of three forces that are already in action. First, decentralization of administration and enlargement of the role of the private sector. They together mean existence of multiple decision centres, namely, the national government, upazila parishad and the private sector. This poly-centred decision making process will be strengthened as there will be even less direct intervention in the private sector. Secondly, as the Third Plan does not foresee any easing of strain on resources, resource management must be given still greater attention in future for the success of the Plan. Thirdly, as a logical necessity of multiple decision centres, particularly given the relative role of the private and public sectors, macro-economic policies will have to play much greater role than direct control during the plan period. Administrative development in the Third Plan will thus encompass three basic areas, namely, planning and policy management, resource management and project management.

Planning and Policy Management

12. The special committee set up in 1982 for administrative reorganisation fully recognized the necessity for reorientation of ministries toward policy making and planning. But in the event of more pressing problem of project implementation, not much improvement has taken place in the area of planning and policy development. In this direction only two ground level steps could be taken; first, establishment of management guide delineating the duties and responsibilities of senior officers and secondly setting up of management information system with computer facilities in some of the ministries and agencies. Though manpower training in management and development was extensively followed the weakness in planning and policy making is still palpable from the courses of economic events. During the Second Plan changes in macro-economic policies have taken place, but they were largely characterized by many discrete steps; as such, they developed lack of proper articulation to the need of the economy. There are many instances of anomalies in economic policies in various sectors adversely affecting each others' goal. Such policy conflicts have two potential sources. First, often policies are pursued for multiple objectives for neutral economic policy promoting a single objective without any secondary effect is hardly conceivable. Secondly, all the macro-economic policy reforms of the past were effected in steps in different sectors and in isolation of each other, though during the Second Plan a study was taken to develop a comprehensive and consistent trade and industrial policy (TIP). Various analytical parts of the trade and industrial policy study are expected to be integrated into a macro-economic framework by the end of 1985.

13. The main reason for this state of policy planning was that the past plans made no explicit formulation of policies within their technical framework to support their planned objectives. As such policies were left to evolve over time in response to emerging economic conditions, often leading to compromises of national goals. The main weakness of such evolutionary process is that it does not necessarily lead to consistent policies which taken together, may prove costly and incompatible in a more open economy.

14. Keeping the recent developments in view the Third Plan foresees an economic framework that is more market oriented than the preceding ones which largely focussed on production and investment. The Plan has therefore, explicitly accommodated in its framework a number of macro-economic and sectoral policy tools which will give the

government a choice to influence the course of economic development. Further, since the primary objective of the Plan is poverty alleviation a social accounting matrix consisting of 10 socio-economic groups of households has been built in the Plan to assess the impact of investment and public policies on each one of them on an annual basis. Thus the Third Plan has significantly moved away from normative planning of production and investment to policy planning so that production plan is realized in a socially desirable way. Being so, it will enable formulation of a mutually consistent set of policy parameters in relation to objective goals and realities.

15. Given this framework the future development of administration will need to concentrate on strengthening a three-way relationship between the line ministries as policy makers, statistical organisation for information feed-back and the Planning Commission for ensuring policy consistent. The coordination of policies between the line ministries and the Planning Commission will be of critical importance because no two policies are mutually exclusive in their effects and policy is completely neutral in character in an economic system. As sectoral policies may have effect on other sectors they will require to be assessed in their intersectoral relationship within an overall macro-framework. On the other hand, it is to recognise, no policy can be sound unless based on scientific analysis of facts for which, in turn, the ministries and the Planning Commission will have to depend on strong and prompt support of the Bureau of Statistics for timely supply of reliable data. As the economy of Bangladesh has significantly moved away from the controlled regime into a world of greater uncertainty than in the past, analytical capabilities of the ministries will have to be strengthened for formulation of policies in various spheres. Such improvements should cover each field of discipline, from research to economic analysis as tools for scientific management of the economy and development of internal management information system. Toward these needs, Planning Cells existing in different Ministries will need to undergo qualitative change to handle policy problems. This will also strengthen their present project preparation and programming activities.

Resource Management

16. The main constraint on the development of the economy is the scarcity of resources, particularly domestic resources. The history of the First and the Second Plans amply demonstrates the critical situation in this respect, as the size of both the Plans had to be substantially reduced for lack of resources. Recent efforts in the area of resource management covered both resource mobilization and resource use. For mobilization of domestic resources two different sets of policies were pursued on both the public and private sectors. Private sector measures consisted of fiscal and monetary incentives and issue of new financial instruments like deposit certificates; in the public sector they covered subsidy reduction, price adjustments and fiscal measures. But their overall effect measured by the national saving rate was less than envisaged in the Second Plan, only 7% against the planned target of 11·2%. Though external conditions inhibited the growth of saving, it is difficult to say that efforts were optimal or fully effective. In the government sector efforts compromised administrative issues as in case of land tax and shift in fiscal policies increasing concessions to the private sector. The result was that tax-GDP ratio increased from 8·0% in 1979/80 to 8·2% only in 1984/85 against the planned target of 9·5%. During second half of the Plan there was greater emphasis on price adjustments in public sector goods and services including subsidy reduction; even then, public sector revenue increased from 9·7% of GDP in 1979/80 to 10·6% in 1984/85.

17. There is no question that during the Third Plan efforts for domestic resource mobilization will need to be accelerated to meet its demand of Tk. 17,572 crore in domestic resources. In this venture financial institutions including insurance companies will have to be more responsive to their role for saving mobilization. During the Second Plan some satisfactory developments took place ; *e.g.* setting up of private banks and insuarance company and reactivation of the Dhaka Stock Exchange. This momentum needs to be maintained over the Third Plan.

18. In the public sector resource mobilization efforts continue to be limited by multiple objectives. There is on one hand the need for expansion of public goods and services (*e.g.* power, roads, education, health, etc.) and on the other hand, the welfare claims and the need to provide incentive to the private sector. But it is important to recognize the fundamental conditions for expansion of welfare and development of the private sector that without economic development no welfare policy can be sustained for long and without development of public goods and services such as roads and power private sector cannot grow steadily. Thus, public resources have a critical role to play in the overall socio-economic development of the country and the public institutions engaged in the mobilization of domestic resources and in the development of public goods and services will need to be given due importance in development administration.

19. Public sector resorces mobilization rests with government and public sector institutions. The main government institution NBR, collecting various taxes will need further strengthening in line with the recommendations of the Taxation Enquiry Commission (1976—78). The organisation of NBR will also need to adapt itself to the demand of the economy requiring a shift in tax structure toward domestic output and concentrate its administrative resources on more productive areas of the domestic economy. All these will however require greater emphasis on fiscal research to identify potential areas of taxes and consequent improvement in tax-information. The latter improvement is also necessary for control of public expenditure within available resources.

20. Resource management in the Third Plan will have to be specially focussed on resource use for it is on the efficient use of resources that development of the economy depends. Viewing government resources as a part of national resources, it is all the more necessary that any transfer of resources through the tax system is justified by their efficient use in the public sector. Here the problem begins with investment decision for a wrong decision can never be retrieved, though can be reversed at some cost. The experiences of the Second Plan vastly amplify this problem. As the building-block of a plan its choice is crucial to the success of a plan as discussed at the beginning of this chapter. The past failures of investment decisions in the public sector with their low or negative rate of return or in the private sector leading to immobilization of credit institutions will require redirection of this phase of development administration from just expenditure planning to planned development. Investment decision, it is recognized, has become more complex in recent years in a world of economic transition than is usually appreciated. As the economy has become more market oriented than ever before investment decision has to depend on market conditions and any normative variation must be supported by proper policies in order to influence the market. Both investment decision and policy decision will call for greater concentration on market information, analysis and research.

Project Planning and Processing

21. In investment decision project planning is recognized to be the weakest point. In spite of some improvements, it continues to suffer from too much time consumption.

It is not unusual under such condition to find investment decision preceding project planning. This has two undesirable consequences on the nature of the building blocks of a plan. First, as the preferences of aid recipient and donor are not necessarily coincidental, national interest may not be fully reflected in investment decision. That national need should determine aid is more often said than realized. If project planning follows from a prior investment decision, its design and cost though the investment decision is correct, may not be correct from national point of view. That such experiences were not far to seek in the past created great concern in the Second Plan and led to the reformulation of procedure for project planning and processing. Though planning time has been reduced, the current situation does not appear to be fully satisfactory as project planning technique continues to be underdeveloped from the point of the planned objectives. Projects as are formulated now do not critically address such basic issues as technology choice, employment impact and social profitability ; as a result, projects are set up where technology is incompatible not only with resource endowments but also with available technical skill for operation and maintenance and inconsistent with objectives of employment and equity. Project chosen on a prior or on normative consideration than on economics of its product market suffers most from distortions in respect of technology, cost-effectiveness, operation and, ultimately, in respect of social impacts. This state of affairs a poor country like Bangladesh cannot afford in a world of increasing resource scarcity. Given the Third Plan objectives there are several possibilities for improving project formulation: first, to focus project formulation on essential issues such as technology, employment, income distribution and investment and profitability rather than on plethora of minor details ; secondly, to develop in-house capability for project formulation based on objective realism in order to reflect national preference ; and finally, undertake project preparation before aid ovetakes it. In developing in-house capability on a continuous basis it is to well-recognize that while monopoly is generally inefficient, monopoly of knowledge is even worse and that while everything undergoes obsescence, knowledge suffers even faster. This in-house capability development should focus on optimal use of national experts and depend on expatriates not as substitute but for augmentation of local knowledge. Further, as an extreme case, where expatriate consultancy is needed for a feasibility study, a technical committee consisting of national experts from inside and outside the government should be set up to follow such study from preparation of terms of reference to acceptance of feasibility report. This will eliminate second guessing currently existing in project planning and thereby avoid unnecessary delay. In this respect serious consideration may also be given to setting up of a national techno-economic consulting institute with an outlook which may extend beyond the need of the country. It will ensure critical examination of economic and technical feasibilities of projects on a consistent basis from the point of national need.

22. The present state of project planning following a prior investment decision has also resulted in acute shortage of 'bankable' projects for the Third Plan. This is a paradoxical situation given the ever bulging pipeline of project aid. The estimate for project aid pipeline at the end of the Second Plan was $ 4,395 millions; this is about 7 to 8 times the level of annual disbursement : as such it may be viewed as aid fatigue. There is no question that relative to the pipeline the current level of disbursement is low. In 1979/80 the ratio between pipeline and disbursement was slightly over 4 ; after that year disbursement suffered due to inadequate local resource, to mitigate which efforts were made for mobilization of domestic resources and inclusion of

local cost component under project aid as saving-investment gap continued to constrain the economy more than export-import gap. The alternative to these efforts is foregoing new commitment of aid. It is to emphasize that aid in pipeline is already committed to existing projects and absorption of further aid will need new projects. In the Third Plan project preparation will therefore not only need qualitative improvement to reflect national preference but also will need to be accelerated to absorb fresh aid. Both these needs can be satisfied by undertaking project preparation ahead of aid inflow. The guiding principle for the Third Plan is : it is the project that should seek aid, not aid seeking project.

Project Implementation

23. Building project aid pipeline is obvious symptom of slow implementation of projects. Besides the overall local resource constraint, many other factors starting from the inverse relationship between aid commitment and project status (*i.e.* prior commitment of aid) and consequent programming problem to field conditions affected the pace of project implementation in the past. Because of dissatisfaction with the declining ratio of project aid disbursement during the Second Plan, project implementation received the greatest attention of the government among all the phase of plan implementation during the second half of the Plan and tirelessly efforts were directed to improve it. Such efforts consisted of reduction of the number of schemes in the Annual Development Programme (ADP) and their classification into core and non-core programme as a cushion against unexpected shortfall in resources ; liberalisation of fund release procedures and delegation of expenditure authority; improvement of customs duty and sales tax (CDST) procedure ; streamlining of land acquisition procedure within the rule of law, etc. It appears that given the stringent resource condition they have produced some improvement in project implementation. Annual rate of project completion increased from 140 in the second half of 1970s to 208 during the Second Plan. But this improvement in project implementation has not been steady from year to year ; rather it shows a jerky development. About 1039 projects including ATAP and self-financing projects were completed during the Second Plan and out of which 323 were completed in 1984/85.; such terminal year bunching is also seen in Two Year Plan. Out of the total 473 projects completed during Two Year Plan, 357 were completed in the terminal year (1979/80). Such bunching of completed schemes shows lack of steady improvement in project implementation and the terminal year rush reflects lack of adequate awareness about importance of project implementation.

Operation and Maintenance

24. While slow implementation of projects means delayed benefit, any slack in operation and maintenance inflicts more severe sacrifices of attainable benefit. Domestic resource constraint has in fact imposed greater sacrifices on operation and maintenance than on development in the short run, but in the long run the burden fell on development inhibiting further domestic resources. The operation and maintenance problems are inherent in the public sector in general. Because of lack of operational plan in an evergrowing market limitation affecting cost and price, many public corporations and agencies failed to maintain their liquidity position and therefore provide for proper maintenance of assets. This led to the replacement of assets through the Annual Development Programme. Since capital consumption and capital replacement are not coterminous, planned investment is always taken as gross investment. So replacement of asset through the Annual Development Programme is natural ; but what is disquieting is that not all of such replacement is funded out of depreciation fund. In view of this capital consumption

underlying replacement programme, a decision was taken that replacement should be made out of retained earning of corporations ; but corporate contribution to the exchequer has never equalled total cost of replacement partly due to provision of depreciation on historic cost basis and partly due to servicing of initial loan out of depreciation and retained earning. As a result, in a state of low yield, maintenance of assets suffered in the corporate sector. It suffered grieviously in the government sector all the more as social assets (infrastructures) for some reason tend to follow productive assets in preference. The operation and maintenance of infrastructures like roads, schools, government buildings, embankments etc. suffered most because of the pressure on the revenue budget for contribution to the development budget. But such resource squeeze has also squeezed out maintenance such that assets were allowed to gradually degenerate to reappear as replacement in development programme. Thus what is contributed annually to the development programme by disclaiming their maintenance is taken out by their replacement probably costing more to the economy as inadequate maintenance of assets also reduces their benefit. Its implication is rather serious as the development budget has become increasingly a replacement budget. So the problem of operation and maintenance is great concern for the development planning. It will be more meaningful to maintain existing assets regularly rather than create asset which cannot be properly maintained and to have a development budget that reflects really development effort rather than accumulated maintenance cost. While there is a rational view of the relationship between development and maintenance it is also to emphasize that cardinal principle of asset creation to its replacement is its productive use and charging individually or collectively for such use ; so a maintenance programme has to be self-financing also through pricing of services and taxes.

Decentralization of Administration

25. The most significant development in public administration during the Second Plan was its decentralization to the Upazilas, previously known as Thanas in order to make public services available to rural people. In pursuance of this objective the number of rural Upazilas were also increased so that people have easy access to those services. Parallel to this process of decentralization the development process was also brought to the grass-roots level by the establishment of Upazila Parishad (Council) consittuted of elected and nominated members with authority on local development programmes so that such programmes could originate at grass-roots level to reflect people's needs and aspirations. Accordingly, a number of development subjects were transferred to the Upazilas and correspondingly, Upazila level field staff of the line ministries were deputed to the Parishad alongwith their budget allocations and uniform administrative support to all Upazilas was provided for. For their proper functioning the national government also undertook development of basic infrastructures like buildings, roads, communication facilities, etc. This fund is allocated by the National Implementation Committee on Administrative Reform (NICAR) over different types of infrastructure development. The Government also gave grants-in-aid to the Parishads for undertaking development work. To ensure that such development works fit in national development perspective but at the same time could reflect local priorities, a guideline was issued for use of grants-in-aid. The guideline consists of two basic features, namely, the range for variation of development expenditure under various activity heads and the criteria for allocation of fund to different Upazilas depending on their characteristics. Though in the initial years allocation was made on a uniform basis, in future allocation has to reflect characteristics of Upazilas. To ensure that guideline is followed, development expenditure is being monitored by the Deputy Commissioner at the field level and by the Planning and

Evaluation Cell of L.G. and R.D. Ministry at the national level. Further to ensure the development programmes conform to national perspective, Upazilas are to produce Upazila Development Plans which are monitored by the Planning Commission. Lastly, to ensure full support from the line ministries, senior officers of the national government are required to visit their assigned Upazilas periodically. During the Second Plan the national government spent Tk. 525·30 crore for development of physical infrastructures and provided Tk. 370·95 crore as grants-in-aid for development works of the Parishads. In addition, Food for Work Programmes of 8·45 lakh tons of food, equivalent to Tk.350·83 crore were crarried on through the Parishads during 1983-85. The Government has also authorized Local Parishads to collect some taxes.

26. The Third Plan has allocated Tk. 1000·00 crore for further development of physical infrastructures at Upazila level and Tk. 1250·00 crore for development works of the Parishads. In addition, around 25 lakh tons of food is likely to be distributed through the Food for Work Programme (FFWP). The Government has also decided to carry some of its national development programmes through the Local Parishads where such programmes have independent local component. This programme, it is to point out, is also becoming increasingly development oriented. There is no question that such accleration of activities at the Upazila level has several implications from the point of view of effective use of resources. These are : need for improvement of technical competence of the Upazila level staff and technical support from national level agencies in the preparation of projects and plans; development of community level Upazila statistics and their continuous updating; close monitoring of development expenditure without inhibiting local initiative; impact analysis in terms of local level socio-economic developments and consequent need for changes in the guideline, budgeting techniques and roles of various agencies; and above all, motivation and peoples' participation. Bureau of Statistics is developing Upazila level statistics covering production and socio-economic infrastructures; but as the society progresses they also will need updating. However, since the Third Plan's primary objective is poverty alleviation such statistics should be focused on community level statistics, *e.g.* statistics on employment, participation in Food For Work Programme and family planning, school enrolment, etc.

27. Local level development is not an easy process in a traditional society. The decentralisation of administration and establishment of the Upazila Parishad have only provided the initial conditions and the development that has taken place since their establishment is nothing compared to the state of the rural economy; nor should much be expected over such a short period since their coming into being. It must be understood that local government has to develop as a tradition. In a parton-client society it is going to be difficult; it is also to recognise that no change can take place in the rural society in isolation. The thrust on Upazila administration interfaced with Upazila Parishad has definitely broken that social isolation. What is now important is to motivate people to take full advantage of this historic opportunity to initiate a change of their choice in the society. To help that process both the Upazila Parishad and Upazila administration staff members will need to foster a planned development with full participation of people.

CHAPTER VII

DEVELOPMENT OF THE PRIVATE SECTOR

REVIEW OF PRIVATE SECTOR INVESTMENT

Since 1975 the role of the private sector in economic development has changed significantly. The policy of the first national Government restricted the scope of private investment to small industries only; but under exigency of situation the investment ceiling was raised from Tk. 25 lakh to Tk. 3 crore (in July 1974) and to Tk. 10 crore in 1975 to enable the private sector to participate effectively in national economic development within the broad framework of Presidential Order No. 27 of 1972 which decreed the nationalization policy. Before the turn of the decade investment ceiling was totally withdrawn, moratorium from nationalization policy was declared and finally withdrawn and new areas of investment were opened to the private sector. On the other hand, due to growing pressure of development programmes on financial and management resources of the public sector, numerous small enterprises taken over by the Government for keeping them going after Independence were disinvested increasingly. Although these changes took place gradually in response to changes in socio-economic condition, yet they set a trend of natural awareness about the importance of the private sector in economic development. This trend is clearly reflected in the fact that under successive plans allocation to the private sector increased. The allocation to the private sector was 11% under the First Plan (1973—78); it was raised to 16% under the Two Year Plan (1978—80) and further to 35·5% under the Second Plan (1980—85). Private sector also responded actively to the expanded role that it was called upon to play under the successive plans. During the First Plan estimated private investment was Tk. 436 crore at 1972/73 whole sale prices (Tk. 887 crore at current prices) against the Plan allocation of Tk. 503 crore; *i.e.* 86.7% of the planned target was achieved in spite of stringent monetary and fiscal measures introduced in 1975. Under the Two Year Plan an amount of Tk. 957 crore was realized in real terms (at 1977/78 wholesale prices) against the allocation of Tk. 600 crore. This over fulfilment of its investment target by the private sector resulted in more than doubling of the share of the private sector in planned investment under the Second Plan, from 16% to 35·5% in a much bigger plan size. Average annual in private investment target under the Second Plan was set at Tk. 900 crore (at 1977/78 wholesale prices) against Tk. 300 crore under in TYP. In spite of this 3-fold increase private investment target under the Second Plan, 81·5% of the planned target of Tk. 6,100 crore was realized, estimated investment being Tk. 4,969 crore.

2. In the following table the comparative position of private sector investment in the successive 3 plans is shown :

TABLE 1

Comparative Position of Private Investment.

[*Tk. in crore*].

	First Plan (1973—78)	Two Year Plan (1978—80)	Second Plan (1980—85)
(1) Plan Allocation (At base year prices) ..	503	600	6,100
(2) Investment (At 1972/73 prices)	436	420	1,772
(3) Average Annual Investment (At 1972/73 prices). . .	87	210	354

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3. The table shows a very substantial growth in private investment from one plan to another due to expansion of opportunities for private investment alongwith progressive liberalization of official control on the economy. Reform of official policy proceeded simultaneously in agriculture and industries. In agriculture the policy reform started with withdrawal of the Bangladesh Agricultural Development Corporation from distribution of pesticides in late Seventies and later in the middle of the Second Plan from retailing of fertilizer in favour of private distribution. During the Second Plan private sector was inducted in the distribution of irrigation equipment. Even in case of such important item as food private trade was encouraged by suspension of anti-hoarding law and open market sales of foodgrain to traders from government stock. All these had positive effect on the development of agriculture sector through expanded use of modern inputs.

4. The most significant policy reform took place in the field of industry in June 1982 when the Government announced a New Industrial Policy. The new policy (NIP) provided for the transfer of nationalized jute and cotton textile mills to their local owners. This was a momentous step compared with any earlier measures. In addition, NIP expanded the scope of private investment to all industries except for six areas namely, arms and ammunition, atomic energy, telecommunication, air-transport, generation and distribution of electricity and mechanised forestry which were reserved for the public sector. Thirteen sectors were defined as Concurrent List where both public and private investments are admissible. To facilitate private investment approval and loan disbursement procedures were simplified with time limits on approval of investment proposals and sanction of loans. To promote balanced regional development through promotion of small industries authority for approval of investment and loan proposals was decentralized to regional offices. For coordinated decision and reduction of administrative layers 'One Stop Services' Centre was set up for processing of industrial projects.

5. Following the introduction of the NIP a large number of jute and cotton textile mills were denationalized to give a boost to the private sector. By June 1985, 33 jute mills with 9578 looms and 27 cotton textile mills with 4·97 lakh installed spindles and 4771 looms were divested (either returned to former owner or sold out by auction) to private sector. This significantly improved capacity utilization.

6. The policy changes providing for a growing role for the private sector logically extended to foreign private investments. The Foreign Private ment Invest (Promotion and Protection) Act of 1980 was drawn up to promote foreign private investment either directly or in collaboration with local investors with the objectives of transferring modern technology and management skill and balance of payments improvement. The Act provides for protection against non-business risks, repatriation of profit and capital and compensation for nationalisation.

7. Besides, liberal terms and incentives have been made available to foreign investment in the Chittagong Export Processing Zone (EPZ). Foreign enterprises can be set up there to enjoy 5 year tax holiday and complete exemption from customs duties.

8. Fiscal and monetary incentives have been expandedly used to stimulate private investment. An important step in this direction was taken in the second half of 1970s when import duties on machinery and tax holiday period were differentiated on the basis of 3-way regional classification, namely, developed areas, development areas and

priority development areas. Important duties on machinery for priority development areas were set at 2·5% and 5% for development areas, against the normal rate of 15%. Under NIP this classification was reduced to two, less-developed areas and developed areas having two rates of 2.5% and 15%. This is likely to minimize misuse of the facilities. Secondly, tax holiday period was 9 years for less-developed areas and 5 years for developed areas. Thirdly, to protect foreign currency loans against the risk of exchange rate fluctuations as well as to provide relief to the existing borrowers of long-term foreign currency loans from the burden of adverse impact of exchange rate fluctuations, Exchange Rate Fluctuation Burden Absorption Scheme (EFAS) was introduced in July, 1983 and an insurance premium of 2.5% was fixed. Other monetary and fiscal measures taken were interest discount on export credits (9% since July 1983) and provisions for up to 90% of working capital requirements for export industries, introduction of notional duty drawbacks for export, interest free 90 day bank credit against duty drawback, reduced income tax on export, etc.

9. To support private sector a number of institutional developments also took place. First, private sector was allowed to set up 100% locally owned commercial banks and insurance company. Three such commercial banks and one insurance company (National Life Insurance Company Ltd.) were set up during the Second Plan. Besides, two industrial promotion institutions were set up on joint-venture basis. They are Industrial Promotions and Development Company (IPDC) in which four international development finance institutions such as International Finance Corporation of World Bank, Commonwealth Development Corporation of U. K., German Development Comapany (DEG) of the Federal Republic of Germany and Industrial Promotion Services of Switzerland are associated and the Saudi-Bangladesh Industrial and Agricultural Company. Arrangement was also in progress to set up an Industrial Development Leasing Company (with 45% foreign share) to finance procurement of capital equipment by way of leasing of capital equipment to the potential investors.

10. As a result of these improvements in policy environment, private investment picked up significantly as shown in Table—2. As regards its pattern of distribution over various sectors agriculture continues to dominate, accounting for over one-third of private investment during the Second Plan against about one-tenth share in the earlier period. This reflects the thrust of the Second Plan on the agriculture sector, particularly on food production. One important source for accelerated investment in the agriculture sector was the phenomenal increase of agricultural credit from Tk. 269 crore in 1979/80 to over Tk. 1000 crore in 1984/85. Another one-third of private investment went to construction of buildings, houses and shops during the Second Plan showing some decline in share. Industries sector absorbed about one-sixth of private investment against over one-fifth in the previous plan period in spite of the fact that per annum investment doubled over the Two Year Plan and increased 5 fold over the First Plan in nominal terms. The

sector-wise break up of private investment during the Second Plan is shown in Table-2 below :

TABLE 2

Estimates of Private Investment during Second Plan (1980-85)

[Tk. in crore]

Sectors	1979/80	1980/81	1981/82	1982/83	1983/84	1984/85	Total (1980/85)	% of Total
(i) Agriculture ..	200	257	315	435	682	777	2466	(36%)
(ii) Manufacturing	170	210	226	223	254	211	1124	(16%)
(iii) Physical Planning and Housing.	164	188	124	144	347	449	1252	(18%)
(iv) Transport ..	115	168	193	155	170	239	925	(14%)
(v) Trade and other Services.	150	173	190	210	231	301	1105	(16%)
Total :								
(a) At current price.	799	996	1047	1167	1684	1977	6872	(100%)
(b) At 1979/80 constant price.	799	924	863	911	1132	1139	4969	..

Note : Deflated by wholesale price indices of 1979/80.

11. During 1980-85 sanctions for private industrial investment increased to Tk. 3,386 crore from Tk. 882 crore in the preceding five year (Table-3); actual industrial investment was however only one-third of the sanctioned amount of Tk.1124 crore falling short of the planned target of Tk. 1769 crore by 36.5% though it was over two-and half fold as large as that of the earlier 5 years. Private sector industrial investment was affected by low disbursement of industrial loans by the two development finance institutions, namely, Bangladesh Shilpa Bank (BSB) and Bangladesh Shilpa Rin Sangstha (BSRS) as they experienced severe liquidity problems due to problem of recovery of old loans and consequent freezing of foreign loans in the final year of the Plan. Sanction of foreign private investment amounted to Tk. 299 crore only during the Second Plan compared with Tk. 103 crore invested during 1973—80, in spite of substantial policy improvements.

TABLE 3

Sanction of Industrial Investment of Private Sector during the Second Plan (1980—85)

[Tk. in crore].

Year.	Number of Projects Sanctioned.	Amount of Sanction	Sanction to Foreign Private Investment.	Disbursement of Industrial Credits to Private Sector.
1980/81 ..	1740	668	36	153
1981/82 ..	607	288	13	106
1982/83 ..	636	374	106	137
1983/84 ..	2503	1118	118	135
1984/85 ..	5505*	938	26	114
Total (1980-85)	10,991	3386	299	645

*Includes 2280 units of cottage industries.

Problems of Industrial Finance

12. With the increasing liberalization and privatization of the industrial sector, role of the financial institutions in channeling financial resources to most efficient areas have become more important. Term loans for industrial financing for private sector is carried out primarily by Bangladesh Shilpa Bank (BSB) and Bangladesh Shilpa Rin Sangstha (BSRS). In recent years, Bangladesh Krishi Bank and the commercial banks also started providing industrial loans mostly to small industries, though the commercial banks are mainly involved in lending for working capital. The BSB and BSRS have been facing severe liquidity problems since independence, due to non-recovery of loans. At the time of launching the Second Plan overdue loans of BSB and BSRS were Tk. 141·6 crore and Tk. 74·9 crore and during the Second Plan the amount increased to Tk. 219·8 crore and Tk. 325·0 crore respectively. Most of the overdue loans are due from the private sector, Tk. 212·0 crore in case of BSB and Tk. 283·3 crore in case of BSRS. Cash recovery rate of BSB shows a steady deterioration from 28% in 1980/81 to 14% in 1984/85 while that of BSRS from 10% in 1980/81 to less than 5% in 1984/85. Since without industrial loan private sector cannot develop the choking of institutional finance as a result of non-recovery of past loans will remain a serious constraint on the development of the private sector and achievement of the Third Plan targets entrusted with the sector.

13. A number of factors contributed to the present state of industrial credit. First, overall economic conditions since Independence had a debilitating effect on the private sector. If a comparison is made with the public sector, it is to be found that even in the public sector financial situation was not a happy one as most of the public corporations had been running on loss. Since 1974/75 till the end of the Two Year Plan combined financial performance of the six Industrial Sector Corporations returned loss every year except in 1979/80 and only two corporations, Sugar and Food Industries Corporation and Steel and Engineering Corporation returned profit on an annual basis. During the Second Plan together they suffered loss so much in 1984/85 that previous profits were wiped out. It is fair to recognize that since Independence economic conditions both at home and outside had not been congenial. Secondly, the noneconomic environment also created problem and contributed to a general decline in financial discipline and allowed low quality investment portfolio to thrive. It will not be strong an observation to make that while government wanted to expand the role of the private sector in the development of the national economy the individual choice was misplaced. This is evident from the fact that 87·7% of the overdue loan to the private sector arose during the Second Plan in case of BSB; the percentage of BSRS was 72·6%. In short, the problem of overdue loans is the product of general economic condition and lack of financial discipline.

14. In order to improve lending operations of the DFIs as well as to enable them to operate on sound banking principles, a number of measures were initiated in the final year of the Second Plan to improve recycling of funds. They include adjustment of past loans for exchange fluctuations, rebate on interest and waving of penal interest and reduction of downpayment for rephasing of overdues; on the negative sides, some measures were also taken such as stopping of working capital facilities from banks and withholding of import licenses to defaulting borrowers. On the other hand, to bring discipline in their operations the two DFIs were reorganised on functional basis. Accordingly, the restructured BSB will function as the primary lending institution and the restructured BSRS will continue to limit its operation to its present porifolio with a view to gradually moving towards an institution that will supply technical and management services to industrial enterprises and concentrate on industrial promotion, research and consultancy services.

Private Investment in the Third Five Year Plan

15. Consequent upon the shifts in economic policy effected during the last decade, private sector has come to play a leading role in Bangladesh economy in spite of various limitations and shortcomings. Taking the enervating effect of the general socio-economic environment into consideration it is still felt that the private sector has a historic role to play in national economic development. Since as discussed already, the problem of the private sector is mainly traceable to the socio-economic conditions, improvement in its performance will depend on the improvement of environment and, therefore, on the management of the overall economy. An important condition that the Third Plan will strive to ensure is to reduce direct interference with the economy to the minimum so that allocation of scarce financial and entrepreneurial resources is based on efficiency rather than on non-economic consideration. The economy has already moved in this direction as a result of continuous reduction of official control and movement towards the market economy. The Third Plan will strengthen the process by increasing the role of the private sector, on one hand, and increasing substitution of direct control by indirect control through macro-economic policies reforms on the other. The Plan thus emphasises a greater reliance on policy planning than before to ensure a harmony between social and private goals. The instruments that it will emphasize over the period 1985—90 are fiscal and monetary policies.

16. The Third Plan envisages an investment outlay of Tk. 13,600 crore for private sector which is about 35·2% of the total planned outlay. This is an indicative investment allocation and the Third Plan will be flexible in making room for greater private sector participation, if situation will warrant. In making this allocation the Plan recognizes that actual investment will depend on the investment climate, macro-economic policies, domestic and external economic environment and above all on the entrepreneurship of the private sector. Opportunities of private investment have already been expanded under NIP and liberal incentives are being given to stimulate private investment. Further provision has been made for direct foreign investment and joint venture with equity participation. To achieve the intended private investment Government would play a catalytic role by providing basic support services such as electricity, gas, transport and tele-communiction. Government has also taken steps to promote financial institutions in the private sector. On the other hand, it is to stress that it will be absolutely essential for the private sector to earn the confidence of the society though its goals need not be coextensive with those of the society for ultimately it is the national economic development that is the objective of both the private and public sectors. But it is the responsibility of the macro-economic policy makers to ensure the harmony between the goals of the two sectors.

17. The major sector-wise allocations are shown in Table 4. About 33% of the private sector investment is likely to be realized in agriculture, 24% in manufacturing, 27% in physical planning and housing, 11% in transport and the rest in others :

TABLE 4

Projected Private Investment
(1985—90)

(Tk. in crore)

Sector	Investment	Percentage
(1) Agriculture	4400	32·4
(2) Manufacturing	3200	23·5
(3) Energy Development	500	3·7
(4) Physical Planning and Housing and Commercial Constructions.	3650	26·8
(5) Transport and Communication	1500	11·0
(6) Education, Health, Population and other Services ...	350	2·6
Total ...	13,600	100·0

18. **Agriculture :** During the last decade privatisation of agricultural input distribution and irrigation has gone a long way. The process will deepen further during the Third Plan. An order of Tk. 4400 crore or one-third of the total expected private investment is expected to be invested in agriculture during the Plan period on account of irrigation equipment, draft power, land development, construction of water structures, farm houses and fisheries development. Realization of this investment target will depend on the provision of institutional credit as majority of farmers are of small means.

18.1 Consequent upon higher credit programmes and improvement in disbursement procedures, agricultural credit expanded significantly during the Second Plan. It rose from Tk. 269 crore in 1979/80 to Tk. 1131 crore in 1984/85, though it accounted for only 7·4% of gross value of agricultural output and 13% of loans and advances issued by various financial institutions. As in industries there is also the problem of outstanding credit which increased to Tk. 1736 crore at the end of 1984/85 from Tk. 368 crore in 1980/81 and overdues from Tk. 62 crore toTk. 506 crore in case of Bangladesh Krishi Bank. Accumulation of this large overdues of farm credits has an avdverse effect on the credit base in the way of expanding future credit programme. As a singular factor, the rapid increase in the disbursement of agricultural credit during the Second Plan period led to the worsening of the level of recoveries. The recovery as percentage of outstanding loans declined from 36% in 1980/81 to 21% in 1984/85 partly due to its less efficient use and leakages, and administrative weaknesses but mainly due to successive loss of crops by farmers due to floods and droughts. High risk and poor recovery of agricultural credit have led the lending agencies to rely heavily on agricultural refinancing from Bangladesh Bank. It is in the ultimate interest of agricultural development as a whole that recoveries will need to be brought to a satisfactory level. To improve the situation, loan administration has to be geared up through intensive supervision and continuous monitoring of loans, and making credits more market oriented

than mandatory which lies at the bottom of inefficient administration of credit. Special measures will have to be taken to improve recovery of overdue loans. The whole process of agricultural credit has become a substiution of commercial credit by official credit and risk by guarantee. Demoralization of institutional credit has, in fact, become universal issue and this will need to be addressed punctiliously throughout the Third Plan. For closer supervision and control over agricultural credit in meeting the need of farmers of the different regions of the country, three more separate indopendent Krishi Banks, one each in Khulna, Rajshahi and Chittagong Division will be set up. In the first phase a new Krishi Bank at Rajshahi Division will be established in 1985/86.

19. *Manufacturing* : As the role of public sector has been limited to six basic categories of industries, industrial development of the country will depend on the private sector. So the Third Plan has made a greater allocation of Tk. 3200 crore to the private sector against Tk. 2600 crore to the public sector. Industrial investment will be fostered through policy instruments like fiscal and other incentives rather than regulatory measures. Accordingly industrial investment schedules will be used as comprehensive information guide to potential entrepreneurs and lending agencies rather than as instruments of control. The schedules will also play effective role in bringing about proper linkage between large and small industries. The Industrial Investment Schedule (IIS) will include a negative listof industries which will not be eligible for private investment. To facilitate the objective of the Third Plan for reduction of unemployment, more emphasis will be given for promotion of agro-based rural industries and consumer industries.

19·1 To promote balanced regional growth through dispersal of industries new growth poles in less-developed areas with necessary infrastructure will be created. Such industries will be promoted through liberal tax concession and easier credit for purchase of machinery will be made available to them. In view of recent administrative decentralization, industrial growth centres will be created in the new districts to promote dispersal of industries. Also preparation of a separate IIS will be considered for less-developed areas and industries included in the schedule will not be allowed for other areas. Existing promotional institutions will be reorganised to provide effective institutional support to the potential entrepreneurs and the DFIs will be strengthened to ensure necessary supply of industrial term-finance to entrepreneurs. The Investment Corporation of Bangladesh will primarily act as the mobilizer of industrial credit through its various funding techniques. The question of setting up an equity participation fund will need to be seriously examined early. The industrial sector corporations should also encourage private investment under co-sponsorship. To overcome marketing problems of the small entrepreneurs group marketing house or marketing cooperatives should be organised by Small & Cottage Industries Corporation and Handlooms Board. Lastly, to maintain stability and industrial peace in the private sector labour policies will be pursued to ensure cordial labour-management relationship and increasing participation of labour in the management decisions as an improtant interest group.

20 *Transport and Communication* : During the Second Plan the share of private sector in mechanised vehicles transportation increased from 79% in 1979/80 to 87% in 1984/85 in terms of number of vehicles. The transportation development will continue to be in the private sector in the Third Plan while the public sector's role will be limited to the development of infrastructures and their maintenance. In shipping also private sector will be given greater role to play. In view of its growing importance and past

performance, Tk. 1500 crore has been allocated for the development of transport in the private sector over the Third Plan. Because of the emphasis on decentralization of administration and rural development, there is expected to grow a great demand for transportation in future. The consequent diffusion of the transportation system will need development of local capacity for manufactures of spares and components of mechanized vehicles and domestic manufacture of such vehicles as 3-Wheelers. It is recognized that the development of this sector will be absorbing a great many people as operators; and efforts will be directed to induce cooprerative development as a kind of insurance against road risk.

21. *Physical Planning and Housing* : Housing is a basic need ranking in importance with food and clothing. In view of resource constraint and the massive housing problem it is beyond question that government can ensure minimum basic need in this area, even in respect of its employees, not to speak of the people at large. This could be revealed from the fact that only about one-tenth of the total housing requirements of public sector is catered to by the public sector. Government should however create necessary conditions so that people can easily build their own houses whithin their means.

21·1 The Third Plan proposes for an expanded private sector role in housing and expect a private investment of Tk. 3650 crore in this area. To achieve this anticipated investment in a planned way, necessary land and public utility services will however need to be provided in urban areas through public sector agencies; while in rural areas alongwith provision for low cost housing credits, people should be motivated to build their houses with a minimum claim on the scarce land resource. To achieve this, planned development of upazilas will be pursued as new settlement centres. To facilitate building of private houses, provision of cheap House Building Finance Corporation (HBFC) loans will require to be rationalized for promotion of apartment houses for hire purchase. This will make the easy HBFC loans available to a larger number of intending purchasers rather than houses for rental purposes. Liberal institutional credits may also be made available to groups or cooperatives with the same objective in mind as to an individual borrower alongwith continuous montioring and effective recovery measures. To induce private builders existing fiscal concessions by way of exemption of income tax on new dwelling units will be extended, and availability of building materials be ensured through their liberal imports.

22. *Education, Health, Population and Other Services* : During the Plan period a sum of Tk. 350 crore is expected to be invested in physical facilities for education, health, population and other services. Of this, Tk. 50 crore is for health facilities such, as poly-clinics, X-ray clinics, pathological laborarories, nursing houses, etc.; Tk. 70 crore for construction of family welfare centres by NGOs and by private agencies and Tk. 150 crore for development of private educational institutions.

CHAPTER VIII

DEVELOPMENT OF UPAZILAS

Despite increasing urbanisation over the recent years, Bangladesh is largely a rural country. Nearly 85% of the country's population live in around 68,000 villages. As a result, pressure on cultivable land is very high and employment opportunities in the rural areas remain limited. Since Independence there has been increasing focus on rural development but until very recently, development planning in Bangladesh were being mostly undertaken at the national level and the main vehicles for implementation of development programmes and projects had been the public agencies and the private sector closely regulated by the administrative ministries. Involvement of public agencies in local development and participation of local population in obtaining their development needs felt in the national plan had been minimal. As a result, development process initiated by the national plan had, to a considerable extent, bypassed the local rural community and the villages. Rural population had very limited access to improved physical facilities, resources and public services, although rural development and employment of the landless and the rural poor have continued to remain the objectives of development plans and programmes so far. The Rural Works Programmes, Food for Works Programmes and the activities of the NGOs, both national and international did aim at addressing these problems to some extent, but due to inadequate coverage, limited resources, and more importantly, due to absence of a well organised, administratively efficient and democratically elected local government capable of reflecting the aspiration of local people in national plan, such efforts could make only a limited dent on the vast problems of rural poverty and the prevailing unemployment situation. In other words, the institutional weaknesses and a relatively centralised nature of development administration were the major bottlenecks in the way of rural development in the past. Therefore, with a view to bringing rural development into sharp focus of the national plan, a comprehensive administrative reform was carried out in 1982. This consisted of reorganisation of ministries, decentralization of administrative functions to the Upazila (previously called Thana) level and establishment of representative local government called the Upazila Parishad. In some areas new Upazilas have been reconstituted by adjusting geographical boundaries for administrative efficiency and to suit economic development. To match the increased functional responsibilities, the Upazila administration has been strengthened and upgraded. A number of development functions and their administration have been transferred to the Upazila Parishad. It has also been stipulated that the divisible components of nationally undertaken development projects will also be implemented by the Upazila Parishads. In respect of development activities within the scope of the Upazila Parishads, the Upazila Parishads will have the authority to undertake projects and to implement them. For implementation of this policy on administrative decentralization and programmes for development of physical infrastructures at Upazila and Zila levels, a high powered committee called the National Implementation Committee for Administrative Reorganization (NICAR) has been set up. The Upazilas (numbering 460, all located outside the municipal boundaries) have, therefore, been chosen as the instrument and main vehicle of the government's decentralised development administration.

2. To help the Upazila Parishads function as administratively effective and economically efficient and viable local governments, officials of most of the development departments have been deputed to the Upazila Parishads. The functions of these departments at the Upazila level have now been transferred to the Upazila Parishads and these officials are now working under the elected Chairman who are the Chief Executives of their respective Upazila Parishads. These include the Upazila Nirbahi Officer who works as the principal staff officer to the Chairman of the Upazila Parishad, Upazila Engineer, Upazila Agriculture Officer, Upazila Finance & Planning Officer and other officials in all major nation-building departments. In addition to providing experienced personnel support to the Upazila Parishads, the national government is building the basic infrastructures such as office and residential buildings, road links, water supply, electrification, telephone connections and related facilities. To have a clear delineation of the administrative and development responsibilities of the national government vis-a-vis the Upazila Parishads, it has been decided that while the national government has retained certain functions, the Upazila Parishads have been entrusted to perform all local level development activities.

3. The Upazila Parishads have thus become the focal point of all development activities at the local level and also the implementing authority for execution of the divisible components of national level projects and programmes. To undertake development programmes of their own on a reasonable scale, the Upazila Parishads will need substantial development funds. As the existing tax base of the Upazila Parishads is limited in the initial stage, the national government will have to finance the bulk of the local development programmes to be undertaken by the Upazila Parishads. Presently, the Upazila Parishad Development Fund consists of the following:

(i) Development assistance fund provided by the national government through the ADP.

(ii) Revenue surplus of the Upazila Parishads.

(iii) Local contribution.

(iv) Funds available from other sources for undertaking development works (other than the fund available for implementing the divisible components of the projects undertaken at the national level).

Although four sources of financing the Annual Upazila Development Programmes (AUDP) have been listed above, sources (ii) and (iii) are quite scanty yet. The national government, therefore, provided the Upazila Parishads with Tk. 171 crore in 1983/84 and Tk. 200 crore in 1984/85 totalling Tk. 371 crore in the last two years of SFYP as development grants to the Upazila Parishads to finance their development programmes. In addition, Tk. 525 crore was allocated for building physical infrustructures at Zila and Upazila headquarters during SFYP. Such assistance will have to continue during the Third Five Year Plan and possibly even beyond.

Guidelines for Upazila Parishad

4. To ensure that the upazila development funds are utilised productively and efficiently within the objectives of the national plan, the Planning Commission issued guidelines to the Upazila Parishads; these guidelines were also supplemented by functional circulars issued by the Local Government Division. These guidelines generally reflect the national development policies and priorities as are reflected in the country's Five Year Plan and Annual Development Programmes. The guidelines and the instructions include the manner

in which the block development grant is to be allocated to individual upazilas, allocations to be made by the Upazila Parishads to various economic sectors and preparation of upazila development plan as well as procedures for preparation, processing, implementation and monitoring of development projects. These guidelines constitute, in effect, ground rules for most of the development activities at the Upazila level. The guidelines have been kept adequately flexible to take care of variations among the upazilas. The guidelines may need changes from time to time on the basis of experiences as the system evolves over time. Some important aspects of the upazila guidelines are stated in the following paragraphs.

4.1. The Upazila Parishads are considered capable of planning, designing and implementing national projects like Rural Works Programme, Food for Works Programme, Intensive Winter Cultivation, Development of Local Fisheries, etc. Some such development programmes which are presently being implemented by the national government have been or are being transferred to the Upazila Parishads which are to undertake development activities in these fields out of grant provided as bloc allocation in the Plan through the Annual Development Programmes.

4.2. The divisible components of national projects which can be disaggregated by upazilas and which are still being wholly implemented by the national government will be transferred to the Upazila Parishads along with their financial allocation for implementation. The concerned Ministries/Divisions have been asked to take necessary actions in this regard. It is necessary to identify the divisible components by the concerned Ministries/Agencies which are also to work out the modalities for transfer of these projects and their divisible components in consultation with the sector divisions of the Planning Commission.

4.3. Development assistance fund provided by the national government through the ADP will be allocated among the 460 Upazila Parishads by the Local Government Division on the basis of the following weightage:

(i) Population	..	40%
(ii) Area	..	20%
(iii) Extent of backwardness	..	20%
(iv) Performance	..	20%

4.4. Upazila Parishads should prepare a Five Year Upazila Development Plan and for each financial year they are also to prepare an Annual Upazila Development Programme (AUDP). Under the guidelines, an indicative pattern of minimum and maximum sectoral allocation of funds for different development activities under the AUDP has been laid out:

	Minimum Share	Maximum Share
(i) Agriculture, Irrigation, Small and Cottage Industries.	20·0%	35·0%
(ii) Transport, Communication, Housing and Physical Planning.	27·5%	47·5%
(iii) Development of Education, Health, Social Welfare, Sports and Culture and other activities.	22·5%	47·5%

4.5. In allocating development grant, Upazila Parishads will consider taking up of such development programmes which will supplement or are complementary to the projects taken up at the national level. Such steps would strengthen the development efforts at both local and national level to achieve socio-economic objectives.

4.6. Recurring cost of projects implemented by the Upazila Parishads will be borne by their revenue budget. But during the period of implementation, such recurring cost may form part of the project cost also. Special attention should be paid for maintenance of projects or works after completion. So, before implementation of any development project, necessary mechanism for its proper operation and maintenance after completion must be worked out by the local authority.

4.7. The development assistance fund for the Upazila Parishads will not be utilised for expenditure on any programme or institutions covered by any project/programme of the national government. The Upazila Parishads will ensure that no programme, project or institution receives simultaneous financing both from the national government and from the Upazila Parishads.

4.8. Upazila Parishads will themselves be the approving authority for their development projects. The decision to approve a project will usually be taken in the Parishad by a consensus or majority decision (through voting). Officers of the Upazila Parishads may participate in the discussions and render technical advice, but will not vote. And no project will be considered by the Upazila Parishad unless the same has been included in the AUDP and prepared in the prescribed proforma.

5. In addition to the administrative and financial support to the Upazila Parishads provided by the government as stated above, arrangements for extending necessary technical support from the national organizations and agencies have also been made. To this end, a Local Government Engineering Bureau (LGEB) has been established and adequately staffed by qualified technical personnel to provide technical expertise to the Upazila Parishads. This is expected to ensure proper engineering design of local projects and a reasonable quality of the physical works : this will also transfer technology from the national level to the Upazila Parishads.

6. Proper utilisation of the development assistance fund by the Upazila Parishads will need close monitoring at the national and regional levels. For this purpose, a monitoring and evaluation unit in the Local Government Division has been set up. Besides, the Deputy Commissioners have also been given the responsibility for supervision of the development expenditure of Upazila Parishads keeping in view the guidelines in this regard.

7. The development assistance grant that the national government is providing to the Upazila Parishads comes out of the total taka resources available for financing the ADPs. It is thus implied that resources which would have otherwise been allocated to the various economic sectors are being channelled to the Upazilas to support the government's decentralisation policy. Since the Upazila Parishads are spending the money on the broad economic sectors indicated in the guidelines mentioned at para 4, these investments in the Upazilas (at the rate of around Tk. 200 crore per year during the TFYP period) in effect add to sectoral investments through the ADPs. Consequently, such assistance from the

additional government to the Upazila Parishads is not likely to have any adverse impact on the overall ADP implementation. It will, in fact, be a redirection of sectoral investments in favour of smaller projects located in the rural areas which can be planned and executed by the Upazila Parishads.

Financial Allocation

8. In the Third Five Year Plan, a sum of Tk. 1,000 crore has been allocated for building the essential physical facilities including office and residential buildings, roads, utilities, etc., at the Upazila and Zila headquarters. The physical facilities are being constructed and executed mainly by the Public Works Department, Roads and Highways Department, T&T Board and Public Health Engineering Directorate. The annual allocations for the various physical infrastructures at the upazila headquarters are determined by the National Implementation Committee for Administrative Reorganisation (NICAR). Besides, a sum of Tk. 1,250 crore has been allocated for providing development grant to the Upazila Parishads.

9. The decentralisation of development and administration through Upazila Parishads marks a new direction of the government for accelerated rural development through a local government system. When the Upazila Parishads get strengthened this will ensure efficient and quick solution of local level problems and contribute to the growth of the local economy in an integrated pattern with the national economy. The upazila headquarters are also visualised to be the future townships of the country which will contain surplus rural population and thereby considerably reduce the problems of rural-urban migration and the urban congestion. The upazila system, though started as an instrument of decentralisation of the hitherto centralized administrative machinery, is expected to evolve as grass-root level institution. It is also expected that the introduction of the upazila system along with the administrative and development support that the government is providing will create development awareness among the local people and eventually accelerate the overall progress of the country.

PART II

SECTORAL CHAPTERS

CHAPTER IX

FOOD, AGRICULTURE, WATER RESOURCES AND RURAL DEVELOPMENT

SECTION 1: FOOD AND AGRICULTURE

The economy of Bangladesh continues to remain predominantly agricultural in spite of the fact that an attempt was made early in the sixties to bring about a structural change in GDP; but this trend was halted due to the change in emphasis on development after independence from industries to food, agriculture and rural development with a view to ensuring the benefits of development to the largest number residing in the rural areas. The pattern of development was also affected by the emergence of Bangladesh as an independent state which led to the rapid growth of the urban population and the service sector with the opening up of new trading opportunities. So, while the share of industries sector in GDP remained virtually constant, that of agriculture significantly declined from 61·1% in 1972/73 to 54·9% in 1979/80 (at 1973/74 factor cost) against a rising service sector. Like the First Five Year Plan and the Two Year Plan, the Second Five Year Plan also emphasised the policy of rural development with food and agriculture as its centre-piece. Second Plan envisaged only a nominal fall in the share of agriculture, from 51·6% to 50 8% in 1984/85 (at 1979/80 prices). Because of recurrent crop losses due to floods and droughts the growth of agriculture was impeded over the plan period. The realised annual growth rate of foodgrains production during the Second Plan period is estimated to have been 3·5% against planned growth rate of 5·6%. As the total GDP also grew at a rate (3·8%) only nominally above that of agriculture, the share of agriculture dropped only slightly to 51·2% during the Second Plan.

REVIEW OF PAST DEVELOPMENT

Food Production

1.2 Food self-sufficiency had been the central objective of the past as well as the Second Plan. The strategy for self-sufficiency in foodgrains production was initiated in early sixties and has since been pursued rigorously in all the subsequent Plans. In view of the past failures the Second Plan adopted a well-defined programme, called Medium Term Food Production Plan (MTFPP), with focus on irrigation, fertilizer and HYV seeds. The poor performance of agriculture had long been identified with low level of technology, that characterises the traditional agriculture and overwhelming dependence on weather; therefore a break through in agriculture was considered primarily dependent on the strategy of adopting a new technology package of modern inputs such as irrigation, chemical fertilizers, HYV seeds. In fact, the agricultural development through irrigation, fertilizer, HYV technology was followed consistently by the government during the previous two decades, but the spread of this technology was slow and the progress was often discontinuous. In 1979/80 irrigation acreage was only 10·5% of cropped acreage (gross) against 9·1% in 1970/71, having an annual rate of expansion of about 6%. In the use of chemical fertilizer though the growth rate in the last decade showed substantial performance, consumption increasing from 9·8 kg/cropped acre in 1970.71 to 26·67kg in 1979/80, it was about one-tenth of the level in countries in similar position in respect of land-man ratio. Second Plan emphasised doubling of irrigated land from 3·5 million acres in 1979/80 to 7·2 million acres in 1984/85 and the use of chemical fertilizer from 8·38 lakh tons to 16 lakh tons. However the MTFPP suffered with downward revision of Plan requiring a greater emphasis on minor irrigation programme in order to protect the production target. The Second Plan set a target of food production of 17·5 million tons against the benchmark output of 15·4 million tons in 1979/80.

1.3 The food production programme during the Second Plan suffered seriously from frequent floods and droughts. The estimated production for the terminal year of the Second Plan (1984/85) is 15·8 million tons which is short of Plan target by 9%. The shortfall in cereals production was evident in all cereals except boro where the production exceeded the target by 13%. As the relative growth of main food cereals over the Second Plan period indicates their problems and potential directly bearing on the production strategies for the Third Plan, crop-wise performance over the plan period is shown in the table below:

TABLE-1

Output Target and Estimated Output of Foodgrains during SFYP

Food Crops	Output (Ml. Tons) 1979/80	Second Plan Target (Ml. Tons)	Target Growth per Annum (%)	Output of 1984/85		Growth per annum (%)
				Million Long Tons	Million Metric Tons	
1	2	3	4	5	6	7
1. Aus	2·81	3·89	6·7	2·74	2·78	..
2. Aman	7·30	8·35	2·7	7·80	7·93	1·4
3. Boro	2.43	3·40	6·9	3·85	3·91	9·6
Total Rice ...	12.54	15·64	4·5	14·39	14·62	2·8
4. Wheat	0 81	1·86	18·1	1·44	1·46	12·2
Total (Foodgrains) ...	13.35	17·50	5·6	15·83	16·08	3·5

Notes : Fig. in Col. 2 & 3 in Long Tons.

It is noticed that the growth of the rabi cereals was much faster than the kharif crops. As they belong to different cropping seasons they also face two different sets of problems which vary not only in their magnitudes but also in their random characters. The main problem of kharif crops is drainage, they are therefore vulnerable to flood. Droughts in the sowing and harvest seasons also seriously affect their output. On the other hand, the problem of rabi crop is irrigation; as such they pose management problems of different natures. During the Second Plan kharif crops were faced with more frequent flood occurrences of varying intensity, requiring farmers to increasingly concentrate on rabi crops (boro and wheat). This experience raised question about the strategy that shifted the emphasis since late sixties from rabi crops to rain-fed agriculture. This shift is apparent in the stagnation of rabi crops until 1975/76, slow growth thereafter and in setting Second Plan targets which show preference in favour of kharif crops. Experience of the Second Plan indirectly suggests that without more capital intensive drainage programme for crop protection against floods, expansion of kharif crops was not possible, but its economics will depend on the randomness not only of floods but also of droughts for an early or late drought may reduce output severely as it happened in 1981/82. Alternative strategy mainly devised as response to the stress of nature and manifest in the faster growth of boro crop than planned is to expand irrigation for the winter cropping. The viability of this strategy depends on the question whether there is enough surface/ground water or not. In some areas over exploitation of ground water is alleged to have occurred due to close location of tubewells due to the imitative character of a traditional society and lack of scientific management of ground water.

1.4 In spite of more frequent loss of crops during the Second Plan food production increased at an annual rate of 3.5 per cent, somewhat at about the rate which was achieved in the previous decade, but incremental output was much higher in the 5 years of the Second Plan than in the previous ten years. Between 1969/70 and 1979/80 increase in output was 1.4 million tons; over the Second Plan it was 2·5 million tons. 80% of the latter increase came from winter food cereals. There was real gain from the expansion of new technological base though not as large as was expected. If the normal three year weather cycle was not broken during the Plan, growth would have been higher and would have reflected the true potential of the sector. However, the important lesson from the Second Plan is that the foundation of agriculture is fragile as the dependence on nature is still overwhelming. The irrigated acreage reached some 6.12 million acres only in 1984/85 against 3.5 million acres in 1979/80 covering about one-sixth of 33 million cropped acreage. In other words, about 27 million acres of cropped land are dependent on nature. This dependence is severe and critical in the kharif season during which two-thirds of food grains are produced. Out of about 15 million acres under kharif crops less than half a million acres are under irrigation and only one-fifth of these acres enjoys drainage and flood control facilities. This provides clear perspective for choice between the two alternative water management strategies mentioned in the preceding paragraph for accelerated production of food.

Other Crops

1.5 During the Second Plan flood and drought also affected other major crops like jute and sugarcane. Production of raw jute, the main cash crop, suffered sharp fluctuations. The Plan started with an output level of 6 million bales in 1979/80 and envisaged no increase in output during the plan period because of priority of food production and world recession ; but the 1984/85 output was down to 4.6 ml. bales due to flood damages. Many other crops were also affected by the 1984/85 flood as in earlier floods and will require minimum drainage facilities.

1.6 The target and actual production of major crops during the plan periods (1973—85) are given in table below:

TABLE 2

Production of Different Crops Against Plan Targets

Sl. No.	Crops	Units	Production Target			Actual Production		
			1977/78	1979/80	1984/85	1977/78	1979/80	1984/85
1	Foodgrain ..	(Lakh tons)	154·40	143·80	175·00	131·00	133·48	158·32
	Rice	,,	150·80	139·50	156·40	127·60	125·39	143·91
	Wheat	,,	3·60	4·30	18·60	3·40	8·09	14·41
2	Jute	(Lakh bales)	91·00	75·00	60·00	53·60	59·63	46·00
3	Sugarcane	(Lakh tons)	74·20	..	77·80	66·70	65·71	70·00
4	Cotton	(000 bales)	63·00	60·00	56·00	5·00	6·00	12·00
5	Tea	(Mill. Lbs)	..	82·00	95·00	81·00	81·00	96·80
6	Potato	(Lakh tons)	11·00	11·39	13·60	8·50	9·03	13·00
7	Pulses	(,,)	3·50	3·00	3·00	2·33	2·14	2·00
8	Oill seeds	(,,)	4·00	2·49	3·60	2·61	2·46	2·00

It appears from the table above that in spite of more frequent floods and drought during the Second Plan there have been less variations between the target and achievement in individual crop. The overall performance does not look too unimpressive except in the case of jute production where output declined considerably from 1979/80 levels and the annual growth of the agriculture sector (3·5%) was only slightly below the overall growth of the economy (3·8%) in spite of its being too exposed to nature to be free from hazards and annual fluctuations. The foodgrain production during FFYP, TYP and SFYP achieved an annual growth rate of 5·5%, 1·0% and 3·5% respectively; but as mentioned already, in absolute quantity the growth in the Second Plan was much more impressive than in earlier plans if the First Plan's benchmark is corrected for dislocation of the economy in the aftermath of War of Liberation.

Investment during the Second Plan

1.7 Since the agriculture sector is overwhelmingly dependent on nature, the Second Plan emphasized more than the preceding ones the investment in the rapid expansion of the modern technology comprising irrigation, fertilizer and higher yielding varieties of seeds in order to both raise output and stabilize it against weather hazard. Second Plan allocation to the sector (including flood control and water management and rural development) was Tk. 6,059 crore in a total Plan size of Tk. 17,200 crore or 35·2% of development outlay. Public Sector's allocation was Tk. 3,802 crore against the public sector's total outlay of Tk. 11,100 crore or 34·3%. The Plan envisaged rapid growth of agricultural credit in the private sector in support of the new technology at farm level, particularly in supplying minor irrigation equipment and fertilizer. Compared with earlier plans agriculture sector received higher proportion of allocation of resources as shown below (Table 3):

TABLE 3

Public Development Outlay in Agriculture

[Tk. in crore]

Plan	Plan allocation	Estimated Expenditure
FFYP	1353·5	1102·5 (31·2%)
TYP	948·0	1052·6 (28·9%)
SFYP	6059·0	4172·4 (29·9%)

Note: The figures in parenthesis are % share of total allocation through RADPs.

1.8 The investment strategy of the Second Plan with its focus on the rapid diffusion of the modern technology has met with reasonable success as indicated by the lower random variation of output in case of most crops. The strategy led to quite rapid expansion of irrigation and fertilizer use compared with earlier plans. Irrigated acreage increased by 79·2% and fertilizer use by 51·6%. The number of sale for shallow tubewells increased from 24,155 to 1,54,000 and DTW from 679 to 10,384; but the most phenomenal rise was in hand tubewells from 1,10,000 to 3,00,000. Fertilizer off-take increased from 838 thousand tons to 1260 thousand tons.

Output Stability and Inter-Crop Relationship

1.9 It is however to recognize that there was considerably year to year fluctuation in output of the major crops, except potato due to continued dependence of the agricultural sector on weather as a whole in spite of substantial progress in the technological field. Fluctuations in rice (the subsistence crop) and jute (the main cash crop) work as a destabilizing factor not for them alone but for the crop sector as a whole. The price-acreage interaction between rice and jute is well known, but the effect of a change in their relative price hardly remains confined to them in farmer's allocative choice of land, but is also propagated to other crops which are to compete directly or indirectly with rice and jute for land in kharif and rabi season. A planned extension of jute acreage by farmers, for example, following a good jute price is very likely to divert land from other rabi crops to boro rice/wheat cultivation and inturn, from the following jute crop as well. External disturbance caused by price or non-price (weather) factors has thus considerable repercussion throughout the whole agriculture sector. In view of this relationship among crops through farmer's land allocation decision the stability of relationship between rice and jute as major crops is also the key to the stable growth of the rest of crop sector. Weather disturbance can be contained effectively only through technological progress, particularly through a balanced strategy in water management. The other problem, price disturbance, in addition of being created by weather, may be triggered by demand such as for jute/jute goods in the world market. Because such a disturbance affects a broader inter-industry relationship, it has been discussed under the Industries Sector. It is important however to recognize a difference between the two destabilizing factors in any set-up of price support policy. It is that a weather induced instability will have a strong output-price covariance relationship, which reduces the effectiveness of price-support policy without stabilizing output. The spread of irrigation will reduce the random effect of weather and creates necessary condition for stability of production; but yet, as irrigation is location specific rather than crop specific additional policy supports will be necessary to ensure stable intercrop relationship for optimum allocation of land to different crops. A study on optimum allocation of land from the point of view of crop potential is available. This will be pursued at farm level through price policy. The two solutions, engineering (irrigation) and economic (price signal), are discussed in the following paragraphs.

1.10 **Price Policy:** Further gain in intensive cultivation through accelerated use of irrigation facilities and fertilizer will depend, along with credit facilities, on input-output pricing policies. During the Second Plan the search for more domestic resources led to significant shift in these policies mainly from input subsidy to output price support to farmers in order to maintain incentive for increased production. The increase in fertilizer price has however been faster than increase in rice price. Besides its direct effect on fertilizer demand it has other implications. First, its effect will fall disproportionately more on subsistence farmers who produce mainly for home consumption and have little marketable surplus. They are also likely to have stronger preference for risk aversion than large farmers. During 1979—1981 extensive field level study on fertilizer use by farmer of different sizes over different food crop seasons was carried out. The study shows that large farmers of over 5 acres are more receptive of fertilizers technology than farms below 5 acres; but the latter group has higher intensity of fertilizer use and show also higher income and price elasticities which imply that higher cost of fertilizer will dampen their fertilizer demand more than large farms. The relative price of fertilizer to paddy prices in Bangladesh is already high compared with the countries which though close to Bangladesh in respect of arable land-to-man ratio, have been successful in achieving very high yield rate. According to a joint GOB-WB study this ratio was 0·7 in South Korea in 1979/80 against 1·6 in Bangladesh; in Japan it was 0·5; in Indonesia 1·6 and in Sri Lanka 1·7. Since then the ratio in Bangladesh has risen to 2·1.

1.11 The second problem with the shift in pricing policy is substitutability of price support to output for input (fertilizer) subsidy. Besides the problem of differential impacts between small and large farms, as an economic policy, price support has questionable impact on output in a state of dependence on nature when floods and droughts affect output and through it, the price inversely. Because of this covariance policy switchover from input to output should be made cautiously. Moreover, substitution of fertilizer subsidy by price support will have necessary effect on market demand for food as cost of output will invariably rise such that the government will have to procure more food and food budget of the government will increase hence against the domestic resource that the reduction of subsidy will generate there will be additional claim by the food budget for increased procurement in support of food production. Apparently there is no question against such use of resource for food production is also a part of development; but high food cost may lend the food department in a disposal problem. The reason that will enhance food budget, *i.e.*, reduced market demand at a high price level enhance food budget, will also result in higher food subsidy on the completion of the food cycle from production and procurement through consumption. In other words as a result of the pricing policy shift fertlizer subsidy will transform into consumption subsidy; so from the point of view of resource mobilization there is the need to look beyond what a recent study (IFPRI-BIDS) has covered and taken broader view of the problem.

1.12 **Irrigation Efficiency:** In an attempt to increase food production the efforts on the irrigation, drainage and flood control have been mainly concentrated on the expansion of physical facilities. Some physical facilities remained under-utilized because of absence of some critical components, *e.g.*, field channels or failed to reach optimal level of utilzation because of lack of awaerness among the beneficiaries (*i.e.*, farmers), indicating inefficient allocation of resources, partly because of the diversity of the problems and partly because of the multiplicity of organization. Though all are focused on the water resources, diverse equipment for water uses involving varying rates of subsidies affected the progress of different programmes. There has also been some over exploitation of ground water resources in some districts due to competing programmes, particularly due to juxtaposition of shallow and deep tubewells. Further, because of its easier access to water, shallow tubewell (STW) expanded linearly among farm households such that the average area coverage fell below the 1979/80 level during the Second Plan. Deep Tubewells on the other hand showed some improvement in coverage over the 1979/80 level, though the area coverage was still below the feasible limit. To avoid this conflict of claims restriction was imposed on the siting of tubewells during the last two years of the Plan which decelerated STW expansion programme.

1.13 Besides the above problems the irrigation programme faced, water management has not been efficiently planned from the point of its impact on output. As is expected, around 70% of irrigated land is used for food crops-two-thirds alone for boro rice which has twice as much yield as aman. Between 1979/80 and 1984/85 irrigated area under boro rice increased from 2·47 million acres to 3·00 million acres—an increase of about 21·46%. During this period boro rice production increased by 58%, from 2·43 million tons to 3·85 million tons, *i.e.*, more than proportionately. The yield rate for boro also showed a rising trend during the Second Plan while that for aman remained static. The difference is due to high yeld variety seeds. No high yield variety for broadcast aman has been found, while local improved and high yield variety aman seeds appear to be less responsive to chemical fertilizers than boro. This is reflected in the yield of aman and consequent slow progress of HYV area under aman. The yield of

aman crop also gained very little from drainage and flood protection, as there has been only marginal increase in yield and acreage of aman. Thus the flood control and drainage programme on which large part of resources for water sector was spent remains to demonstrate its worth in output terms.

1.14 The Table below shows the proportion of total acreage under high yield variety of each of the three food crops:

TABLE 4

%HYV Acreage under Different Rice Crops

Year	Aus	Aman	Boro
1979/80	13·3	14·6	63·0
1980/81	15·7	15·9	64·4
1981/82	15·0	15·9	68 9
1982/83	15·1	17·9	75·4
1983/84	15·9	17·7	76·1
1984/85	15·9	18·9	78·9

Though total acreage under aman crop is four times as large as boro crop, the areas under HYV aman and boro were 26·69 and 30·00 lakh acres respectively in 1984/85. More importantly, rate of growth of HYV area has been much faster in boro season than in the other season and 85% of incremental food output was contributed by rabi crops during the Second Plan. This is only natural for the limit to winter cultivation as irrigation which has been also less costly than drainage and flood control and is exposed to less intense fluctuation in weather. So from the point of their impact on overall output and yield there is strong ground to have a second thought on the water management strategy and redesign it mainly for rapid expansion of irrigation acreage in winter. However, as this approach is likely to lead to diminishing availability of surface and ground water, the necessity for conservation of water through control of run-off will be increasingly necessary at a higher cost.

1·15 Risk and Crop Insurance : The second problem on the way of diffusion of the technology is the natural hazard which has a debilitating effect on farming population. Growing rural indebtedness to the banking sector is only the tip of an iceberg. The amount of overdue loan was 58% in 1983/84. Commercial credit to agriculture even after rapid expansion, amounts to about 7% of its contribution to GDP. Rural economy must therefore be still overwhelmingly dependent on non-institutional credit at rack-interest to meet its need, as the rural credit experiment reveals. The Financial Sector Study (1983) shows a general insensitiveness of the rural banking system to rural credit operation, probably on commercial consideration of risk. As a result the deposits with the rural bank branches far exceed their advances to the rural sector. Rural branches of the commercial banks thus become instrumental in transferring surplus rural resources to the urban sector, necessitating a reverse flow of official credit at far reduced risk. This

substitution of high risk, local level credit by low risk, centrally programmed credit may partly explain the deliquency of credit operation throughout the system, in agriculture as in industries; but it does not invalidate the fact that recurrent floods and droughts have sapped the vitality of the rural economy. Farmers' financial risk has increased under the new technology which needs more cash inputs. It is therefore critical for the future expansion of the technology to develop an effective crop insurance system alongside the credit programme. A pilot scheme for crop insurance was introduced by Sadharan Bima on a voluntary basis in 1977; but it has not yet proved to be effective. It provides insurance coverage for the major crops like rice, jute, sugarcane and wheat but its area coverage is too small, covering not more than a couple of thousand acres and about a thousand farmers. At this level of operation the spread of risk is so limited that the scheme could not but sustain continuous losses since its inception. An insurance is a concept based on probability in large numbers. From the analysis of incidence of natural hazards, it appears that a crop insurance system cannot break even unless the coverage reaches a minimum of 50,000 acres. Some concrete measures therefore need to be taken in this area in the interest of the future of the technology and credit. These should cover the level of premium various policy options, inter-agency coordination and promotion. A lowering of the present premium rate may encourage farmers to undertake crop insurance policies in large numbers. In place of single—year crop-specific insurance policy the possibility of multiyear and multiple crop or even area-wise policy needs careful consideation. In many countries crop insurance has been made compulsory; short of that it be made compulsory for institutional credit. There is a new proposal for revitalization of the system which deserves a quick decision in the interest, not only of agricultural credit, but also of the more important issue of technology. Though a crop failure raises market price which in turn stimulates demand for new inputs it must be recognised that it is too costly a process of learning to be the basis for a steady expansion of the technology.

1.16 **Food Policy:** The central theme of food and agricultural development is the national food security. Food production is only a facet of such security but its end is consumption; therefore, the other facet of food securty is to ensure food supply to all households. Historically, the concept of food self-sufficiency has however been linked to food production and food security to distress relief and rationing in a state of chronic food gap and frequent crop failures. This dichotomy between production and consumption began to change in the second half of 1970s when compulsory procurement gave way to voluntary procurement through market exchange, while opening a new era for a unified approach through the Public Food Distribution System (PFDS) to production and distribution. At the beginning of the Second Plan the food policy was articulated as an instrument for accelerating production through procurement of food at incentive prices; as its logical component, simultaneously the price gap between the rationing system and the market was reduced through enhancement of ration prices. Thus the role of PFDS in respect of production and consumption of food has changed from a negative (levy/compulsory procurement) to a passive role of the Seventies (voluntary exchange) to a positive role (procurement at incentive price/open market operation). On the production side it guarantees a price to farmers which is rewarding to them for producing more food; on the consumption side, in food distribution, it has changed the structure of rationing significantly through the diminution of gap between ration price and market price. The share of Statutory Rationing (SR) and Priority Groups (PG) has as a result declined from 58% in 1979/80 to 46% in 1984/85 and relatively more food is now distributed to the distressed and vulnerable groups, food-for-works and modified rationing. In a way, PFDS is now strongly oriented towards market. This process has been strengthened by the enlargement of Open

Market Sales (OMS) which provides for price-interaction between markets and PFDS for the OMS price is set in response to movement in market prices.

1·17. The movement of procurement price, issue price and market price of food over the Second Plan Period is shown in the Table below:

TABLE 5

Movement of Procurement, Issue and Retail Market Prices

[Tk. per maund]

Year	Rice Price			Wheat Price		
	Procure-ment	Issue	Market	Procure-ment	Issue	Market
1979/80	170·0	120·0	248·7	110·0	90·0	131·6
1980/81	175·0	140·0	214·2	115·0	110·0	124·0
1981/82	190·0	175·0	212·4	124·0	124·0	151·6
1982/83	210·0	195·0	290·0	135·0	134·0	182·2
1983/84	225·0	215·0	313·6	144·0	145·0	175·6
1984/85	248·0	268·0	379·0	162·0	173·0	190·0

NOTE : Issue prices are those of December each year; market price of rice is for medium variety and 1984/85 market price is the average for 5 months.

It is clear from the above table that the gap between procurement price and issue price has not only been eliminated but their relationship has also been turned around issue price exceeding the procurement price. The gap between the market price and issue price has also been reduced in spite of the fact that market price has been rising fast due to frequent crop failures, which impeded faster market orientation of PFDS. Least such market-orientation adversely affects the interest of the economically disadvantaged groups such as the poor households and the unemployed, the structure of PFDS also had to undergo change.

The food policy recognizes that food problem is not one of production only but also of distribution. That incremental output cannot be absorbed through the normal market machanism underlies the procurement programme for effective demand cannot sustain increasing production because of pervassive poverty and unemployment in spite of nutritional need of people. Therefore, a continued thrust on market orientation of PFDS will need to be balanced against care for the economically disadvantaged groups. It is in response of this social imperative that the structure of food distribution has been changed in favour of these groups. Not only the percentage share of such groups has been raised between 1979/80 and 1984/85, this rise has taken place in

absolute term when the volume of food distributed under PFDS has declined as the Table below shows :

TABLE 6

Public Food Distribution

(000 tons)

	S.R.&PG	Others	Total
1979/80	1399	1003	2402
1980/81	943	579	1522
1981/82	963	1073	2036
1982/83	954	981	1935
1983/84	934	1118	2052
1984/85	857	1758	2615

Note : The decline in 1980/81 on account of others was in both relief and modified ration as 1980/81 had a bumper harvest.

1.18. In the face of frequent disruption of output and shortfall in production target resulting in increasing gap between production and need, the government had to resort to commercial imports of food in substantial quantity along with higher food aid in order to achieve the required change in the distribution structure. In 1983/84 commercial import was 569 thousand tons and in 1984/85 it further rose to 1246 thousand tons, though such import diverted both domestic and foreign exchange resources from other uses, bringing the balance of payments under greater strain and restraining the economic expansion. The experiences of the Second Plan with the food sector, from production to consumption, aptly demonstrate that the growth and stability of the economy is precariously dependent on the behaviour of the food sector. But the way the food crises were managed in 1983/84 and 1984/85 may not be feasible in near future as the foreign exchange reserve has declined substantially and wage-earners' remittances have declined. This points to the necessity for securing steady agricultural development against weather hazards through more effective development of water resources which has been discussed in later section on flood control and water resources.

1.19. Such a security against nature is not easy to attain given the random character of the monsoon. As a fall-back strategy PFDS maintains a security food stock so that in the event of any natural calamity it can absorb the shock. Since it takes time to line up emergency food aid or arrange commercial purchases, maintaining the PFDS, stock at a reasonable level has been a cherished goal since the middle of 1970s. A stock level of 1·5 million tons has long been considered a desirable target, but the highest stock level ever reached was 1·2 million tons in 1980/81 when as a result to a bumper harvest PFDS domestically procured over a million tons of food. The subsequent events also demonstrated that the stock level can be built on a sound basis only through expansion of domestic production. However, in determining the security stock level against emergency it is also to recoguize the cost of operation of a stock of high level in terms

of purchases, storage and risk of spoilage. As the turnover of security food stock will depend on the random behaviour of nature Bangladesh initiated a regional food security plan in 1981 among the SARC countries.

1.20 The evaluation of PFDS during the Second Plan has significantly affected its economics in respect of food subsidy. The cross-over of the relation between procurement and issue prices and the reducing gaps between issue and market prices have led to substantial cut-back in food subsidy. Cash subsidy declined from Tk. 165 crore in 1979/80 to Tk. 109 crore in 1984/85 and according to an estimate, the economic subsidy for which food is valued at economic prices rather than at official prices, has declined sharply from Tk.328 crore to Tk.174 crore. Such economic pricing of food shows that domestic economic price of rice was over 10% above the 'import-parity' economic price in 1983/84 while it was 2% below in 1979/80. This means that economic cost of domestic rice production has increased faster than its world price. The reasons are not far to seek; during the plan period prices of many inputs rose faster than the domestic inflation rate due to the policy to reduce subsidy on them. The impact of this policy was absorbed through corresponding increases in procurement and market prices, issue prices under PFDS rising at higher rates. The point is that domestic economic prices of output and inputs are mutually inconsistent. On the other hand, the domestic economic price of wheat is found to be still below the 'import-parity' economic price which provides the economic justification for greater emphasis on the expansion of wheat cultivation.

THIRD FIVE YEAR PLAN (1985—90).

Objectives and Strategies

1.21 Within the framework of national plan objectives, agricultural development programme will pursue the following main objectives over the Third Plan period:

(1) *Supply of Food Cereals:* By nature agriculture is the primary occupation of people, for it provides food and other sustenances of life like protein, fats, oil fibres, housing materials and fuel. Agricultural programmes envisage food self-sufficiency by 1989/90; accordingly the cereal food production has been set at 20·7 million tons. The programmes provide for increased output of protein food (*e.g.* fish and pulses), oil seeds, vegetables, potato, sugarcane, milk and other dairy products, etc. In view of the high cost of commercial energy, fuel wood production will be increased through development of community forests to meet the fuel need of rural people. It is recognized that agriculture is also the main source of housing materials in the rural areas; to meet this requirement supply of bamboo and other forest products will be ensured through development of forestry.

(2) *Expansion of Employment Opportunities:* Agriculture employs about two-thirds of the active labour force. The modern agricultural technology of water-seed-fertilizer, being labour intensive technology can absorb more of the labour force through its expansion than now. The Plan envisages to expand irrigated acreage from 6·12 million acres to 9·64 million acres—an increase of 57%. This increase is likely to directly increase the labour demand. It is estimated that planned expansion of the agriculture sector as a whole can absorb around 40% of additional labour force at a higher level of productivity.

(3) *Improvement of Balance of Payments Position:* While expansion of food output will relieve greatly the pressure that the external sector faces from time to time due to natural calamities, the Third Plan agricultural development programmes will further promote import substituting and export oriented crops. The former group will consist of edible oil, pulses, spices, sugarcane and cotton and the second category fish, vegetables, tobacco and leather.

(4) *Land Use and Conservation :* Land constitutes one of the two important national resources of Bangladesh; the other one is labour. Though in volume it is inexhaustible it is important to recognize that careless exploitation of land can seriously degrade it to a point to threaten the existence of population. From this point of view as Bangladesh has the oldest settlement history, management of her limited land resouces calls for more careful use than in the past. Denudation of inland forest, population pressure contributing to mono-culture and contraction of fallow land have not only resulted in diminishing soil fertility but also accelerated soil erosion. Therefore, the Third Plan will pursue the objective of conservation and enrichment of these valuable national resources through (i) shift in crop production from monocropping to multiple cropping, (ii) promotion of winter cultivation, (iii) reclamation of waste land, (iv) cultivation of fodder and leguminous crops, (v) use of chemical fertilizers, (vi) maintenance of ecological balance by the development of forestry and (vii) reclamation of coastal land and its protection by plantation and planned settlement.

(5) *Stabilization of Agricultural Output:* One of the important characteristic features of agriculture in Bangladesh is fluctuation in output of various crops as a random effect of weather. During the Second Plan rice and jute outputs were affected by weather severely causing wide variation in the annual growth rate of agriculture. To take an example, 1984/85 output of jute was lower than it was in 1979/80. The instability in one of these two major crops not only affects each other but also other crops through the process of allocation of land as farmers respond to fluctuations in market prices. The main reason for fluctuation in output is preponderent dependence of agriculture on weather. This dependence can be reduced only by management of water regime and expansion of irrigated land. Therefore under the Third Plan the programmes for both irrigation, flood control and drainage will be accelerated, with a greater emphasis on conservation of water resources for winter cultivation. It is recognized that in a state of overwhelming dependence on weather when prices fluctuate with output only price support policy to stimulate output is often ineffective that is only when output becomes less dependent on weather a price support policy can be effective as an instrument of promoting output. So alongside the expansion of irrigation, pricing policy will be pursued to promote multiple cropping and efficient use of resources.

(6) *Broadening Genetic Base of HYVs:* During the Third Plan agricultural research will be focused on widening the genetic base of important crops like rice, wheat and mustards and development of new bio-chemical technologies suitable to the ecology of Bangladesh in general and field conditions in particular. Location specific rather than laboratory bound research and establishment of field stations rather than institutions will be more emphasized so as to make research meaningful for development.

Price Policy and Subsidies

1·22 Input and output price policies will be directed to promote efficient use of resources for accelerated output. During the Second Plan input price policy was more energetically pursued with a view to reducing subsidies in an atmosphere of severe resource constraint than the output price policy. Subsidy on fertilizers was reduced from 43% in 1979/80 to less than 15% in 1984/85. Though fertilizer offtake increased from

8·38 lakh tons to 12·60 lakh tons over the same period the amount of fertilizer subsidy declined from Tk. 120·45 crore to Tk. 81·16 crore. Direct subsidies on irrigation equipment was also greatly reduced, in some case such as STW and HTW it was totally eliminated. In contrast to those developments in the area of input pricing, necessitated by resources crunch felt throughout the Second Plan, output price support policy was largely muted, except in case of food cereals. The policy was in fact discontinued in the middle of the Plan in frustration in case of the most important cash crop, *i.e.* jute. The other crops which enjoyed support prices are sugarcane, cotton and tobacco. With reduction of input price support there will be greater need for output price support to the market, even though increased prices of outputs will lead to their more efficient use. But these two levers of the price policy will have to be pursued in a balanced way with an eye on their effect on output and inventory. A large inventory build-up will be avoided but a planned buffer stock policy in order to smooth out price fluctuation and ensure stable supply in case of essential consumer goods like oil-seeds and important commercial crops like jute will be pursued.

Role of the Private Sector

1·23 Agriculture is the main occupation of people but with the importance of technological transformation for rapid growth of agriculture public sector assumed an increased role in making this new technology and its components available to the farmers. However since late 1970's beginning with the distribution of posticides the role of the private sector has been greatly expanded. Retailing of fertilizers is totally done by private dealers at prices as the market would like to pay. In sale of irrigation equipment private sector now dominates the market of shallow tubewells. During the Third Plan the process will continue; but the scope will depend on the magnitude of credit support to farmers. Other problems which will need to be constantly addressed are (i) ensuring maintenance of facilities and supply of spare parts and (ii) for that matter, keeping the brand names to the minimum so that their progressive manufacture is ensured over the plan period keeping in view the facilities existing in the country.

Agricultural Credit Policy

1·24 Third Plan anticipates a level of private investment of Tk. 4,500 crore in the form of equipment, draft power and structures. Substantial part of this investment will require financing by financial institutions. In addition to investment financing production loan will also need to be stepped up *pari passu* expansion of output. Second Plan witnessed significant acceleration in agricultural credit. Credit volume rose from Tk. 268·9 crore in 1979/80 to Tk. 1,131 crore in 1984/85. Yet it was only 4·8% of gross value of agricultural output and 13% of loans and advances by various financial institutions. It is only natural that with output expansion use of commercial inputs will grow faster than the former; hence also the demand for short-term production loan. Such demand is likely to exceed Tk. 8,000 crore.

1·25 The formidable constraint in the way of expanding agricultural credit to the level as the output expansion will demand is the problem of recycling credit. During the Second Plan recovery rate of agricultural credit suffered badly declining from 48·9% in 1980/81 to 41·8% in 1983/84. It was probably partly due to rapid expansion of agricultural credit which probably led to its less efficient use and leakages; but mainly due to successive loss of crops by farmers due to floods and droughts. This is reflected in the fact that the recovery rate dropped sharply to 14·9% in 1982/83 after the decline

of agricultural output in 1981/82 and thereafter it has remained more or less constant even though agricultural credit expanded faster. Repeated floods and droughts during the Second Plan sapped the vitality of the farmers and its solution lies not in denying the required resources to the farmers for past failures caused by factors beyond their control but to augment their vitality through steady expansion of agricultural output. Otherwise, half of GDP will be at stake and over 6 million farm households will be exposed to crippling environment.

1.26 It cannot be however denied that loan administration will need to be improved. This will cover plugging leakage, increasing efficiency of credit through supervision and above all making credit market risk oriented rather than mandatory which lies at the bottom of inefficient administration of credit, as banks find mandatory loan easy sailing for its lower risk when rural deposits are churned out to urban centres through rural banks. The whole process of agricultural credit has become a substitution of commercial credit by official credit and risk by guarantee. Demoralization of institutional credit is now universal and will be addressed punctiliously throughout the Third Plan.

Crop Diversification Programme

1.27. The crop diversification will be achieved through intensive cultivation practices by :

(a) increasing the yield of currently grown crops;

(b) replacing the current varieties of crops with more profitable ones, preferably local improved varieties or switching over to crops that yield more at lower costs; and

(c) growing more crops on the same piece of land within a year.

1.28 In the immediate future crop diversification is possible through those crops for which suitable technology, specially HYVs already exists. Short-term development potential exists in mustard, summer pulses and maize. These crops have already gained some growth momentum in terms of agro-climatic, adaptibility and farmers acceptability of the new variety. Ginger turmeric, garlic and onion have short-term development potential for production diversification even with the existing technology because of table local demand.

1.29 Minor crops showing medium term potential for crop diversification are : sweet potato, ground nuts, rabi pulses, cotton, millets which may come in the second phase of diversification programe if the HYVs now in pipe line demonstrate that they are agronomically productive and economically more profitable. Local spices, some rabi and kharif vegetables may have long-term potential for production diversification.

1.30 In order to sustain the growth momentum in case of some crops and reverse the declining trends in others, a variety of policy measures in addition to price support already mentioned needs to be taken. Pulses, oilseeds, maize and vegetables have not received as much attention as they deserve from the researchers and extension workers because of emphasis on food cereals; some in fact have suffered as a result. As a precondition for the development of minor crops within a framework of crops diversification programmes, an analysis of their current problems will be required to determine the policy support as an integral part of a comprehensive crop diversification strategy.

Crop Production Programme

1·31 **Cereal Food:** The main objective of agricultural sector for the Third Five Year Plan is to attain self-sufficiency in foodgrain production. To attain this, foodgrain production needs to grow at an annual growth rate of 5·2 per cent from the estimated bench-mark production of 16·1 million tons (1984/85) to reach the target of 20·7 million tons in the terminal year (1989/90) of TFYP. It may be mentioned here that attainment of self-sufficiency in foodgrain was also the objective of FFYP, TYP and SFYP of the country. But this could not be achieved so far for constraints of development fund and natural calamities. During the Second Plan food and other agricultural crops suffered damages in 4 out of 5 years. In 1984 around one and half a million tons of food were lost due to flood and the Plan ended with 1·7 million ton below the target. Considering the continued vulnerability of the sector the increase in food output has been appreciable from 10·8 million tons in 1969/70 to 16·1 million tons in 1984/85 giving a growth rate of 2·0%. Second Plan achieved even a higher growth of 3.5% which shows a rising trend. In spite of this expansion, exceeding population growth, import continued to remain high in order to attain a higher level of food intake in general and ensure food to the socio-economically disadvantaged groups in particular. Per capita food availability (net of official stock) increased fron 15·5 oz in 1979/80 to around 16 oz a day. Third Plan's target has been set to ensure this level of consumption. On the supply side it is recognized that in spite of substantial gain in output since independence, the yield rate remains very low. Average yield of rice is 15·55 mds. per acre against 12·62 mds. in 1969/70; but much less the yield achieved in many other rice producing countries. Two factors presently limit the yield rate. First, the agrophysiographical condition and secondly, the relatively low level of technological penetration. Deep water Aman has yet to find a suitable high yield variety while T. Aman continues to be vulnerable to floods and droughts. As mentioned earlier very little gain could be made in Aman during the Second Plan. Correspondingly required shift in rice output from kharif to rabi was on the other hand limited by irrigation facility, though it (rabi) contributed mostly to the gain of the Second Plan. In securing food output against the vagary of the monsoon weather Third Plan will emphasize faster expansion of food cereal in the winter season in a controlled water regime. Since most minor crops are grown in that season also, expansion of rabi cereal crops (boro rice and wheat) will have to be integrated with the expansion of such minor crops as oil seeds and pulses.

1·32 The break-down of food production programme is given in the table below followed by a brief discussion:

TABLE 7

Foodgrain Production Target (1985—90)

(Output in million metric tons)

(Area in lakh acres)

Cereal Food	Bench-mark (1984/85)		Target for (1989/90)		Annual Growth Rate of Output
	acreage	output	acreage	output	
I. Rice :					
Aus	72·6	2·78	72·0	3·42	4·23%
Aman	141·1	7·93	144·0	9·18	2·97%
Boro	38·0	3·91	48·0	5·40	6·69%
Sub-total (Rice) ..	251·7	14·62	264·0	18·00	4·29%
II. Wheat	16·7	1·46	24·0	2·60	12·23%
III. Coarse Grain ..	1·0	0·03	0·6	0·10	27·00%
Total (Foodgrain) ..	269·4	16·11	288·6	20·70	5·20%

Foodgrain Production

(i) **Aus:** The area under Aus paddy remained limited between 72·4 and 72·6 lakh acres during 1973 to 1984. The HYV Aus acreage increased from 1·64 lakh acres in 1972/73 to 11·52 lakh acres in 1984/85. The production of Aus increased from 22·73 lakh tons to 27·83 lakh tons giving an annual increase of 2·1%; however the 1984/85 output of Aus suffered a serious loss due to flood which reduced it from 3·2 million tons to 2·78 million tons. Per acre yield of HYV also fell from 27·70 maunds to 20·1 maunds during the period. Main problem for expansion of output of Aus is its weather hazard. Taking into consideration the programmes for flood control and drainage and possibility for HYV Aus (irrigated), the Third Plan target for Aus has been set at 3·42 million tons—6·3% above the peak output of the Second Plan and 10·7% above the five years' average output of the Plan.

(ii) **Aman:** Aman covers about 56% of the total rice acreage with about 55% of the total rice production. It has been observed that during the last ten years there was no significant increase in HYV acreage and production. In 1984/85, 79·31 lakh tons of Aman rice was produced from 141·1 lakh acres. The target for Aman production is estimated to be 91·8 lakh tons from an area of 144·0 lakh acres during 1989/90 giving an increase of 2·97% a year. The HYV contribution will be 30·00 lakh acres which can be achieved with supplementary irrigation and other supports.

(iii) **Broadcast Aman:** B. Aman covers about 12% of the total rice area contributing about 8·4% of the total rice production. The per acre yield of B. Aman is low. The crop frequently suffers from adverse environmental conditions. Early drought, early flood, sudden rise of food water, all affect its yield. It is atso subjected to certain pests and disease infestations and plant protection measures are difficult to take. No HYV is still available for this crop but some LIVs with desirable characteristics can replace the traditional varieties with increase in yield. Special attention requires to be attached to improve the condition of the crop through (i) improve ment of inter-cultural operation, (ii) appropriate plant protection measures and (iii) selection of appropriate LIVs.

(iv) **Boro:** The area under boro expanded from 24·34 lakh acres in 1972/73 to 38·0 lakh acres in 1984,85 and the total production increased from 20·70 lakh tons to 39·1 lakh tons. The per acre yield increased from 23·2 maunds to 27·5 maunds because controlled irrigation area under HYV increased quite fast, from 10 88 lakh acres to 30·00 lakh acres, with production increasing from 13·40 lakh tons to 33·94 lakh tons. Expansion of boro cultivation will constitute the main fulcrum for achievement of the Third Plan's food target. Boro production is targeted at 54·0 lakh tons and the area at 48·0 lakh acres of which 38·0 lakh acres will be under HYV producing one ton per acre. More acreage will be brought under irrigation through efficient management of existing capacity as well as through creation of additional capacities.

(v) **Wheat:** The total production of wheat increased to 14·64 lakh tons in 1984/85. Wheat cultivation has made some break-through and there is bright prospect for further expansion. For this, important inputs such as supply of seed, irrigation water and plant protection services must be ensured and incentive process maintained. Bangladesh has significant comparative advantage over import price. Wheat production target has been fixed at 26·00 lakh tons in an area of 24 0 lakh acres. This means an increase of 78·1% from bench mark level of production of 14·64 lakh tons.

(vi) **Coarse Grains:** Coarse grains consisting of Maize, Barley, Jowar, Bajra, etc. are not considered by people as major food items, but these crops have considerable importance from the point of use of water resource and development of agro-industries. The area under these crops shows continuous decline from 276 thousand acres in 1969/70 to 187 thousand acres in 1979/80 and further to 177 thousand acres in 1981/82 and output from 85 thousand tons to 50 thousand tons in the subsequent years. These crops are generally grown in marginal and less fertile lands with minimal investment. Considering the increased importance of these crops as industrial raw materials, supplementary food and cattle feeds the possibility of increasing their production, particularly of maize, through improvement of cultural practices and use of improved varieties will be explored during the Third Plan period.

Jute

1.33 Unlike rice which made impressive progressive progress during the Second Plan, jute gives correspondingly a bleak picture. Jute acreage continuously declined since Independence; it went down from 2·2 million acres in 1969/70 to 1·6 million acres in 1979/80 and further to 1·5 million acres in 1984/85. During the Second Plan acreage of jute stabilized around that level, mainly in the Intensive Jute Cultivation Scheme area. Two good crops in 1978/79 and 1979/80 resulted in a slump in jute price in 1979/80 bringing down the relative price of jute to paddy from 1·52 to 0·85 which discouraged jute cultivation and led to the contraction of acreage from 1·87 million acres in 1978/79 to 1·57 million acres in 1979/80 and to 1·41 million acres in 1980/81. Jute faced two

serious competitions-- one at home and the other from abroad. Jute *vis-a-vis* rice occupied the second place in national development programmes and lost both price support and intensive cultivation programme during the Second Plan, when rice continued to receive both the supports for making the country self-sufficient in food. This placed jute at a disavantageous position. Secondly, unlike rice, jute has to compete in the world market and accept the consequences of world situation. During the Second Plan world recession depressed demand for jute and its manufactures and falling oil price in a depressed market, on the other hand, accentuated competition from synthetics. Thus jute had to compete with rice at home for land and in the process, was priced out from some land by high price of rice already mentioned, while depressed world demand and increased competition from synthetics reduced its ability to compete with rice. This is reflected in reduced jute acreage which settled at around 14 to 15 lakh acres. When acreage levelled off, the price of jute *vis-a-vis* rice has been determined by two external factors, weather and international economic condition.

1.34 However, these two external forces are not unrelated, nor are they symmetrical. Weather affects world trade in jute and jute goods through its effect on the stability of world supply. A rise in jute price following a weather-induced decline in output, while compensating the farmers for loss of crop, will impair its short-term world demand directly and indirectly, causing a loss to jute mills, impair the long-term interest of jute.

1.35 The existence of a large domestic jute manufacturing sector against a large farming interest also significantly limits the field of choice in solving the problem of jute facing competition with rice in the domestic market and a competitive world market. The superior claim of rice for land and of jute mills on jute supply at home, given weather, constitute the two forces of instability of jute supply in the world market. Jute export declined to 1.97 million bales in 1979/80 against 2.83 million bales in 1972/73 though output was more or less of the same level, then reached to 2.25 million bales in 1982/83 and again declined to 1.62 million bales in 1984/85. Such instability in export market of jute may have spin-off effect on export of jute manufactures as it stimulates penetration by synthetics. It has been pointed out in the Industries Sector that in spite of depressed world demand and sharp decline in export price of jute manufactures in 1983/84 jute mills increased export sales over 1979/80 even at substantially lower price in an effort to maintain earning level.

1.36 A rational solution of the problem facing jute is not only complex but also vital to the national economy. Over 9.5 million farmers and workers are engaged in jute growing and manufactures and 50% of export earning is contributed by them. As the withdrawal of price support and production scheme show, the recent tendency has been to leave its solution to weather, farmers and the world market, though IJCS appears to have left a permanent mark on the farmers' choice as jute area is now concentrated in IJCS areas. But a reduced acreage has increased the chance of fluctuation in a reduced level of output and the dependence on uncertain weather. This uncertainty at lower level of output has reduced the choice of the country for allocation of domestic output between export of raw jute and local mills for export of jute manufactures. Given the high capital stake in jute mills the obvious choice has been to process jute locally as much as possible and export less of raw jute. Thus while the combined export of raw jute and jute goods has declined by 20.5% from 927 thousand tons in 1972/73 to 737 thousand tons in 1984/85 due to reduced output, raw jute export declined from 509 thousand tons to 253 thousand tons, export of jute goods increased from 418.1 thousand tons to 484 thousand tons. This shift in the export structure was the simple appeal as

manufacturing adds $ value. In fact the shift enabled the country to earn $ 510 million in nominal terms in 1984/85 but only $ 231·7 million at 1972/73-unit value of import against $ 319 million earned in 1972/73. Economics of jute goods export is not so sound. If the export price of jute goods is attributed to raw jute and other inputs in the same proportion (40: 60) as their relative share in the cost of production, then the imputed price of raw jute in manufacture was $ 340 per ton against $ 390 per ton of jute. The difference between the actual export price of jute and imputed price of raw jute component of manufacture in a state of preference for jute goods export to raw jute means a disincentive for jute growers, as low price of manufacture is shifted backward or a loss to the mills, if not shifted.

1.37 While the allocation of reduced output to its two final markets had adverse effect on acreage of jute, it appears that Bangladesh has implicitly accommodated itself to a situation of reduced level of jute output. The policy is found to be detrimental from the point of export earning. Jute production has suffered from lack of strong official policy support and from preference for rice against jute and export of jute goods against raw jute export, though an acre of land produces jute (3·5 bales/acre) worth $ 255 ($ 73/bale) against $ 228 (f.o.b) if rice is grown. The shift in cereal production to winter season with the expansion of irrigated acreage is likely to correct this distortion *vis-a-vis* jute; even than some stabilization policy will be necessary to protect this important earner of foreign exchange. Though the world market would remain beyond the domain of control, a rational policy can help stabilize jute output and earning.

1. 38 Given the options farmers however revealed their most rational behaviour by cutting back acreage in the face of unrewarding price. The acreage which had been declining for two years before the launching of the SFYP declined furher for two more consecutive years to lead to some recovery in relative price. The recovery was however so slow that acreage gain was small. Throughout the plan period acreage remained significantly below the 1979/80 level—by about 25% which together with frequent bad weather which affected yield could not bring more than a creeping recovery of jute market in terms of relative price. Acreage production and relative price all remained considerably stable at relatively lower levels; but in 1984/85 jute crop suffered such a severe damage that the market was on a course of rapid price increase to reach the ever highest price. The year also closed with a stock that is only half of the opening stock (See table below). This together with higher relative price may break the apparent stability of the jute acreage of the Second Plan. There is no doubt that with such a low level of stock, output will need to be expanded to meet the world demand of jute and jute goods.

1. 39 Domestic and international experiences with jute has grown so variegated since Independence in a setting in which food self-sufficiency remains the driving force for agricultural development. Third Plan has set stabilization of jute output at 6 million bales as its main target. A stable domestic output will also contribute to the stabilization of world market of both raw jute and jute goods; Bangladesh being a major exporter of both. But to stabilize output around this level what is first needed is to improve seed and make it available to farmers. Though jute cultivation is now concentrated around the old IJCS areas the yield remained more or less static over the last ten years barring weather effect, though it was about 80—90% above that outside IJCS areas. However, by nature jute will continue to remain open to weather effect and is therefore likely to experience fluctuations in output. So together with the emphasis on improved jute seed and cultural practices, market intervention will be necessary to influence decisions of farmers and users

to buy in the domestic market in a year of good crop and to sell to mills and imp orters when crop is poor.

TABLE 8

Jute Acreage, Output, Relative Price and Export.

Year	Acreage (000 acres)	Output (000 tons)	Jute-Rice Relative Price	Export (i) (000 tons)	Closing Stock of Jute(000 tons)
(1975—80) Average : ..	1722	947	0·823	785·0	..
1979/80 ..	1874	1065	0·568 (ii)	845·7	795·7
1980/81 ..	1569	883	0·605	864·9	613·4
1981/82 ..	1412	830	0·621	895·1	330·8
1982/83 ..	1425	872	0·634	929·0	..
1983/84 ..	1435	931	0·831	863·7	..
1984/85 ..	1485	817	..	737·0	..
(1980—85) ... Average	1465	867	..	858·9	..

Note : (i) Export covers both raw jute and jute goods.
(ii) One reason for sharp decline in relative price in 1979/80 was the decline in jute quality.

Minor Crops

1.40 **Pulses** : Pulses constitute an important part of protein supply to average household, but per capita consumption of pulses drastically declined from 28 gms. in 1962—64 to 24 gms. in 1975/76 and to only 8 gms. in 1981/82. The main reason for this decline is the decline in domestic output, which declined by 29% between 1969/70 and 1981/82 against a rising population. Acreage under different pulses declined from 9·2 lakh acres in 1969/70 to 7·6 lakh acres in 1981/82 and to 7·4 lakh acres in 1982/83. Yield rate also remains below the pre-Independence level.

1.41 Pulses of Bangladesh comprise many varieties but the main component (about a third) is khesari which is termed as poor man's protein. But khesari contains neurotoxin which causes lathergy if consumed regularly as a staple food for a prolonged period. The crop is easily grown in the country with minimum investment. BARI has developed a variety of higher yield with low content (0·2%) of BOAA. This variety will be released for extensive cultivation.

1.42 The pulses production programme of the Third Plan is aimed at arresting the decline in output through improvement of seed and technology under the Crop Diversification Programme. Production target for all varieties of pulses is 3·00 lakh tons for 1989/90.

1.43 **Oilseeds** : Bangladesh is overwhelmingly dependent on import for edible oil and oilseed, though a large number of oilseed crops are grown in the country. The edible oil requirement in 1982/83 was 1·71 lakh tons at 1·83 kg. per capita per annum. Against this requirment, 0·76 lakh tons of oil was available from domestic output of 2·52 lakh tons of oil seeds. Total requirement of edible oil will be 2·02 lakh tons for a population of around 111 million in 1989/90. Production of oilseeds, *e.g.*, mustard and

sesame has been targeted at 3·50 lakh tons by 1989/90 which will provide not 1·12 lakh tons of edible oil leaving a shortfall of 0·50 lakh tons. In order to achieve the target, programmes for production of edible oil from alternative indigenous sources such as cotton seeds, rice bran and groundnut will be undertaken. Groundnut has the potential for increased cultivation with higher yield in the sandy soil of the north and southern areas.

1.44 The main policy of the TFYP will be assuring a stable incentive price through improved marketing system and comprehensive production programme supported by supply of adequate HYV seeds and other production inputs at farmer's level.

1.45 **Spices** : The agro-climatic condition in Bangladesh is favourable for production of varieties of spices including aromatics. Six major spices, *i. e.*, Chillies, Onion, Garlic, Ginger, Turmeric and Corriander account for about 97·8 per cent of acreage and 98·3 per cent of total production of spices in Bangladesh. Ginger and Turmeric showed some increasing trend in production (2·78% and 19·05%) during the last one decade but the main spices, namely, Chillies, Onion and Garlic suffered decline. Total area under spices declined steadily from 421 thousand acres in 1969/70 to 372 thousand acres in 1981/82 and output from 378 thousand tons to 288 thousand tons. Figures indicate that only one-third of production fall is explained by decreasing acreage, the remaining two-thirds were due to decline in per acre yield.

1.46 The production potential, even of the existing local varieties, is considerably higher than current yields obtained by farmers through indigenous practices. The situation needs to be improved during the Third Plan through adoption of appropriate agronomical practices without involving additional lands. The programmes for spice cultivation include inter-cropping of hilly lands, homestead, road sides and agro-forestry. Selective research and extension programmes will be needed for development of HYVs. Third Plan target is to increase output of spices to 325 thousand tons. Since spices are perishable to a large extent it will be necessary to encourage programmes for storage, preservation and processing of spices during the Third Plan period.

1.47 **Cotton** : Import of cotton is about 2·5 lakh bales a year and the cotton demand will go up in future as a result of expansion of spinning capacity in the country. Import bill in 1984/85 was $70 million, about 8% of export earning. In order to reduce the pressure on foreign exchange and balance of payments a production target of 3 lakh bales was set initially for the Second Plan which was subsequently reduced to about a half lakh (0·56 lakh) bales, but actual production was only 12 thousand bales in 1984/85. Cotton cultivation faced severe competition from rice because of its dependence on irrigation and lack of effective price support, though agroclimatic condition is suitable for cotton cultivation. In view of the competition with rice a moderate target of 1·00 lakh bales of cotton lint has been set for the Third Plan, emphasis rather being on export of cotton fabrics and garments for relieving balance of payments pressure.

1.48 The area under Comilla cotton has declined sharply due to shortage of quality seeds, land and marketing problems. It is planned to bring about 35,000 acres of hilly lands under Comilla cotton to produce about 13,800 bales during the Third Plan.

1.49 **Sugarcane** : Sugarcane ranks third as an agricultural cash crop and sugar is the country's second most important agro-industry. The sugarcane yield is low and recovery is poor. The average yield of sugarcane is about 18 tons per acre with a sugar recovery rate of less than 8%. Currently the problems are thus both of varietal improvement

for higher yield and recovery and extension works. There are few new varieties which are awaiting release ; but continuous improvement will be necessary not only because of national process of degeneration of varieties but also because of stiff competition it is facing from rice resulting in reduced irrigated acreage under sugarcane. Irrigated sugarcane acreage declined from its peak of 27·2 thousand acres in 1970/71 to 19·6 thousand acres in 1983/84. Though this acreage is a small percentage of total sugarcane acreage of about 400 thousand acres it is to recognize that increase in yield depends on water management. Sugarcane yield still remains substantially below the 1969/70 level and has remained so persistently since Independence without any improvement at all in the intermediate situation.

1.50 Sugarcane production was 70·00 lakh tons in 1984/85 and the area was 4·50 lakh acres. It is planned to produce 82 lakh tons of sugarcane by 1989/90 from the same acreage through intensive production programme with improved varieties.

1.51 **Tobacco :** Tobacco is an important cash crop of the country and ranks next to jute and sugarcane in importance. The acreage and production of tobacco showed an increasing trend since 1973/74. The area increased from 1·15 lakh acres in 1973/74 to 1·50 lakh acres in 1984/85 and production increased from 41,000 tons to 54,000 tons, which shows virtually no improvement in yield. There has been varietal shift from local variety to Vergina but output remains below the peak (60 thousand tons) reached in 1976/77.

1.52 Lack of adequate domestic demand due to various adjustment measures inhibited the recovery of tobacco cultivation during the Second Plan. Tobacco industry's output increased very little—about 7% over 5 years. Depressed domestic demand however opened up a new market, *i. e.*, export. Export value which was below one-tenth of million $ broke the million $ mark in 1981/82 and reached $ 3 million in 1983/84. There is good prospect for exporting tobacco leaf, by changing from ACV to FCV.

1.53 By the end of Third Plan period 60 thousand tons of tobacco is targeted to be produced in the country which will not be difficult to reach with improvement in yield and curing process. Barley, a new variety which has better acceptance in the world market will be encouraged, BARI has also two improved ACVs which have 15% higher yield.

1.54 **Tea :** Tea is the plantation industry of Bangladesh unlike sugarcane. It occupies 1,12,000 acres of land, employs about 150 thousand workers and provides considerable export earnings. The production of tea increased to 96·8 milion lbs. in 1984/85 from 63 million lbs. in 1969/70 and 81 million lbs. in 1979/80, giving an annual growth rate of 2·9% and 3·5% over the respective period, though the area under plantation remained virtually unchanged. Yield rate increased from 584 lbs. in 1969/70 to 821 lbs. in 1979/80 and to 860 lbs. in 1984/85.

1.55 It is planned to raise tea production to 115 million lbs. by 1989/90 from a bench-mark level of 96·8 million lbs. There is a scheme under implementation for rehabilitation and replantation of tea gardens. With this, recent stagnation in yield will be overcome; but more importantly, research work will be accelerated since yield rate in Bangladesh is the lowest among the major tea producing countries. The boom that the industry enjoyed in the second half of the Second Plan should help improvement of tea gardens rather than for writing off capital cost. The government has already increased the lease period to create a condition for reinvestment of profit for long-term improvement.

1.56 **Potato :** The area under potato expanded from 2·11 lakh acres in 1969/70 to 2·72 lakh acres in 1984/85 and production from 8·51 lakh tons to 13·0 lakh tons in 1984/85 showing a significant increase in potato yield from 109·7 maunds to 130·0 maunds/acre over the same period. This increase in yield came entirely in the Second Plan against a decline in the earlier period. Interestingly the Second Plan expansion went on in spite of frequent seasonal glut and relative price of potato against rice increased except in 1982/83, indicating a faster growth of demand. Its further expansion however faces two constraints. First, storage and secondly, supply of disease-free seed. Both cold storage and seed multiplication capacity will need to be expanded and new processing capacity should be created for divorsification of use. The production of potato at the terminal year of the Third Plan is set at 17.00 lakh tons from 3·0 lakh acres. A comprehensive programme on potato production involving of germ plasm and research activities will be undertaken to achieve the target.

1.57 **Sweet Potato :** Sweet potato is an important food crop. It supplements food-grains specially after bad Aman harvest. Sweet potato is rich in Carotene contents and has got extra advantage over potato. The production of Sweet potato has marginally increased from 6·80 lakh tons to 7·02 lakh tons during 1975—83. Research programme has developed some exotic varieties raising the prospect of increased production during the Third Five Year Plan period.

1.58 **Fruits and Vegetables :** Horticulture crops (fruits, nuts and vegetables) occupy about 4 per cent of cropped area in Bangladesh. Fruits being mainly tree crop play an important role not only as a source of vitamins but help maintaining ecological balance and provide fuel and timber. Vegetables are the cheapest source of Vitamin-A, deficiency of which causes blindness specially among the children. The soil and climate of Bangladesh are also suitable for growing a wide range of indigenous vegetables and fruits ; but the available statistics show declining trend in production of fruits. Per capita annual production of fruits declined from 30 kg. in 1950 to only 16 kg. in 1983, and that of fresh vegetables from 21 kg. to 13 kg. during the same period. During the same period production of vegetables decreased by 4·98 per cent ddecline in yield by 8·01 per cent. In view of this situation about 85 per cent of the people in Bangladesh suffer from protein defficiency; 40 per cent do not get adequate Vitamin-A and 30 per cent lack sufficient iron. To bridge these gaps production of fruits and vegetables will need to be increased substantially during the Third Five Year Plan through intensification of entension work, supply of seeds and seedlings and popular movement, not only to meet domestic demand but also for exploitation of potential export market. Since fruits and vegetables are mostly seasonal and perishable processing and conservation will be encouraged through liberal credit; at the same time research will be stepped up for supplying some vegetables all the year round for which technology is well in use in other countries. For this a mid-term Horticulture Development plan will be drawn.

Agricultural Inputs Porgrammes

1.59 **Fertilizer :** Chemical fertilizer is the central element in the modern agricultural technology for improvement of yields in agricultural crops. Since Independence fertilizer consumption has increased quite fast. The off-take of fertilizer was 3·80 lakh tons in 1973/74 and it increased to 12.60 lakh tons in 1984/85 showing an annual increase of 11·5% during the period; yet the intensity of fertilizer use is low compared with countries which have achieved high yield of rice. In Bangladesh use of chemical fertilizer (nutrient) amounted to 21·6 kg. per acre of land in 1984/85 against 114 kg. in South Korea in 1982. One of the reasons for low yield of rice in Bangladesh is the low level of chemicalization of soil. In 1982 paddy yield in Bangladesh was 815 kg/acre, against

2490 kg. in South Korea. Sri Lanka had also higher level of chemical use (28.7 kg/acre) and a higher yield (1170 kg/acre) than Bangladesh. In the total quantity of 12·60 lakh tons of fertilizer off-take in 1984/85, urea, TSP, MP and others constituted of 66%, 27%, 6% and 1% respectively; this fertilizer use is dominated by nitrogenous fertilizer which is different from the dose recommended by the experts. However, the question of balanced dose has to address both supply of balanced nurtients for plant and maintaining nutrient balanced of soil. A study undertaken in 1981/82 shows that in spite of two-thirds share of urea in fertilizer application land becomes poorer in nitrogen nutrient after plant (paddy) intake. The reason is that the overall level of fertilizer use is low relative to soil nutrient and plant intake. Thus the question of balanced dose is not just a question of proportion but also of the level-lower the level higher will be the proportion of nitrogen fertilizer. Paddy needs four times as much of nitrozen nutrient as phosphate but soil has two times as much of nitrogen as phosphate, hence is the commonsense based preference of farmers for nitrogen fertilizer. It is also to recognize that significant amount of nitrogen fertilizer is lost due to nitrification and other reasons and phosphate due to fi ation. In view of these efforts should be concentrated to raise the level of off-take and input-output price policy accordingly formulated.

1.60 With the expansion of irrigation facilities of HYV rice, wheat and other crops the demand for fertilizer is estimated to increase to 18 85 lakh tons by 1989/90 as detailed below :

TABLE 9

Fertilizer Distribution Target

Fertilizer	Unit	1984/85.	1989/90
Urea	'000' Tons	832	1,206
TSP	„	346	554
MP	„	69	105
Others	„	13	20
Total		1,260	1,885

1.61 During the Third Plan the role of BADC will be focused on maintenance of a buffer stock, the retail distribution being left to private dealers and on regulatory measures regarding quality control and balanced supply.

Improved Seeds

1.62 Seed requirement for achieving the production target wil be met through the (i) supply of improved and high yield varieties of seeds produced and processed under certification to ensure quality seeds, (ii) dissemination of seed technology to the farmers and (iii) encouraging farmer to farmer transfer particularly at the level of contract farmers.

1.63 BADC is responsibio for production, multiplication and distribution of improved varieties of seeds of paddy, wheat, potato, vegetable, pulses and oil seeds. HYV seeds are developed by the research institutes such as BRRI, BARI and BJRI, etc. The genetically qualified seeds are developed in research institutes and multiplied as foundation seeds. These are then handed over to the BADC for further multiplication by themselves in their own farms or by contract growers and registered growers. The seeds are then procured, processed, preserved and certified for distribution to farmers. As BADC seed source can only meet up a minimal fraction and the major chunk is met up through farmers to farmers exchange it is necessary to interpose in this dichotomy through expansion of the base of registed growers to ensure supply of improved seed directly to the farmers. It is planned to disseminate knowledge on seed te.hnology amongst the farmers along with seed processing and storage facilities to improve seeds marketing and distributing system in the country. Quality seeds up to required quantum could easily be produced through contract growers under systematic supervision in seed growers zones. So in the Third Plan period emphasis will be placed to the organization of contract and registered growers for production of certified seed.

1.64 During the Third Plan period, the following programme for distribution of HYV seed to the farmers will be taken up:

TABLE 10

Seed Distribution Targets

Crops.	Unit	Bench mark (1984/85)	Target (1989/90)
Paddy	'000' Tons	3.28	10.30
Wheat	„	19.52	27.60
Potato	„	3.61	4.00
Jute	„	1.24	3.00

Plant Protection Service

1.65 The tropical climate of Bangladesh is prone to the growth of pests and diseases which cause considerable crop losses both in the field and the storage. The use of urea which helps luxuriant growth of plant increases the chance of pest attack while exotic and new varieties of seeds are susceptible to diseases. Plant protection measures are therefore of immense significance to improvement of yield and output proposed for different crops for the Third Plan. But it is also to recognize that plant protection chemicals have also toxic effect, more or less, on fish and beneficial insects and may therefore adversely affect the ecosystem. Therefore the use of pesticides should be closely regulated. Some pesticides such as DDT, lindane, aldrin and toxaphene have been forbidden internationally; others also need to be kept under close observation to assess their effect on the environment. Regulatory function is important because pesticides/herbicides trade is entirely in the hand of the private sector. Since at field level surveillance is difficult a possible answer to the ecological problem will be to use more aerial spray along with pest surveillance. Besides the emphasis on the regulatory function effort should be more concentrated on disease-resistant varieties and biological control of pests.

Agricultural Extension

1.66. The agricultural extension is a logical extension of new technology knowledge of which, by definition, is absent at farm level. The extension services have been developed to a considerable extent and a number of organizations have been formed for agricultural extension services. Until recently, agricultural extension services were carried out by about 13 different agencies. For effecient and effective agricultural extension services very recently six Directorates and Agencies of the Ministry of Agriculture have been merged into a newly created Department of Agricultural Extension (DAE). About 10,000 Village Extension Agents (VEAs) now called Block Supervisors (BS) have been posted one in each union as a minimum. Further in order to bridge gap of knowledge between the laboratory and the field Training and Visit (T&V) system based on extension-*cum*-research methodology, has been introduced in selected areas., *e.g.*, North-West Region and Barisal-Patuakhali Irrigation projects. Present institutional capacity is adequate to train and retrain required number of extension workers, but what will need strengthening is the T&V system to cover more areas and feed back to develop location specific agronomic knowledge. In addition, farmer groups which already exist around minor irrigation equipment will be effectively organised for group action for certain activities such as planning, procurement of inputs, adoption of technology and marketing.

Agriculture Research

1.67 Agricultural research is carried on by nine major research institutes mainly with mono crop orientation. Individual research institutes are devoted to research on jute, rice, sugarcane, tea, etc. Only one research institute BARI has reasonably integrated crop research focus with multi-crop research programme. Whether their orientation is around single or multiple crop, research is increasingly being felt to back field orientation, withdrawn from its environment to institutions as a matter of academic interest. The result is that even few good laboratory results have not gone to the farmers field to have any substantial effect on output except for boro which has been enriched by 5 varieties. Though in case of wheat two locally developed varieties, Balaka and Doel have been released, farmers continue to favour Sonalika.

1.68 The main problem lies in the diffusion of research among a large number of agencies and institutes. It has not only created problems of coordination and effective administration, but also, in the process of coordination of research for allocation of limited fund, resulted in the shift of emphasis from the relative merit of a problem to institutional competence and capability. Though BARC enjoys wider power now over the research activities, of different institutes, the real problem of prioritization of researches can hardly be effectively resolved through coordination. Through the Third Plan, development of a Farm Research System (FRS) will be emphasized with a focus on farmers choice about multiple cropping as against mono cropping and economics of inter-crop relationship.

Agriculture Education

1.69 Bangladesh has a long history of agricultural education. First agricultural college was set up in 1938 at Dhaka, blending class lectures with field level practices. The existing infrastructural base for agricultural education is broad enough to meet the requirement of the country for various levels of agricultural experts and extension workers. At the apex there are two institutions which provide pre-service professional level training leading to Bachelor and Master's degrees in the agricultural sciences. These are the Bangladesh Agriculture University located at Mymensingh and the Bangladesh Agriculture College located in Dhaka. Besides two more educational institutions—Agricultural College

at Dhumki for imparting graduation degree in agriculture and an institute of Post-Graduate Studies in Agriculture (IPSA) are in operation and these institutions will be further strengthened. Pre-service training to the Diploma level for agricultural technicians, of which majority are employed as general extension workers (Block Supervisors), is conducted at Agricultural Training Institutes (ATI) for employment solely by the Directorate of Agricultural Extension and Management. Since this Directorate has been reorganized and merged with other agencies training contents will have to be broadened to ensure that ATI diploma holder can perform multifunctional tasks. One Agriculture College will be setup at Shantidanga during TFYP and for this Tk. 10·00 crore has been earmarked.

1·70 Major draw backs in the system of agricultural education and training is weak linkage between the education offered in the institutions and the field level requirement. With expansion of the infrastructural base, like research agricultural education has also become highly institutionalized, withdrawn from field level conditions. The agricultural education should be focussed on the basis of actual requirement at the field level for the development programme. The Third Five Year Plan will give emphasis on these aspects, establishing linkage between the education given at the institutions and its effective use in the field.

Agricultural Credit

1·71 In the context of the subsistence character of Bangladesh agriculture, credit has a paramount role to play in the national efforts for increasing agricultural production. Introduction of package of technology (HYV seeds, fertilizers, pesticides and water) to achieve self-sufficiency in foodgrain calls for increased allocation of funds for agricultural financing. During 1973—85 the volume of agricultural credit continued to show an increasing trend. The amount of credit disbursement rose from the level of Tk. 19·72 crore in 1973/74 to Tk. 160·80 crore in 1977/78, Tk. 272·0 crore in 1979/80 and Tk. 1131·0 crore in 1984/85. This was necessary to meet both the demands of short-term and long-term loans. Purpose-wise volume of credit extended during the SFYP is as follows :

TABLE II.

Agricultural Credit under SFYP

(Tk. in crore)

SFYP.		Crops.	Tea.	Irrigation Equipment.	Others.	Total.
1980/81	..	139·0	59·0	24.0	151·0	373.0
1981/82	..	151·0	67.0	47·0	159·0	424·0
1982/83	..	349·0	42·0	103·0	183·0	677·0
1983/84	..	517·0	33·0	113·0	344·0	1007·0
1984/85	..	626·0	34·0	145·0	326.0	1131·0

Based on the trend of credit flow over the past years, specially during the SFYP period and keeping in view the production programme of TFYP a projection of agricultural credit for the TFYP has been made. Total amount of agricultural credit will be Tk. 2,483·0 crore in 1989/90 compared to Tk. 1,131·0 crore in 1984/85. 68% of total disbursement target will be for short-term credit and the rest for long-term credit. The annual compound growth rate of credit disbursement during the plan period will b 17%.

The purpose-wise credit disbursement projection is given below :

TABLE 12

Agricultural Credit Programme for TFYP [*Tk. in crore*]

Purpose	1984/85		1989/90		Growth Rate (%)
	Amount	%	Amount	%	
Crops ..	626	55·4	1464	59·0	18·5
Tea ..	34	3·0	40	1·6	3·3
Irrigation Equipment ..	145	12·8	343	13·8	18·8
Others* ..	326	28·8	636	25·6	14·3
Total ..	1131	100·0	2483	100·0	17·0

*Included plough, cattle, fisheries, agro-based industry, etc.

Storage Facilities

1·72 It needs no emphasis that agriculture operates under two inherent limitations namely, seasonality and perishability of its output. These two problems will become more acute with the expansion of output under the new technology. The problem assumed a serious proportion in 1984/85 in case of rice due to shift in production structure in favour of boro. Unless these two problems are satisfactorily solved, it is very likely that the expansion of new technology and output will suffer a serious setback. Alongside it will be necessary to cater to the demand of an enlarged input distribution programme through a network of supply points requiring storage facilities.

Foodgrain Storage Facilities

1.73 The Food Ministry has got a total foodgrain storage capacity of about 19·50 lakh tons. Maximum food stock ever was 12 lakh tons. The proposed programme for the increased production of cereals will not pose any storage problem though for reduction of storage loss and quality deterioration improvements of old godown will be necessary.

Fertilizer Storage Godowns

1.74 Presently BADC has fertilizer storage capacity of 3·90 lakh tons. After completion of on-going fertilizer godowns construction of 0·42 lakh tons, BADC will have 4·32 lakh tons capacity fertilizer godown by the early part of Third Plan throughout the country. With privatization of distribution and self-sufficiency in urea envisaged under the Third Plan, storage requirement of BADC will not increase.

Seed Storage

1.75 Presently BADC has got 20,000 tons of seed storage capacity in its different seed processing centres. In order to provide adequate seed storage facilities for different crops including paddy and wheat for steady and timely availability of improved seeds to farmers throughout the country a programme for construction of another 15,000 tons seeds storage capacity will be undertaken during the plan period.

Agricultural Marketing

1·76 The persent system of agricultural marketing of foodgrains and other agricultural products was established many years ago. Marketing system has not kept pace with the production technology and expansion of output, seriously lacking in development oriented marketing information and regulations. As a result farmers often fail to take optional advantage of market opportunities, resulting in pockets of gluts. In absence of an effective system of dissemination of market information about supply of inputs and market of output, farmers pay high price for inputs while receiving low price for their output. This not only inhibits continuous expansion of output but also causes shift in farmers choeice from one crop to another, destabilizing the system as a whole. Marketing information must be used in the product planning.

1·77 The Agricultural Marketing Deptt. will continue its efforts to achieve an overall improvement of the internal marketing system with emphasis on market intelligence and policy analysis besides its regulatory functions. But their impact on supplies, prices and production will depend on the concomitant development of marketing infrastructures *i. e.* transport and storage.

Production Targets for 1989/90

1·78 The following table shows the major crop production targets :

TABLE 13

Production Targets for Important Crops

Crops	Units	Bench-mark level (1984/85)	Target for 1989/90
1. Rice	Lakh metric tons	146·24	180·00
Aus	,, ,,	27·83	34·20
Aman	,, ,,	79·31	91·80
Boro	,, ,,	39·10	54·00
2. Wheat	,, ,,	14·64	26·00
3. Coarse Grains ...	,, ,,	0·33	1·00
Total (foodgrain) ...	,, ,,	161·21	207·00
4. Jute	Lakh Bales	45·73	60·00
5. Tea	Million Lbs	96·80	115·00
6. Sugarcance	Lakh tons	70·00	82·00
7. Potato	,, ,,	13·00	17·00
8. Pulses	,, ,,	2·00	3·00
9. Oil seed	,, ,,	2·00	3·50
10. Cotton	Lakh Bales	0·12	1·00
11. Tobacco	Thousand tons	54·00	60·00
12. Spices	,, ,,	268·00	325·00

Land Use Policy

1.79 Per capita availability of land is the lowest in Bangladesh in the South-East Asian Region and it is continuously declining due to population growth. Availability of arable land is declining even faster because of demand for land for other uses such as for homesteads, industries and roads and lack of adequate alternative employment opportunities. This loss of arable land has been partly compensated by encroachment of forest land and partly by movement of population to the frontier islands in the Bay of Bengal to their peril. Encroachment on forest land has reduced the forest area to a critical level (8% of area) to threaten the whole environment. Scarcity of arable land will grow further. Therefore a forward looking land use policy is of great importance in order to avoid a creeping environmental entropy. A national land use and settlement study is on progress at the Directorate of Urban Development and its recommendations will deserve careful consideration for early action. Decentralization of administration and development of upazila headquarters will prove to be a powerful tool not only for implementation of a national land use policy at local level but also for redistribution of human settlements at selective places, relieving thereby pressure on agricultural land.

1.80 The aim of the national land policy should be to ensure best use of available land for socio-economic development, but the latter is often fraught with land speculation which leads to keeping land idle in the short-term. Land reform with its ceiling on land holding in rural and urban areas will contribute partly to mitigation of this problem in the private sector, but nothing at all in the public sector. Use of land for development projects in the public sector, together with the private sector, will need to be standardized by their nature of use and land remaining unused should be made to put into alternative uses or taken over.

1.81 But it is the agriculture sector that has to mainly ensure the efficient use of land as it is its target user. Measured by output and yield land in Bangladesh is most unproductively used among the countries in this region. For example, per acre yield of paddy in Bangladesh was 815·4 kg in 1982 against 1170·0 in Sri Lanka and 1530·4 in Indonesia. As mentioned earlier, yield is a function of the modern biochemical technology which is land-augmenting from the point of view of output. Therefore, the expansion of the agricultural technology will really augment land and help reduce pressure on it.

1.82 While land reform will improve efficient use of land over the land holding and farm sizes, there will be still great scope for further improvement of land use by its reallocation over crops. In this respect a study on land use and optimal cropping pattern has been completed and its follow-up will be necessary in the Third plan to ensure efficient allocation of land to difierent crops. Such a land use policy however will need support of macro-economic policies covering prices and taxes. There can be different patterns of land allocation and cropping depending on their objective criterion. The study has developed a ranking methodology for various crops using economic/finacial profitability, domestic resources cost and employment effect etc. There is no unique ranking for any crops ; therefore a subjective choice will have to be made, *e. g.*, food self-sufficiency. In this choice employment and economic return on border price basis should be given higher weight, for the objective of the Third Plan is productive employment. Financial profitability will therefore need to be accommodated in the price policy implied by the border prices.

1.83 Table below shows the use of land as at present (1984/85) and projected for the Third Plan's crop production programme and the ranking under the Study:

TABLE 14

Land Use and Choice of Crops by Season (major crops only)

(Area in million acres)

Crops	IVA Ranking	Emp. Ranking	Area in 1984/85	Area for 1989/90	Desirable area
A. Kharif Crops:					
1. BL Aus ..	.. 4(13)	4(9)	6·11	5·70	4·98
HYV Aus (Irrg)	.. 1(11)	2(9)	1·15	1·50	2·47
2. BL Aman ...	.. 4(18)	4(20)	3·05	3·00	8·47
TL Aman ..	.. 3(16)	3(14)	8·40	8·40	6·57
HYV Aman ..	.. 2(10)	1(8)	2·67	3·00	..
3. HYV Jute ..	.. 2(15)	1(2)	1·49	1·50	1·41
4. Sugarcane ..	.. −(5)	−(1)	0·41	0·45	0·44
B. Rabi Crops:					
5. HYV Boro (Irrg)	.. 5(17)	1(4)	3·00	3·80	2·35
6. HYV Wheat (Irrg)	.. 4(13)	4(16)	1·62	2·35	2·59
HYV Wheat ..	.. 7(21)	5(21)	..	..	..
7. HYV Potato ..	.. 1(1)	3(6)	0·27	0·30	0·42
8. Cotton (md. stp)	.. 3(4)	1(7)	0·04	0·15	0·07
9. Mustard ..	.. 4(7)	7(17)	0·73	0·80	0·93
10. Lentils ..	.. 5(19)	2(23)	0·74	0·80	2·96

Note : (i) IVA means international value added and Emp, employment effect.
(ii) Figures in parenthesis mean ranking overall the crops irrespective of season.
(iii) Acreage figures for wheat, mustard and lentils are for all varieties.
(iv) Desirable area is from the 'Land Use' Study.

Programme-wise Allocation of Fund :

1.84 Third Plan allocation for crop production is Tk. 1410 crore, but supplementary investment in development of water resources as critical input to crop production is Tk. 2703 crore. Programme-wise allocation of the crop sector is shown in Table below:

TABLE 15

Programme-wise Financial Outlay in Public Sector (1985—90)

(Tk. in crore)

Sl. No.	Programmes	Revised ADP allocation during SFYP (1980—85)		Proposed allocation for TFYP (1985—90)	
		Amount	%	Amount	%
1	Fertilizers	474·34	31·97	150·00	10·64
2	Seeds	136·33	9·19	176·59	12·52
3	Plant Protection	7·49	0·50	20·00	1·42
4	Fertilizer Godowns	178·44	12·03	31·10	2·21
5	Food Godowns	280·53	18·91	147·83	10·48
6	Extension Services	161·34	10·88	205·33	14·56
7	Agrl. Researoh	123·62	8·33	209·44	14·86
8	Agrl. Edn. & Training	38·87	2·57	122·55	8·69
9	Agrl. Marketing	2·22	0·15	3·00	0·21
10	Agrl. Information	1·88	0·12	1·50	0·11
11	Agrl. Census	4·42	0·30	5·00	0·35
12	Others (including TAPP)	74·88	5·05	87·66	6·22
13	Upazila/Area Dev. Project	..	..	250·00	17·73
	Total (Crops) ..	1483·56	100·00	1410·00	100·00

It is to be noted that the amount of subsidy on fertilizer will be reduced to less than one-third of the level of the Second Plan because of the policy to eliminate it by the middle of the Third Plan period. Besides fertilizer subsidy, some of the infra-structure programmes will taper off during the Third Plan as they were sufficiently catered to during the Second Plan, *e.g.*, fertilizer and food godowns. All these programmes amounted to 63% of SFYP's expenditure. As a result of contractions of these programmes including subsidy, overall development outlay in the crop sector will decline.

SECTION 2: FLOOD CONTROL AND WATER RESOURCES

In view of low yield of crops and exigency of reaching self-sufficiency in food, Bangladesh has been striving to expand irrigation as a critical component of the modern agricultural technology but in a complex and dual water regime of flooding in the rainy season and a dry winter. The combined total annual monsoon flow of all rivers together comes to about 5 million cusecs which dwindles down to quarter of a million cusecs during the dry period. Because water is so vital to agriculture two-thirds of the net cultivated land of 22·5 million acres are cultivated in the rainy season (Kharif season) despite vulnerability to severe flood while only about 40% of land is cultivated during the winter months. Over the 25·6 million acres of land the flood regime stands as follows:

TABLE 2.1
Flood Regime.

Flood Depth.	Area (mill. acre).
Less than 1 ft	9·250
1—3 ft.	8·957
3—6 ft.	4·194
6—10 ft.	2·645
Over 10 ft.	0·583
Total ..	25·631

Water resources development has therefore responded to this dual water regime by providing flood protection and drainage facilities to the monsoon crops from over-flooding and water logging in one hand and irrigation facilities for expansion of winter cultivation on the other.

2·2 Water resources management has been largely the responsibility of public sector agencies, BWDB and BADC, until recent years when emphasis began to shift in favour of minor irrigation. Gravity flow irrigation, flood control and drainage remain BWDB's main functions while BADC's role has been to provide minor irrigation facilities. The latters' role has declined in recent years as other public sector institutions like Bangladesh Krishi Bank, Bangladesh Rural Development Board and Bangladesh Bank undertook promotion and development of minor irrigation in the private sector through the credit mechanism.

REVIEW OF PAST DEVELOPMENT

2.3 **The First Five Year Plan (1973—78)**: A total area of 28·75 lakh acres and 45 lakh acres were brought under irrigation and flood control and drainage facilities respectively by the end of FFYP. The progress was very uneven in the two areas compared with their respective planned target of 50·38 lakh and 51·40 lakh acres. In 1972/73 there were 23·13 lakh acres of land under irrigation and 30 lakh acres under flood control and drainage. Out of the total irrigation coverage of 28·75 lakh acres in 1977/78, gravity flow irrigation constituted 1·60 lakh acres, minor irrigation by LLP, DTW and STW 18·15 lakh acres (BADC 17·49 lakh acres and BRDB and and BKB 0·66 lakh acres) and traditional methods, 9·00 lakh acres. An area of 45 lakh acres was under flood control and drainage. Some of the major projects completed during the First plan period were G.K. Phase-I, Ground Water Development, D-N-D, Brahmaputra Right Embankment, etc. BADC operated 36,730 LLPs, 6,600 STWs and 7,470 DTWs to irrigate 17·49 lakh acres. Tk. 525 crore was invested during First Plan for flood control and irrigation of which Tk. 244 crore for flood control, drainage and gravity flow irrigation and Tk. 281 crore for minor irrigation equipment.

2.4 **The Two Year Plan**: The irrigated acreage rose by 6·14 lakh acres to 34.89 lakh acres during TYP against the target (cumulative) of 41·13 lakh acres. Flood protection and drainage facilities were expanded to 47·90 lakh acres against the target of 52·00 lakh acres during the same period. Thus, during the TYP period irrigation programme significantly picked up over the flood control and drainage. Most of this gain in acreage came from minor irrigation (3·23 lakh acres) against gravity flow irrigation of 0·94 lakh acres. The number of LLPs increased to 38,600, STWs to 23,460, DTWs to 9,795 and HTWs to 110,000. A total of Tk. 400·45 crore was invested during TYP. Of the total expenditure, BWDB spent Tk. 215.93 crore; BADC, Tk. 179·31 crore and other agencies Tk. 5.21 crore.

2·5 **The Second Five Year Plan**: To help achieve the food production target of 17·5 million tons, irrigation target was set at 72·1 lakh acres and flood control and drainage at 64·7 lakh acres during SFYP compared with benchmark of 34·89 lakh and 47·90 lakh acres respectively. Main strategies to reach these targets were to maximise the benefits from the existing facilities; to complete projects already undertaken with emphasis on quick yielding and cost effective small and medium projects and self-contained components of big projects; to continue investigations, surveys and studies of the water regime and, above all, to popularize minor irrigation equipment in the private sector for rapid coverage. Major policy measures consisted of gradual reduction of subsidy and introduction of water rates; privatization of sales and ownership of irrigation equipment and creation of repair and maintenance facilities.

2·6 It is estimated that actual coverage of irrigation in 1984/85 was 61·20 lakh acres. Broadly, the share of surface and ground water in total irrigation works out to be 30·85 and 30·35 lakh acres respectively in 1984/85 compared with 26·47 and 8·42 lakh acres in 1979/80, showing a significant progress in ground water exploitation. Flood control and drainage facilities were extended to about 64 lakh acres, about the same as the Plan target (64·70 lakh acres) against the benchmark of 47·90 lakh acres in 1979/80.

2·7 The following table gives information on irrigation, flood control and drainage coverage during the SFYP:

TABLE 2·1

Irrigation, Flood Control and Drainage.

[In lakh acres]

Irrigation Technology/FC & D.	Benchmark (1979/80)	Terminal year (1984/85)	
		Target	Achievement
I. Surface Water Irrigation	**26·47**	**30·50**	**30·85**
(i) Gravity Flow	2·07	5·00	4·75
(ii) LLP	14·40	18·00	17·60
(iii) Traditional	10·00	7·50	8·50
II. Ground Water Irrigation	**8·42**	**41·60**	**30·35**
(i) STW	2·20	31·25	19·25
(iii) DTW	5·88	9·00	10·00
(iii) HTW	0·34	1·35	0·90
(a) Total Irrigation	34·89	72·10	61·20
(b) Flood Control and Drainage	47·90	64·70	64·00

It is seen from the table that both the surface water irrigation and the flood control and drainage coverages were very much on their targets while there was substantial shortfall in ground water irrgation coverage. Main sources of shortfall were in STW and HTW which in fact were considered to be the main levers for irrigation expansion in the private sector. Out of the planned increment in irrigation acreage of 37·2 lakh acres, 30·1 lakh acres were to be raised through these two methods; slightly over half of this target was realized. Towards the close of the Plan, setting of STWs posed a serious problem in certain Zilas (Districts) because of over exploitation of water alongside DTWs which thus retarded the expansion of STWs. The Plan envisaged to install 2,50,000 STWs; actual number was 154,000.

2·8 On the flood control and drainage side BWDB completed among others, the following physical works during the SFYP:

TABLE 2.2

Flood Control and Drainage Performance.

Items	Unit	Benchmark (1979/80)	Cumulative Achievement (1984/85)
Flood Embankment	Miles	3,084	3,810
Irrigation Canal	„	1,707	2,363
Drainage Channel	„	1,408	1,853
Hydraulic Structures (Sluices and Regulators)	Nos.	3,589	4,521
Closures	„	911	985
Bridges and Culverts	„	3,203	3,565
Pump House	„	58	89

2.9 **Food For Works Programme (FFWP)**: Under FFWP, BWDB has been executing since 1974/75 projects while providing relief to the rural unemployed by employing such projects like construction, repair and improvement of flood embankments, drainage canals, irrigation canals and roads in selected areas on payment of wage in kind (wheat). During the SFYP about 3,835 miles of embankment and 4,378 miles of channel works were completed.

2.10 **Some Policy Issues**

(a) **Planning, Implementation and Management:** It is to be recalled that the Second Plan's main strategy was to take short gestation quick yielding projects. To meet this criterion BWDB expanded their programmes in the areas of Early Implementation Projects (EIP). As these projects have small area (about 1000 acres) to cover they have become increasingly identified with groups interest. But appreciation of people's participation in planning, implementation and management was seriously lacking. This absence of participation by assumed beneficiaries not only creates problems in land acquistion but also frustrated subsequent decision to transfer such projects to local government. 82 projects were identified for transfer to Upazila Parishads for their operation and maintenance; of this the transfer of 60 projects was agreed upon by the concerned Agencies and Ministries, however, their actual transfer to the Upazila was still awaiting.

(b) **Collection of Water Rates:** Increasing privatization minor of irrigation equipment and reduction of subsidy on them gave a corresponding advantage to the farmers in BWDB project areas. So, in order to impose water rate and to recover a part of the project cost, 12 projects of BWDB were brought under the purview of the Bangladesh Irrigation Water Rate Ordinance of 1983 made effective from January, 1984. It was planned to collect Tk. 8 crore as irrigation water charges during 1984/85, the actual collection was far below the target because of delay in fulfilling some procedural formalities for imposition and assessment of water rates.

(c) **Weakness of Extension Services:** The benefit from BWDB projects was adversely affected by the absence of definite policy for extension activities resulting in poor utilisation of created capacity. Inadequate O & M Budget for the completed projects and absence of water rates further accentuated this problem as they adversely affected the interest of both the operators and the users of the project.

(d) **Problems of Minor Irrigation :** It has been mentioned that there was a significant shortfall in irrigated acreage under minor irrigation equipment. This was due to both shortfall in their number and decline in command area. The following table shows the shortfall in the number of equipment target for 1984/85:

TABLE 2.3

Shortfall in Minor Irrigation Equipment

Types.	Target.	Actual.
(i) LLP (1 cus.)	30,000	20,000
(ii) LLP (2 cus.)	30,000	28,000
(iii) DTW	18,000	17,000
(iv) STW	250,000	154,000
(v) HTW	450,000	300,000

Factors responsible for shortfall of the target were as follows: (i) increased rental and sales price; (ii) free-sale of LLP resulting in diversion to alternative use and reduced access of poor farmers for lack of credit; (iii) increasing scarcity of easily accessible surface and ground water sources; (iv) changing policy about makes and models of STW engines affecting the sale as well as the operation and maintenance programmes, and (v) delay in sanction of irrigation equipment at upazila level.

2.11 **Resource Constraint:** One basic reason for the shortfalls in various targets was resource constraint. An investment of Tk. 2702 crore (at current prices) was provided for the sector. An allocation of Tk.2131 crore was made through the RADPs against which actual expenditure was about Tk. 1911 crore. Given the severe resource constraint that the Plan faced, there was still scope for improvement of allocative efficiency within the sector. In spite of the above limitations it is to be recognized that there was considerable improvement in irrigation

acreage. As the table below shows, the irrigated acreage increased by 11.76 lakh acres between 1972/73 and 1979/80; the expansion during the 5-year period of SFYP was 26·31 lakh acres.

TABLE 2.4

Growth of Irrigated Acreage

(Area in lakh acres)

Programme.	Bench-mark as of 1972/73.	Achieve-ment in FFYP (1977/78).	Annual growth rate during FFYP. (%)	Achieve-ment in TYP (1979/80).	Achieve-ment in SFYP (1984/85).	Annual growth rate during SFYP. (%)
1	2	3	4	5	6	7
A. Surface Water Irrigation :						
(i) Gravity Flow ..	1·22	1·60	5·2	2·07	4·75	18·1
(ii) L L P ..	10·50 (30,000)	13·55 (36,730)	5·2	14·40 (38,600)	17·60 (48,000)	4·1
(iii) Traditional ..	10·00	9·00	2·1	10·00	8·50	—3·2
Sub-total (A) ..	21·72	24·15	2·1	26·47	30·85	2·1
B. Ground Water Irrigation:						
(i) D T W ..	1·25 (2,900)	3·35 (7,453)	21·8	5·88 (9,795)	10·20 (17,000)	11·6
(ii) S T W ..	0·16 (2,000)	1·00 (12,613)	44·3	2·20 (23,466)	19·25 (154,000)	54·3
(iii) H T W ..	..	0·25 (60,000)	..	0·34 (110,000)	0·90 (300,000)	21·5
Sub-total (B) ..	1·41	4·60	26·7	8·42	30·35	29·2
(a) Total Irrigation (A+B) ..	23·13	28·75	4·4	34·89	61·20	11·9
(b) FC & D ..	30·00	45·00	8·4	47·90	64·00	6·0

Note : Figures in parentheses indicate number of equipment fielded/operated

The acceleration of irrigation during the plan period was the direct result of the plan strategy in favour of minor, small and medium programme/project. The contribution of minor irrigation in the total irrigation increased from 22.82 lakh acres in 1979/80 to 47·95 lakh acres in 1984/85 accounting for 110% of the expansion.

2·12 **Subsidy Policy:** Since irrigation-seed-fertilizer technology was the key to the development of the agriculture sector as to promote its growth, the government had been heavily subsidizing these new inputs. But with the increased diffusion of the technology their prices were increased and subsidy rate reduced. The policy for reduction of subsidy was seriously being pursued during the Second Plan to augment budgetary resources; as a result, subsidy on sale of shallow and hand tubewells was totally withdrawn from 1982/83. The rate of subsidy on Low Lift Pump was reduced from 50% in 1980/81 to 25% in 1984/85 through increasing rental on 1-cusec and 2-cusec LLPs from Tk. 865 and Tk. 1350 in 1980/81 to Tk. 2300 and Tk. 3600 respectively in 1984/85 and the rental for deep tubewell increased from Tk. 1200 in 1980/81 to Tk. 5000 per set in 1984/85. At the same time with the reduction of subsidy private ownership was encouraged and all STWs and HTWs have already been transferred to private owners. By 1984/85, 43,563 LLPs (1-cusec: 17,921 and 2-cusec: 25,642) and out of a total number of 21,485 DTWs sunk by 1984/85, 10,384 were transferred to private owners. Total disposal of DTWs already sunk and used on rental basis however faced reluctance on the part of the farmers since it is not possible to remove DTW already sunk or determine its quality. In general, private sector has been the main plank for reaching the irrigation goal during the Second Plan as is shown by the fact that both BKB and BB exceeded their respective target in respect of STWs. BKB exceeded its target of 40,000 by 9,351 and BB its target of 27,000 by 6,467. Fielding of minor irrigation equipment through the private sector raises the fundamental question of equity as access to minor equipment in the private sector critically depends on access to credit also.

THIRD FIVE YEAR PLAN (1985—90)

Objectives of TFYP

2·13 The primary objective of water resources development is to accelerate the process of technological transformation of agriculture in order to reach higher level of agricultural production, particularly foodgrain.

Specific objectives during TFYP are :

(i) to provide timely and dependable supply of irrigation water for increased food grain production of 20·7 million tons ;

(ii) to regulate and control floods and drainage, salinity, tidal water inundation and river erosion to avertcrop and other material damages and human sufferings ;

(iii) to generate productive employment opportunities for rural people in order to ensure equitable distribution of benefits of development ;

(iv) to promote efficient use of water resources in respect of time and geographical area through interbasin water balances and optimal cropping pattern.

Targets of TFYP

2·14 According to existing studies, total potential area for irrigation is estimated to be about 110 lakh acres. The constraints for bringing additional area under irrigation are threat from salinity intrusion, demand of other uses like fisheries, navigation, drinking water and industrial. About 40% out of 75% available flows of major rivers are considered available for irrigation without inflicting sacrifices on other users. Area irrigated by the end of 1984/85 is estimated at 61·20 lakh acres which is about 56 percent of the potential area. The rest 48·80 lakh acres are yet to be brought under irrigation. It has been envisaged to expand the irrigated area to about 96·44 lakh acres by the end of 1989/90. This will represent about 88 percent of the potential area.

2·15 Total flood vulnerable area has been estimated to be about 203 lakh acres as per flood records of 1974. This is about 57 percent of the total area of the country. By the end of 1984/85, 64 lakh acres have been provided with flood protection and drainage facilities. This is about 32 per cent of the flood vulnerable area. The cumulative target for protection from flood and drainage has been set at 82·54 lakh acres in 1989/90 which is about 41 per cent of the flood vulnerable area.

2·16 Details of TFYP target are given in the table below :

TABLE 2·5

Irrigation and Flood Control Targets

(Area in lakh acres)

Name of Programme	Benchmark (1984/85)		Target for TFYP (1989/90) Cumulative		Annual Growth Rate during TFYP over 1984/85 (%)
	Number	Area	Number	Area	
1	2	3	4	5	6
I. Irrigation:					
A. Surface Water Irrigation :					
(i) Gravity Flow	..	4·75	..	14·94	25·8
(ii) L L P	48,000	17.60	60,000	21·00	2·6
(a) I-cusec..	20,000	5·00	30,000	7·50	8·4
(b) 2-cusec..	28,000	12·60	30,000	13·50	1·4
(iii) Traditional..	..	8·50	..	8·00	—1·2
(iv) Small Projects by Upazila Parisad	..	..	..	3·45	..
Sub-total (A)	—	30·85	..	47·39	8.9
B. Ground Water Irrigtion :					
(i) S T W ..	1,54,000	19·25	2,00,000	25·00	5·4
(ii) D T W ..	17,000	10·20	30,000	18·00	12·00
(iii) H T W ..	3,00,000	0·90	4,50,000	1·35	8·40
Sub-total (B)	..	30·35	..	44·35	7·9
C. Command Area Development.	..	..	..	4·70	..
Total (A+B+C)	..	61·20	..	96·44	9·5
II. Flood Control and Drainage.	..	64·00	..	82·54	5·2

Strategies of TFYP

2.17 In order to achieve the objectives and targets of the TFYP, two sets of strategies will be pursued over short term and long term. They are discussed below :

(a) Short-trm trategies:

(i) Highest priority will be given to the maximum utilization of the existing facilities and improvement of productivity in the area already covered by irrigation facilities. Command area development, efficient water distribution, improvement of crop-soil-water management practices will be encouraged.

(ii) Emphasis will be given to the completion of all incomplete projects as speedily as possible. For this, the on-going projects will be adequately funded to achieve the stipulated physical targets in the shortest possible time.

(iii) In developing new projects focus will be on short gestation, cost effective and labour intensive water projects, except where large projects are needed for conservation of water to feed small projects in the dry season. Thus, small and medium flood protection, drainage and gravity irrigation and minor irrigation projects (LLP, STW and DTW) will get priority for implementation during the plan period. The Water Sector Master Plan Study shortly known as MP Study will be the main basis for the development of the water sector.

(iv) Big projects will be decomposed into independent/self-sufficient units for implementation in phases.

(v) Participation of local people as beneficiaries of drainage and irrigation programmes will be encouraged from their planning to implementation and management especially through the local Government.

(b) Long-term Strategies :

(i) *Use of Main Rivers :* Augmentation of small rivers flows from big rivers will be pursued during TFYP. The case in point is augmentation of Baral, Bangali, Dhaleswari, Old Brahmaputra and various other rivers from the rivers, the Ganges, the Brahmaputra and the Meghna through use of larger capacity floating/barge-mounted Pumps.

(ii) *Basin-wise Development :* The ultimate development of water resources will require basin-wise development of surface and underground water in an integrated framework for water balance with time (season) and space (area) variants. In spite of Master Plan Study through investigation of total potential water resources, particularly underground water ones, will be necessary. Some river basins are already covered by on-going projects *e.g* Chalan Beel, Pabna and Bogra Projects in the Atrai-Hurasagar basin ; Noakhali project in the Dakatia basin, Dhaka South-West project in Kaliganga-Dhaleshwari basin, etc. Development of Meghna basin and Haor areas rose a complex problem while Muhuri would involve a major study of the Meghna-Muhuri water transfer scheme. Once a comprehensive framework is available, development will be carried out in phases with continuous monitoring of their effects on the regime up and downstream.

(iii) Work on long-term projects like Teesta Barrage will be continued and the studies of the Brahmaputra and the Ganges Barrage will be given priority.

2·18 **Soil Conservation and Afforestation :** These measures will be necessary in the catchment area of all rivers which accentuate floods. Water shed management besides retarding the run-off will lead to control of silt inflow into the river which creates unstable conditions in the regimes of the rivers. Implementation of the programmes will involve multi-disciplinary approach involving soil conservation, engineering, forestry and agronomy.

2·19 An early warning system to protect the environment from deterioration along with afforestation and soil conservation must be developed. This can be in the form of water sampling and analysis with respect to its chemical properties, heat and temparature, foreign bodies, silt, etc. It must be carried on with regularity, accuracy and speed so that counter-action can be initiated in time. With SPARRSO now well established, ground relay platforms can be set up in different basin regimes for monitoring both surface and stratosphere condition in a coordinated way.

2·20 **Flood Damage:** Flooding is a normal phenomenon for Bangladesh but not infrequently it also assumes critical proportion. There is need for a rational and practical basis for estimating flood damage and collecting statistics for quick and effective measures both to alleviate sufferings and make up losses. There should be a master chart from which the administration can judge the exact area affected by floods of different intensities. The attempt will help to minimise the gap between basic data and knowledge for dealing effectively with the flood problems. The experience with the 1984 flood situation and response to it can be the basis for development of an operational framework to meet flood and similar disasters.

Third Plan Programmes

2·21 Total irrigated acreage as already mentioned will be increased to about 96·44 lakh acres in 1989/90 from the estimated benchmark coverage of 61·20 lakh acres in 1984/85 and the area under flood control and drainage facilities will be expanded to 82·54 lakh acres. Programmes to attain these targets are briefly discussed below.

2·22 **Gravity Flow Irrigation :** BWDB will cover an additional 10·19 lakh acres to bring 14·94 lakh acres under gravity flow irrigation in a total of 96·44 lakh acres for irrigation. In 1984/85 the area under gravity flow irrigation was 4·75 lakh acres. In addition to expansion of gravity flow irrigation, BWDB has to provide additional flood protection and drainage facilities ; but unlike in the past planning implementation and management of such facilities will be carried at different states, national and local, rather than centrally.

2·23 **Programmes :** Under the gravity flow irrigation the following programmes will be undertaken :

(i) Very small projects covering maximum 1,000 acres for irrigation, 2,500 acres for drainage and flood control will be initiated, proposed, planned and implemented by the Union Parishads. Total number of projects is estimated to be around 4,000 during the plan period. Detailed estimate including the engineering aspects of these projects will be prepared by the Upazila Engineer. Where necessary technical assistance for this purpose will be provided by BWDB. An area of 3·45 lakh acres will be irrigated by Upazila Parishads.

(ii) Under each Upazila there will be one small project covering maximum of 5,000 acres for irrigation and 10,000 acres for drainage and flood control. The Plan provides for around 500 projects of these types. Detailed engineering and technical appraisal of the small projects may be made by BWDB in consultation with local people. Upazila Parishad may be entrusted upon the responsibility of their execution.

(iii) Large irrigation projects to be undertaken during the Third Plan are (a) North Rajshahi Irrigation Project ; (b) Baral Irrigation Project ; (c) Daulatpur-Damurhuda Irrigation Project, in addition to the implementation of the on-going projects. The important on-going project is the Teesta Barrage.

(iv) Important projects to be studied during the plan period are the Brahmaputra Barrage, Dharala Barrage, Dudkumar Barrage projects and Meghna-Muhuri Water Transfer Project.

(v) Lifting of water through existing dredgers/floating pumps in the Ganges and Brahmaputra by diverting water to the existing rivers.

(vi) Improvement of major and minor drainage schemes all over the country to conserve the monsoon flows in all the channels for water use in the winter season.

(vii) Protection of important cities, towns, bazars, and other important structures from river erosion.

(viii) Water conservancy projects at feasible locations of the country will be taken up. An area of 2·00 lakh acres is expected to be irrigated under these projects.

2·24 **LLP** : It is envisaged that a total of 60,000 LLPs of which 30,000 sets of 1-cusec, and 30,000 sets of 2-cusec capacity will be in operation for irrigating 21 lakh acres of cultivated land by 1989/90 against 48,000 (1-cusec : 20,000 and 2-cusec: 28,000) in operation during 1984/85. As a result, additional 12,000 LLPs will be operated to irrigate additional 3·40 lakh acres by TFYP.

2·25 **STW** : A total of 200,000 STWs will be under operation to irrigate 25 lakh acres by 1989/90 against operation of 154,000 STWs irrigating 19·25 lakh acres in 1984/85. This will mean additional 46,000 STWs in operation during the plan period. In addition 21,000 STWs will be needed for replacement. This will bring the total demand of STWs during TFYP to 67,000. This programme will be executed by BADC, BKB, BRDB and BB.

2·26 **DTW** : It has been planned to raise the number of DTWs in operation to 30,000 by 1989/90. This will irrigate 18 lakh acres of land as against estimated coverage of 10·20 lakh acres through operation of 17,000 DTWs by 1984/85. A total of 12,000 DTWs will be sunk including 3,000 for replacement during TFYP period in addition to 21,485 already sunk up to 1984/85. Thus, number of wells sunk will come to 30,485 by the end of 1989/90.

2·27 **HTW** : It is envisaged to operate 4,50,000 HTWs to irrigate 1·35 lakh acres during TFYP against operation of 3,00,000 HTWs irrigating 0·90 lakh acres in 1984/85. Of the total operating HTWs, BADC will operate 1,80,000 and BRDB 2,70,000 HTWs.

2·28 **Traditional Methods** : It has been estimated that a total of 8·00 lakh acres of cultivated land will be irrigated by traditional methods in 1989/90.

2·29 **Command Area Development (AD)** : An area of 4·70 lakh acres will be brought under irrigation by increasing the efficiency of existing irrigation facilities (STW, DTW and LLP) through CAD programme.

Financial Outlay

2·30 The major public sector agencies responsible for water resources programme are BWDB and BADC. Total allocation for the public sector agencies is Tk. 2703 crore. Their Programme specific allocation is shown below:

TABLE 2·6

Financial Allocation (1985—90)

(Tk. in crore)

Agency/programme	Financial Outlay		Gross Total	Net excluding recovery
	Non-recurring	Recurring		
1	2	3	4	5
A. **BWDB:**				
(a) Project Implementation:				
(i) Major Projects ..	1474	..	1474	1474
(ii) Small & Medium Projects	396	..	396	396
(iii) Block Provision (Town protection, River training etc.)	35	..	35	35
(iv) Others (Dredgers, MEO)	35	..	35	35
(b) Survey, Investigation and Studies:	110	..	110	110
Sub-total (A) ..	2050	..	2050	2050
B. **BADC:**				
(i) DTW	542	..	542	367
(ii) STW	210	..	210	30
(iii) LLP	334	..	334	230
(iv) Others	14	..	14	13
Sub-total (B) ..	1100	..	1100	640
C. Other Agencies:				
Miscellaneous Projects ..	13	..	13	13
Total ..	3163	..	3163	2703

Private Investment

2·31 In addition to public sector's allocation, considerable investment will be undertaken in the private sector, particularly through the credit mechanism of the BKB, BRDB and the commercial banks. Private sector investment gained considerable momentum during the Second Plan as a result of rapid expansion of agricultural credit which blunted the effect of reduction of subsidies on minor equipment. Low recovery rate of agricultural credit is likely to inhibit as fast an expansion of credit over the Third Plan as in the Second Plan. Recycling of credit resources is undoubtedly a healthy sign of investment but its failure is not peculiar to agriculture nor is its explanation far to seek. The ability of the farmer to repay was sapped through repeated floods and droughts during the Second Plan ; it is also a fair gable against nature to reinvest, rather at an accelerated pace to reach the threshold of security. Third Plan will consciously pursue the course. But what will be insisted on credit administration is to plug leakage of resource away from the desired goal. Agricultural investment is expected to reach a sum of Tk. 4,400 crore over the plan period excluding short-term production loan. Irrigation equipment will have the lion's share of this amount.

Policy Issues

2·32 To achieve the irrigation target a number of problems will need to be addressed during the plan period. Important ones are :

(i) *Rationalisation of Subsidy* : Various studies indicate that rate of return of different types of irrigation methods in Bangladesh is quite high. It is shown that the farmers in general derive considerable surplus. In spite of this, they bear only fraction of the cost of irrigaion. There is also significant discrimination between users of different irrigation equipment and facilities. For the equipment under BADC's rental programme, recurring costs in the form of petroleum oil, lubricants and operator's salaries are fully borne by the farmers. But they bear only a small portion of the annual capital cost. The users pay 50 to 85% of total annual cost of irrigation depending on type of equipment. For equipment under sale programme, the overhead cost of BADC's head quarters and that of its projects are fully borne by the Government. Government also subsidizes 25% of capital cost in case of LLP and 75% in case of DTW. There is no subsidy on capital cost of STW. In case of irrigaion facilities under BWDB, the users pay only nominal charges. Collection of water rates for gravity irrigaion projects is yet to be made effective though it has been enacted recently. Subsidy element will be rationalised over all methods of irrigation.

(ii) *Standardization of Irrigation Equipment :* Too many types of equipment, specially engines, are in use, which cause problems of accumulation stock, after sale maintenance and operation and regular supply of spare parts. Unsuitable engine makes take advantage of this diversity leading to inefficient use of irrigation equipment. There is dearth of prompt and efficient repair facilities for different makes in the country leading to frequent breakdown during irrigation season. At present, BADC has sizable stock of STW engines. Alternative uses of these engines, particularly of 2200 RPM for which demand is less for STWs purposes, may be explored, Possible alternative avenue for uses may be in LLP, mechanized boat, etc.

(iii) *Lack of Effective Co-ordination* : It is clear from the discussion that there are several lines of supplies in case of minor equipment and there are two distinct lines of activities, namely pre-installation activities and post-installation activities. The agencies *e.g.* BWDB, BADC, BKB, BRDB, DAE, etc., are involved for the implementation of irrigation programmes. Effective inter-agency co-ordination is important for the success of irrigation programme. Leadership and responsibilities are to be clearly defined in both the above phases of sales and maintenance.

(iv) *Water Legislation and Administration* : Water in Bangladesh is scarce when needed and will pose increasing problem of efficient allocation among its various users, even within agriculture. Excessive use of withdrawal of water may have irreversible repercussion on the ecology of the country through changing water table and intrusion of saline water. So at national and basin level appropriate water legislation should be framed to enable sufficient control over surface and ground water utilization in the country.

SECTION 3 : LIVESTOCK DEVELOPMENT

The livestock population is estimated to consist of 23·22 million cattle and buffaloes, 10·72 million goats and sheep and 84·25 million poultry and ducks. While goat, sheep and poultry rearing is an extension of subsistence effort, the cattle and buffaloes are the only source of draft constituting an integral part of the farming system. Excluding the milk cows which are also partly used for draft, there are about 12 million or more cattle used for draft powers. Bangladesh has thus the highest density of cattle population replicating the population density in the South-East Asian region; yet 40% of holding below 3 acres owns no draft animal, though in a subsistence agriculture the urge for self-sufficiency is very strong at farm-household level. On the contrary, the competition between food and fodder has been so much accentuated that as a draft power the cattle population has degenerated. Inspite of very high density of cattle population the currently available draft power is only 0·096 kw/acre, one-third below the required draft power of 0·151 kw/acre for proper tillage. Since agriculture cannot do without cattle, there is as a result strong *commensalism* at low level of subsistence between farming population and cattle population. The lack of adequate draft power in turn leads to drafting of cows for draft purposes. Over 3·5 million of cows are used for draft, exceeding the number of dry cows. The use of cows for draft is one of the main reasons for growing milk shortage in the country. The current output of milk is less than a million ton or about 0·02 kg/per capita, or 0·65 kg per cow a day. The latter figure shows a very poor output of milk cow in the same way as draft power of cattle is low. The use of cow for draft interferes with lactation and the progeny adversely affecting the quality of milk cow. Though a dual purpose cow is viewed to be earning its feed from milk, in fact its capacity is reduced as a result for milk and draft power. On the other hand, fodder supply was adversely affected by food production, partly due to the decline in grazing land, but mainly due to the shift from longstem to short varieties of rice cultivation.

AN OVERVIEW OF PAST DEVELOPMENT

3·2 Miserable condition of the livestock sector is reflected in its various products. Milk, meat and eggs are very important sources of animal protein; but production of milk increased at rates well below the population growth rate. Annual rate of growth

of these items together was 1·78% and 1·80% during the FFYP and SFYP respectively. The levels of output of these products over the two plan periods are shown in the table below:

TABLE 3·1

Output of Dairy Products

	FFYP			SFYP		
	1972/73	1977/78	Average growth rate	1979/80	1984/85	Average growth rate
1. Milk ('000' tons) ..	703·65	752·87	1·40	771·90	825·00	1·38
2. Meat (000' tons) ..	159·00	129·60	2·55	188·62	215·00	2·69
3. Eggs (crore No.) ..	66·00	89·60	6·30	100·70	135·00	6·04
(000' tons) ..	26·49	35·96	6·30	40·43	54·19	6·04
Total ('000' tons) ..	889·14	968·43	1·78	1000·95	1094·19	1·80

The reasons for decline in growth rate of milk were generally due to poor constitution of local breeds, non-availability of adequate feeds and green fodder and high cost of fodder.

3·3 Main policies and programmes pursued for livestock development during FFYP and SFYP were reduction of mortality in animals and poultry, infrastructure development for improvement of breeds and biological products and increased output. Sectoral programmes suffered due to lack of institutional capability as reflected in the under utilization of resources. A sum of Tk. 107·3 crore was allocated to the sector under SFYP but only Tk. 57·97 crore was utilized. Mortality of livestock could not be reduced as envisaged due to shortage of biological products and lack of adequate research findings and technological support. For all these, output increased slowly.

THIRD FIVE YEAR PLAN (1985—1990)

Objectives of TFYP

3·4 The main objectives of Livestock Sub-sector for the Third Plan are :

(i) to increase the supply of draft power of both cattle and buffalo through better veterinary services, and feed and harness improvements;

(ii) to increase production of milk, meat, hide and skin, eggs, etc., particularly of milk through encouragement of dairy farming as a separate husbandry; and

(iii) to create new employment opportunities for the women and the landless in cattle, goat and poultry birds rearing.

Strategies for Third Plan

3·5 To attain the above objectives the following strategies will be pursued:

(i) *Improvement of Draft Power :* To recall earlier discussion, the current shortage of draft power is about one-third. This is not due to overall shortage of cattle but due to (i) poor health, (ii) skewed ownership pattern and (iii) defect of harness and plow. As cropping intensity will rise due to expansion of irrigation, the demand for draft power will also increase; hence augmentation of draft power will become essential for reaching the food target. Because of the shortage of grazing field and feed the Third Plan programmes will first focus on controlling diseases including parasitic infestations and improvement of feed supply in the short run and genetic improvement in the long run. The Plan will at the same time look for increasing the access of the small and marginal farmers to this important resource of the farming system. The presently skewed distribution can be improved if such access can be ensured through the credit mechanism; but as this may entail the risk of leakage of resource both before and after provision of credit, possibility of developing draft-power husbandry for hiring purpose should be explored at the community level. It must be acknowledged that because of the skewed sdistribution hiring of draft power is resorted to be a large proportion of farmers. Such farm can be set up on an experimental basis under the BSS/KSS. Only in case of areas with absolute shortage of draft power, cattle head should be increased; here preference should be given to buffalo which is less costly in matters of feed. Lastly, serious attempt will be made to improve the harness as the present system of harness means inefficient use of draft power. Double harness and yokes poorly transfer the traction power from the shoulder of the animal to the plow, and the flat soled plow with harness by pair result in wastage of energy as the line of draught does not pass through the centre of resistance of the plow, thus, a pair of cattle work more to produce a given amount of draft. So, besides improvement of animal health with supply of feed and veterinary services the harness, yoke and plow need also to be improved.

(ii) *Improvement of Milk and Dairy Products Supply :* Per capita output of these products has declined continuously over the First and the Second Plan period. There is only one diry cattle for 28 people in the country producing only 0·02 kg of milk percapita a day. The stock is poor both in number and yield and the yield has suffered particularly because of use of cows for draft. The past efforts to set up dairy farms have had no significant effect on the animal husbandry as is shown by the fact that most of the cooperative dairy farms are running serious shortage of milk supply. Third Plan will therefore emphasize development of dairy cattle at farmer's level around the existing cooperatives, starting with the landless population as distinct from dual purpose animal husbandry. Given this separation of dairy farming from general animal husbandry, breed can be improved quicker than otherwise as the experiences in other countries show.

(iii) *Employment Generation :* Animal husbandry is a labour intensive farming activity; therefore, given the primary objective of the Third Plan for creation of productive employment opportunities, the development of animal husbandry will significantly contribute to this goal. Besides that livestoek will contribute

directly to employment in tillage, diry farming can absorb quite a large number of the labour force. A second area which is presently being developed with success and still promises further development in future is goat (also sheep) rearing because of high demand for meat and skin. The present population of goat and sheep is 10·7 million. A study shows that goat and poultry birds rearing can be coupled with fish culture in ponds and baors with higher return.

Programmes for Third Plan

3·6 Third Plan envisages an investment of Tk. 245 crore for the development of the livestock resources through improvement in feed supply, veterinary services and the stock. These are discussed below:

(a) *Feeds and Fodder :* Malnutrition and the consequent susceptibility of livestock to diseases are the main causes for reduced draft power and low yield of dairy products. Improvement of fodder supply cannot be easily brought about because of limitation of land ; hence, fodder culti vation along with crop production or in between the crops will be encouraged among the farmers. To augment private fodder supply programme for cultivation of HYV grass like napier, paraguine pangala, maize, ipilipil, etc., will be taken up in khas lands, road sides and canal sides. Seeds and seedlings of the fodder plants will be made available to the farmers through the district and upazila seed multiplication centres. Enrichment of straw with urea from digestive point of view will be explored as a possibility for use as cattle feed. As mentioned already use of buffalo on a large scale for draft purpose can ease the problem of cattle feed significantly. Scarcity of feed is also a formidable constraint for large scale poultry farming. Besides use of agricultural waste and grain residues like brans, the fisheries sector will have to play an important role in this area by salvaging the trash fish from the marine water, while offals including blood, viscera, bones, etc. from the slaughter houses can provide the basis for organized poultry feed production in the private sector.

(b) *Disease Control :* Mortality and health hazards due to various diseases and parasitic infestation is a serious threat to livestock development. Each year about 10% of the animals and about 30% of the birds die due to various diseases. As a result, a large part of national efforts for improving livestock through genetic improvements also goes wastes. A major thrust of the Third Plan in the livestock sector will thus be on diseases control and prevention. This will consist of two prong efforts, namely, prevention and treatment, but the focus will be mainly on the former. Tle Plan will bring 50% of livestock population under disease prevention and 300·00 million doses of vaccines will be produced and utilised. To ensure proper potency, various preventive medical products, produced at central vaccine laboratory at Mohakhali, Dhaka will be distributed to 20 old district headquarters having chilled room facilities. From these, the vaccine ampules will be taken to all new districts and 460 upazila headquarters which will be eq ipped with appropriate storage facility for the vaccines. Each upazila will also organize short term training courses in vaccinating poultry and cattle and first aid for selected common diseases with the purpose of adequately covering each union with preventive facilities. On the treatment side there are

presently hospital/dispensary facilities in 370 upazilas ; so 67 additional dispensaries will be constructed during the Third Plan. The curative efforts during TFYP will be intensified more than the SFYP. The Veterinary hospitals will also be undertaking training in preventive medicine at the upazila level.

(c) *Genetic Improvement :* The genetic potential of our indigenous stock will be improved through upgrading programmes for artificial insemination (AI) and natural services. For natural services, breeding bulls will be supplied to the remote and inaccessible areas. Maintenance of breeding bulls will be the responsibility of the upazila and union parishads. For strengthening the breeding programme artificial insemination coverage will be expanded by establishing 15 additional district AI centres over the existing 20 and 67 sub-centres in addition to the existing 300 in upazilas. Moreover, programmes will be intensified for the development of cattile in the milk shed areas. Side by side with the use of liquid semen, effort will be made for introducing deep frozen semen on experimental basis in four selected upazilas. To extend the genetic improvement technique by artificial insemination (AI) to village level, two govt. inseminators located at each upazila AI centre will visit the union on prior arrangements for artificial insemination. For breeding of Bengal goat 4 regional farms will be established to raise improved strains and disease free stock of male. The govt. extension services will encourage the private breeding stations to replace their old backs. Other breeding efforts will cover buffalo, sheep and poultry birds.

Manpower Development and Research

3.7 Since the livestock sector is spread far and wide, effectiveness of the breeding and disease control programmes will depend on the extension services. Therefore, during the Third Five Year Plan period programme related to development of skilled manpower will need to be strengthened. Each year about 440 officers and 1000 field level staff will be provided with inservice and pre-service training respectively. Similarly, 18000 farmers will be provided with training relating improved husbandry practices. The specific research activities of BLRI will include development of suitable breeds for livestock and poultry, identification and development of water plants suitable for cattle feed, development of suitable feed formulae for cattle and poultry and information about epidemological and immunological aspects of important fatal diseases.

Credit Programme

3.8 It has been already mentioned that, though the cattle head in Bangladesh are numerous, a large section of small farms does not have draft cattle. They will therefore need access to credit for purchase of cattle. In addition, the landless and the marginal farmers will need credit support for setting up poultry and dairy farms. These loans will be channeled through BKB, nationalized Commercial Banks, Grameen Banks and Rural Development Board.

Major Production Targets

3·9 The production targets for the Third Plan are shown in the Table below:

TABLE 3·2

Output Targets for TFYP

Goods/Services	Output in 1984/85	Target for 1989/90
1. Milk ('000' ton)	825	940
2. Meat ('000' ton)	215	265
3. Eggs (Crore No.)	135	220
4. Vaccines (Crore doses)	9·3	30·0
5. Artificial Insemination (Lakh cases)	4·0	9·0
6. No. of improved chicks to be distributed (in lakh)	2·0	11·0

Allocation of Fund

3·10 The table below shows the programme-wise allocation of fund :

TABLE 3·3

Allocation of Fund

(At 1979/80 Prices)

(Tk. in crore)

Name of Programme	Spill over Projects	New Projects	Total
1. Nutrition		17·55	17·55
2. Conservation :			
(a) Prevention		31·00	31·00
(b) Treatment	17·40	32·00	49·40
3. Breeding:			
(a) Large Animals	1·95	30·50	32·45
(b) Poultry	10·70	18·00	28·70
(c) Small Animals	..	7·00	7·00
4. Training and Research	9·10	23·60	32·70
5. Institution Building	..	45·00	45·00
6. Miscellaneous	0·70	0·50	1·20
Total ..	39·85	205·15	245·00

SECTION 4: FISHERIES DEVELOPMENT

'Rice and Fish' is the typical food habit of Bangladesh and fish is the main source of animal protein for the common man. Bangladesh has a vast flood plain and a riverine topography; yet per capita fish supply has shown a severe decline over the last two decades. In 1962/63 average consumption of fish was 33 gm per day per capita: it declined to 20 gm in 1979/80 and showed only nominal increase to 21 gm in 1984/85. Fish availability at home (net of export) increased from 6·36 lakh to 7·60 lakh tons during the Second Plan period giving an annual rate of increase of 3·6% against a population growth of 2·4%. Since fish has high income elasticity (1·2), this small increase over the population growth rate was not enough to stop deterioration in fish intake by the common man.

REVIEW OF PAST DEVELOPMENT

First Five Year Plan (FFYP)

4·2 In the background of a serious decline in the per capita consumption of fish the FFYP sought to increase the level of fish production by about 26 percent by 1977/78 with emphasis on both inland and marine fisheries resources. Tk. 48·5 crore, about 1·1% of the development outlay was earmarked for the fisheries sector. In the hard-core programme which superseded the Plan because of resource shortfall, the allocation was reduced to Tk. 37 crore. The estimated expenditure during FFYP period was Tk. 19·0 crore only.

4·3 The plan target was to increase fish output from 8·1 lakh tons in 1969/70 to 10·2 lakh tons; but fish production actually declined to 6·43 lakh tons. Reduced investment, over fishing, lack of infrastructural facilities for culture of fish, organisational weakness and environmental effects of irrigation and chemical use in crop production, all contributed to this pitiable position of the sector.

Two Year Plan (TYP)

4·4 The TYP envisaged a target of 8·08 lakh tons of fish production. The Plan also set forth a target to increase export of shrimp and fish to the extent of about 10,000 tons during the terminal year of the plan period. Accordingly TYP allocated Tk. 44 crore. The actual investment was Tk. 38·6 crore. Production was far below that envisaged. There was a 20% shortfall in output, which was 6·44 lakh tons showing no improvement over 1977/78. As export of shrimp and fish increased from around 3 thousand tons in 1977/78 to 8 thousand tons in 1979/80, domestic supply actually declined from 6·40 lakh tons to 6·36 lakh tons in 1979/80. During the period the population increased from 83 million to 87·2 million and all the problems of the fisheries sector development continued to inhibit the sector.

Second Five Year Plan (SFYP)

4·5 In view of the continuing deterioration of fish intake SFYP laid great emphasis on fish production and set the target of production at 1 million ton by 1984/85. Accordingly it provided an allocation of Tk. 174·30 crore for development of insfrastructures in the public sector and strengthening the institution. It also anticipated to undertake programmes by the private sector including fisheries cooperatives and an amount of Tk. 400·00 crore was expected to be spent for this. The major areas of activities during the plan period were to increase the level of production

by (i) production of fish seed, (ii) strengthening extension services, (iii) procurement of fishing crafts and gears, (iv) creating facilities for fish landing, processing, storage and distribution, (v) development of water bodies, fish food and fertilizer and (vi) carrying out research, survey and feasibility studies on fisheries resources.

4·6 During SFYP actual expenditure was Tk. 158·3 crore against the plan allocation of Tk. 182·8 crore through RADPs. Further it will be seen from the table below that physical achievements were far below the targets.

TABLE 4·1

Physical Targets and Achievements (1980—85)

Programme	Target (1984/85)	Achievement (1984/85)
A. Fish Production:	**10·00**	**7·74**
(i) Inland (Lakh tons)	8·20	5·88
(ii) Marine (,,)	1·80	1·86
B. Aquaculture (Lakh acres)	**6·44**	**2·21**
C. Production of fry/fingerlings (Lakh)	3,200	2,300
D. Fish Export:	**20,100**	**20,382**
(i) Shrimp (tons)	17,000	12,680
(ii) Frog Legs (,,)	1,600	1,365
(iii) Fish and Fish products (,,)	1,500	6,337

It is however to note that though targets remained unfulfilled, there was an upturn in production. This is of course no matter of complacency, for 1984/85 output was still lower than the 1969/70 output of 8·1 lakh tons.

4·7 The major reasons for shortfall in the plan target are both institutional and social. The more important ones are : lack of knowledge about proper culture techniques, inadequate fishery extension programmes, withdrawal of surface water for irrigation, construction of embankments and water control structures, silting of rivers and the absence of a national policy for use of this valuable natural resource for different competing uses. It was only towards the end of the plan period that fisheries came to be recognized as an integral part of water sector development projects. It is not only irrigation and water control structures which have bearing on fisheries but also use of chemicals in agriculture and industrial wastes adversely affect fish population. Lack of knowledge about the ecology and natural habitat of major fish species in Bangladesh accentuated this problem of ecological degradation. Water Sector Master Plan simply called MPO which is addressing this problem of coordinated approach to water use will have positive effect on fisheries development in future.

THIRD FIVE YEAR PLAN (1985—1990)

Objectives of the TFYP

4·8 The broad objectives of fisheries development will be as follows:

(1) to raise production and ensure availability of fish to the people towards improving the nutritional status of the country;

(2) to expand employment opportunities in fish and ancillary industries and welfare of the fishing community;

(3) to increase the volume of exports by further developing certain fishery products, such as, shrimp, selected fin fish, cuttle fish, shark fins, etc; and

(4) to improve general environment and public health.

Targets of TFYP

4·9 The main thrust of the Third Plan in the fisheries sector will be to take advantage of the upturn in fish output in the Second Plan and consolidate its base for gathering momentum. The TFYP envisages the following targets for 1989/90:

(1) to increase fish production from the present level of 7·74 lakh tons in 1984/85 to 10·00 lakh tons—7·72 lakh tons from the inland water and 2·28 lakh tons from the sea;

(2) to export about 30,000 tons of shrimp, 2,000 tons of frog legs and 6,000 tons of fish and fish products;

(3) to generate additional employment of about 10 lakh people by 1990.

Strategies and Development Programmes

4·10 **Open Water Fisheries Conservation and Management:**

(i) The open water inland and marine fisheries which contributes nearly 85% of the total fish production, will be conserved and exploited judiciously. The Fish Conservation Act of 1950 will be revised to suit the purpose. The more relevant provisions of the Fish Conservation Act will be regularly publicized through various mass media to elicit public cooperation in the conserving and augmenting natural fish stock and protecting their habitats.

(ii) The breeding and nursery grounds for major commercial species like carp, hilsa, fresh water giant shrimp (Macrobrachium rosenbergii) and the marine shrimps, *Penaeus monodon*, *P. indicus* will be expeditiously identified, charted and protected.

(iii) During mid-May to mid-August when most of the fresh water fish species breed, use of agricultural pesticides in the fields of contiguous land within certain limits of rivers, canals, haors and beels will be regulated to protect the fisheries; similarly, spraying of pesticides in the mangrove forest areas will be regulated from January to March during which period heavy incursions of postlarval *P. monodon* and other important commercial shrimp species take place in the Sundarbans and Chakaria Sundarbans, estuarine rivers and creeks.

(iv) Deep water paddy fields, road side canals and other seasonal waters will have adequate inlets from the rivers and canals during the monsoon months to ensure natural stocking of the former water bodies.

(v) Hilsa being the most important fish type in terms of tonnage contribution (19%), will be given due attention. The current practice of exploitation of the fish at various river mouths at the time of their peak seasonal upstream migration into the rivers will be regulated to conserve the stock.

4·11 **Aquaculture:** Aquaculture will be given priority. Culture of fish species that feed on plankton, vegetation and detritus will receive more attention. Polyculture of carps in water bodies in which the water level can be more or less stabilized will be further intensified. New water areas, particularly ponds and baors will be reclaimed for fish culture. Additional culturable areas will be created by constructing submerged dykes in haors. Large areas of monsoon and flood waters will be temporarily dyked or penned for seasonal fish culture. Irrigation, flood control and drainage projects of Water Development Board will have fisheries development as their essential component.

4·12 **Brackish Water Fisheries Development:** Large scale structural improvements in the existing brackish water shrimp farms will be brought about; improved culture techniques will be introduced to increase shrimp and fish production per unit area all the year round, where possible. In doing so, the interest of paddy farmers will be coordinated with brackish water aquaculture.

4·13 **Artificial Seed Production:** Artificial production of fish and shrimp seed will be further strengthened to reduce dependence on natural seed supply. For maximum utilisation of the existing hatcheries additional supporting facilities including new brood-stock ponds will be provided. A quick assessment of the fry production potential at local level will be made by the Upazila Parishads. Low cost hatcheries will be established at Upazila level by the initiative of Upazila Parishads with technical support from DOF. Interested fish farmers in the rural areas will be motivated, trained and supported to rear fish spawns to fingerling size before they are made available to fish farmers. Private Sector will be induced also to establish small hatcheries for production of spawn and fries. All efforts will be made to increase the private sector role as much as possible in aquaculture development including establishment of hatcheries and spawn and fry distribution.

4·14 **Development of Pond Fisheries :** There are 163 thousand village ponds covering about 404 thousand acres of land surface; these are potential physical facilities for development of inland fisheries. Under traditional methods and existing socio-cultural conditions the yield of pond fisheries is 367 lbs acre only; the production can be raised substantially by adopting semi-intensive and intensive culture techniques. The formidable problem with the intensification of pond fish culture is institutional with respect to both khas ponds and private ponds. Establishment of Upazila Parishad should be fully taken advantage of in this respect. While the khas ponds should be managed by the Parishad with a view to providing access to this potential resource to the landless, a kind of community consciousness can only help bring the derelict private ponds to productive uses. It is to recognize that if pond fisheries are cultured to the maximum extent given the existing level of technology, a substantial part of the animal protein requirement can be met by it.

4·15 **Improvement of Preservation, Processing and Marketing Facilities:** Fish landing, distribution, storage and marketing facilities will be improved largely by balancing, modernization and replacement; additional facilities will be created at selected points. Steps will be taken to establish wholesale and retail fish markets at selected district headquarters, preferably through fishermen cooperatives. To reduce wastage of fish due to dearth of cheap and effective preservation facilities at remote landing centres in the rural areas, appropriate drying and salting techniques will be adopted. If proved economic, efforts will be made to develop new fish products from cheap quality fish species currently discarded in the mid-sea.

4·16 **Training and Extension:** Training, extension and motivation activities to enhance production and ensure conservation of natural resources will be re-organized and strengthened. Existing hatcheries, nurseries and grow-out farms will be used as training centres. At a later stage the aquaculture facilities to be established at the Upazila and Union Parishad levels will also be used for providing training courses. The focus of training will be the farmers and other rural people directly involved in the farming and fishing profession. Officer level training programmes will also receive due attention.

For extension and motivation activities mass media including TV, Radio and Cinema will be used. A 5-minute programme on various aspects of fish and shrimp farming, marine fishing with improved craft and gear, improved salting and sun drying of fish and conservation of natural fishery resources will be screened regularly in all cinema halls particularly those located at the Upazila level.

Adequate support services in terms of complete technological packages, easy credit facilities and availability of production inputs will be an integral part of extension programme.

4·17 **Fisheries Research, Survey and Feasibility Studies:** A Fisheries Research Institute recently established will be made fully operational to undertake problem-oriented and adaptive research. Researches on fish culture, finding out more effective conservation and better management techniques for open water inland and marine fisheries, new product development and further improvement of small scale marine fishing craft and gear will be the main aspects.

Marine fisheries surveys will be continued for further assessment of resource position in the territorial and exclusive economic zone at the earliest. A series of feasibility studies will be conducted to identify new potential areas for culture and capture fisheries development.

4·18 **Aquaculture Institution:** In view of the very high development potential, brackish water and fresh water aquaculture will require special attention. All the aquaculture and hatchery projects will be implemented fully on commercial basis for which adequate financial and administrative autonomy and flexibility are essential. In view of the limitations of the Directorate of Fisheries being governed by many procedural formalities, the feasibility of establishing an autonomous organisation styled as Aquaculture Development Board will be examined on priority basis. In addition to commercial production, detailed information of the culture procedures followed and the results obtained will be systematically recorded; these will provide material for extension and training purposes. Distribution of all aquaculture production inputs *e.g.*, fry, feed, fertilizer, hormone ampoules, farming equipment etc., will also be the responsibility of the Board.

Marine Fisheries Development

4·19 With ever increasing pressure on land and inland waters in a fast rising population, Bangladesh's dependence on marine fisheries will further increase in the long run. Protection, conservation and judicious exploitation of marine fisheries resources will be given emphasis. Stress should be on mechanised fishing boats fitted with appropriate gears rather than trawler fishing in order to increase employment opportunities. In keeping with the fishing strategies, it will be necessary to develop in creeks sheltered harbours as modern fishing villages with necessary landing, storage and transportation facilities. Basic facilities to the fishing communities will be provided.

Financial Outlay

4·20 In order to implement the above programmes Tk. 350·00 crore has been earmarked for the Public Sector Programmes. The detailed breakdown of programme-wise allocation is shown in the Table below:

TABLE 4·2

Programme-wise Allocation

(Tk. in crore)

Name of Programme	Total Allocation
1. Survey, Investigation, Feasibility Studies and Research	55·00
2. Education and Training	2·00
3. Fisheries Extension and Community Development	42·00
4. Fish Landing, Storage, Processing, Marketing and Distribution Facilities	11·00
5. Culture and capture (including production inputs and waterbodies development.)	220·00
6. Unallocated Fund	20·00
Total	350·00

In addition to public sector allocation of Tk. 350·00 crore, an amount of Tk. 400·00 crore is expected to be spent on fisheries activities by the private sector.

Production Target

4·21 The benchmark production of fish in 1984/85 and the target for 1989/90 by types of water bodies are shown in the following Table:

TABLE 4·3

Fish Production Target

(In '000' tons)

	1984/85	1989/90
I. **Inland Fisheries:**	588·4	772·4
(i) Ponds	112·5	192·0
(ii) Baors	1·1	2·8
(iii) Coastal Aquaculture	9·0	34·2
(iv) Rivers and Estuaries	207·1	250·4
(v) Beels & Haors	51·7	75·0
(vi) Kaptai Lake	5·0	8·0
(vii) Flood Plains	202·0	210·0
II. Marine Fisheries	185·6	228·0
Total ..	774·0	1000·4

Fish Export

4·22 Fish export gained a significant momentum during the Second Plan and enjoyed a strong international demand also. Export increased over the plan period from 11·9 million lbs. to 44·9 million lbs. and export earning from $37 millions to $88·8 millions. This shows existing opportunities for increasing export further. The actual exports of fish and fish products in 1984/85 and the target for 1989/90 are shown in the following Table:

TABLE 4·4

Projection of Export of Fish and Froglegs

(Qty. *in metric ton*)

	1984/85		1989/90	
	Quantity.	Value (crore Tk.)	Quantity.	Value (crore Tk.)
I. Shrimp (head on)	12,680	199·45	30,000	500·00
II. Fish & Fish Products	6,337	21·09	6,000	30·00
III. Froglegs	1,365	10·27	2,000	2·40
Total ..	20,382	230·81	38,000	532·40

SECTION 5: FORESTRY DEVELOPMENT

Forestry products are one of the main sources of traditional energy which accounts for more than 75 per cent of energy consumption in the country. Increase in commercial energy prices since early 1970's created severe pressure on forestry which had been continuously losing land to crop under population pressure. Consequent felling of trees has reduced the supply of fuelwood to around 16% of traditional energy volume though 80% of forest products is in fuel wood form. Shortage of fuel wood in turn has led to increased use of cowdung and agricultural residues as fuel depriving agricultural land from these valuable nutrients. So the Second Plan's thrust on forestry development will not only be continued during the Third Plan but also be intensified.

5·2. **Management of Forest Land :** The forests in Bangladesh are broadly divided into two types, *viz*, the state owned forests and the privately-owned village or home-stead forests. The state-owned forests of 3·89 million acres (11% of the total land area of the country) are under the management of Forest Department. These include among others 1·49 million acres of hill forest, 1·43 million acres of tidal or mangrove forest in the Sundarbans, 0·31 million acres of plain land sal forest. In addition, there are about 2·40 million acres of unstocked forest land, known as unclassed state forests in Chittagong Hill Tracts. The state-owned forest area is, however, mainly concentrated in the south and south eastern parts of the country with very small areas in other parts. The remote locations of the state reserved forests, far from the major

areas of consumption, poses a significant problem both for extraction and transportation of forest products. Moreover, the productivity of the C.H.T. forests is also low compared with the potential because of the difficult terrain.

5·3. The privately owned forests consist of multipurpose plants including fruit trees grown on small private homesteads scattered all over the country. The area under these forests is estimated to be around 0·67 million acres of crown cover area. It is estimated that these forests cater for about 70% of timber, 90% of fuel wood and 90% of bamboo consumption for the country as a whole.

REVIEW OF PAST DEVELOPMENT

First Five Year Plan

5·4. The FFYP focused on resource development and exploitation of natural forests. The Plan envisaged to maintain the 1965-70 level of per capita consumption of 0·40 cft. and 0·55 cft. of timber and fuel wood respectively. The Plan also called for intensive resource management practices which resulted in bringing in more land under plantation than planned and higher maintenance of plantation in existing forest land. The following table shows the physical performance of different programmes under the Plan :

TABLE 5·1

Physical Performance during First Five Year Plan

Programme	Unit	1977/78	
		Target	Achievement
(i) Plantation ..	.. ('000' acres)	77·2	203·0
(ii) Survey and Demarcation ..	.. "	56·8	48·7
(iii) Maintenance of Plantation ..	.. "	121·4	136·2
(iv) Rubber Plantation ..	.. "	3·7	4·7
(v) Timber Production ..	.. (lakh cft/yr.)	45	15
(vi) Bamboo Extraction ..	.. ('000' tons)	45	20

Two Year Plan

5·5. TYP pursued the objectives of the FFYP as it was intended more to complete on-going projects than to have new projects. However, the priority areas were : extraction of wood and bamboo from inaccessible areas of the Chittagong Hill Tracts, plantation of exploited hill forests and afforestation of coastal and USF areas. In addition, development of rural forestry was given particular attention and participation of private parties in extraction and rubber plantation was also included as a policy. But in general the programmes sufferod shortfall except in case of replantation ; there too, the emphasis was on long rotation species like Teak. Rubber plantation, oil palm and village forestry targets remained under-achieved due to lack of seeds and planting stock and organizational weaknesses.

5·6. In order to relieve the ever-increasing pressure on land on the one hand and increasing demands for fuelwood and timber on the other the Second Plan envisaged to maximise production of forest products from the existing stock of the forest in a planned way ; develop the forest resources in the government forests as quickly as possible and help develop the homestead woodlot, particularly through fast growing species and fruit trees and strip plantation of roads, highways, railways, canal and embankment sides ; and stabilize the accretion of land in the coastal areas through plantation.

5·7. The performance of different programmes during the plan period to realise the abovementioned objectives is discussed below :

(i) *Forest Plantation :* Under the plantation programme, a total of 239,960 acres have been planted against the target of 329,000 acres. Progress was slow in case of afforestation where in place of a target of 255,000 acres only 175,960 acres were planted, by spending about 66% of the investment cost (Tk. 42·93 crore). The replantation target also failed as the areas earmarked for the purpose remained unexploited. A recent inventory of past plantation suggests that 30% of the plantations raised in the past may have been totally lost. Raising of plantation is only a beginning and unless proper cultural operations are carried out periodically, plantations will not achieve their anticipated rates of growth and yield.

(ii) *Forest Products* : As against the production target of 50·00 million cft. of timber and fuel wood per annum from the government forests, only 38·00 million cft. could be produced in the terminal year of the plan period. The shortfall was mainly due to inadequate stocking of the forests of Chittagong, Cox's Bazar and Sylhet, and shortfall in exploitation of CHT forests. The on-going mechanical extraction programme was supposed to be strengthened for increased exploitation of the Chittagong Hill Tracts forest but necessary infrastructural development could not be undertaken for lack of fund. Given the terrain of CHT there was hardly any opportunity to increase production from CHT forests without such development.

(iii) *Special Palntation* : These plantations include high priority non-wood, bamboo, rubber, mulberry, oil palm and medicinal plants. Though bamboo is a very important resource both for industrial and domestic uses, no concrete programme could be taken up for development of this resource mainly because of the absence of efficient propagation mechanism. In all areas, rubber, mulberry and oil palm targets area coverages remained below their targets. The rubber plantation target of 10,800 acres could not be achieved mainly because of non-availability of land and planting materials. It has been reported that though the land was transferred to BFIDC on paper, BFIDC could not secure possession of the land. Only 6,811 acres were planted. About 4,910 acres are presently under tapping with an average yield of 450 lbs./acre.

During the Second Plan further effort was made to develop oil palm plantation. As a new crop it was introduced only a couple of years back. Against the target of 9,600 acres under it, only 2,363 acres were covered. During implementation, protection of the oil palm plants posed a serious problem in some places. Lack of properly trained personnel was also a problem.

The mulberry plantation programme had also the same fate as oil palm. Only 27% of the target (10,000 acres) was achieved. Main reason for this failure is that raising mulberry plant in forest areas is not only an alien concept to the forest management, but its economics from the users' point of view was doubtful as it needs to be grown close to sericulture.

(iv) *Rural Forestry* : Because of the energy crisis rural forests suffered heavy toll leading to serious ecological problem between land and nature. So during the Second Plan great emphasis was laid on the development of rural/village forestry. The target of raising plantations in 7,200 acres of degraded Government forest land was achieved, but the vitally important factor, *i.e.*, participation of people was lacking. Against the target of distributing 116 lakh seedlings per year in the terminal year of the Plan, only 78 lakhs could be distributed and against the target of establishing 1,361 miles of linear plantations, only 1,174 miles could be established. The strip plantation programme was not very successful because of the lack of participation of the local people. Because of the nature of the programme depending on community participation, organization proved difficult to build up. Against an actual provision of Tk. 26·36 crore, a total of Tk. 22·40 crore was utilized. The weakness of the village forestry programme is that there is no built-in-mechanism to assess the success of the programme ; but the experiences gained in implementing the programme may help draw up appropriate models for development of rural forestry in future.

(v) *Education, Training and Research* : Since forestry is a natural resource that takes long time to become useful, management has a crucial role to play to nurture it from seedling to plantation to maturity. So management has always been emphasized as was done in the First Plan. But the progress here also was slow. Under the Rangers' course only 43 rangers could be trained during the plan period against a target of 100 and against training of 210 Foresters and 270 Forest Guards in the Sylhet Forest School, 185 Foresters and 270 Forest Guards were trained.

Financial Outlay under SFYP

5·8 A total of 43 schemes were taken up for implementation during the period at a cost of Tk. 184·80 crore. An amount of Tk. 169·07 crore was made available through ADPs and an amount of Tk. 150·30 crore was spent. Out of the 43 schemes, 16 schemes were completed and 10 schemes carried over to the Third Plan. An amount of Tk. 42.97 crore was spent on the completed schemes, whereas an estimated amount of Tk. 110·6 crore will be required to complete the 10 carryover schemes. 17 schemes were either dropped or were not taken up for implementation at all.

OBJECTIVES, TARGETS AND STRATEGIES FOR TFYP

Objectives

5.9 Bangladesh continues to remain under severe pressure in the area of rural energy ; as a result the village forests are believed to be overcut. The Government forests of Chittagong, Cox's Bazar and the Sundarbans are also being over exploited through illegal encroachment. On the other hand, less easily accessible Chittagong Hill Tracts

forests are being exploited sub-optimally compared to its potential. In this background, the following broad objectives will be pursued during the Third Five Year Plan :

(i) to increase state and homestead forest production of both timber and non-timber crops through afforestation, reafforestation and social forestry programmes.

(ii) to accelerate the programme for development of shortcycle plants in order to protect more valuable fruit and timber crops in the rural areas ; and

(iii) to exploit optimally the forest resources, without disturbing ecological balance to meet the demand for timber, fuel wood, fodder, rubber and raw materials for paper and other industries.

Targets

5.10 The per capita consumption of forest products is to be increased during the plan period and the demand for forest based industries will be met with more wood to reduce their dependence on bamboo. Accordingly the following targets of production of different forest products have been set for the Third Plan :

TABLE 5.2

Targets of Production for TFYP

Products	Unit	Prduction		Average growth rate
		1984/85 (Benchmark)	1989/90 (Terminal year)	
I. Timber	... lakh cft.	376·96	442·00	3·2
(a) State Forests ...	... „ „	168·05	202·22	3·8
(b) Village Forests ...	... „ „	208·91	239·78	2·8
II. Fuelwood (including Pulpwood)	... „ „	2281·60	2652·00	3·1
(a) State Forests ...	... „ „	296·45	386·40	5·5
(b) Village Forests ...	... „ „	1985·15	2265·60	2·7
III. Bamboo	... Crore Nos.	41·69	51·00	4·2
(a) State Forests ...	... „ „	7·69	10·00	5·8
(b) Village Forests ...	... „ „	34·00	41·00	4·0
IV. Raw Rubber ...	... In tons	927·00	1366·00	8·1

Strategies

5.11 To achieve various targets the following strategies will be followed:

(a) *Village/Rural Forestry:* The Second Plan Programme for community or village forestry will be pursued with emphasis on community participation and extension works by forestry people as well as agricultural extension agents. Seedlings and saplings distribution programme will be expanded particularly of fruit trees and shortcycle plants. Schools, colleges, social institutions and other groups will be increasingly utilised for production and distribution of seedlings and saplings. The programme of rural forestry will also cover vacant land by the sides of roads, railways and canals. Denuded or degraded government land will be used for growing trees through group action of the landless and marginal farmers. Forest Department will need to be reorganized to have a separate wing for the promotion of rural forestry.

(b) *Government Forests:* Replantation programme of the reserved forests will, in addition to long rotation species, emphasize planting of fast growing species both for fuelwood and specific industrial uses such as for poles, matches and plywood. Further, the development of degraded and encroached state forest lands of north-west, central and north-east, which have suffered badly from the demand of fast rising population leading to consequent degradation, will be given due attention. Thinning, maintenance and silvicultural operations in existing plantations will be carried out to increase yields.

(c) *Mechanical Extraction and Processing:* The mechanical extraction programme in Chittagong Hill Tracts will be improved and expanded as its forest areas are still to be fully exploited to avoid wastage and decay of forest resources in these areas and to reduce the pressure on other forest areas in Chittagong, Cox's Bazar and the Sundarbans. To reduce the pressure on supply, the quality and durability of wood and bamboo products will be increased through adoption of wood conserving techniques such as preservatives, treatment, seasoning, standardization, etc.

Development Programmes

5.12 **Social Forestry:** Traditional biomass energy provides the bulk of the rural fuel requirement and tree sources will have to provide most of this in order to release fuel demand on agricultural waste for recycling on farm land. So development of social forestry programmes will be given special attention during the plan period. This will include development of (i) farm forestry, (ii) woodlot plantation and (iii) strip plantation.

(i) **Farm Forestry:** Land used by farmers for growing trees is basically the homestead. But as land is becoming increasingly scarce the trees planted in the homesteads must help rural households increase their output from land and optimize income. This land can be made more productive by growing trees in combination with selected minor crops such as vegetables or by intercropping. Knowledge about fruit trees, fast growing plants and minor crops will be disseminated through extension services at the homestead level. At the district level nursery training and extension centres (NTEC) would be established to train the Upazila officials of Forest Department and DAE and also for production and distribution of seedlings. In addition, nurseries will be developed in the Upazila by Upazila Parishads. These nurseries will be used as training centres to train the union extension agents of DAE and also local private seedling growers. These nurseries will also supply

seedlings to the members of the public. 3,600 private seedling growers will be trained for establishing nurseries at the village/union level during the plan period. The programme is to distribute 152 lakh seedlings a year. An important content of rural forestry will be to popularize those plants which can tolerate annual inundation on standing water. There are many indigenous varieties which have high commercial value as soft and hard wood, *e.g.*, Hizal, Jarul, Mandar, Pitali, etc. Seedlings of these varieties will be raised in nurseries and distributed among the public.

(ii) *Woodlot Plantations:* New plantations will be raised on government owned degraded forest lands of 33,300 acres with the objective to supply poles, small timber, fuel and fodder to meet the basic requirements of the adjacent rural communities. The programme will generate additional income and employment in growing seedlings, planting, harvesting and marketing. The plantations would be raised by Forest Department by employing local landless/poor people on a daily wage basis. The responsibility of protection and maintenance of the plantations will be with the local people preferably daily labourers, who will form a group among themselves and will be registered with the Forest Department. This group will also have the right to inter-crop and graze land during the period of maturity of the plantation. Intermediate earnings from inter-cropping will accrue to the groups and will be shared by the group members. The earnings from intermediate and final felling will be shared jointly by the local union council, the group and the Forest Department.

(iii) *Strip Plantations:* Strips of land along the major roads, railway lines and embankments of canals and rivers not only provide an excellent opportunity for development of forestry but also will help stabilize the embankments and banks. These areas would be planted with trees and shrubs to meet the fuel and construction needs of the local community. Local landless and poor people, who live on the sides of or close to the strips would be given a certain length of the strip. Forest Department will be responsible for organising the groups and for raising the plantations with the help of members of the groups, but the maintenance and protection of the strip plantations will be the responsibility of the group members, who will have the right to inter-crop the lands. Earnings from such inter-cropping will be shared by the group members only. Since such strips belong to three different agencies, *viz.*, Roads and Highways Department, Railway Board and Water Board they must be ensured protection of embankments to bring the strips under plantation. A total of 3,000 miles of such strips will be planted during the plan period.

5.13 **Forest Plantation :** To meet the needs of the forest based industries and domestic requirements of fuel and timber and for ecological reason, plantations will be raised on the state owned forest lands of the country. The programme will cover depleted areas of forest and also the newly exploited areas. Plantations will be raised in about 75,000 acres of exploited forest land. This will also include areas of Chittagong, Cox's Bazar and Sylhet where past plantation programme partly failed. Both short rotation fast growing and long rotation species will be used. It may be mentioned here that about 165,000 acres of plantations were raised in these areas out of which plantation of about 30 percent areas totally failed and another 30 percent will require major rehabilitation. One of the main reasons for this was the inadequate attention paid to the silvicultural aspects of plantation management. A major thrust of the plantation programme will, therefore, be the silvicultural operation, mainly thinning and cleaning of

the existing plantations, to salvage the value of the investment before any further damage is caused. Belts of very short-rotation fuelwood plantations will be raised on the periphery of larger plantations to cater to the fuel needs of the local communities. In addition to replantation of exploited areas a total of 261,000 acres of plantation will be established in the unclassified state forest areas, degraded and denuded reserve forest areas and also newly accreted lands in the coastal areas. Two species, *i.e.*, kaora and baen will be used in the coastal areas. One important aspect of the coastal afforestation programme will be the maintenance of 70,000 acres of already established plantations alongside new settlement. Forest Department will also carry out a land use study of new land in the coastal belt in cooperation with BARI and Fisheries Research Institute for this purpose.

5.14 **Extraction :** It is now recognised that production from inaccessible forests of C.H.T. cannot be increased without proper development of necessary infrastructure. With the present system of rafting of wood from Kassalong reserve of C.H.T., the extraction area cannot be more than 3,000 acres per annum. Therefore, during the plan period the road and river transportation system will be improved with a view to increasing the area of extraction by the terminal year of the plan period to 4,000/4,500 acres per annum. The other inaccessible potential forest reserve which can contribute to production is the Sangoo-Matamuri reserve. The Third Plan will open up this area for extraction by developing necessary infrastructure during the plan period.

5.15 **Non-timber Plantation :** Rubber, bamboo and cane, etc., are included in this category of plantation. The rubber plantation area in the country will be increased to about 67,000 acres during the plan period from the present 23,000 acres. Of this, about 40,000 acres will be under the public sector and the rest under the private sector. The rubber plantation area will be confined to Chittagong, Cox's Bazar, Sylhet and Chittagong Hill Tracts. Steps for mass propagation of bamboo and cane will be taken up through farm forestry programmes. FRI will develop necessary and efficient propagation mechanism of bamboo and cane for the purpose. In addition, efforts will be made to artificially regenerate the bamboo wealth in the state-owned forests of the country. A total of about 2,500 acres of oil palm-plantation has so far been established in the country. No new plantations will be established unless the existing plantations prove to be successful. The existing plantations will be maintained and a techno-economic feasibility study of the existing oil-palm plants will be carried out during the period. A cell will be created in BFIDC to coordinate the activities of private rubber planters and also disseminate upto date technological developments among them.

5.16 **Forest Inventory and Management :** Forest inventory of Chittagong, Cox's Bazar and Chittagong Hill Tracts which was taken up during SFYP is almost complete and a new management plan based on the inventory results is under preparation. The Sundarbans forest inventory is complete and a management plan will also be prepared based on the inventory results. The inventory of remaining forests of the country particularly the high forests of Sylhet will be taken during the period and management plans will be prepared. Based on 1984 aerial photograph, an inventory of mangrove plantations will be carried out during the period. Based on the inventory data a resource management plan, which is different from the traditional "Working Plan" based management system, will be developed for management of the mangrove plantations.

5.17 **Forest Research :** Forest research in Bangladesh has had very little impact on the forestry development problems so far, because of its wrong bias of carrying out pure research rather than being need oriented. The entire area of Forest Research will be

an integral crucial component for the success of the forestry sector over the Third Five Year Plan. Research will remain closely linked to the developmental activities to be undertaken during the plan period. The Forest Research Institute will undertake goal oriented research having relevance to local problems. Besides undertaking research of field problems, the forestry research will focus on the following in particular:(1) establishment of a bud bank which will act as a high quality seed source; (2) selection and evaluation of suitable indigenous and exotic fast growing species; (3) selection and improvement of mangrove species for coastal afforestation for stabilization of new land formation as well as for its acceleration; (4) research on utilization and conversion techniques to increase officiency and recovery of operations and (5) research on end use classification of presently non-commercial and less desirable species. To function effectively, the Forest Research Institute will be made an autonomous organization in line with other agricultural research institutes of the country.

5.18 **Wild Life Conservation and Outdoor Recreation :** Forests support a great variety of living organism, therefore, it is of utmost importance to set aside suitable forest areas for adequate protection to animal and plant life, particularly those species which are threatened by extinction. For development of wild life, it will be necessary to take inventory of various types of wild life resources, assess development option and prepare and implement specific management plans.

5.19 **Education and Training :** Availability of trained manpower is of critical importance for the success of the various development programmes of the sector during the plan period. Forest Department and other agencies responsible for forestry development are already experiencing shortage of adequate qualified manpower. The whole forestry sector education which was based so far on age-old concept of conservation has to be changed in the context of development need. The process of rationalisation has already begun. The sub-professional level training course for Rangers will be eliminated to install a two-tier system of forestry education. The professional level forestry education at the Institute of Forestry at Chittagong University will be strengthened appropriately. The intake of students will be 35 per annum. The foresters' training course at Sylhet Forest School will be upgraded to the Diploma level. This will be a 3 years course after S.S.C. The number of students will be 100 per annum. The Forest Guard training facilities at Sylhet Forest School will be expanded to train 150 forest guards per annum. The existing Forest College in Chittagong will be converted in to an in-service training academy to train the newly recruited forestry graduates and other personnel. The academy will also arrange refreshers' courses for the various level of forest officers. In addition, the Foresters' Training Institute at Rajshahi will start functioning during the later part of 1985/86. Social forestry is a new dimension of activity for which officers and staff do not have previous experience. Therefore, a 3-4 months course will be developed for foresters at the Graduate Training Institute at Bangladesh Agricultural University. The curriculum will include forestry extension methods, communication methods, teaching skill and standard field extension practices. A further course will be developed at the GTI for the professionals of 4 months duration. The curriculum will include courses in philosophy, technique and management on forest extension and standard field extension practices.

Financial Outlay of TFYP

5.20 To implement the various programmes, an amount of Tk. 392·00 crore will be invested during the period of 1985—90. The amount is about 161 percent higher than

the amount actually incurred to implement the various programmes during SFYP. The allocation to various programmes is shown below:

TABLE 5.3

Third Plan Allocation.

[*Tk. in crore*]

Programmes.	Allocation.
1. Forest land plantation	105.32
2. Coastal plantation	34.38
3. Rural plantation	117.00
4. Non-timber plantation	52.30
5. Forest Extraction	39.00
6. Education, Research and Training	33.50
7. Others	10.50
Total ..	392.00

Of this amount Tk. 113·56 crore will be spent on on-going projects and balance Tk. 278.44 crore on new projects.

SECTION 6 : RURAL DEVELOPMENT

Economy of Bangladesh is primarily agrarian with agriculture contributing about 50 per cent to the GDP ; yet social and economic conditions for the vast majority of the rural people are appalling. A vast section of the rural people are unemployed and underemployed ; more than 50 per cent are functionally landless and 76 per cent of the rural households fall below the required minimum calorie intake. In this abject poverty population growth continues to be high and literacy rate almost impalpable. Low productivity, distribution of the most important national asset, *i.e.*, land and social power structure accentuated the problem of poverty by high inequality of income distribution and make the task of rural development complex and challenging. Only bold policies and appropriate strategies for investment programmes can face up to this challenge.

AN OVERVIEW OF RURAL DEVELOPMENT

6.2 Though in 60s an integrated rural development programme was launched on the basis of Comilla model, it was no more than a project among many in the agriculture sector and lacked focus at the national level. After the liberation, in the First Five Year Plan (1973—78) rural development was given a distinct place in the overall development of the economy with a view to creating a sound institutional base for the farming population, particulary the small farmers and the landless in the development process. The plan visualized a need for structuring rural institutions to meet the problem of organisation of rural people, utilisation of resources and development of local level

planning system. So, initiating institutional development, the FFYP envisaged to broad-base the cooperative institutions for protection of the poor groups through proportional group representation in management. IRDPs two-tier cooperative framework was to encompass those groups. The Plan also envisaged to make the local government bodies responsible for effective planning, implementation, coordination and mass participation at the lowest level for development and maintenance work. Two other important areas of rural development were (a) the development of rural physical infrastructure like roads bridges, culverts, drainage and irrigation canals/channels, embankments, sluice gates, hats and bazars, TTDC complex, etc. under Rural Works Programme (RWP) which in turn also generated employment opportunities and (b) land reform for which the Plan proposed a number of measures (i) to lower the ceiling on land holding and (ii) to secure the right of share croppers through compulsory registration of tenancies.

6.3 In the wake of the 1974 flood and famine a Food for Work Programme was initiated in an humble way, but gained in momentum and increased in size thereafter. By the end of the decade it reached the size of 4·50 lakh tons against 1·16 lakh tons in 1975/76. More importantly, rural development acquired a new dimension in concept in the second half of 1970s and found its expression in area development approach encompassing in addition to production other facets of social life like health and education. Thus, Food for Work Programme, two-tier IRDP system and area development came to constitute the basis for poverty alleviation programme, though many other efforts were made for involvement of people in development activities. But the basic condition for a fundamental change in the rural economy was still missing. Local Government structure remained non-representative of people until the end of 1983/84. Even the three programmes suffered from their inherent limitations. Except creating short-term employment opportunities for the poor, Food for Work Programme benefited more or less permanently the owners of rural wealth contributing to inequity. IRDP expanded but its contribution to the development of organizations of the small farmers and landless poor remained restricted. The area development projects suffered from institutional and management deficiencies leading to slow project implementation. When the formulation and implementation of the development programmes remained centralised, the functions of TTDC as an institution for local planning and coordination deteriorated due to leadership crisis, conflict among the agencies and absence of strong local government. Lastly, land system continued to inhibit the distribution of development benefit in favour of the rural poor; rather it deteriorated further. In 1975/76 the proportion of households with intake of less than the recommended calorie level increased from 53 per cent in 1962/63 to 59 per cent in 1975/76 and 76 per cent in 1981/82. In 1981-82 though grain harvest declined due to drought, more food under flexible rationing was also distributed, there was thus undoubtedly deterioration of nutrition status of the rural households. For lack of land reform, envisaged in the First Plan, land distribution deteriorated against the sharecroppers and the small farmers. In 1960, sharecroppers accounted for 18·2 per cent of land; in 1977 their share of land declined from 18·2% in 1960 to 16·8 per cent. The proportion of farmers below 1·5 acres increased from 33 per cent in 1960 to 48·7 per cent in 1982. It is estimated that about two-thirds of rural households are functionally landless having no land or land less than 1·5 acres to cultivate.

Evaluation of the Second Five Year Plan

6·4 In the background of widespread rural poverty, the basic objectives of the rural development in the SFYP were (i) to reduce rural poverty through the participation of the rural poor in production and proper distribution of income and resources. The

emphasis was on the organization of the rural poor within an expanded programme for area development. IRDP was strengthened for this purpose and organized it into BRDB to undertake the implementation of a number of area development projects envisaging comprehensive development covering agriculture, irrigation, flood control, road, livestock, fishery, health, education, etc. Different line ministries/agencies implemented project activities in their respective fields which were coordinated through a chain of coordinating bodies at the national and field levels. There were four such area development projects, namely, Rural Development Project-I (RD-I), Serajganj Integrated Rural Development Project (SIRDP), Noakhali Integrated Rural Development Project (NIRDP) and South-West Rural Development Project (SWRDP). All these projects had many socio-economic facets like irrigation, fisheries, livestocks, health, education, etc. with BRDB's cooperatives as the main vehicle for promoting these activities and credit as its driving force. The Rural Development Project I (RD-I) was started in 1976/77 and completed in 1983/84 at a cost of Taka 37 crore, covered 7 Upazilas in two districts (3 in Mymensingh and 4 in Bogra). Serajganj Integrated Rural Development Project (SIRDP) was taken up in 1977/78 at a cost of Tk. 72 crore covering 4 Upazilas in the Pabna district but unlike RD-I it covered, in addition to agriculture, irrigation and flood control, health, education, family planning, etc. The third area development programme was Noakhali Integrated Rural Development Project (NIRDP) which started in 1978/79 at a cost of Tk. 33 crore covering 3 upazilas in the Noakhali district with scope as those of SIRDP. The fourth project, South-West Rural Development Project (SWRDP) covered 44 upazilas in the districts of Faridpur and Jessore with activities on infrastructure development, irrigated agriculture, fisheries development, cooperatives UCCA-KSS) and employment programmes for the poor. The project would continue during the TFYP.

6·5 Of the above four area development projects the first three, namely, RD-I, SIRDP and NIRDP were completed after some time over-run. These three completed projects had a total cost of Tk. 142·0 crore, the average per upazila being Tk. 10·14 crore. The fourth project will be continued in the Third Plan.

6·6 The area Development Projects designed for integrated development of selected areas gave emphasis on agricultural development with provision for development of physical infrastructure and practically little programmes for the rural poor. The programmes ran into time over-run due mainly to difficulties in coordination among the various implementing agencies at the field level. Inadequacy of the programmes for the rural poor and greater emphasis on agricultural development within the present framework of ownership of land have not been able to change the lot of the rural poor for the better. Too many components of the projects created problem of coordination and management and made their benefits intractable. So far only one area development project, namely RD-I has been evaluated by BIDS which shows no discernible impact on agriculture as distinct from areas outside the project, while management of project area cooperatives is found to be dominated by relatively well-off rural households.

Rural Development Projects and the New Strategy

6·7 During the later part of SFYP, a new strategy for rural development projects was developed. Under this strategy, rural development projects have three major components :

(i) development of physical infrastructure including roads, storage and markets;
(ii) irrigated agriculture, minor drainage and flood control works; and
(iii) production and employment programme for the rural poor.

Keeping conformity with the new strategy, three projects have come into implementation since 1983/84. These were (i) Rural Development Project-II (RD-II), (ii) North-West Rural Development Project (NWRDP) and (iii) Noakhali Rural Development Project-II (NRDP-II). Of these three projects, RD-II has been the largest and important one. This project is located in 301 upazilas of 13 districts (old), namely Dinajpur, Rangpur, Bogra, Dhaka, Mymensingh, Tangail, Jamalpur, Khulna, Barisal, Patuakhali, Chittagong, Sylhet and Comilla. The irrigated agriculture component of the RD Project strategy has been covered in all these 13 districts. In addition, 6 of these 13 districts, namely Dinajpur, Bogra, Mymensingh, Jamalpur, Barisal and Khulna have the production and employment programme. The project started only in the last part of 1983/84 and during this period some initial work was done. The second project North-West Rural Development Project covering 52 upazilas of three districts namely Rajshahi, Pabna and Kushtia (old) was put into implementation at the end of 1983/84. This project contains only two components of Rural Development Projects strategy, namely (i) irrigated agriculture and (ii) production and employment programme for the poor. The last one of the new three projects, namely the Noakhali Rural Development Project-II covering the whole district of old Noakhali was started in 1984/85. It covers all the three components of the strategy for rural development projects. An amount of Tk. 78·6 crore is estimated to have been spent on these three projects during the Second Plan making an estimated total of Tk. 220·6 core for the seven area development projects.

Rural Works Programme

6·8 The most notable programme during the SFYP in the development of rural physical infrastructure was Rural Works Programme based on decentralised participatory planning and implementation process. The local bodies at different levels identified, planned, approved and implemented the local level projects through people's involvement. It has a twin-objective: (i) to build essential physical infrastructure relating to agriculture and communication, and (ii) generate temporary employment opportunities for the landless labourers in the off season through physical infrastructure development projects. During SFYP the Rural Works Programme consisted of the following projects:

(i) Normal Rural Works Programme.

(ii) Special Public Works Schemes in four selected districts of four Divisions.

(iii) Intensive Rural Works Programme in 100 Upazilas.

(iv) Development of Government Rural Hats and Bazars.

(v) Zila Road Maintenance and Improvement.

(vi) Construction of Food Godown at Sub-thana union level, 800 number, each having a capacity of 250 tons.

(vii) Rural Works Programme under South-West Rural Development Project.

6.9 The main achievements under the Rural Works Programme during SFYP are given in the following table :

TABLE 6.1

Physical Achievements under Rural Works Programme

Sl. No.	Name of the activities	Unit	Physical target as per PP	Adjusted target as per ADP allocation	Physical achievement by 1984/85
Construction/Improvement of—					
1.	Roads and Bridges :				
	(i) Pucca Road	Mile	448	370	294
	(ii) Kutcha Road	"	6,845	3,450	2,975
	(iii) Bridges and Culverts	Rft.	29,000	28,100	24,750
2.	Irrigation and Flood Control :				
	(i) Excavation and re-excavation of irrigation canals/channels.	Mile	8,070	2,080	1,650
	(ii) Embankment ...	"	2,000	560	436
	(iii) Cross dams	No.	1,800	690	610
	(iv) Water distribution systems for DTWs and LLPs.	Rft.	4,94,500	80,000	65,000
	(v) Water Control structure (sluice gate, regulator).	No.	3,470	836	554
	(vi) Reclamation of Derelict Tanks	Acres	2,492	1,785	1,350
3.	Building Construction :				
	(i) Workshop and godowns for irrigation equipment (new and incomplete).	Nos.	248	210	166
	(ii) TTDC : (new and Incomplete). ..	"	34	23	17
	(iii) Staff quarters (including 4-appartment quarters, incomplete twin quarters, conversion of old twin quarters into 4-units).	"	402	290	219
	(iv) TCCA building :	"	36	32	28
	(v) Union Parishad Office.-*cum*-community centres.	"	353	261	178
	(vi) Food/Fertilizer/Marketing Godown (new and incomplete).	"	822	753	748
4.	Development of Rural Hats and Bazars.	"	1,144	233	200
5.	Training of Model Farmers, etc.		2,07,000	52,650	48,670
6.	Employment generated (estimated)	Man days (lakh).	..	...	340

6·10 The expenditure on Rural Works Programme amounted to Tk. 169·1 crore. It is however, to be mentioned that the main component of rural works programme is financed under the Food for Work Programme which used about 2·14 million tons of food over the Second Plan period against 1·19 million tons during the previous 5 year period. The value of 2·14 million tons would be around Tk. 837·8 crore at the rate of Tk. 145/md of wheat. This programme produced 1,156 million man-days worth of employment compared with 34 million under the rural works programme.

Cooperative Development

6·11 Two groups of Cooperatives—traditional and two tier—are under operation in the country. During SFYP, the main thrust was given to the development of two tier Cooperatives organised by BRDB. Under this type of cooperative approach, primary cooperative societies known as KSS organised at the village level and a federation of these societies called UCCA, formed at Upazila level, provided supplies and service facilities like credit, input, training and extension to the primary societies. The KSS programme developed as a model in Comilla at the initiative of BARD in 60's and was adopted countrywide at the beginning of 1971/72. By the end of SFYP almost the entire country was covered under the KSS programme. The cumulative achievement till the end of SFYP stood at the formation of about 62 thousand societies with about 23 lakh members. The accumulated capital of these societies amounted to about Tk. 32 crore till the end of SFYP. The UCCA/KSS system relied mostly on government finance and support instead of trying to become self-reliant by undertaking gainfull enterprizes. The UCCA/KSS system contributed to increasing agricultural production and the income of the member cooperators, but the system by-passed many small and marginal farmers, let alone the landless and the disadvantaged women folk. These societies were largely dominated by relatively well-to-do farmers who used these organisations to their advantage.

6·12 Because of these limitations of the KSS system efforts were made in the middle of SFYP to develop appropriate rural institutions for the landless and the disadvantaged women. The organisations called Bitayaheen Samabaya Samity (BSS) and Mohila Samabaya Samity (MSS) were developed to provide support services in terms of skill development, credit and input supplies to the members in farm and non-farm activities. As these institutions came late, not much headway could be made during the SFYP. About 10,000 BSS and 8,000 MSS were organised with about 2·90 lakh and 2·60 lakh members respectively during SFYP. At the moment they are federated with the UCCA of KSS but ultimately when they would grow more and become viable they would have their own apex unit. Some of the economic activities undertaken by the BSS and MSS are cane and bamboo works, bee-keeping, handicrafts, coir, pottery, rice husking, pond fisheries, oil milling, goat/cow and poultry raising, net making, rickshaw pulling etc.

6.13 The physical achievements of the cooperative programmes are summarised in the following table :

TABLE 6.2

Performance of the Cooperative Sector

Type of Societies	Target during SFYP	Achievement during SFYP	Cumulative
(i) Formation of UCCA (Nos.)	164	164	448
(ii) Formation of primary societies (Nos) :			
(a) KSS ..	15,370	22,370	61,978
(b) BSS ..	16,000	10,200	10,200
(c) MSS ..	6,200	8,200	8,200
(iii) Enrolment of Member :			
(a) KSS (in lakh) ..	16.00	13.00	23.00
(b) BSS ,, ..	2.85	2.90	2.90
(c) MSS ,, ..	1.80	2.57	2.57
(iv) Capital formation (savings and shares) in lakh taka :			
(a) KSS ..	706	1,665	3,175
(b) BSS ..	39	242	242
(c) MSS ..	125	263	263

6.14 The total cost of the above mentioned cooperative programme was Tk. 48.0 crore; out of which expenditure of BRDB was Tk. 33.00 crore. Besides the formal cooperatives a number of semi-government and non-government organisations are also active in the rural areas, particularly for the alleviation of rural poverty and unemployment. The one that, after its successful experimentation, was formalized into an institution is the Gramoen Bank. In 1982/83 it became a full-fledged bank for operation in the rural area. Its capital is Tk. 3 crore and by the end of the Second Plan it had 164 rural branches covering 5 districts. The approach of Grameen Bank is different from that of BRDB; it depends on group initiative and consciousness rather than on formal cooperative. As its focus is on the less fortunate of the rural population, activities covered by the Bank have close resemblance with those of BSS and MSS of BRDB. The main limitation of their activities are that they are less rewarding than even the un-skilled farm labour, though they help the poor to eke out a living. Attempts to introduce improved technology under the Gramoen Bank Project with its focus on individual enterprise have not been successful so far.

Rural Development Training and Research

6.15 It is recognized that the whole focus of the rural development programme is on the development of rural institutions that would not only accelerate agricultural production but also promote the interest of the rural poor. The Comilla model developed in 1960s has now expanded in form, from KSS to BSS and MSS as replication, but it is only natural that perception of the landless will be sharply different from a well-to-do farmer as human consciousness reflects his material life by his training and belief. It is for this reason that rural development approaches need to be continuously evaluated in the light of the experiences of both planners and the target groups. Therefore training of farmers and cooperative workers and research are integral parts of rural development strategy. Training and research are two important functions of the 4 Rural Development Training Academies/Institutes, namely, (i) Bangladesh Academy for Rural Development, Comilla (BARD); (ii) Rural Development Academy, Bogra (RDA); (iii) Rural Development Training Institute, Sylhet (RDTI) and (iv) National Institute of Local Government, Dhaka (NILG). These institutes trained personnel of various nation-building departments/agencies, representatives of local government bodies, cooperative leaders etc. The training was mostly related to the execution of sectoral development programmes/projects. The institutes followed a flexible training policy to serve a wide range of clientele. The courses included orientation, pre-service and in-service training. It is estimated that at the end of the SFYP, BARD (Comilla), RDA (Bogra), RDTI (Sylhet) and NILG (Dhaka) trained about 23,000 personnel of various disciplines belonging to different nation-building departments/organisations and local government bodies. In addition, field/local level training of model farmers, cooperative managers, members of the local project committees, mechanics, managers of irrigation groups was conducted at the upazila level.

New Policies

6·16 During the implementation of the Second Plan two long waited policy reforms were initiated. The first was the strengthening of the local level administration which was given expanded jurisdiction over local development activities under decentralization of administration and establishment of local government (Upazila Parishad). This dual nature of the local administration will provide the basis for the participation of the people in local development from the planning process to implementation. This development has been discussed in the chapter on Public Administration and Development.

6.17 The second important policy development was the land reform policy which introduced (i) new ceiling on land ownership and acquisition, (ii) equal sharing of crop under sharecropping between land, labour and inputs, and (iii) minimum agricultural wages. This and the increased role of local government are expected to bring about a significant change in the rural development process to the benefit of the rural poor.

THIRD FIVE YEAR PLAN (1985-90)

Objectives of the TFYP

6.18 Despite all the past efforts, the rural areas of Bangladesh continue to present a grim picture in terms of landlessness, unempolyment, illiteracy and nutrition. At the core of all these socio-economic malices is the endemic poverty of people. In this background it must be recognized that about 90% of people live in rural areas. As a matter of fact excluding few cities and towns, the whole of Bangladesh is a rural slump with adverse effect on urban communities. As such the development of the economy is

one for transformation of the rural economy. A development plan is meaningful for people if it is successful to handle rural poverty. For this a plan has to pursue an employment led growth policy. The focus of the policy is to ensure greater opportunities of the poor for productive employment and the thrust is on improvement of rural technology and skill in both farm and nonfarm sectors of the rural economy and on concomitant investment in the rural areas.

6.19 Keeping alleviation of rural poverty as its end in view, the objectives of rural development will be :

(i) to prevent further rural immiserization of people and to bring at least 10% of the rural poor above the poverty line by means of increasing gainful employment and income opportunities on a sustained basis through expansion of the productive sectors;

(ii) to ensure better access for the rural poor to means of production, farm and non-farm, through their organization for productive activities;

(iii) to enable the rural poor to share local resources through their participation in development process; and

(iv) to improve the quality of the life of the rural people in respect of basic physical infrastructures and social service needs.

Strategy and Policy

6.20 A bold strategy and a clear policy for rural development programmes for the realisation of the above mentioned objectives needs to be formulated. The planned efforts so far taken have mostly covered development of agriculture and physical infrastructure like communication links, storage, markets, etc. That along with these developments in agriculture and physical infrastructure, poverty has also increased is bound to raise question about the strategy of the past. First, it is now recognised that although these two sectors (agriculture and infrastructure) of the rural economy are very important for *rural development*, they are not sufficient for alleviation of rural poverty as the employment and income opportunities for the rural labour force have not been sufficient in quantity and quality alike. Employment has been created largely at subsistence level, creating increasing demand for employment of children and women. On the other hand, the capacity of agriculture to absorb the labour force in the rural areas is limited even though the new agricultural technology needs more labour force. As the children below the age of 15 are already born it is estimated that about 5 million new opportunities will need to be created in the economy. Hence diversification of the rural economy beyond agriculture will be necessary for absorption of the rural labour force.

6.21 The other requirement in addition to increasing the opportunity for employment is to ensure an equitable share to the rural poor in output and benefits of development. This suffered in the past. Since Independence food output increased at an annual rate of 4% against a population growth rate of 2·4% while proportion of rural households below the prescribed minimum caloric intake increased. This deterioration must be stopped by increasing labour productivity. This will require improvement of both technology and capital bases of the rural economy through investment in human resource development and technology. Even if it is a repetition, it is to recognize that labour and land are two natural resources of Bangladesh and development strategy so far followed has largely been land-possessed such that, whether it was agricultural or physical infrastructure development, it accelerated rural disparity. It is important to bring labour into focus of rural development strategy as a potential source of growth rather than as a residual claimant of consumption.

6.22 The situation thus calls for a complete reformulation of the strategy for rural development. It is not a question of contents only. In an agrarian economy, priority for agricultural development must remain and development of physical infrastructure like communication links, markets and storage etc. will be required as support to agricultural development. Non-farm activities will need to be expanded. It is not also one of organizations of the poor only; given the magnitude of the problem both the cooperatives approach of BRDB and group initiative of Grameen Bank will be needed for action programme. But what is needed is to recombine production and employment programmes in both farm and non-farm sector for sustained development of the rural economy; that is the existing division between production and employment and that between farm and non-farm sectors must be discontinued in rural development programmes. Such distinctions have led to the promotion of subsistence sectors and consequent depression of rural wage as in such distinction non-farm sector is regarded for residual employment. This double integration of production and employment and of farm and non-farm sector will require intervention at the critical area, *i.e.* in technological development of non-farm sector. Thus while all three components of rural development namely irrigation and agricultural development, physical infrastructure development and employment are important, there will be greater emphasis on the employment component and its productivity. Each individual R.D. Project may take up the components separately or in combination but must cover a minimum of one full administrative district with the component or components taken up. Production and employment programmes will be developed as a package programme consisting of (i) institution, (ii) technology and training, (iii) credit, (iv) other input supply and (v) market. To bring about improvement in technology a new approach consisting of establishment of upazila employment resource centre will be tried on a limited scale during the Third Plan.

Programmes of TFYP

6.23 The programmes of TFYP will consist of the three components mentioned earlier. Tk. 1,960 crore has been allocated for their development. The activities and targets under each of the components are spelled out below:

(A) Physical Infrastructures Development:

(a) Construction of 1,400 miles of Feeder Roads and 70,000 running feet of bridges and culverts on them to connect growth centre with the road system.

(b) Development of at least one Rural Growth Centre in each upazila to a minimum specified standard into integrated service centre-*cum*-market for their respective areas.

(c) Provision of electricity to the Growth Centres. (This will be done by the Rural Electrification Board outside R.D. Projects).

(B) Irrigated Agriculture, Drainage and Minor Flood Control:

(a) Extension of irrigation through minor irrigation programmes and quick yielding EIP-type projects to an additional area of 0·6 million acres of the total cultivable land of the country. This will be in addition to the other projects on irrigation taken up beyond RD projects and will include micro level drainage, flood protection and irrigation projects.

(b) Provision of production inputs like fertilizer, seeds etc.

(c) Provision of adequate credit to the farmers.

(C) **Production and Employment Programme for the Rural Poor :**

Creation of employment and job opportunities and increase of income for the rural poor to prevent further immiserization and bring at least 10 per cent of them above the poverty line. Production and employment programmes will have compulsory marketing component along with training and other input supply which will gradually be developed. Women training for gainful employment through MSSs will be given special importance.

Development Through Upazila and Union Parishads

6·24 In addition to rural development programmes of the National Government, the Upazila and Union Parishads will have their own development programmes. Their development activities will mainly centre around development of minor agriculture and irrigation, small and cottage industries, rural works programmes, hats and bazars, supply of drinking water and low cost sanitation units, educational institutions, local health and family planning programmes, promotion of sports and social welfare activities, and other miscellaneous activities. An amount of Tk. 1,250 crore has been kept as a block provision as development assistance to upazilas during the TFYP for implementing the above programmes.

Financial Outlay of Agriculture, Water Resources and Rural Development

To implement the development programmes of Food and Agriculture, Water Resources and Rural Development Sector, a total amount of Tk. 11,460 crore (at 1984/85 prices) has been allocated—Tk. 7,060 crore in the public sector and Tk. 4,400 crore in the private sector—during the TFYP. The sub-sector-wise break-up in public sector is given in table below :

TABLE

Public Sector Allocation by Sub-sector

(At 1984/85 Prices)

[*Tk. in crore*]

Sub-sector	Allocation
1. Food & Agriculture	.. 1410
2. Water Resources	.. 2703
3. Livestock Development	.. 245
4. Fisheries Development	.. 350
5. Forestry Development	.. 392
6. Rural Development	.. 1960
Total	.. 7,060

In addition to above allocation, around Tk. 154 crore will be available for local level development programmes of Agriculture, Water Resources and Rural Development Sector from the block allocation kept for Upazila Infrastructures and Special CHT Plan making a total allocation of Tk. 11,614 crore under this Sector.

CHAPTER X
INDUSTRIES AND MINERALS

SECTORAL OVERVIEW

In a predominantly agrarian economy of Bangladesh industries sector contributes about 9 per cent of GDP only. It however provides essential consumer goods such as yarn and cloth and key inputs for agriculture, *e.g.*, fertilizer and accounts for over 65 per cent of foreign exchange earnings. During the War of Independence, the sector suffered heavily, so during initial years after the Independence efforts were made mainly for repairs, rehabilitation and restoration of production to the pre-Independence level ; this was not achieved until the end of FY 1976/77. Since then the primary objectives of industrialization have been to support the agricultural sector, meet basic needs of people and strengthen the balance of payments position through the establishment of export and import—competing industries.

2. Within the above broad objectives, the Second Plan set the annual growth rate of the sector at 8·4 per cent in order to increase its contribution to the GDP from Tk. 1,422 crore in 1979/80 to Tk. 2,124 crore in 1984/85 at 1979/80 prices. However, the actual growth rate achieved was 4·8 per cent per annum against the GDP growth rate of 3·8 per cent. Plan targets were frustrated primarily by resource constraints. About 18·4 per cent of the revised development outlay of Tk. 17,200 crore was allocated to the industries sector—Tk. 1,390 crore to the public sector and Tk. 1,769 crore to the private sector as an indicative investment at 1979/80 prices. Against the above allocation to the public sector, actual expenditure was Tk. 1,254 crore at current prices, *i.e.* Tk. 955 crore approximately at 1979/80 prices. Shortfall was thus about 31% of the allocation affecting adversely the growth rate of the sector. Budgetary provision under annual development programme (ADP) was, however, Tk. 1628 crore at current prices, or Tk. 1,240 crore at 1979/80 prices; this means that there was also an implementation shortfall of 23·0 per cent besides resource shortfall. There was also substantial shortfall in the private sector investment. Total private investment was estimated at Tk. 1,124 crore (at current prices) which was about 48·3 per cent of Second Plan allocation though the New Industrial Policy (NIP) declared in June, 1982 expanded the scope of private industries ; this was partly due to the fact that the loan recovery problem forced suspension of credit lines of the main two lending agencies, namely, the Bangladesh Shilpa Bank (BSB) and the Bangladesh Shilpa Rin Sangstha (BSRS). Taking the industries sector as a whole about 57 per cent of Second Plan allocation was realized.

Public Sector

3. The whole of the public sector investment could not be made available for establishment of new capacities. Out of the total investment made in the public sector industries, about 55 per cent accounted for new investments, 24·6 per cent for investment on BMRE projects and the balance on account of promotional activities. Inter-industry allocation followed the basic objectives mentioned earlier. Directly agriculture related investments accounted for around two-thirds of the total investment consisting of investment in fertilizer (38·75%), sugar (9·02%), pulp and paper (6·94%), jute textiles (3·03%), food and allied products (1·77%), etc. and the basic needs industries like food processing, cotton textiles, sugar, etc., accounted for about one-third

of the total investment. Heavy industries like shipbuilding, engineering, cement and ceramics absorbed barely one-tenth of the total investment.

4. Total number of projects taken up for implementation in the public sector during the Second Plan period was 180 but because of severe resource constraint 48 projects were dropped after spending Tk. 11·72 crore so that fund could be more meaningfully used for quicker completion of projects of national importance. Number of projects completed during the Plan period was 79 at a total cost of Tk. 1405·0 crore, out of which about Tk. 748 crore were invested during the Second Plan period. Besides the completion of Zia Fertilizer Project, other major projects completed during the Plan period included 14 projects in the cotton textile and 6 projects in the sugar sub-sectors. The completed projects will produce goods of value about Tk. 810 crore and generate employment opportunities for 29,641 people.

5. It follows from the above discussion that 42 projects (excluding 11 TA projects) of the public sector spilled over to Third Plan period. At the present cost estimates, these spill-over projects alone would require about Tk. 1,444 crore during the Third Plan period for their completion. Among those projects, Chittagong Urea Fertilizer Project is worth mentioning, costing about Tk. 900 crore.

Private Sector

6. Privatisation of the economy which started in a lukewarm way in 1974/75 gathered momentum in 1976/77, but fundamental policy change came in June. 1982 when the government announced the New Industrial Ploicy (NIP) which opened up most of the industries to private investment. In pursuance of the NIP, the government disinvested or returned a large number of taken over/nationalized industrial undertakings to the private sector. This created a wholesome climate for private investments.

7. The Industrial Investment Schedule (IIS), 1980—85, envisaged an investment outlay of Tk. 2,650 crore in the private sector for large, medium, small and cottage industries. Total investment sanctioned under the IIS, upto June, 1982 stood at Tk. 955·81 crore. Following the announcement of the New Isndustrial Policy (NIP), the IIS was reviewed for the period 1982—85 and was split into three separate Schedules, namely, the Revised Industrial Investment Schedule (RIIS) for large and medium industries, the Small Industries Investment Schedule (SIIS) and the Cottage Industries Investment Schedule (CIIS) with provisions of Tk. 1,359 crore, Tk. 320 crore and Tk. 80 crore, respectively. Investments sanctioned under these Schedules during 1982—85 period were Tk. 1,906·67 crore, Tk. 3,53·89 crore and Tk. 19·57 crore respectively at current prices. Actual investments realised during the period 1980–85 stood at about Tk. 977 crore at current prices, or account of reporting unit of the organized sector including Tk.19·61 crore invested in the Export Processing Zone. After adjustment for non-reporting units, particularly, those falling under the 'Free List' total private investment was estimated at Tk. 1,124 crore at current prices.

Industry group wise-schedule-provisions and investments sanctioned during the Second Plan period are shown in the table below:

TABLE I.

Industry Groupwise Provisions and Investments Sanctioned during the Second Plan period 1980—85.

[Tk. in crore]

	Industry Group.	Provisions.			Sanctioned Investment.		
		Large & Medium.	Small.	Cottage.	Large & Medium.	Small.	Cottage.
1.	Food and Allied Industries.	273·76	57·70	13·75	564·595	43·944	4·903
2.	Textile Industries	145·05	93·66	17·81	795·098	183·375	5·942
3.	Specialised Jute Products, Jute Yarn and Carpets.	82·63	11·98	3·50	56·348	1·530	0·502
4.	Forest Products and Allied Industries.	11·70	11·76	14·37	13·878	4·846	3·988
5.	Paper, Board, Printing and Publishing.	36·57	28·42	1·75	72·035	9·588	0·101
6.	Tannery, Leather and Rubber products.	95·06	38·80	4·38	91·546	9·622	0·346
7.	Chemicals, Pharmaceuticals and Allied Industries.	455·53	43·47	4·00	236·011	21·097	0·437
8.	Glass, Ceramics and other non-metallic mineral products.	109·66	21·44	3·69	68·559	1·904	1·520
9.	Engineering Industries.	687·15	161·56	18·75	733·082	50·988	1·727
10.	Miscellaneous Industries.	54·52	30·96	13·06	38·659	15·357	..
11.	Service Industries	99·70	22·90	..	69·916	..	..
12.	Acquisition of Ships, Inland Water and Road Transport.	67·60	16·80	..	40·636	..	..
13.	Industries, NEC	28·42	32·55	4·94	82·180	11·637	0·102
	Total ..	2147·35	572·00	100·00	2862·543	353·888	19·568

8. Entrepreneurs' response under the SIIS was low and under the CIIS was still lower. On the other hand, the response under the RIIS was much higher demonstrating entrepreneurs' preference for large and medium industries where investments sanctioned well exceeded the provisions in the Schedule. Under the RIIS, 45 industrial sub-groups had attaracted entrepreneurs' interest most in terms of both over crowding and over shooting the provisions. Of these, very high responses were shown in textiles, footwear, re-rolling, bus and trucks body building, fabricated metal products, engineering goods plastic products, paints and varnishes, perfumes and toilstries, edible and non-edible oil, cigarettes and fish catching and processing.

9. **Production Target and Achievement:** Production target and achievement for some selective major manufactures are shown in Table 3 below:

TABLE 3

Production Target and Achievement of Selected Manufactures

Manufactures	Production 1979/80	Benchmark Production of 1984/85		Increase over Benchmark (Per cent)	Shortfall from Targets (Per cent)
		Target	Achievement		
1	2	3	4	5	6
1. Jute Textiles(000 tons)	525·0	650·0	561·0	6·9	13·7
2. Cotton Yarns (Million kg.).	43·2	83·2	59·4	37·4	28·7
3. Millmade Cloth .. (Million Metre).	85·9	138·2	86·9	1·2	37·1
4. Fertilizer (000 tons)	442·0	1037·0	806·0	82·4	22·3
5. Steel (Ingot) (000tons)	113·0	225·0	101·0	—24·1	55·1
6. Cement (000 tons)	343·0	450·0	240·0	—30·0	46·7
7. Paper and Newsprint (000 tons).	71·9	93·0	90·0	25·2	3·2
8. Sugar (000 tons) ..	93·2	200·2	88·0	—5·6	56·0

It may be seen that textiles, paper and newsprint and fertilizer recorded less than planned increases in production over the benchmark production of 1979/80; while steel, cement and sugar output actually declined. Compared with targets, all the items registered substantial shortfall in production. The dominant reason for this shortfall was market constraint, both internal and external. The external market was affected adversely due to continued recession in the industrialized countries from 1982. At home, slowdown of investment resulting in sluggish economic growth, strong adjustment measures introduced in 1982/83, and frequent crop failures affecting rural income severely constrained the domestic market. The problem was compounded by the liberalization of imports which subjected the domestic output to increased competition from imports. The endemic problems of power failures, management inefficiency and shortage of foreign exchange resulting in continued depreciation of currency increased the cost of domestic output when demand was depressed. The result was setting a vicious cycle of high idle capacity, high cost of production, low liquidity and a low level of maintenance and operation.

10. Contribution of the industries sector increased from Tk. 1,422 crore in 1979/80 to Tk. 1,793 crore in 1984/85 showing a growth rate of 4·8 per cent against 7·5 per cent in the preceeding 5-year period. It is to note that industries sector had the over lowest growth of 0·3 per cent in 1982/83 when drastic adjustment measures were introduced to deflate the economy in response to severe resource constraint the economy had been experiencing since the launching of the Plan. The downward adjustment measures proved so strong that even the recovery of the agriculture sector from the 1981/82 drought could not compensate their effect. Steel and cement suffered from stagnation of investment, particularly in construction. It is also to be mentioned that industrial output in some areas (Jute and Sugar) decreased mainly because of crop failures.

Problems Affecting Growth of the Sector

11. **Large and Medium Industries :** Worst recession in the world trade and unpredictable jute crop output have been continuously eroding the vitality of the jute textile industry; decline in the real income of the bulk of the population with attendant shrinkage of the domestic market a part of which is again lost to visible and invisible imports has been adversely affecting the cotton textiles industry; slackening of investment has led to severe marketing problem for cement and steel while the engineering industries have been struggling hard to survive in the face of competing imports. Besides, the domestic industries are beset with multitude of operational problems as well. Issues related to these problems, affecting growth of the sector, are brought into focus in the following paras so that these can be attended during the Third Plan period :

(1) *Imports under Aids/Grants/Credits/Barter* : Procurement of sector corporations is based on the Annual Import Policy published by the Ministry of Commerce and is related to two shipping periods: July to December and January to June, when actual allocations are made. Although corporations always intend to acquire as much as possible against cash foreign exchange in order to secure price advantage, external resources are mostly available in the form of grants, aids, loans, credits and barter. Under these financing arrangements the buyer is to buy from a particular market or a group of markets and not from the competitive and cheapest source. The untied credits and loans allow some amount of freedom but not complete autonomy. Procurement under barter is all the more unfavourable. As goods are imported in exchange for goods exported under bilateral arrangements, there is neither any opportunity to obtain competitive price nor is there any mechanism to persuade the supplier to reduce prices to international level with assured timely delivery. As such every year the corporations and enterprises are constrained to make a substantial amount of uneconomic purchases. These purchases have far-reaching effect on the cost of finished products and their maketing.

As procurement programme has to be linked up with the half-yearly allocation of resources, corporations cannot make economic purchases when market is in their favour. Procurement against international competitive bids is time-consuming and not always in conformity with the urgency of requirement of particular items for certain enterprises. Since cash is scarce and procurement has to be made under commodity assistance, the buyer, in order to be on the safe side, always tries to make overbooking of stores with borrower's money and bank interest. As the corporations are not authorised to make on-the-spot purchase they cannot take the full advantage of the international market in matters of procurement of costly metals, minerals, chemicals and consumables.

Public sector procurement procedures remain cumbersome owing to the tendering formalities and conditions imposed by various aid-giving countries and financial power in matters of import of materials is also limited (Tk. 5 crore only).

(2) *The Shrinking Market* : Because of depressed world trade and growing protectionism in the developed countries not only international market (export) has become increasingly inaccessible for our industrial products leading to

decline in export price, but also competition in the domestic market against import has been accentuated. 'Increasing liberalization of import and overwhelming share of aid financed imports in the total import have aggravated the situation. Purchases made against aids are required to follow certain predetermined procedures of the donor countries. The specifications of stores to be procured against such aids are at times made unnecessarily stringent and over-specified only to the disadvantage of the local manufacturer. Sometimes procurement packages are so designed that a number of supplies and sources are involved. This places foreign suppliers at an advantageous position and also at times makes local suppliers ineligible. It is not also rare to find material price obtained by a public sector enterprise exceeding import price of finished product quoted by a foreign supplier. Buyers' fascination for foreign goods adds to the problem. The price preference allowed to local manufacturers is too inadequate to counter the foreign bids. Besides some aid-giving agencies do not allow any price preference at all and the procedure for duty refund also involves estimation problems. All these factors are responsible for the shrinkage of the market for locally manufactured goods resulting in unfavourable condition for capacity utilization of public sector enterprises affecting their financial viability.

(3) *Lack of Aggressive Salesmanship* : In a shrinking market there was lack of appropriate response from most of the enterprises under sector corporations; on the contrary there was the general preference for price increase. Particularly in those commodities which have protected market or lacking the latter, demand for protection. Marketing as a function is generally undeveloped. This applies in the case of export of commodity also. Market research is almost unknown in the corporations and their enterprises. This has seriously impaired the growth and development of new markets or adaptation of products to changing demand. The relationship between enterprise and corporation has inhibited the growth of healthy marketing strategy inasmuch as that between the corporation and its line ministry conditions the corporations, freedom of adopting marketing policies.

(4) *Tariff Anomalies* : The cost of procurement of raw materials and their finished products from the international markets is substantially affected by tariff policies of the government, often pursued for revenue purposes. Tariffs leviable on imported goods vary from zero to 300 per cent depending on the nature of goods imported. The situation that exists in respect of some major items is quite anomalous. For some locally manufactured items meant for sale either in the local market or in the external market, the duties payable on raw materials are much more than that on the imported finished products. This makes the locally manufactured goods price-wise less competitive with imports. Even in duty drawbacks admissible for competitive bidding or export there are problems of nomenclature and procedural delay. In recent years notional duty drawback has somewhat simplified the procedure.

(5) *High Capital Charges due to over Capitalisation* : It has been almost a universal experience in the sector corporations that almost all the major projects cost much more than they were planned for. Project conceived in the Sixties but completed in the late Seventies have no relationship between the original cost and the actual cost involved in their implementation. The delay

in implementation of projects has been responsible for their over-capitalisation. World-wide inflation and variation in the rate of exchange in the post-Independence period led to over-capitalisation. Procurement under tied funds coupled with strong preferences resulted in disproportionately high cost of capital machinery. As a result as the World Bank observed in their review on the Second Plan Dreft, "the gift horses have not yet carned their hay".

(6) *Low Capacity Utilisation* : Major constraints on the performance of the nationalized industries may be summed up in terms of capacity utilisation. In almost all the major industrial units production is much below their installed capacity. Here performance is inevitably constrained by low demand, availability of raw materials and high cost of production. But these were also aggravated by operational constraints. Technical deficiencies arising out of inherent design constraint, inadequate guarantee test and sometimes inadequate managerial capability in handling imported sophisticated technologies and processes also lead to low capacity utilisation. Frequent power failures lead to high production loss and damage to equipment. To ensure stable power supply plants are often required to install captive generating units at an extra cost. Production below capacity is uneconomic and has been responsible for the unsatisfactory performance of most of the large industries in the public sector.

(7) *Poor Maintenance of Capital Stock (machinery, equipment, etc)* : Maintenance of machinery and equipment in most of the industries in the public sector is very poor and not up to the standard. In some enterprises machinery and equipment are highly sophisticated and costly, but due to lack of proper maintenance their performance is not satisfactory. Consequently, the effective life of machinery and equipment is shortened. This has been one of the main problems of the nationalised industries. This is due to lack of both maintenance fund and training.

(8) *Use of Obsolete Technology* : It is common knowledge that Bangladeshi industries in general, and industries under Sector Corporations in particular, in most cases, have been continuing with old, outdated technology in different fields. This has given rise to problems, such as low productivity, substandard product quality and high material consumption leading to high cost and loss of preference with consumers. There is in fact a kind of technological dualism as in some sectors buyers have borrowed high technology with sophisticated machinery and equipment. What is important is to adopt a technological profile that meets best the techno-economic need of Bangladesh.

(9) *Low Labour Productivity* : Low labour productivity is symptomatic of failure to achieve the desired goals/objectives of an enterprise and is generally the result of a complex set of forces—from the contractual relationship between the workers and the management to the overall socio-economic environment surrounding the industrial sector. Contractual relation falls short of reward and punishment as failure is hardly attributable to any single factor. Plant level working environment is not often agreeable to long hours of work leading to loss of commitment by workers. Machine operation is monotonous and work arrangement is tiring. In fact, machine-man relationship, *i.e.*, agronomies is of negative value. The situation is made worse by old technology and lack of proper maintenance of machine. Loss of machine hours

due to mechanical breakdown, power interruption, shortage of raw materials and spares, etc., cause loss of labour hour and output. Above all, market constraint together with inflexible employment contributes to low labour output.

(10) *Inadequate Training of Workers, Supervisors and Management Personnel*: The efficiency of an organisation depends chiefly on properly motivated and well trained work force, supervisors and management personnel. The vacuum created after Independence led to deterioration in labour-management relationship and overall decline in management efficiency. Management was the most acute problem at the level of middle management and skilled workers. Staffing policy generally failed to promote professionalism. In-service training facilities for workers and personnel at all levels available at present is too inadequate to meet the challenges of a changing environment. Enterprises are run from year to year on an *ad hoc* basis by people lacking longterm commitment in an insecured environment.

12. **Small and Cottage Industries** : These two sectors contribute about 50 per cent of the value added in manufacturing but they remain largely unattended. Their sheer number and dispersal pattern make their continuous monitoring dificult and costly and their need indeterminate. There is no institutional arrangement for this purpose also. Only an insignificant part of small industries is covered by annual Census of Manufacturing Industries (CMI) which itself suffers from long time lag. Latest available CMI is that of 1980/81. Unlike large industries which are mainly located in the urban areas and are better organized being far less numerous than small and cottage industries, there exists no scope for direct access to information about these industries ; the current practice is therefore to undertake periodic surveys to gather information about them. The last surveys relate to 1978 for small industries and 1980 for cottage industries. As they were both undertaken by BSCIC, they exclude the handloom industry which constitutes the main segment of cottage industries. A handloom census was taken in 1978 by the Handloom Board.

13. For lack of data the positions of small and cottage industries in 1984/85 are based on extrapolation. Their number increased from 16,331 in 1962 to 24,005 in 1978 and the employment from 1,44,695 to 3,22,126. The annual growth rate of employment was 4·82 per cent. Value added, however, grew at a slower rate because over the same period cost of raw materials and spares increased at a faster rate. While the cost of raw materials and spares accounted for 50 per cent of the gross value of product in 1962, it was 70 per cent in 1978, implying a lower value added per unit of employment. A recent study shows that in small industries it was Tk. 8,013 per annum on an average for 400 thousand employees in 24,217 units. If it is assumed that between 1978 and 1984 employment in small industries grew at the same rate as was between 1962 and 1978 the employment size for 1984 would be around 428 thousand and the value added Tk. 343 crore which will be about 19·5 per cent of the value added of the manufacturing sector or 1·7 per cent of GDP.

14. The small scale industries should not however be judged by its value added alone. Its significance also lies in its employment generating capacity in an economy characterised by high rate of unemployment. A small scale industry generated one unit of employment

for a fixed investment of Tk. 11,884 in 1978 ; against this the national average incremental capital labour ratio was Tk. 32,000 (US $ 1400). Cottage industry can produce employment much more cheaply, for Tk. 2,000 on an average, but its value added per worker is also low. Marginal productivity of labour in small industries has been estimated by some authority to be Tk. 25/day (1978—80) against Tk. 8 a day in cottage industries and a daily wage of Tk. 12 for unskilled agricultural labourer. Though large industries adds more in value added (Tk. 26,820) per unit of employment, it also requires proportionately more capital to generate such employment. There is thus a trade-off between output and employment. From the point of view of both income and employment, small industries appear to be the logical choice in a state of resource constraint. Moreover, the small industries can promote balanced regional growth through their dispersal.

15. The 1980 Survey of Cottage Industries (excluding handloom) recorded 322 thousand of such units. Since 1962 employment in this sector grew at an annual rate of 2·2 per cent reaching an absolute number of 916 thousand in 1980. If this growth rate is projected to 1984 also, the number would reach about a million and assuming a value added of Tk. 3,751 per employment, the total value added comes to Tk. 375 crore. Though cottage industry suffers from low marginal productivity of labour and low wage rate as mentioned in the preceding paragraph, it also augments income of the poor rural households. Together with handloom (value added Tk. 194 crore according to TIP Study) the total contribution of the cottage and handloom industries comes to Tk. 570 crore—2·7 per cent of GDP or one-third of value added by manufacturing. Together with small industries it accounts for over half of industries contribution to GDP.

16. The significant contribution of the cottage industry to employment and GDP should not, however, lead to overlook the fact that its income generating capacity is low though its employment impact is quite large. Its wage level is generally below subsistence wage, sometimes as low as one-fifth of the wage of unskilled agricultural labour as in coir-rope making. Wage rates in cottage industries show two distinct patterns : first, wage varies directly with capital investment-wage rising by Tk. 3 for every thousand taka increase in investment per capital and secondly, wage is decidedly low where female participation is high. Some cottage industries thus help augment family income by providing female employment opportunities even at below the going agricultural wage rate. There are also the industries (*e.g.*, rice-husking, coir-rope making, oil pressing, mat making, etc.) in danger of being extinct in the face of competition from more modern units (*e.g.*, rice mills and oil mills) due to their low rate of return on labour. Their future prosperity thus depends on product and technological developments. In the recent past significant progress has been made in the area of product developments such as in novelties and artifacts, but technological development has not received due attention. Handlooms, for example, are predominantly characterized by pit looms. Out of 437·0 thousand looms 297·5 thousands are pit looms, 102·2 thousand semi-automatic looms and 0·5 thousand automatic looms. Without technological improvements cottage industries can only survive either as the marginal opportunities for women who may have limited access to agricultural works, though female wage rate is low, or as traditional crafts and professions, leading to increasing marginalization of women labour at a lower level of wage on the one hand and propagation of a traditional economy against development on the other.

17. **Handlooms** : According to Handloom Board, there were 197,280 units (including 277 power looms) in 1978/79 which employed 847 thousand people including 491 thousand family labour. The 1981/82 study of TIP shows 150 thousand units with an

employment of 700 thousand. Handloom's problem ensues mainly from the archaic nature of the looms which are pit looms, having a very low productivity. According to the Rural Industries Survey of BIDS (1979), value added per labour-day was Tk. 15·07 only and daily wage Tk. 11·66 against the daily wage of Tk. 12·46 for unskilled agricultural workur. A more recent study shows a net return of Tk. 7,813 to a family and 1·60/ hour only to a labourer. Such a low return on labour even in comparison with unskilled agricultural labour wage is an inherent threat to the existence of the handloom industry. The other factors which have contributed to its decline are demand constraint created by the slow growth of the economy and consequent preference for cheaper substitutes (*e.g.* second hand cloth/synthetic fabrics) and supply of yarn and credit problems. Lack of demand was the dominant factor for fall in handloom output. Unless productivity is increased and cost is reduced in the face of high prices of cotton and yarn the problem of the handloom industry cannot but linger. Besides the productivity problem which needs to be addressed through technological improvement such as substitution of pit looms by semi-automatic (Chittaranjan) looms, there is a serious problem which poses to be a great threat to the survival of the handloom industry as a supplier of cloth for the masses who are at a low income level. The problem arises from the rise of cotton yarn price. The price of cotton has also increased over three fold between 1972/73 and 1984/85. Cotton fabric is currently viewed as a luxury product; therefore, handlooms must have market reorientation through development of product design and novelties and thereby add more value to increasing cost of yarn. Yarn price which is officially fixed has increased by 84 per cent during the plan period; this together with constrained demand has reduced the bargaining power of handloom weavers in a buyers' market.

Productivity and Efficiency

18. While various output targets remained to be fulfilled capacity utilisation and productivity also remained low in many important sub-sectors resulting in high unit cost exacerbating their competitive power against imports under commodity aids and NIP. Labour productivity was generally low and during the plan period declined further in some key areas. The table below shows a cross -section of industrial products in terms of capacity utilisation and productivity:

TABLE 4

Rate of Capacity Utilisation and Productivity

Industrial Products	Installed capacity 1984/85	Output 1984/85	Rate of capacity utilisation 1984/85 %	Labour productivity 1983/84 (Taking 1979/80 = 100).
1. Jute Textile (000 tons)	1150 (1035)	561	48·8 (56·0)	92·0
2. Cotton Textile (Mln. kg)	90 (160)	59	66·0 (82·52)	135·4
3. Cement (000 tons)	390 (360)	260	66·7 (72·2)	80·0
4. Fertilizer (000 tons)	1138 (1080)	806	70·8 (75·9)	131·1
5. Papor & Newsprint (000 tons) ..	123 (111)	90	73·2 (73·9)	83·2
6. Steel Ingot (000 tons)	250 (150)	101	40·0 (66·7)	82·0

NOTE: Figures in parentheses are for attainable capacities.

19. Declining labour productivity under external and internal demand constraints and the inflexibility of labour force at the plant level present the management with a formidable problem to deal with. Employment rigidity together with periodic upward revision of wages results in high cost of production which the management has to pass on to the consumers. In the face of these rigidities public sector corporations suffered a serious cost and price disequilibrium sometimes accentuated by official price policy which led to financial difficulties for the corporations. Under these constraints of products and labour markets, top management had very little innovative role to play in improving the productivity. As a result, in most industries labour productivity remained below the pre-Independence level; so also the real wage. It needs to be stressed that, excepting short-term gains from collective bargain, there cannot be any long-term gain in real wage without sustained growth of labour productivity. Rather than chasing profit through simple cost and price reflexes, the management should seek a loss-minimization goal through both technical and economic responses to problems in preference to expedient administrative solution only. The experience of the Second Plan has overwhelmingly demonstrated that price adjustment is no substitute for efficiency for a long-term healthy growth of the industry and less so in a competitive market economy. Corporations, though enjoy more pricing freedom now than before, must also recognise that the economy has also become more open to increased competition both between public and private sectors as well as between domestic goods and imports. The management, therefore, needs to grow as a decisive market force to positively influence it, rather than accepting market conditions as given.

Financial State of Sector Corporations

20. The failure of simple cost-and-price reflex action is reflected in the state of financial affairs of sector corporations. The height of this failure is that most corporations cannot even service their short-term and long-term debts. Average annual return was around 1% on an investment of Tk. 3000 crore. The financial performance of the public sector industrial corporations over the successive plans is shown in table 5 below:

TABLE 5

Financial Performance of Public Sector Corporations

(Tk. in crore)

Corporations.	Average Annual Net Profit/Loss		
	First Plan.	Two Year Plan	Second Plan
1. Jute Mills Corporation ...	—54·8	23·8	—36·2
2. Textile Mills Corporation ...	0	—19·4	—16·3
3. Chemical Industries Corporation ...	—21·0	0	19·7
4. Steel and Engineering Corporation ...	7·6	12·9	—8·9
5. Sugar & Food Industries Corporation ...	2·9	2·8	36·8
6. Forest Industries Corporation ...	0	—0·9	2·6

Notes: (i) 1st Plan's average is for 4 years from 1974 to 1978 and the 2nd Plan's average is for 5 years but 1984-85's estimate is provisional.
(ii) Calculations cover enterprises as they were under the control of corporations.
(iii) Negative sign means loss.

Change in Policy Environment

21. After the early spurt of nationalization, industrial policy began to change in favour of private sector in July, 1974 when the investment ceiling for the private sector was raised from Tk. 25 lakh to Tk. 3 crore and the period of moratorium from nationalisation was extended from 10 to 15 years. In December, 1975, the ceiling for the private sector was further raised to Tk. 10 crore. Since then a series of important policy changes were made. The industrial policy announced in May, 1977 limited the reserved list for the public sector to 8 industrial sub-sector (from 18 sub-sectors), while introducing a concurrent list of 9 industrial sub-sectors. Along with these, a number of fiscal incentives such as extension of tax holiday period from 7 to 9 years for less developed areas and reduction of import duty on capital machinary from 20 per cent to 2·5 per cent for priority development areas, to 5 per cent for development areas and to 15 per cent for developed areas. In addition, the Investment Corporation of Bangladesh was revived to provide bridge finance for equity capital to private industrial units and under-write public issue of shares.

22. The most important step was taken in June, 1982 through the promulgation of a New Industrial Policy (NIP). The notable feature of the NIP is the restriction of the role of the public sector to six major industry groups, namely, arms and ammunition and allied defence equipment : atomic energy ; air transport ; generation and distribution of electricity (excluding rural electrification by Palli Bidyut Samity); telecommunication ; and mechanised forest extraction. A concurrent list including 13 categories of industries wherein both public and private investments were allowed was also provided in the NIP. Besides, a number of Jute and Textile Mills were returned to their local owners while disinvesing a large number of abandoned industries.

23. **Incentive** : Besides expansion of the area of private sector operation, a number of specific incentive measures were announced under the NIP for the development of the private sector. These are :

(a) *Investment Incentives and Licensing* : To encourage increased investments new industries were granted accelerated depreciation. The number of industrial sub-sectors freed from requiring any sanctions has been increased from 19 to 47; these industries require no sanctions for new investments provided the capital goods imports for these sectors are financed through the Wage Earners Scheme (WES), the Export License Scheme (XPL), suppliers credits or non-repatriable direct foreign investments. To streamline the sanction procedures for other sectors the Director general of Industries (DGI) set up an Investment Assistance Unit to provide a 'One Stop' service to handle all licensing requirements of private investors. In addition, the authority to sanction investments in smaller projects has been decentralized to regional offices. The commercial banks and the DFIs have also been given authority to approve investments and to provide working capital.

(b) *Export Incentives* : The exchange rate policy pursued since 1982 provides for avoiding overvaluation of home currency through its gradual depreciation to reflect the relative rate of inflation with the trading partners so as to give strong incentive to exports. Further, XPL has been extended as a rasult of which all non-traditional exports have become automatically eligible for a 40 per cent entitlement and, to eliminate delays in duty drawback, a notional Import Duty Drawback Scheme (IDDS) for exporters was introduced in 1982. These efforts are complemented by liberal export credits at concessional rates

of interest; increase tax rebates on export incomes from 30 per cent to 50 per cent; reduced duties on capital exports; liberal credits up to 90 per cent of exporters' working capital requirements; prompt processing of export credit applications by the Central Bank: revised loan repayment terms, etc. All these incentives have also been extended to domestic production of inputs used in the manufacture of export products and import competing products supplied under aid through international competitive bidding. The Bangladesh Bank has also initiated an Export Credit Guarantee Scheme with refinancing rates being lowered from 9 per cent to 8 per cent. As a result of these incentives, in spite of a worldwide recession, the non-traditional exports grew substantially, at the rate of 21 per cent, during the Plan Period thereby contributing in 1984/85 over to and half time the 1979/80 share of country's exports.

(c) *Import Liberalization*: The WES/XPL market in which remittances and IBCs can be exchanged at a premium, has been expanded significantly and more goods, particularly industrial raw materials, have been made eligible for import under WES.

(d) *Incentives for Foreign Investments*: The NIP envisages a growing role for foreign private investments. The Foreign Private Investments (Promotion and Protection) Act of 1980 was drawn up to encourage foreign investments for technology transfers and better use of domestic resources to improve the balance of payments situation. This Act gives protection against non-business risks and provides for profit and capital repatriation and compensation in case of nationalization. A National Committee for Industrial Development (NCID) has been constituted for sanction of all foreign investments.

24. **Export Processing Zone**: Industrial Free Zones or Export Processing Zones have been used as an important instrument for the promotion and development of export oriented industries in a number of developing countries. These consist of customs free privileges and special incentives provided in secluded zones having developed land, factory building, water, electricity, tele-communication, transportation and other infrastructural facilities for the convenience of the operating firms. These zones usually perform a catalytic role in accelerating the process of industrial development through attracting foreign investments for transfer of technology, expansion of employment opportunites and foreign exchange earnings.

25. In view of shortage of indigenous industrial raw materials but a large availability of cheap and trainable labour, low cost of energy and reasonably developed infrastructural and shipping facilities, Bangladesh has established an Export Processing Zone (EPZ) at South Halishahar, Chittagong with the following specific objectives:

(i) to increase export earnings;

(ii) to create employment opportunities for local manpower;

(iii) to promote large-scale foreign investments as well as encourage local entrepreneurs for wider investment in export industries;

(iv) to promote linkage industries and increasing utilization of local resources through integration with the national economy;

(v) to accelerate development of local skill, technology and managerial capabilities ; and

(vi) to promote development of service industries and improvement of infrastructures.

An Authority to administer Export Processing Zones has already been created through necessary legal instrument.

26. The first phase of work of EPZ, Chittagong was completed in June, 1985 at a cost of Tk. 23·68 crore. During the first phase 247 acres of land were acquired, out of which 125 acres were developed and 97 industrial plots were made ready for allotment. Total investment approved in the EPZ as on 30th June, 1985 was Tk. 55·44 crore for 24 industrial projects, out of which only 7 projects (including 5 garments industries) were implemented at a cost of Tk. 19·61 crore, including foreign exchange component of Tk. 18·44 crore. These industries have created employment opportunities for about 1,772 Bangladeshis and earned a net foreign exchange of Tk. 3·43 crore, while the gross foreign exchange earned was Tk. 13·47 crore. The 5 garment industries, set up at a cost of Tk. 14·19 crore, accounted for the entire foreign exchange earnings in the EPZ up to June, 1985 and employed 1,700 people. The expatriate response for investment in the EPZ apparently fell far short of expectation. Further expansion of the EPZ, Chittagong (2nd phase work) and establishment of two more zones—one near the Dhaka Airport and the other near the Chalna Port would follow the success of the existing EPZ, Chittagong.

THIRD FIVE YEAR PLAN

27. During the Second Plan the growth of the industries was constrained by a number of factors. First, though the industries sector contributes 9·5 per cent of GDP, its growth was less than the planned target for lack of domestic demand as GDP growth was lower than planned, continued recession in developed countries affecting export demand and shortfall in investment level ; secondly, due to operational lapses reflected in large idle capacities, low productivities and consequential high cost of production and losses and finally, because of fiscal and pricing anomalies which distorted comparative advantage adversely affecting competitiveness of domestic output *vis-a-vis import*, though some fiscal and pricing corrections were made in the middle of the plan. As a result of all these performance of the sector was less than expected during the Second Plan having virtually no impact on the sector's share of GDP which changed from 8·23 per cent in 1979/80 to 9 per cent only in 1984/85.

28. To initiate the long-awaited structural change and develop a viable industries sector, the Third Plan will address the problems of low level of plant operation, low efficiency and low productivities. This change has been conceived in a dynamic context of increasing market-orientation of the economy. The Plan recognizes land and labour as the primary resources of the country and their increasing productivity as the key to accelerated growth. Higher productivity of land will depend on diffusion of the modern irrigation-and-fertilizer technology in which industries sector has a critical role to play through production and supply of modern inputs. Increased agricultural output will in turn demand expansion of agro-processing industries on the one hand and increasing supply of consumer goods in the rural areas on the other. The medium-term industrialization prospect is thus conceived around accelerated development of the agricultural sector which

at its present level of yield, has much potential to exploit during the Third Plan period. As agriculture is the main occupation of population, its faster development only can ensure a dependable market to manufacturing industries in a world of increasing competition and growing protectionism. There is no instance, in fact, of a viable industrial economy growing in the backyard of pervasive poverty, other than as an enclave.

29. It is however recognized that though the growth potential of the agricultural sector is still great and its modern technology is labour-intensive, its capacity to respond to unemployment problem is limited. Under this type of technology, output will tend to grow twice as fast as expansion of employment opportunities. The growth in family income through higher productivity of land is likely to relieve the pressure on labour market somewhat but even then it is estimated that a substantial volume of surplus labour will need to be absorbed in nonfarm sectors. It is in this background that the industries sector will have to make increasing use of the labour resource of the country. Like land, labour productivity is currently very low, in both modern and traditional industries. Improvement of labour productivity in modern industries is basically a problem of management but in the case of traditional cottage industries it is a complex problem of technological transformation, skill formation and product development.

30. Third Plan's thrust on efficient management on one hand and the emphasis on technology and skill improvements on the other will create the necessary condition for a long-term structural change rather than ad hoc investment in heavy industries. Some basic facilities of the latter categories already exist in the country such as the Machine Tool Factory, General Electric Manufacturing Plant, Diesel Plant, Steel Mill and Shipyards. Third Plan will particularly focus on their efficient use for initiating the required change in the structure of the economy on a sound basis.

Objectives

31. The broad objectives of the Industries Sector for the Third Plan have been set in the light of the problems, possibilities and policies discussed earlier. These are :

(i) to build a viable industrial structure in furtherance of sustained economic progress of the country through resource development ;

(ii) to support accelerated development of agriculture through production and supplies of inputs and processing and absorption of output by dynamic market linkages ;

(iii) to ensure adequate supply of basic needs and consumer goods by domestic manufacturing industries ;

(iv) to create new opportunities for productive employment, particularly by dispersal of small industries and development of rural and cottage industries ;

(v) to help improve the balance of payments position through development of import-competing and export industries ;

(vi) to promote development of a sound indigenous technology base through research and adaptation.

Industrial Policy

32. The new industrial policy (NIP) with its shift of emphasis in favour of the private sector will be the main instrument for realisation of the above objectives. Public Sector's role in the industrialisation process will be limited to the areas as defined in the NIP. Direct government investments would be primarily made in the reserved sectors

and in those areas of concurrent list lacking adequate response from the private sector. In the latter areas the strategic role of the public sector will be also of a catalyst in the form of associateship to bring about necessary response from the private sector. As a logical extension the other roles of the goverment will consist of guidance and promotion of private investment on a broad basis and creation of a healthy investment climate through appropriate policy incentives. Accordingly, the following policies and strategies will be pursued.

Strategies

33. **Development of Viable Industrial Sector:** As mentioned already, high level of idle capacity and low level of productivity sap the vitality of the industrial sector. This is reflected in general in financial losses, low rate of return on capital and heavy financial debt which the sector is incapable to service. The viability of the industrial sector has been weakened by internal problems and the process has been aggravated by external factors. Internal problems ensue mainly from lack of adequate cost consciousness and management skill to meet the changing market conditions. Externally, during the period of the Second Plan, industries faced severe demand constraints at home and abroad. Such constraints are unlikely to disappear in the near future, particularly over the Third Plan period; industries can, however, contribute to easing the situation by their own efforts. Such efforts will consist of elimination of wastages, improvement of labour productivity through labour training, maintenance of industrial peace through profit sharing and participatory management, increasing emphasis on market research, production planning, product development and quality control; technological adjustments to improve efficiency in production and greater attention to research and development to solve plant-level problems. Besides demand constraints, external factors adversely affecting industrial productivity and efficiency consisted of unfair competition from import, fiscal anomalies, unstable and inadequate power supply, etc. The Trade and Industrial Policy Reform Study which is now in its final stage is addressing the issues of comparative advantage, effective rate of protection, domestic resource costs, etc., which will enable formulation of a national fiscal policy in the interest of promotion of a viable industrial sector. Power supply which is vital to modern industries and improvment of technology will continue to receive high priority over the Third Plan as it received in the Second Plan; but at the same time industries will have to show greater consciousness towards conservation of energy and energy economy by containing use of energy-intensive technologies. Above all, industries should not take the domestic market for free shelter. As the primary objective of the Third Plan is to alleviate proverty and improve people's standard of living protective tariff policy has to be consistent with this objective.

34. **Strengthening the Linkage with Agriculture:** Because of the imperative for food self-sufficiency and existence of yet untapped growth potential in agriculture, industrial development will have to mainly centre around the agriculture sector. This linkage will characterize the industrial development in the Third Plan in two ways: First, the development of agro-support industries (*e. g.* urea fertilizer) and secondly, that of agro-based processing industries. The Third Plan will seize every opportunity to strengthon the latter linkage (backward) which is presently weak and very limited to few industries (*e. g.* Jute Textiles and Sugar). The scope for this relationship will increase with the growth of agriculture far beyond the need of farm households. In the current relationship between industries and agriculture, there exists a significant gap as it is largely concentrated at the two extremes--at one end is the relationship between highly organized large scale industries (such as jute, textile, sugar and fertilizer) and a vast multitude of unorganized small and

subsistence farms producing raw materials for them or using their products, apparently with conflicting interests and at the other end exists the traditional relationship between such an agriculture and equally unorganized numerous cottage industries living in symbiosis for generations. In between there is a serious gap in the relationship between agriculture and industries. The Third Plan will fill this intermediate gap by promoting small rural industries in an organised manner in cluster at suitable market locations and development of products, skill and technology of cottage industries to fuse the existing bifocal industrial structure into a system. Further to develop them as integral parts of an industrial system, horizontal and vertical integrations will be discouraged through the processes of subcontracting and assembly operation, increasing product and process differentiation. The framework of three investment schedules adopted under the NIP for large and medium industries, small industries and cottage industries will be followed in the Third Plan in furtherence of these policies and further strengthened through dissemination of improved technological profiles. A study on small and rural industries and another on agro-process industries have already been completed for their development during the Third Plan period.

35. **Supply of Basic Needs and Consumer Goods :** It is recognized that the linkage between agriculture and industries transcends the technologically given input-output relationships. Development of the agriculture sector which employs the populace will also create income effect on the industries with growth of demand for both basic needs and consumer goods. Particularly, small and light industries can benefit from this growth. To enable them to take this advantage fiscal and monetary policies will be explicitly formulated in their support. Further, to bring this effect of the growth of agriculture to bear fully upon rural income and employment, development of such consumer goods industries will be encouraged at proximity to consumption centres in rural areas. In pursuing the policy of strengthening inter-industry relationship through subcontracting and assembly operations requiring industrial dispersal the Plan provides for expansion of rural electrification which is needed for technological development of the rural economy and development of rural roads into a national network in order to ensure quick movement of raw materials and goods in and out of the rural areas.

36. **Rural Employment :** Third Plan's thrust in the industrial sector is directed towards expansion of nonfarm employment opportunities. This has been largely amiss in the past industrialization process because of autonomous choice of technology without much regard for factor endowments and employment. Aid and factor pricing also encouraged capital-intensive technologies. Third Plan will expressly promote labour intensive technologies through small scale rural industries. As its primary objective is poverty alleviation such teconologies will be required to satisfy productivity condition that will ensure workers access to basic needs. The two objectives of employment and productivity may appear conflicting, but, in fact, they are mutually reinforcing. Higher level of productivity is likely to reduce pressure on family members, particularly those in the younger age groups, to seek work and higher family income in turn will increase demand for consumption goods, production of which will expand employment opportunities.

37. **Balance of Payments Support :** Balance of Payments gap, though natural for a developing country, has in recent years come to constrain industrial growth as the supply lines for raw materials and spares were stifled by the slow growth of imports. Third Plan does not foresee any significant improvement in aid inflow in quantum and in modality. Therefore, given the raw material endowments of the country, export will have to increasingly pay for imports of raw materials and spares and as the major user of such imports, industries will have to bear the greater burden for payments of imports. During

the Second Plan significant gains were made in this direction in spite of difficult international trade environment. The aims of the Third Plan will be to consolidate the past gain and further it through product development, aggressive sales promotion and such fiscal incentives as would encourage backward linkages of export products on one hand and eliminate domestic market preference over the export market on the other. Trading Corporation of Bangladesh will be reorganised to play a greater role in export development. Because of its emphasis on small and medium industries the Plan will also encourage setting up Trade Houses in the private sector and provide fiscal and monetary support for this purpose. In a more direct way to promote export, an Export Processing Zone has alredy been set up at Chittagong but its impact on export has not been significant so far for lack of interest among foreign private investors, though an Act has been promulgated to protect foreign private investments. Bangladesh offers both cheap labour and power. Given these, major efforts under the Third Plan will be directed for further improvement of investment climate to instil confidence in private investors. These will consist of promotion of work ethics, industrial discipline, labour-management harmony and above all, an industrial culture. Related to the issue of foreign private investment Transnational Corporations operating in Bangladesh will be required to ensure progressive manufacture of components and transfer of technology and managerial skill in a timebound framework.

38. **Industrial Finance and Small Investors :** As the Second Plan was coming to a close, industrial finance grew into a serious crisis. Due to accumulation of overdue debts the credit lines from the development finance institutions to the private sector were frozen. In the public sector also resources for industrial investment grew scarce, while the debts servicing problem accentuated for the parastatal enterprises and their parent corporations. Actually debt burden grew into a spectre for both the public and private sectors. The history of this crisis can be largely traced to the fact that the Second Plan coincided with a global economic crisis. Bangladesh was no exception to that; rather, being poor and precariously dependent on foreign aid, Bangladesh suffered too much from the shock of deflationary policies of the developed countries. Impact of these policies fell disproportionately on the industries sector as they changed the domestic and export market condition affecting their financial viability. In relation to the overseas market condition jute industry is the case in point. Because it had to take a lower price in a depressed world market the public sector jute mills alone suffered a loss of Tk. 143·5 crore in 1984/85. Over the Second Plan period loss of public sector jute mills totalled to Tk. 180·5 crore. Due to deflationary effects on the domestic market leading to its slower growth than expected many industries in both the public and private sector faced serious liquidity problem short of bankruptcy, a widely observed phenomenon in the industrial countries in recent years. Such a situation in Bangladesh has been avoided because of public involvement, directly through the parastatal corporations and indirectly through the development finance and banking institutions. Increased bank borrowing, rescheduling, capital restructuring and default without legal consequences characterised the industrial finance of this period.

39. Finance institutions provided more than 78 per cent of indsutrial investment in the private sector during the Second Plan and 60 per cent of this institutional finance was in foreign aid. Thus they have been the mainstay of industrial finance for the private sector. Freezing of the credit lines of the development finance institutions poses serious problem to financing private industries under the Third Plan. In this context Bangladesh has few limited options. First, difficulties in getting credits for import of machineries may encourage more farsighted entrepreneurs to use machineries as may be locally available,

reducing thereby technological dependence on aid. In fact, irrespective of aid, this option should be exploited to the fullest extent during the Third Plan to build a healthy domestic base for industrial development. Secondly, lack of easy access to aid for machinery import itself will encourage search for less capital and more labour intensive technology and thereby help promote the employment objective of the Plan. However, these options should not be viewed as virtues out of necessity for the private sector only; as they underlie the basic strategy of the Plan for expansion of productive employment, both private and public sectors will have to pursue them, though industrial history is replete with unbalanced technological developments. More positively, the Planning Commission will have to play a critical role in the choice of technologies and screen them from the point of their employment effect and absorptive capacity. Thirdly, as happend in the second half of the Second Plan with garments industries, dynamic entrepreneurship should be allowed to grow around long term market opportunities and take advantage of secondary foreign exchange market rather than depending on institutions for easy credit. Finally, as cost of capital has to be same for both internal (non-tradables) and external (tradables) sectors in order to ensure efficiency and viability of industries sector, private sector should resort discreetly to suppliers credits and joint ventures with foreign private investors. Not much progress in either areas could be achieved in the past partly due to lack of confidence and partly due to cautious approach to commercial borrowing which also contributed to general dependence on DFIs lending, leading to the delicate financial structure of industries existing in the country. The financial crisis of the industries sector has its common origin in its excessive dependence on institutional credit including public saving. The whole of public sector investment was financed out of public saving and borrowing while financing out of corporations' retained earnings was little. During the Second Plan Tk. 1,254 crore was invested through the Annual Development Programme; net profit of the industrial corporations was Tk 139·8 crore only. Moreover, against the above investment, corporations contributed Tk. 96·8 crore to the exchequer as return to government equity, while some corporations were unable to meet their debt-servicing liabilities. In this background, during the Second Plan two sets of measures were taken. These were : (i) more pricing freedom to corporations and (ii) restructuring of capital (debt-equity ratio) in favour of equity. These helped improve the overall profitability of the corporate industries sector to Tk. 140 crore against loss of Tk. 196 crore over the previous 5 years (1975—80); but average annual profit of the corporate sector stood at Tk. 28 crore against a total investment which would at current prices, stand at over Tk. 3,000 crore. It is to emphasise in connection with the two measures mentioned above that they presuppose efficient management at enterprise level; otherwise pricing freedom will mean transfer of inefficiency and wastage to the consumers as high price, only to bounce back to enterprise as reduced demand for their products, reduced output, higher idle capacity and greater liquidity problem. The objective of the enterprises should be to maximise profit through higher turnover rather than higher unit profit in the interest of stimulating demands. Similarly, inefficiency at a lower debt-equity ratio will mean lower return on equity or even loss leading to watering down of capital.

40. Currently the private sector is facing a serious debt-servicing problem. There is huge over-due liability from the private sector to the financial institutions. The amount is estimated to be Tk. 544·8 crore of which Tk. 127·6 crore is on account of projects of pre-liberation period. Tk. 380·9 crore for projects of 1970s and the balance of Tk. 36.2 crore for projects of Second Plan when institutional credit amounted to Tk. 222·7 crore. The proportion of defaulters is as high as 80 per cent. The problem has given rise to a very serious liquidity problem for DFIs leading to freezing of credits. DFIs, liquidity

problem has been studied by independent experts, but what is needed is to take an overall view of economic environment of recent years in arriving at a programme that will ensure healthy growth of industries in the private sector.

41. For many reasons there has been over-dependence of private industries on development finance institutions for investment finance. Besides those already mentioned, lack of development of capital market is one. The latter has been generally conditioned by the slow growth of the economy and overall poverty; there has not been also much effort to develop the capital market even though the industrial policy changed to give greatrer emphasis on the private sector. The Stock Exchange at Dhaka is still in its rudimentary stage though it has shown some buoyancy in recent years. Only 69 Public Limited companies were listed with the Stock Enchange as on 30th June, 1985. Their paid up capital was Tk. 20·8 crore aga inst an industrial capital of over Tk. 4,000 crore. Volume of transactions in 1984/85 was Tk. 2·25 crore compared to Tk, 14 lakh in the previous year. There is definite sign of buoyancy in the stock market, but the level of operation is still low compared with the paid up capital of listed companies. There are several factors which currently inhibit the development of the Stock Exchange. First, public sector enterprises are owned by government; even though some of them have been incorporated as Public Limited companies, their shares are yet to be floated for public subscription. This is necessary to develop confidence and investment habit among small savers and relieve the pressure on public resources. The shares of profitable enterprises may be also partly issued to ICB against a new Mutual Fund or Unit Trust in foreign exchange for distribution among overseas Bangladeshi workers. This will help relieve the pressure on foreign exchange. Secondly, interlocking family directorate system which is generally popular among new entrepreneurs in the early stage of industrialization should eventually give way to public companies to allow the middle class to participate in the industrial development of the country. In this respect ICB has the positive role to encourage public subscription under its Mutual Fund and Bridge Financing Schemes. During the Second Plan it provided as bridge finance Tk. 46·6 crore which led to the public subscription of Tk. 14·7 crore only. Formation of Public Ltd. companies will be encouraged during the Third Plan, particularly for investments above a certain level, and their ultimate listing with the Stock Exchange. To achieve these, appropriate fiscal measures will be taken. Existing fiscal policy makes a differentiation between public and private companies in respect of income tax rates; a clearer distinction will be also required in respect of investments and dividend allowances to encourage formation of Public Limited companies and their listing with Stock Exchange with a view to promoting an industrial democracy.

42. One important development over the Second Plan has been increasing flow of commercial credits to private industries partly alleviating the problem of working capital. Overall commercial credits to private industries increased to Tk. 1,390 crore in 1984/85. This growth has not only helped them solve working capital problem, but it also means a growing role of commercial banks in mobilizing private saving and its allocation to productive uses through the money market. Monetary policy of the Third Plan will encourage this development further.

Programmes for the Third Plan

43. The Third Plan programmes for the major industries are discussed in the following paragraphs.

44. **Jute Textiles**: The most important industry of the country is jute textiles. Started in mid fifties, jute textiles industry grew up in the background of abundance of locally available raw material (i.e. raw jute) and cheap labour to dominate the industrial scene of Bangladesh, though its share in industrial output has declined with the expansion of the industrial base. By the beginning of the Second Plan the share was already down from around a quarter in 1973 to below one-fifth and further to around one-eighth in 1984/85, partly because of the slump in world demand and decline in raw jute output. In the latter year output of jute goods was down to 561 thousand tons against the peak output of 585 thousand tons of 1983/84 and 525 thousand tons in 1979/80. In fact, jute industry had a very difficult time during the Second Plan period due to lack of both stable world demand and stable domestic supply of raw jute. Squeezed in between, the industry has strived to maintain its output and export. Export increased from 456 thousand tons in 1979/80 to 484 thousand tons in 1984/85 giving a one per cent growth a year, while average unit price declined from $ 850 per ton in 1979/80 to $ 819 in 1984/85 in spite of shift in favour of higher valued, lighter products (hessian). The Third Plan programme for jute textiles has to be formulated in the background of these experiences and the prospect of the world demand. Slow and often fragile recovery of industrial economies and greater emphasis on food self-sufficiency in the developing world do not brood well for any drastic improvement in the world demand. The easing of oil price is also likely to affect adversely competitive position of jute goods in the world market *vis-a-vis* synthetics and substitutes, while raw jute supply remains the Achilles heel. In consideration of these external and internal factors the Third Plan does not envisage any more capacity expansion in the jute textiles sector. As a matter of fact, by the end of the Second Plan about 10 per cent of looms out of a total of 25,791 remained idle, while the rate of capacity utilization was around 49 per cent only. The rated capacity of existing mills is estimated at 1,035 thousand tons but the actual output in 1984/85 was 561 thousand tons; therefore, there will not be any dearth of capacity to fall back upon in case world demand improves and raw jute supply does not become a constraint. Even replacement programmes will need to be justified on ground of demand and economics though such replacement may fall due on vintage ground. In contrast, the areas to concentrate on during the Third Plan period will be research in product development, both in quality and varieties, and cost effectiveness from field to firm in order to be able to compete with synthetics and substitutes. The Third Plan production target has been set at 650 thousand tons for 1989/90 on a conservative estimate of export possibility of 490 thousand tons ; but it is to be stressed that the industry has to watch both international developments (i.e. world demand) and internal condition (i.e. raw jute supply) in its effort to attain/maintain the planned level of output as it may otherwise suffer financial losses if low demand for jute goods and large supply of raw jute happen to coincide.

45. **Sugar Industry :** The second most important agro-based industry of the country after jute textiles is the sugar industry and, like jute textiles, also enjoyed a rapid growth in the sixties, After Independence, only one mill of 10,000 tons capacity was added while the main programme in this sector consisted of rehabilitation and expansion of old mills. The existing output capacity is 190 thousand tons, but like jute textiles, probably even more than that, actual output has come to depend on the supply and quality of sugarcane. During the Second Plan actual output widely varied between about 199 thousand tons In 1981/82 and 88 thousand tons in 1984/85. In view of this instability of output of this existing mills resulting from insufficient cane supply, the Plan does not envisage any immediate capacity expansion of the industry. What has been emphasized in the Plan is the development of sugarcane—both in yield and quality. However, the Plan recognises the need for maintenance of production capacity at its present level through replacement programmes as out of 16 existing mills half is vintage of 30 years or more. It is also noted that, though the prospect of expansion of the industry is constrained in the medium term by the problems of sugarcane supply, potential demand for sugar in much more than the industry is capable to produce at its full capacity. Such demand is sure to increase in future with the growth of income and urbanization. This will put heavy pressure on foreign exchange as the gap is to be met by import; hence is the significance of improvement of sugarcane production. From the point of optimal use of land and efficient cropping pattern, sugarcane ranks quite high in terms of international value added ; in rural employment creation it tops all other crops. Besides, some land areas in different flood plains are found to be typically suitable for sugarcane cultivation. The potential that the sugarcane enjoys, therefore, will have to be exploited through the development of varieties in terms of yield, content and maturity period. Relevant public sector agencies will be entrusted with necessary promotional and extension works in this connection. Once this programme starts yielding results and sugarcane production reaches a level where surplus cane will be available, after meeting the requirements of the existing mills, further expansion in sugar production capacity may be considered, preferably through associateship with the private sector. It needs to be mentioned that sugar corporation has made profit consistently over the Second Plan because of high demand for sugar.

46. **Cotton Textiles :** Cotton Textiles has been historically the path blazer for industrialization, starting from the Industrial Revolution in 1779 down to the present time. Success story of Japan, Hongkong, South Korea and many other countries in economic development in the post-World War II period started with the cotton textiles industry. The main strength of the industry is cheap labour that all those newly industrialized countries enjoyed at the begining. Bangladesh with her vast surplus labour has yet to exploit fully its potential in this respect. She has also the added advantage of having a large domestic market ; but as the required raw materials (*e g.* cotton and synthetic fibre) need to be imported it is equally important that the industry be outward looking rather than simply taking an easy view of import substituting. Such an approach is needed not only to finance its raw materials import but also to protect the large handloom sector existing in the country in allowing the industry to play its leading role in industrialisation.

47. There are about 400 thousand pit and other looms in the handloom sector against 13,650 power looms in modern mills. About 65 per cent of cloth out of a total of 771 million metres is produced by the handloom sector which employs around 700 thousand people. It is to be recognized that the handloom sector will be the mainstay of the weaving industry for supply of bulk of the domestic cloth requirements. At the same time, it must be pointed out that the sector's economies and so its existence have been affected adversely due to not only the low labour productivity but also the high cost of cotton yarn and other inputs, which the handloom weavers have to procure through mindlemen, in the background of low purchasing power of the common man. Daily wage rate in the handloom sector is found to be lower than that of an unskilled farm labourer. These low return and low productivity partly explain the decline of the handloom sector in recent years manifested in the reduction of employment from 847 thousand in 1978/79 to about 700 thousand in 1981/82. Only feasible solution to these two problems of high cost of raw materials and low return is to raise the productivity and value added through improved technology.

48. Another major problem area for the handloom sector has been the lack of adequate supply of required yarn of right quality as a result of which the sector has not been able to show its best performance. Therefore, besides expansion of the yarn supply for full employment in the handloom sector, it will also be necessary to ensure yarn of preferred counts and quality to the sector.

49. In view of its large contribution to employment and to cloth supply, mainly to rural consumers, the main focus of the Third Plan is to ensure harmonious development of the modern textile sector with the handloom sector. This will be promoted through (a) the establishment of modern spinning mills, preferably on the line of counts specialisation, to ensure supply of yarn specific to the needs of the handloom sector as well as for weaving exportable fabrics; (b) dedicating the weaving capacity of large composite mills and small factories to the need of the garment industries and for export ; (c) improvement of the technology in the handloom sector; (d) development of effiective marketing and distribution system for handloom products ; (e) organising and revitalizing, on top priority basis, handloom weaver's co-operatives under the auspices of Bangladesh Handloom Board for channeling credits and inputs and undertaking the marketing responsibility of handloom products, (f) establishment of a special Fund by Bangladesh Bank to provide, at concessional terms, adequate working capital and term-loans for improvement of loom productivity; (g) providing comprehensive and intensive technical training to an increasingly larger number of weavers with a view to increasing productivity and improving quality, and (h) establishing common service centres on a selective basis in areas of handloom concentration to provide processing and finishing facilities for yarn and cloth, with the ultimate objective of disinvesting such centres to the private sector, preferably to weavers' cooperatives. It is to be stressed that there will be no new textile mills in the public sector as the private sector is considered capable enough to discharge its historical role of driving this traditional engine of industrialisation.

50. The Plan envisages to raise the per capita availability of new cloth from around 9·0 metres to 11·0 metres in 1989/90 and increase production from 771 million metres to 1215 million metres, 62 per cent of this output will be targeted for production in the handloom sector, where output will increase from 503 million metres in 1984/85 to 750 million metres in 1989/90. Accordingly, targets for increasing the number of

powerlooms from about 13,650 to 25,000 and the number of spindles from 1·23 million to 1·83 million by 1989/90 have been set in the Plan. Though the spindle capacity is planned to be raised by 50 per cent by 1989/90, the yarn output will increase by about 61 per cent, from around 59 million kg. to 95 million kg. over the plan period, partly from the new capacity and partly from improvement of capacity utilisation.

51. **Fertilizer** : Because of the thrust of food production based on modern technology, fertilizer consumption in Bangladesh has increased manifold since Independence, increasing from around 304 thousand tons to around 1260 thousand tons in 1984/85; yet the level of fertilizer use (38.5 kg/acre) is one of the lowest among the rice growing countries of comparable land-man ratio.

52. Food production target for the Third Plan has been set at 20·7 million tons which will increase demand for fertilizers, to around 1.9 million tons. Bangladesh has 4 fertilizer plants in operation—3 urea fertilizer plants having a total rated capacity of 974 thousand tons of urea and 12 thousand tons of ammonium sulphate and one TSP plant with a rated capacity of 152 thousand tons of TSP. The fourth urea plant at Polash, is in its final stage and likely to be commissioned by December 1985. Total urea production capacity will then be 1074 thousand tons. Chittagong Urea Fertilizer Plant of 560 thousand tons capacity per annum is scheduled to be completed in 1988/89 when urea capacity will rise to over 1600 thousand tons. Another urea fertilizer plant of identical size is in the negotiation stage for construction in the private sector; this project is, however, committed to export its output. Since the lead time to bring a urea plant into operation, from the stage of conception, has repeatedly proved to be quite long, it will be necessary to take initiative for setting up two more plants during the Third Plan period so that they can come into stream successively in the first and second halves of the Fourth Plan; the public sector may subscribe to a catalytic equity in such ventures. Hence, adequate provision of fund has been made for one new project under the Third Plan.

53. **Steel and Engineering Industries**. Backbone of modern industries are the steel and engineering Industries. Though Industrial Revolution started with the textile industries, it could not have taken place without the crucial support it received from the development of steel and engineering industries. This relationship holds true for the industrial miracle in Japan, South Korea, etc. The steel and engineering base of Bangladesh is presently very weak as the emphasis has largely been on industries based on local raw materials, altough its importance was realized in the middle of 1960s. The present steel and engineering base consists of a small steel mill, a machine tools factory, a general electrical manufacturing plant, a diesel plant, a drydock, two large shipyards and a plathora of light engineering units in the public and the private sectors. In spite of considerable idle capacity existing in large plants, steel and engineering industries accounted for 19·6 per cent of industrial value added in 1979/80: its share declined to 17·5 per cent in 1983/84 as it failed to maintain pace with the development of the rest of industrial sectors, mainly because of the reduced output in the steel plant. Index of

output of component groups in the steel and engineering sector is shown below:

TABLE 6

Index of Output of Steel and Engineering
(1973/74 = 100)

		1979/80	1983/84
1. Iron and Steel	:	194·6	127·8
2. Non-electric Machinery	:	219·5	720·8
3. Electric Machinery	:	340·6	349·0
4. Transport Equipment	:	141·2	86·9

54. The Table indicates that there has been a decline in the overall capacity utilization during the Second Plan. Steel ingot output, for example, declined from 133 thousand tons in 1979/80 to 101 thousand tons in 1984/85, though the planned target was 225 thousand tons and against the rated capacity utilization was 40 per cent only. It needs no saying that with the reduction in output, labour productivity also substantially declined. Similarly, diesel engines output was only 31·3 per cent of planned target (20,000 units), excluding units assembled in the private sector from imported CKDs/SKDs. As a matter of fact steel and engineering has been suffering from unutilised capacity for a long time. Even though the base is small, its weakest points are management and marketing. So, to improve the management of plants a number of studies were undertaken during the Second Plan period and measures taken. In view of the existence of large idle capacities across the sector and its management weakness, the main thrust of the Third Plan is to improve capacity utilization through skill and management development and technological adjustments where needed to develop viable product lines. While past failures or lapses call for appropriate measures for corrections, it is also fair to recognize that many of the units set up in the past suffered from changes beyond their control; so such failures should not condition the future development of this vital sector of the economy. Though initiated in the second half of 1960s, the much required structural change of the economy already has waited too long to achieve the desired stable growth. As a result, even the technological development of the agricultural sector remains precariously dependent on external conditions. As the Third Plan in its search for a solution to poverty focuses not on employment per se but on productive employment, technological development even in the remotest area of economic activities such as cottage industries is a necessity. It was the technology that initiated the Industrial Revolution; even to replicate it in Bangladesh, the development of an efficient steel and engineering industry is sine qua non. The Third Plan thus not only emphasizes improvement and optimal use of the existing capacity but also provides for a steady expansion of this base for industrial development. Studies have already established the economics of basic metal and engineering industries for Bangladesh. It is, therefore, planned to increase the output of the sector at an annual rate of 10 per cent over the plan period. It is further envisaged to explore the possibility of setting up a sponge iron plant along with necessary steelmaking facilities, to take advantage of availability of relatively cheap gas and an alloy steel plant during the Third Plan period.

55. **Cement Industry** : Though it is a critical input to economic development, per capita consumption of cement had been more or less stagnant in Bangladesh in the 1970s. Import of cement which is its main source of supply increased from 318 thousand tons in 1972/73 to 439 thousand tons in 1979/80, and reached a new level of 988 thousand tons in 1984/85. Local production from the plants--one based on imported limestone and the other one imported clinker, amounts to around 300 thousand tons a year ; thus hardly on-fourth of the current consumption of cement is locally produced. Though along with steel and engineering it is a basic industry, only 0·36 per cent of industrial output is accounted by this industry. As consumption of cement will continue to increase steadily over the coming years and is estimated to grow to 1,605 thousand tons in 1989/90, the development of this vital sector will be accorded adequate priority. The industry, however, is constrained by raw material (limestone) supplies as, like cement, this is also imported. Bangladesh has no reserve of limestone deposit easily accessible for strip mining operation on a commercial scale. But there is large deposit at Jaipurhat in Bogra at a depth of over 600m. which has been extensively studied for exploitation and fund has also partly been lined up. Because of cement's crucial role in development, exploitation of this deposit for production of cement will be pursued actively. However, as this project has a long gestation period, it is also planned to set up a new cement plant of 500 thousand tons capacity per annum based on limestone to be imported from across the eastern border from India. Existing cement plant at Chhatak is also based on Indian limestone and is presently being expanded to double its capacity to 200 thousand tons per annum. Thus, the total domestic output of cement is expected to reach 850 thousand tons in 1989/90 to cater substantially to the domestic demand.

56. **Pulp and Paper Industry** : There are four large pulp and paper mills with a production capacity of 123 thousand tons paper of different types. As they have become old, attainable capacity is about 110 thousand tons; but actual production in 1984/85 was 90 thousand tons, including newsprint, showing 82 per cent utilization of the attainable capacity. There is a large surplus capacity in newsprint, while production of writing paper is constrained by raw materials supplies (*e. g.* soft wood, bamboo, reeds, bagasse, etc.). In view of these, no expansion of capacity for conventional paper is envisaged though the demand for writing and printing paper will increase with the expansion of literacy. Some of the existing plants may, however, explore new product lines and require technical adaptation in view of special quality requirements of such products. One such product line to be explored is manufacturing of security printing paper for bank notes, stamps, passports and other variety of security papers for which a security printing press has already been set up by the Central Bank. Production of other special purpose paper such as wrapping paper sensitized paper, cigarette paper, etc. along with associated packaging materials will be encouraged in the private sector. The targeted output of the existing mills for 1989/90 is 100 thousand tons including newsprint.

57. **Leather Industry** : Bangladesh has a large supply of hides and skins, but the industry has failed to take advantage of it in relation to the international market because of technological and marketing problems. As a result, these items are largely exported as raw hides or wet—blue leather with little value addition. Attempts to encourage production and export of crust and finished

leather have not met with much success so far, not to speak of exporting leather products on a commercial scale. During the Second Plan period, export of leather and leather products remained more or less static in both value (US $ 65 millions) and quantity (82,000 sft.). In crust/finished leather as well as lether goods much more can be earned.

58. Despite its being in the rudimentary stage of tanning the importance of the industry is clearly manifested in the fact that it accounted for 11·9 per cent of value of industrial output in 1984/85 and occupied 4th position after cotton, jute and metal industries. The industry has the potential to develop into a highly value adding export line and make substantial contribution to country's export earnings. Development of this industry with active private sector participation will, therefore, be encouraged during the Third Plan period. However, it is to be recognized that world market of finished leather and leather goods is very susceptible to changes in taste and style : hence, the success of the industry will depend on development of overseas marketing channel. In view of this, establishment of joint ventures with those foreign private investors who have command over the export market and possess necessary R & D back-up to make quick responses to changing tastes and styles, should be explored.

59. **Small Scale and Cottage Industries :** If the scope of small scale and rural industries has to be widened adequately for not only reducing seasonal unemployment and under employment but also for creating opportunities for sufficient off-farm employment to increase income substantially for both sexes and different age groups of the rural populace, a new approach would be needed in planning and supporting activities in this sub-sector of the economy. Given the fact that the majority of the target groups who should benefit through expansion of rural industries are mostly the disadvantaged sections of the society who do not possess much education or skill, la c capital or any significant physical assets and have little enterprise of their own, promotional activities in this field, therefore, will pose a major challenge.

60. Even in the relatively better known areas of traditional crafts and cottage industries, with the passage of time position has changed considerably due to various factors such as cultural changes, ingress of the so-called modernism and urban test in the rural areas, migration of skilled people, dwindling patronage and shrinkage of market for many arts and crafts, competition from mass produced substitutes either due to lower price or better quality, short supply of raw materials, dearth of capital, and lack of innovativeness on the part of the craftsmen. However, with proper studies, surveys and investigations, it is possible to identify with reasonable accuracy the problems of the traditional handicrafts, cottage industries and other existing small scale industries in different parts of the country and take corrective measures. Naturally this should have priority in planning as they hold the prospects of development at lesser investment and larger employment and export potentials that are likely to be achieved in a relatively shorter time and with easier efforts. but they will need support for credits, supply of raw materials, new product designs and ideas and assistance in marketing including export.

61. On the other hand, it is difficult to plan for and promote new activities in rural industries sector that would support intensive agricultural production, process the increased agricultural products, produce basic need goods to satisfy the consumer demands that would grow with the increase of the rural income as well as produce components and parts for use in agriculture, larger industries, construction, transportation, etc. Introduction of modern technologies in agriculture and the changing practices for intensive cultivation may impose limitation on available time for performance of related agricultural activities like ploughing, sowing, weeding, harvesting thrashing, processing, etc. in clock order; as a result mechanization of certain processes of agriculture may become inevitable in spite of unlimited supply of labour. Irrigation is already mechanized; post harvest processes such as winnowing and drying may also need machanization with increased volume of output of foodgrain. With the plan of lifting the present subsistence level of agriculture to commercial scale promotion of light engineering industries in the rural areas it will be indespensible to make an all round rural development self-sustaining. To optimize development each area has to take immediate advantage of its raw materials and natural resources, and market opportunities. In view of the fact that there is so much information gap about local resource endowments, it would be prudent to adopt a flexible approach for planning and development of rural industries. It is for this reason that the Third Plan aims to set up Employment and Resource Centres at Upazila level for the promotion of nonfarm employment so that its prospect is established on the basis of local demand and resources. These Centres may need to set up also training-*cum*-demonstration units for develo. ment of local crafts and new product lines. To help improve the rural technology the Institute of Appropriate Technology at BUET will need to be more effective and use both the Upazila Centres, Small and Cottage Industries Corporation, Handloom Board and Sericulture Board as its extension agents.

62. A National Coordination Council for Development of Small and Cottage Industries with agencies concerned as members should be set up. Its fuction will be to formulate policies, coordinate the activities of various agencies engaged in the promotion and financing of small and cottage industries and review performance and achievements of such agencies.

63. In addition to building up of an institutional arrangement as suggested above appropriate policy measures and incentive package will have to be provided reflecting total commitment of the Government for rapid development of this sub-sector. Such a policy and incentive package will cover the following :

(a) A financial incentives system with a preferential treatment to small scale and cottage industries such as credit at concessional rate should be provided.

(b) Medium industrial units with strong linkage effects should be encouraged to disperse in rural areas through similar incentives as for small and cottage industries.

(c) A preferential treatment should be given to such medium, small and cottage industries in store purchases by the government departments, autonomous organizations and local bodies.

(d) Sufficient local and foreign currency credits should be made available on easy terms of repayment, liberal debt/equity ratio and minimum legal formalities.

(e) Formation of associations or cooperatives by industries of same or similar product lines should be encouraged for development of common facilities *e.g.* for bulk purchase of raw material, marketing of goods, advertisement, product identification, testing of products for conformance to quality standard and advisory services.

Financial Outly

64. To implement the programme of the industries sector, an investment outlay of Tk. 5,800 crore has been provided in the TFYP, out of which Tk. 2,600 crore has been allocated for investment in the public sector. A part of this public sector provision would be available as seed capital for the establishment of joint ventures with predominantly private sector equity participation. The private sector provision of Tk. 3,200 crore (about 55 per cent of the total industrial outlay) is indicative and subject to adjustments on periodic reviews of private sector responses. In the public sector allocation, the share of spill-over projects is 55·5 per cent demonstrating an overwhelming presence of spill-over projects in the TFYP. The subsector-wise allocations for both Public and Private sector are given below :

TABLE 7

Subsector-wise Allocation for TFYP

[*Tk. in crore*]

Sub-sector.	Public sector Investment.		Private sector Investment.		Total.	
	Amount	(%)	Amount	(%)	Amount	(%)
1. Jute Textiles ..	64·0	2·4	25·0	0·8	89·0	1·5
2. Cotton Textiles ..	285·0	10·9	500·0	15·6	785·0	13·6
3. Metal working/Light Engineering, including non-electrical, electrical, and electronic machinery and appliances.	65·0	2·5	200·0	6·3	265·0	4·6
4. Transport Equipment (including shipbuilding). ..	45·0	1·7	125·0	3·9	170·0	2·9
5. Basic Metals (Iron and steel)	145·0	5·6	650·0	20·3	795·0	13·7
6. Fertilizer ..	1,130·0	43·5	850·0	26·5	1,980·0	34·1
7. Cement ..	245·0	9·4	..	..	245·0	4·2
8. Pulp and Paper	75·0	2·9	50·0	1·6	125·0	2·2
9. Chemicals and Pharmaceuticals	25·0	1·0	200·0	6·3	225·0	3·9
10. Glass, Ceramics ..	15·0	0·6	50·0	1·6	65·0	1·1
11. Leather and Leather Products	20·0	0·8	100·0	3·1	120·0	2·1
12. Sugar	205·0	7·8	25·0	0·8	230·0	4·0
13. Food and Allied Products ..	21·0	0·8	75·0	2·3	96·0	1·7
14. Mining and Minerals Based Industries.	25·0	1·0	..	..	25·0	0·4
15. Wood, Bamboo, Cane and Coir Products. ..	10·0	0·4	100·0	3·1	11·0	1·9
16. Printing	10·0	0·4	50·0	1·5	60·0	1·0
17. Agro-supportive Small Scale Rural Industries. ..	65·0	2·5	200·0	6·3	265·0	4·6
18. Export Promotion ..	25·0	1·0	..	..	25·0	0·4
19. Small and Cottage Industries Promotion.	60·0	2·3	..	..	60·0	1·0
20. Other Industrial Promotion ..	65·0	2·5	..	..	65·0	1·1
Total ..	2,600·0	100·0	3,200·0	100·0	5,800·0	100·0

65. About 56 per cent of the public sector outlay has been earmarked for spill-over projects, while about 21 per cent is proposed for investing on account of new capacity. Balance of the provision will be allocated for fresh BMRE proposals (12 per cent) and promotional activities (11 per cent) to be undertaken by the public sector agencies to help develop private sctor industries. The distribution of the public sector outlay amongst these heads is given below :

[*Tk. in crore*]

(i) Spill-over Projects	1,443·5
(ii) New Projects ..	556·5
(iii) New BMRE Proposals	310·0
(iv) Promotional/Developmental Projects	290·0
Total	2,600·0

66. Major targets of selected manufactured goods for the terminal year of the Third Plan are given in the Table 8 :

TABLE 8

Benchmark and Production Targets for Selected Manufactures

Products/Products Groups	Units	Production 1984/85			Target 1989/90		
		Public	Private	Total	Public	Private	Total
1. Jute Goods	.. '000 MT.	327·00	234·00	561·00	360.00	290.00	650.00
2. Cotton Yarns	.. Mln. Kg.	35·59	23·77	59·36	55	40	95
3. Cloth	.. Mln. Metre	39·81	731·14	770·95	75	1140	1215
(a) Composite Mill Made.	.. Mln. Metre	39·81	47·14	86·95	75	100	175
(b) Other Power looms Made.	.. Mln. Metre	..	181·08	181·08	..	290	290
(c) Handloom Made	.. Mln. Metre	..	502·92	502·72	...	750	750
4. Sugar ..	.. '000 MT	88·00	..	88·00	200	25	225
5. Cement ..	.. '000 MT	240·00	..	240·00	850	..	850
6. Fertilizer ..	.. '000 MT	806·00	..	806·00	1700	450	2150
7. Paper ..	.. '000 MT	39·00	..	39·00	45	10	55
8. Newsprint	.. '000 MT	51·00	..	51·00	50	..	50
9. Chemicals ..	.. Mln. Tk.	..	..	10447	..	..	13022
10. Pharmaceutical	.. Mln. Tk.	..	1445	1445	..	1800	1800
11. Basic Metals (Steel)	.. '000 MT.	101	..	101	190	40	230
12. Metal Products	.. Mln. Tk.	714·7	1891·7	2606·4	..	..	5241
13. Machinery ..	.. Mln. Tk.	328·0	1646·0	1974·0	..	..	3180
14. Transport Equipment	Mln. Tk.	405·8	667·7	1073·5	..	..	1729
15. Leather and Leather Products.	.. Mln. Tk.	..	4000·00	4000·0	..	..	6442
16. Wood, Bamboo, Cane and other related products.	.. Mln. Tk.	..	..	14676·53	..	..	20724
17. Cigarettes ..	.. Mln. Sticks	..	15486	15486	..	..	18397

67. Agency-wise allocations of public sector industrial outlay for spill-over and new projects are given in the table below:

TABLE 9

Agency-wise Allocation of Public Sector Investment Outlay for TFYP.

[*Tk. in crore*]

	Agency.	Spill-over Projects.	New Projects.	Total.
1.	Bangladesh Jute Mills Corporation	10·00	54·00	64·00
2.	Bangladesh Textile Mills Corporation	169·00	5·00	174·00
3.	Bangladesh Handloom Board	2·00	50·00	52·00
4.	Bangladesh Sericulture Board	4·00	25·00	29·00
5.	Department of Textiles	..	30·00	30·00
6.	Bangladesh Chemical Industries Corporation ..	1080·00	430·00	1510·00
7.	Bangladesh Steel and Engineering Corporation ..	15·00	240·00	255·00
8.	Bangladesh Sugar and Food Industries Corporation ..	90·00	135·00	225·00
9.	Bangladesh Small and Cottage Industries Corporation	23·00	97·00	120·00
10.	Bangladesh Forest Industries Development Corporation	..	10·00	10·00
11.	Printing and Stationery Department	9·50	..	9·50
12.	BITAC	..	7·00	7·00
13.	BMDC	3·00	1·50	4·50
14.	IDA	8·00	..	8·00
15.	EPZA	..	25·00	25·00
16.	IACB	..	0·50	0·50
17.	Bangladesh Film Development Corporation ..	20·00	..	20·00
18.	BMEDC (Now merged with Petro-Bangla) ..	5·00	20·00	25·00
19.	Planning Division (TIP)	5·00	..	5·00
20.	Bangladesh Bureau of Statistics	..	20·00	20·00
21.	Others [Ministry of Home Affairs, Department of Industries, Planning Commission (Ind. Divi., DFIS, etc.].	..	6·50	6·50
	Total.. ..	1443·50	1156·50	2600·00

CHAPTER XI

ENERGY AND NATURAL RESOURCES

Per capita consumption of commercial energy in Bangladesh is around 41 Kg. of oil equivalent—about only 15% of the average of the low income countries. This dismally low per capita consumption of commercial energy necessitates the urgency of increasing its supply to support economic development. Therefore, the Third Plan has given the second highest allocation for the development of the energy after agriculture.

1.2 Present energy supply situation to meet the growing needs of agriculture as well as industries is less than satisfactory. The reasons are primarily constraint of resource against high capital-intensive character of both primary and secondary energy development projects, dependence on foreign technology and poor resource management. Viewed from the perspective, the energy resources base of the country is limited. In commercial energy the only primary energy resource of the country is natural gas, estimated to be 11 trillion cft. Hydro power has remained limited. The reserve of coal (at Jamalgonj field) is estimated to be around one billion tons, but due to its depth (about 1000 metres) its extraction has not yet been possible. Recently a thick deposit (about 50 m. thick) of gondwana coal has been discovered in the Parbatipur area at a depth between 190-350 metres but the reserve has not yet been determined. Peat reserve (in Khulna and Faridpur Districts) is estimated at 600 million tons but its exploitation has yet to be techno-economically justified. Besides the limited base of commercial energy resource, its use is to face the problem of transmission as the gas reserve is in the Eastern Zone of the country. On the other hand, traditional energy resources like fuel wood and agricultural wastes are under heavy pressure both because of increasing population pressure on land and high prices of commercial energy. They account for disproportionately high percentage of energy supply (70—80%) which indicates traditional character of the economy.

1.3 Against the limited resource, the demand for commercial energy has been growing very fast in the recent years. The per capita consumption of commercial energy grew from 24 Kg. of oil equivalent in 1972 to 32.8 Kg. in 1980 and to 41.3 Kg. in 1985. Consumption level will further rise to 58.3 Kg. of oil equivalent by 1990. In spite of the thurst on the development of commercial energy, rural population will continue to depend largely on traditional energy. With the growth of population the demand for traditional energy will further grow. This would lead to felling of trees from the village forests as well as reserve forests at an increasing rate endangering existing fragile ecological balance.

1.4 As the most important indigenous commercial energy resources of Bangladesh is natural gas, the main thrust of the Bangladesh Energy Policy has been placed on the accelerated use of it in order to reduce the import of liquid fuel in meeting the increasing demand for energy, but this is limited to the east zone by the fact that all the gas fields so far discovered are located in the east zone, separated from the west zone by the river Jamuna; no integrated gas transmission and distribution net-work could be built throughout the country as yet; even the riverine character of the country makes transmission a capital-intensive venture. An alternative strategy to overcome this limitation is to use gas for generation of power for distribution over long distances. An electrical interconnector transporting gas-based electrical energy to the western zone is already in

operation since December, 1982. Its upgradation along with rural electrification can change the composition of commercial energy uses by the end of the Third Plan. The Third Plan envisages to raise the share of natural gas to 68·2% in 1989/90 from 56·3% in 1984/85. Correspondingly, the share of imported liquid fuel will come down from 37% to 25% during this period. The Table below shows the expected changes in commercial energy by primary energy resources:

TABLE 1

Commercial Energy Consumption Pattern during 1980—90

Sources	1979/80(Actual)			1984/85(Actual)			1989/90(Target)		
	Qty. in trade unit	Qty. in TOE X 10^6	Percentage	Qty. in trade unit	Qty. in TOE X 10^6	Percentage	Qty. in trade unit	Qty. in TOE X 10^6	Percentage
1. Natural Gas	44·5 bln CFT	1·042	36·5	94·6 bln CFT	2·31	56·3	180·0 bln CFT	4·39	68·2
2. Petroleum	1·52 mln Ton	1·520	53·2	1·50 mln Ton	1·50	36·6	1·60 mln Ton	1·60	24·8
3. Coal	247,000 Ton	0·139	4·9	125,000 Ton	0·08	2·0	250,000 Ton	0·16	2·5
4. Hydro-power	586 m. KWH	0·155	5·4	800 m. KWH	0·211	5·1	1100 m. KWH	0·291	4·5
Total		2·856	100	..	4·101	100	..	6·441	100
Population (million) ..		87·2	..	..	99·2	..	..	110·5	..
Per Capita Consumption (in Kg. of oil equivalent) ..		32·75	..	..	41·35	..	..	58·29	..

(a) TOE—Ton of oil equivalent.

It is estimated that the per capita consumption of commercial energy will grow at about the same rate (8.7%) per annum in the Third Five Year Plan as in the Second Plan. This will consist of a growth in the consumption of gas at 13.8 per cent against 16% per cent during the Second Five Year Plan. With the introduction of energy-intensive technologies in food and agricultural production and in the small and cottage industries in the rural areas, the rural electrification will continue to enjoy its priority. For household cooking and other fuel needs, development of traditional energy will need to be emphasized to avoid ecological imbalance. Alongside these developments efficient conversion of primary energy into secondary form of energy and its efficient use in meeting final demand will be encouraged through appropriate choice of technologies in all phases of energy transformation and fiscal management.

1.5 At the estimated growth of consumption of natural gas, the presently known total possible reserve of gas may be available for fresh commitments only up to the turn of the century. Therefore looking ahead, alternate energy resources have to be explored to augment the energy resource base including nuclear energy. Replacement of depleted gas reserve through geological exploration will recieve the highest priority. Prospect of developing coal fields may need to be kept under watch in light of development in the international energy situation. Because of the capital-intensive character of the energy sector and domestic resource constraint foreign investment under production sharing plan will be encouraged.

1.6 An amount of Tk. 5675 crore (at 1984/85 prices) has been allocated in the public sector for energy development during the Third Five Year Plan. This is 22·70% of the total public sector allocation. Of this allocation, Tk. 4285 crore has been allocated for Power Sector, Tk. 1295 crore for OGNR sector and Tk. 20 crore for Traditional New and Renewable Energy Resources. The remaining Tk. 75 crore has been kept as block provision for the Energy Sector as a whole. In addition Tk. 500 crore has been earmarked for private investment in hydrocarbon (Oil & Gas) exploration under production sharing contract (PSC). Development of new and renewable sources of energy (NRSE) will be pursued under the Energy/Science and Technology and the Forestry sectors. The latter sector has an investment programme of Tk. 392 crore under agricultural development programmes.

SECTION 1 : POWER DEVELOPMENT

1.7 Supply of electrical energy, being the most convenient form of energy for modern economic growth, has increased quite fast over the last one and a half decades; yet per capita generation remained at a low level in Bangladesh. It was only 46 Kwh in FY 1985 excluding captive generation. The Third Five Year Plan aims at raising the per capita generation to about 80 Kwh by June 1990 implying 12% annual increase over the plan period.

Development of the Power Sector—An Overview

1.8 During the War of Liberation, power installations suffered extensive damage. As a result, at the worst phase, peak demand dropped to 30 MW from the pre-liberation level of 225 MW (1970). So, after Independence the immediate problem was rehabilitation of power supply. By the end of 1972/73 peak demand was restored to 222 MW. After rehabilitation of supply, a consolidation and development period covered the First Five Year Plan (1973—78) and the Two Year Plan (1978—80). Several projects, initiated before the Liberation War were completed. Important among them were (i) Khulna 60 MW Power Station, (ii) Ghorasal 110 MW Power Station, (iii) Ishurdi-Saidpur Transmission Line and (iv) Ashuganj-Jamalpur Transmission Line. A number of new projects initiated and completed during the period were Bheramara 60 MW gas turbine and Khulna Barge Mounted Power Plant of 56 MW. As a result, installed generation capacity increased to 822 MW from 545 MW, when the peak demand rose to 462 MH from 222 MW. However, the growth of demand (11% annually) exceeded the growth of generation capacity (6%). The most important development of this period was the creation of Rural Electrification Board (REB) for undertaking a comprehensive rural electrification programme.

1.9 Because of the growing gap between demand and generation capacity the third period of development ensued with the Second Five Year Plan begining from 1980/81 which witnessed a rapid expansion programme. The most important achievement of this period was the construction of the East-West Electrical Inter-connector which enabled transfer of gas-based low cost power from the east to the west. Five Power Generating Plants creating a total installed capacity of 330 MW were completed during this period. But still generating capacity lagged behind and failed to keep pace with the growth in demand. The main constraint on the expansion of the power supply was shortfall of resources which was accelarated by huge system loss (unbilled) aad slow response of tariff. By the end of the Second Plan system loss stood at 37·5%. After allowing for technical loss and station use, the net loss would stand at 17% whose worth at the then prevailing tariff was Tk. 111 crore. On the other hand, average power tariff increased from Tk. 0·66/Kwh to Tk. 1·44/Kwh making an increase of 118% over the Second

a Captive generation was 650/Gwh in FY 1985.

Plan period against an inflation rate (cumulative) of 75%. The failure of the sector to generate local resources, constrained use of aid and impeded project implementation as the proportion of taka component in the ADP decreased from 57% in 1973/74 to 30% in 1984/85.

1.10 Under overall resource constraint, the investment programme was more dominated by crises management than by long-term development. As a result, the power system suffered from occasional imbalances. Up to 1977 the system had a surplus generating capacity in the East which could not be either transferred to the West where there was shortfall for absence of an interconnector or used in the East as distribution facilities could not be developed to match with generation capacity. For both reasons load growth remained suppressed. In the recent past, the situation reversed as the interconnector was established and the distribution facilities significantly improved, while the generating capacity lagged behind owing to delay in implemenatation of a number of large generating stations. The consequence was again the same, suppression of load growth. Despite these limitations the increase in electricity sales was quite significant.

1.11 The major physical targets set in the Second Plan were, generating capability (maximum capability)—1342 MW, transmission line—2407 KM; distribution line (33 KV and below)—51,414 KM to meet a projected demand of 922 MW by the end of June, 1985. To achieve these goals an investment programme of Tk. 2130 crore (Tk. 1437 crore at 1979/80 prices) was undertaken. Actual investment was Tk. 2097 crore. There was, however, some inter-sub-sectoral adjustment of allocation in favour of the distribution sub-sector which received about Tk. 114 crore more. In contrast to financial investment, physical achievements in spite of significant improvement over the benchmark were short of targets except in the case of transmission lines. The Table below shows the physical achievements as against the targets:

TABLE 2

Comparison of Physical Targets and Achievements

Particulars	1979/80 (Actual)	1984/85 (Target)	1984/85 (Actual)
1. Generation Capability	624 MW	1342 MW	1018 MW
2. Transmission Line	1762 KM	2407 KM	2423 KM
3. 33 KV Line	4851 KM	8069 KM	7722 KM
4. (a) Distribution Line (BPDB)	14280 KM	27956 KM	23374 KM
(b) Distribution Line (REB)	810 KM	15390 KM	11697 KM
	15,090 KM	43,346 KM	35,071 KM
5. (a) Number of electrified villages (BPDB)	2181	7181	3288
(b) Number of electrified villages (REB) ..	..	18000	4600
	2,181	2,5181	788
6. Energy Generation	2353 Gwh	4507 Gwh	4545 Gwh
7. Energy sales (BPDB)	1406 Gwh	3472 Gwh	2840 Gwh
8. Number of consumers (BPDB)	522,000	847,000	810,000

A major reason for shortfall in generating capacity was the delay of several power station projects such as 210 MW Ghorasal plant and two 150 MW plants at Ashuganj. Sale of electrical energy remained below target due to high system loss besides shortfall in generating capacity.

Import Substitution and Reduction of Generation Cost

1.12 Second Plan pursued the policy of substituting imported fuel by natural gas. Significant advance was made in this direction. The share of imported fuels in the total generation dropped from 26% in 1979/80 to 20% in 1984/85 and the share of natural gas increased from 50% to 64%. Substitution of cheap gas for costly imported fuel reduced the cost of electricity generation. Average fuel cost per unit dropped from Tk. 0·56 in 1982 to Tk. 0·50 in 1985 as a result of transfer of electricity from east zone to the west zone over the inter-connector.

Diversification of Electricity Use

1.13 By the end of 1984/85 the total number of electricity consumers stood at about 964,000 compared to 522,000 in 1979/80. About 6% of population had access to electricity at the end of SFYP compared to 4% in 1979/80. The most notable expansion of electric system had taken place in the rural areas, primarily through REB. The number of operating electric supply co-operatives (Palli Biduyt Samity) stood at 19, covering 73 Upazilas. About 90% of their connections were domestic, but domestic sales accounted for only 23% of the total. About 53% of the sales were on account of industrial and commercial uses and the balance 24%on account of irrigation. Electricity sales by PDB increased from 1406 GWH in 1979/80 to 2840 GWH in 1984/85. Over SFYP period electricity consumption pattern under the PDB system by domestic, industrial, commercial, irrigation and other consumers changed from 20%, 65·8%, 11.5%, 2·6% and 0·1% in 1979/80 to 23·7%, 60·2%, 9·4%, 2·1% and 4·6% respectively in 1984/85. Based on BPDB's and REB's achievement in irrigation pump electrification, it is estimated that by 1984/85 a total of about 14,800 pumps (DTW, STW and LLP) were operated with electricity.

Improvement of Reliability

1.14 With the commissioning of East-West Inter-connector in particular, failure rate of western grid reduced considerably leading to overall improvement of the system. This is shown below :

TABLE 3

System Reliability

Item	1981	1982	1983	1984	1985
1. Partial Grid failure ..	194	370	257	52	144
2. Total Grid failure ..	16	10	1	Nil	Nil

But because of the generation shortfall, load shedding had to be resorted to occassionaly.

System Loss

1.15 Against these improvements sectors' performance had been very disappointing in respect of system loss. The SFYP set a target of reducing system loss from 40%

in 1979/80 to 23% in 1984/85, but very little could be achieved. The achievements of BPDB in this respect is presented is the table below:

TABLE 4

System Loss

Year	Target	Actual
1979/80	.. 34%	40%
1980/81	.. 31%	34·65%
1981/82	.. 29%	33·20%
1982/83	.. 27%	30·12%
1983/84	.. 25%	34·24%
1984/85	.. 23%	37·50%

At the current tariff of 1984/85, the gap between target and actual system loss implies a financial loss of around Tk. 95 crore for 659 GWH in 984/85. Failure to reduce system loss has affected the financial viability of the BPDB and the development programme suffered as the Power Board was supposed to finance apart of their investment out of its own profit. High system loss also continued to maintain pressure for tariff increase to avoid losses. A number of measures, technical and administrative initiated during the Second Plan do not appear to have been effective as the recent upturn in system loss indicates. As this means substantial leakage of resource, system loss must be addressed seriously.

Development Objectives (1985—90)

1·16 The objectives of the Power Sector in the overall context of the Plan are set as follows :

(a) To ensure adequate and timely supply of electricity, while encouraging its efficient use and reduction of wastage including system loss.

(b) To substitute imported fuels by maximising the use of natural gas in the generation of power.

(c) To improve reliability and quality of power supply.

(d) To continue to extend power supply to rural areas.

(e) To improve financial perfoumance of Power Board so that a reasonable portion of capital expenditure can be financed out of its own earnings.

Development Strategies

1·17 The above objectives will be fulfilled through a number of projects and policy action, some of which are already underway. The strategies underlying the formulation of new projects and achivement of objectives are the following :

(a) Completion of the ongoing projects of generation, transmission and distribution on a priority basis.

(b) Development of Power system according to a least cost system expansion programme on a long term basis and undertaking new investment in the Third Plan accordingly.

(c) Addition of the Second East-West Electric Interconnector by early 1990's to facilitate further substitution of imported fuel based generation in the western zone.

(d) Raising voltage level of back-bone transmission system (including the Interconnector) to 230 KV for more efficient operation and bulk power transmission and extension and reinforcement of grid networks to ensure adequate firm transmission capability.

Policies for Balanced and Efficient Development

1.18 Policies to be pursued in the TFYP are as follows :

(i) *Resource Augmentation* : At the present stage of development of Bangladesh investment in power system needs to grow at a faster rate than that of total investment in the economy. It is difficult to finance such high growth of investment from public exchequer alone. In view of the limited scope to increase allocation from public exchequer the situation points to the needs for cropping up surplus revenue generation by reduction of system loss to 20% by 1990. At the same time Power Board should be allowed to fix tariff on the basis of long-term marginal cost. Given this financial prudence, even term loans from banks may be be considered as possible complementary sources of finance.

(ii) *Local Manufacturing of Equipment* : Development of Power sector has so far been heavily depended upon foreign aid. A consequence of this dependence is the poor growth of domestic capacity for manufacturing of machinery for electricity generation, transmission and distribution. Appropriate policy measures need to be adopted to promote local industries as far as possible. The following measures are recommended :

(a) Import under tied aid should be limited to those items which the local industries can not produce. On the other hand, provision should be made as far as possible under tied and untied aid for local manufacture of equipment and parts by providing import of raw materials and intermediate goods.

(b) Specification for power equipment should not be made unnecessarily high where possible, beyond the capability of local industries. While preparing tender documents specification of local products should be kept in view and bid packages should be so prepared that local industries are no excluded. Material and equipment should be standardized.

(iii) *System Reliability* : While aiming at overall system reliability, it will be necessary to address specially the supply of power in the west zone which has come to significantly depend on a long source of supply from east zone over the Inter-connector and as such may be vulnerable to interruption if both circuits of Inter-connector are out of service for an extended period such as due to power failure. To meet such contingency about 65% of peak demand of the West Zone should be supplied by the local generation capability and the remainder should have to be supplied on a rotating basis or sheded. Because of absence of any primary energy in the West Zone power plants

there must be oil-fired, mostly as stand-by to ensure supply in the event of any of the inter-connector failures. Some peaking type generation should also be required while inter-connector would supply the energy (base load). For overall reliability of the system, maintenance and planned overhauling of power plants will be the most critical area to attend in the Third Plan ; but its scope will depend on the reserve capacity of the system and the extent of overloading as reflected by the load factor which is 55%. Unauthorized tapping leading to high system loss also exacerbates the problem and so will need to be more aggressively posed than before as this not only affects power sector erratically, but also means loss of resource affecting adversely the capacity of the Power Board to undertake maintenance programme. A third area to emphasize in the context of maintenance is the need for improvement of the manpower which suffered very much during 1970s due to brain drain. In fact, both reserve crunch and manpower shortage degraded maintenance and derated plant capacity creating a serious imbalance between maintenance and expansion which needs to be corrected on an urgent basis.

(iv) *System Loss* : High System loss is the main cause for BPDB's deficit Revenue Budget, creating a pressure on increasing the tariff which in turn aggravates system loss. Therefore, vigorous efforts will be made in the shape of installation of 'export' and 'import' meters, sectionalisation of the secondary network and power lines, introduction of capacitor banks, replacement of undersized conductors and line connectors, etc. to bring the system losses down to 20% by 1990. Commercial operation and financial management will be further streamlined and administrative measures to check the under-billing, pilferage and theft will be further strengthened. Two studies, one for reduction of technical loss and another for reduction of non-technical loss are being carried out towards undertaking a compreshensive loss reduction scheme in the TFYP.

(v) *Captive Generators* : As the present firm generating capability is short of load demand and the power shortage is likely to continue up to 1987, captive generation in private mills and industries may be allowed.

Load Forecast

1·19 Load forecast was extensively studied in an overall development framework on a long-term basis up to 2000 A.D. with a view to developing a low cost expansion path of the power sector, given the demand structure, technological options and primary energy resources. It is to stress that in view of the low level of electrification in the country (only 6% of population has access to electricity) the demand of electricity is almost insatiable. This together with existing suppressed demand and resource constraint across the economy make load forecast as planning datum or control a very difficult exercise and differences in estimates are not unlikely ; yet high capital cost of the power sector together with long lead time that is necessary to bring a power plant into operation makes a planned development of the sector with a long-term perspective a necessary condition for the overall economic development. Considering the past growth and the resource constraint the Plan assumes that power demand will grow annually at the rate of 14·5%, from 936 MW in 1985 to a peak demand of 1,823 MW in 1990. Since power demand grows continuously but supply can be increased only discretely by steps it is important for investment purpose to have clear idea about the long-term expansion path ; however, because of the long lead time, this path for the Third Plan has already been defined by the investment decisions already made and generation capacity present. As a result firm capability will fall short of demand growth and power shortage will continue until about June, 1987 keeping the system under pressure though not severely as the generation capacity

will be substantially augmented by that time. The relative position of sales, firm capacity and generation capacity is shown in the Table below.

TABLE 5

Sale and Expansion Programme (1985—90)

	FY 1985	FY 1986	FY 1987	FY 1988	FY 1989	FY 1990
1. Energy Sale (GWH)	2840	3665	4406	5201	6137	7146
2. System Loss (%)	37·5	29	25	23	21	20
3. Gross Generation (GWH)	4545	5162	5875	6755	7814	8993
4. Peak Demand (MW)	..	1070	1222	1397	1597	1822
5. Firm Capability (MW)	..	961	1282	1732	1802	1773
6. Generation (MW) Capability	..	1341	1702	2152	2222	2222

Note: Figures for rows 4, 5 and 6 refer to June.

The forecast generation of energy is stipulated on the basis of forecast of sales to various consumer categories and system loss. Given the plant expansion programme net of retirement, sales (billed) will depend on the realization of system loss target as programmed which will also affect the revenue sales and the level of tariff to attain a certain level of self-financing of the investment underlying the above expansion programme. The system loss reduction programme provides for a reduction of 17 percentage points over the plan period; this will mean a cumulative saving of 4842 Gwh over the plan period and a revenue earning of Tk. 798 crore at the 1985 tariff of Tk. 1·65 per Kwh.

Investment Programme

1.20 The investment programme for the TFYP includes 36 ongoing, 32 new and 15 TAP projects. It is typical of power projects to have long lead time : gas turbine power plants and distribution lines are the only exception to this rule. As a result, a number of new projects included in TFYP will actually begin to give output after the end of the plan period in the same way as many SFYP projects are scheduled to go into operation during this Plan. About 53 per cent of estimated investment during the TFYP period would be for ongoing projects.

1.21 Generation capacity is expected to go up from 1018 MW in 1985 to 2222 MW in 1990. Compared with the projected peak demand of 1823 MW, this will imply a reserve margin of 22 per cent. The programme includes 8 ongoing projects and 7 new projects. About 1040 MW worth of generation projects are ongoing. Another 277 MW will be added to the system in TFYP period from the new projects. The investment programme includes four projects to meet load growth beyond the TFYP. Because of exhaustible nature of our primary energy resources the importance of nuclear power will grow over time ; hence the financing of the Rooppur Nuclear Power Plant will need to be pursued during the Third Plan.

1.22 The Third Five Year Plan signifies a methodological advancement compared with the past in regard to transmission sub-sector planning. Transmission projects included in the programme have been tested by computer simulations for load flow, voltage drop, and stability. The programme includes 8 ongoing projects and 14 new projects. All ongoing and 11 new projects are scheduled for completion during the plan period. These projects are necessary to transmit projected amount of power to all load centres and to inter-connect major power stations.

1.23 In the distribution sub-sector, the new development of the TFYP is the importance given to secondary town distribution projects. These projects are aimed at improving reliability of supply and reducing system loss in district (as well as some large upazilas) towns through planned expansion of distribution net-works to overcome the gap between the greater city projects and rural electrification projects. Furthermore, specifications for urban distribtion system will be standardized. In the rural areas PDB will also follow REB standards to facilitate eventual handing over of their facilities to REB. The total number of distribution projects will be 22 including rural electrification.

1.24 During the Third Plan training of man-power will need to be accelerated to cope with the proposed expansion of the system. Same is true for development of maintenance facilities to a level so that some equipment also can be produced in house. Training institutes, workshops and load despatch centre are some of the important projects in the miscellaneous group to be implemented during the Plan.

Physical Programme

1.25 The above investment programme aims at achieving additional generation capability of 1204 MW, transmission line of 823 KM, sub-transmission line of 2382 KM and distribution line of 34,787 KM, including REB's 24,272 KM. The details of physical targets are shown in Table :

TABLE 6

Summary of Physical Targets (Cumulative)

	1985 (Actual.)	1990 (Target.)
I. BPDB :		
(i) Generation Capability (In MW)	1,018	2,222
(ii) Transmission Line (66KV, 132KV, 230KV) (In KM)..	2,423	3,246
(iii) Sub-Transmission Line (33KV) (In KM) ..	7,722	10,104
(iv) Distribution Lines (11KV, 6·35 KV, O. 4KV) (In KM)	23,374	33,889
(v) Number of electrified upazilas	427	470
(vi) Number of electrified villages	3,288	7,500
(vii) Number of consumers	8,10,000	12,00,000

TABLE 6 (*Contd*)

	1985 (Actual.)	1990 (Target.)
II. REB :		
(i) Distribution Lines (KM)	11,697	35,969
(ii) Number of Palli Bidyut Samity Registered ..	33	40
(iii) PBS energised	19	40
(iv) Number of electrified upazilas	73	175
(v) Number of electrified villages	4,600	14,600
(vi) Number of consumers	1,54,000	5,53,370
III. National :		
(i) Distribution Lines (KM)	35,071	69,858
(ii) Number of electrified upazilas	500	645
(iii) Number of electrified villages	7,888	22,100
(iv) Number of Consumers	9,64,000	17,53,370

Investment Allocation

1.26. A provision of Tk. 4285 crore at 1984/85 prices has been made in the TFYP for the investment programme of the power sector as outlined above. Agency-wise breakup of the outlay is presented below in Table 7.

TABLE 7

Investment Outlay (1985—90)

(*Tk. In crore.*)

Agency.	Local currency.	Foreign exchange.	Total
1. Power Development Board	1,504	2,096	3,600
2. Rural Electrification Board	270	405	675
3. Atomic Energy Commission	4	1	5
4. Planning Commission (ESPC)	1	4	5
Total	1,779	2,506	4,285

Sub-sectorwise investment in generation, transmission and distribution are Tk. 1,594 crore, Tk. 617 crore and Tk. 1,809 crore respectively accounting for 37·2%, 14·4 % and 42·3 % of total investment for BPDB and REB. PDB will be required to generate a substantial part of the investment by internal operation. So PDB will have to look for

least cost operation while directing maximum effort for system loss reduction. There is still scope for reduction of cost through upgrading the East-West Inter-connector for transfer of low cost gas-based energy from the East to the West Zone. This will decrease the overall fuel cost from Tk. 0.45/Kwh in 1985 to Tk. 0.39 in 1990. During the Third Five Year Plan period BPDB would maximize generation from indigenous fuel (gas) and hydro and transfer 7733 GWH to the West Zone. This will enable the country to substitute import of about 2·2 million tons of fuel oil by indigenous fuel during the period. In financial terms, this is worth Tk. 1,343·6 crore in foreign exchange. Allowing for adjustment of tariff in step with inflation, BPDB will be financially viable. It's rate of return on historical value of assets may, as a result, improve to about 12% in 1990 from 8% in 1985. Net internal cash at 1985 prices would be about Tk. 1344 crore *i.e.*, 37% of proposed investment during the plan period.

SECTION 2: OIL, GAS AND MINERAL RESOURCES DEVELOPMENT

2.1 The current level of commercial energy consumption of 41 kg of oil equivalent reflect both the development of the economy and its primary energy base. Bangladesh has limited indigenous sources of energy and minerals. Whatever limited resources the nature has endowed her with, they could not be also developed to meet the growing demand of her developing economy for lack of adequate development fund. In general the country has lesser energy security and minimum options for meeting its mineral needs. As the known natural gas reserve in the eastern zone is limited with no oil as yet found and mineral resource base is weak posing a serious limit to the development of the economy, there is the need to undertake exploration on a large scale to expand the natural resource base of the economy for its continued growth, while meeting its demand.

2.2 There are thirteen gas fields including one in the off-shore in the eastern part of the country with an estimated reserve of 11 trillion cubic feet (TCF) of natural gas. These major fields are being appraised with a view to obtaining a proven reserves of gas. Except for coal and peat discovery in the Western part of the country, no gas has yet been found there. On the whole natural gas meets about 56% of the primary commercial energy use and of the remaining 37% is met from imported oil, 2% from imported coal and 5% from hydel power.

2.3 The mineral resources of the country are very limited and the known resources are in the west zone mainly. 1 billion tons of good quality bituminons coal are available in Jamalganj areas at a depth of about 3000 feet. Though this desposit was discovered in early sixties, exploitation of the same has not yet been possible due to technological difficulties involving heavy investment. Recent bituminous coal discovery at a much shallower depth (500—1200 feet) by the Geological Survey of Bangladesh in the Barapukuria area of Dinajpur is being investigated as to quality and extent of deposit. Peat is present in many parts of the country, specially in Khulna, Faridpur and Sylhet area. Some 150 million tons of peat can be extracted from these areas. Small deposit of limestone is available in Sylhet area, but at Jaipurhat area there is a deposit of limestone of about 100 million tons suitable for exploration. A huge quantity of grano-diorite rock deposit is available in Maddhapara in Dinajpur district. Other minerals worth mentioning in the country are white clay, glass sand and heavy minerals. There are a number of small scale mining operations in Mymensingh district which produce about 3500 tons of china clay annually.

2.4 Against these deposits of primary energy resources, various studies indicate that the primary commercial energy needs will at least double by the year 1990. It does not seem to be easy to meet this demand with the known resource base. The economy is

already under the burden of high import bill for POL products and crude oil, such import accounted for 40% of export earning in 1984/85, down from 87% in 1981/82 and 53% in 1979/80, partly due to import substitution by natural gas and partly due to decline in international oil prices. Import bill is still high particularly because of chronic balance of payment problem. Therefore, the future development of the sector will have to address both the needs of economic growth and balance of payment.

2·5 Three major constraints limit the appropriate development of the sector. These are technical, financial and institutional. Technically the country is heavily dependent on expatriate technicians, particularly in exploration; this problem is accentuated by the dependence on aid. It is to recognise that exploration, gas field development and transmission are highly capital intensive activities and are dominated by a limited number of transnational corporations, often to the disadvantage of a small developing country like Bangladesh with respect to both technical aspects and investment inhibiting, in turn, the development of local institution. The development of local capability is also constrained by the overseas demand for experienced and qualified persons at a much higher salary than that prevailing within the country. Only in recent years a small beginning has been made for the development of local institutional capability in the area of gas and oil.

2·6 During the Third Plan, the demand for commercial energy is expected to grow at a rate of 8·5% annually. To meet this in the background of serious resource constraint, emphasis should be given on capacity utilization of the existing facilities in the gas subsector prior to creation of additional production, transmission and distribution facilities. However, since gas is an exhaustible natural resource, adequate exploration activities should be undertaken to augment the present limited reserves of hydrocarbon. Emphasis on exploration will be given in the western zone, where no gas and or oil has yet been discovered. Besides public sector enterprises, efforts will be made to involve private sector particularly the multinational oil companies, in the hydrocarbon exploration through production/profit sharing contract (PSC). But the terms of contract should be carefully framed not only to attract the private companies but also for transfer of exploration technology. Appropriate policy measures would be adopted for hydrocarbon exploration, pricing of natural gas for its allocation to different consuming sectors and development of man-power.

REVIEW OF THE PAST DEVELOPMENT

First Five Year Plan and Two Year Plan (1973—80)

2·7 In view of the importance of the energy resources for economic development, emphasis was given during FFYP and TYP on the development of indigenous natural gas to substitute the imported fuel. This policy received an impetus as global oil crisis increased the cost of fuel import, in a small economy of Bangladesh, by several fold. An amount of Tk. 236 crore was invested by the Government during 1973-80 for the development of the sector.

2·8 An intensive effort was made during this period to find new hydrocarbon resources, particularly in the off-shore areas, but with little success. Ten wells were drilled but only one hole (off-shore) was found to have gas deposit. The main development of this period was connecting the Habiganj gas field with the Titas field by the 12" transmission line over a stretch of 35 miles and the initiation of gas transmission line from the Bakhrabad field to Chittagong, an important industrial centre of the country. 9 production wells in 4 gas fields with an estimated production capacity of 210 MMCFD

produced only 130 MMCFD of natural gas in 1979/80. Gas was distributed through Titas Gas Transmission and Distribution Co. (TGTDC) and Jalalabad Gas Transmission and Distribution System (JGTDS) in the Titas Franchise Area (TFA) and Sylhet area respectively.

Second Five Year Plan

2·9 The importance of OGNR Sector was enhanced during SFYP as a result of the second oil crunch of 1979 and spiralling rise in oil price. The main objective was to maximise the utilization of indigenous natural gas and save foreign exchange through substitution of imported fuel. It was envisaged that the quantum of gas supply would be raised from 44,500 MMCF in 1979/80 to 128,000 MMCF in 1984/85 so as to raise the share of natural gas in total commercial energy consumption from 37% in 1979/80 to 68% in 1984/85. At the same time exploration activities were geared up in search of oil and gas.

2·10 During this period drilling of 6 exploration wells were completed against the planned target of 9 wells; out of these, 4 wells were found to have gas reserves, though not exploited. To the existing 9 production wells 12 new production wells were added against the target for 13 wells. The important developments were the activation of Backhrabad gas field to supply gas to Chittagong and connection of this field with the Titas system by a new transmission line to Demra near Dhaka. Transmission system was expanded by 192 miles altogether which enabled. gas supply to be raised from 44,500 MMCF in 1979/80 to 94,600 MMCF in 1984/85 The share of gas in commercial energy rose from 37% in 1979/80 to 56% in 1984/85.

2·11 By the end of the Second Plan there was significant development in the hydrocarbon as shown below :

TABLE 2·1

Achievements over the Second Plan

Types of Activities.	1979/80	1984/85	
	(Actual)	Target	Actual
1. Development/Workover Well	9	22	21
2. Transmission Lines (miles)	142	422	400
3. Distribution Lines (miles)	1,005	2,175	2,000
4. Gas Supply (MMCF)	44,500	1,28,000	94,600
5. Customer Connection (Nos.)	1,19,400	2,58,000	2,40,000

2·12 The country continued to be entirely dependent on import for her POL products. The total quantum of POL product consumed during Second Plan was 6·8 million tons at the average rate of 1·4 million tons a year. Of this about 70% was derived from imported crude oil which was refined in the Eastern Refinery, and the rest, the middle distillates like diesel and kerosene, were imported. ERL also set up an LPG recovery plant with a designed capacity of 17,000 tons per year, production was 7,000 tons in the year 1984/85 mostly (85%) consumed in the Chittagong area. But with the completion of the gas network in Chittagong area, LPG will be released for supply to Western Zone of the country to meet the fuel problem in that region. At the end of the period the economics of ERL was also affected by the fall in world price. As spot

purchases of POL products became relatively cheaper, the crude throughput of ERL was reduced to below 1 million against its capacity of 1·5 million tons. Moreover, naptha was exported at a cheaper price when some middle distillates were being imported at high cost; so a study was undertaken for the feasibility of secondary conversion of some of the ERL products into more needed middle distillates. The drop in world prices, however, helped Petroleum Corporation to improve its financial position as the domestic prices of POL products remained unaltered and write off entirely its past losses suffered because of lodged adjustment of domestic prices to world prices.

2·13 The weakest link in the development of the hydrocarbon was the slow progress of geological survey; during the plan period about 30% of the target was achieved, mainly due to lack of organisation. About 4000 sq. miles of geological mapping, 1000 sq. miles of geophysical surveys, 5000 rft. of drilling and 3000 geochemical analysis were completed during the plan period. Significant development in geological survey of this period was the discovery of a new coal deposit at Dinajpur at a much lower depth than that at Jamalganj.

Investment Programmes (1980—85)

2·14 A total of Tk. 615·00 crore at 1979/80 prices was allocated which constituted 5·5% of the total public sector outlay of Tk. 11,100 crore. In terms of current prices the allocation stood at Tk. 891·00 crore, indicating some shortfall in investment programmes. The total amount of project aid (PA) from international financing institutions and bilateral sources for the implementation of projects during the Second Plan amounted to about Tk. 590 crore (US $ 235 million). However, there were time over-run and cost overrun for many projects which adversely affected reaching planned targets particularly in gas production. In fact, during the Second Plan period serious imbalances developed between production and transmission, often oscillating, indicating absence of strong priority. Besides strong institutional preferences for particular type of projects, the problem of imbalance was accentuated by the absence of a national gas network, affecting transfer of gas from producing to consuming areas. This required reallocation of fund in between projects. This is reflected in the fact that about half of the fund was to be spent on projects which will be carried over to the Third Plan. Out of 38 projects undertaken during the Second Plan 22 were completed. In general the sector remained under severe resource strain, some programmes more than others. Against the total outlay of Tk. 891 crore, Tk. 913 crore was released through ADP; while Tk. 325 crore incurred for exploration and survey, Tk. 180 crore for gas field development, Tk. 430 crore for transmission and distribution line and Tk. 20 crore for other purposes such as oil refinery (ERL), and storage and movement of POL products. The shortfall was met from Petrobangla's own resource.

THIRD FIVE YEAR PLAN (1985—90)

2·15 During the Third Five Year Plan the demand for commercial energy is expected to increase at an annual rate of 8·5%. This increased demand will mostly be met from the indigenous natural gas so as to save the balance of payment from the burden of import bill for fuel (oil and coal). The peak demand of natural gas is expected to increase from 450 MMCFD in 1984/85 to 750 MMCFD in 1989/90, and the annual consumption from 94,600 MMCF in 1984/85 to 1,80,000 MMCF in 1989/90, giving an annual average growth rate of 13·8%. At this growth rate, the share of gas to the total commercial energy would rise from 56% in 1984/85 to 68% in 1989/90. Such rapid expansion of gas supply will be achieved through the installation of 17 additional production/workover wells with complementary expansion of transmission and distribution

lines alongwith ancillary surface facilities. The gap among the existing production, transmission and distribution facilities can be narrowed down by better capacity utilization but the experiences of the Second Plan lead to the conclusion that the investment allocation to different activities will need to be strongly oriented towards the development of the gas sector as a system from production to down-stream activities. For safety, security and stability of supply, the three main gas systems Titas, Bakhrabad and Jalalabad would be interconnected thus forming a National Grid so that allocation of this exhaustible native resource can be put to the most efficient and economic uses.

2·16 Though annual use of gas is a small fraction of existing estimated recoverable reserves of natural gas (8·5 TCF), it is to be emphasized that even at the rate of current expansion of the user sectors such as power and fertilizer plants, this quantum of gas will be able to meet their demand upto 1990 over the life time of their projects. This means that no power and fertilizer plants can be planned and constructed after 1990 on known indigenous gas reserve. It is therefore of priority that during Third Plan appraisal and exploration drilling in the same order be intensified to add to the gas reserve. As our public sector capacity for exploration is limited by availability of resources, private sector, particularly the multinational oil companies, will be encouraged to take part in the oil and gas exploration and production activities. This is likely to be efficient and help reduce balance of payments problem.

2·17 In order to have balanced POL products commensurate to the demand of the country, secondary conversion facilities would be added to Eastern Refinery during Third Plan in addition to its balancing and modernization for its operation at optimum efficiency. The Geological Survey would be strengthened and modernized to invigorate research and exploration activities for mineral resources. Particular emphasis would be given to assess the reserve of the newly discovered coal field at Dinajpur and to complete the techno-economic feasibility of its exploitation. More training programme for different category of personnel, both on-the-job and in academic institutions would be provided to reduce dependence on foreign consultants. Institutional re-organization for effective implementation of programmes/projects would be made.

Objectives of the Third Plan

2·18 The main objectives for the development of gas and oil and minerals are :

(i) to maximise the use of natural gas for meeting increased demand for commercial energy for accelerated development of the economy and relieving the balance of payments pressure from fuel import bill;

(ii) to intensify the appraisal and exploration activities for oil and gas, the latter activities with particular emphasis in the west zone;

(iii) to undertake appropriate measures for the supply of gas to the western zone and develop a national network of supply in order to achieve a balanced regional development;

(iv) to conserve the exhaustible energy resources like gas through promotion of their economic and efficient uses by appropriate tariff and demand management;

(v) to improve efficiency and product mix of Eastern Refinery;

(vi) to expedite the survey and exploration drilling for assessment of coal reserves in the newly discovered field near Parbatipur and complete techno-economic feasibility for its mining; and

(vii) to develop local capacity and expertise in hydrocarbon exploration and development through effective manpower training.

Development Strategies

2.19 The following strategies will be adopted in pursuing the above objectives :

(i) In enhancing exploration, involvement of private sector, particularly the multinational oil companies would be encouraged under product/profit sharing scheme and data base about gas and oil prospect will be developed to stimulate private interest.

(ii) For the transfer of gas to the Western Zone, the gas pipe line alongside the Jamuna Bridge Project and other prospects will be explored.

(iii) In addition to various alternative uses of gas such as CNG and LPG, the possibility of new gas based industries would be pursued with a view to contributing to the improvement of balance of payments situation; but gas-based export-oriented industries would be planned if there is sufficient reserve of gas after meeting the indigenous requirements.

(iv) To conserve exhaustible gas resource, efficient and economic use of gas will be promoted through appropriate tariff system; this should take into account opportunity cost of gas, alternate fuel cost, economic development need and social interest.

Development Policies

2.20 In view of continuing resource constraint, a number of strong policies will need to be adopted in the light of experiences of the Second Plan and changes in the world-energy situation. The pressure that existed over the last 12 years eased partly in recent years due to decline in world prices of POL products. This development has both international and domestic implication. First, at the international plane the interest of transnational corporations in exploring hydrocarbon deposit will be less than in 1970s ; therefore, it will be difficult to attract their interest. This may mean more liberal terms for product sharing venture or greater dependence on domestic capability. A hydrocarbon development policy must therefore provide appropriate blending of both because of resource and capability constraints currently obtaining in the country. Since the pressure for the development of the hydrocarbon sector is less critical than it was when fuel import bill accounted for 87% of export earning as in 1981/82 against 40% in 1984/85, this easing environment should be taken advantage of developing policy for product/profit sharing within an overall long term national policy for hydrocarbon development. It requires no saying that given the present level of consumption of commercial energy and expected demand for it of a growing economy the exitsing reserve is, as already mentioned, hardly to be a source of complacency. Prospecting of gas and oil will need to be continued in a rational framework so that the benefit from limited resources is maximized for accelerating economic development, *i.e.*, to allocate such fund rationally in between exploration, development and transmission and distribution.

2.21 As it will be irrational to starve the economy of required commercial energy supply from gas fields, it will be also reckless to go on increasing gas supply without replenishing and augmenting gas reserve by exploration to ensure its steady supply in future ; hence along with the hydrocarbon development policy a conservation policy must also be adopted to attain a balance between exploration and development within the resource constraint. Given the experience of hydrocarbon exploration a minimum rule can be enunciated for allocation of fund between development and exploration in terms of probability, that every commitment of a gas well must be matched by corresponding commitment of fund for 3-4 wells for exploration in order to replenish the reserve and maintain the stock.

2.22 It follows from the need for balanced development of the sector and conservation of the depleting natural resource like gas, a rational tariff policy will prove to be an extremely valuable tool. Such a gas price policy has to be based on the following considerations :

(a) For the purpose of exclusively export-oriented gas-based industries, the f.o.b. price of gas must be equivalent to crude oil on BTU basis subject to adjustments for cost of conversion of gas to comparable state ;

(b) Gas price for those industries in the East zone will have to be equal to price of oil or coal to similar industries in the Western zone ;

(c) For power generation and domestic market oriented fertilizer industries, gas price will be fixed at a level that will help to attain the development goals.

In view of the above the existing gas price sturcture will be reviewed so that average gas price includes a rent for the natural resource over and obove meeting the long run marginal cost of sector's expansion.

2.23 It follows from what has been said in para 2·18 above that a clear policy and programme for the development of manpower must be adopted to make the country more self-reliance in gas and oil exploration and development. Besides making the oil and gas institutes effective through support of trained personnel, there is also need for reorientation of academic courses to this vital and promising natural resource of the country. Because of the nature of work, financial and other incentives should be provided to attract talented professionals and stimulate response among the staff.

2.24 In order to make oil and gas exploration and development sector more dynamic and action oriented specific job should be grouped together and be incorporated for the formation of specific companies. It is worth to consider formation of separate companies for—(a) exploration and production, (b) transmission and distribution and (c) mineral and mines. The current separation of exploration from production falls short of the requirement for a balanced approach between them, particularly in a state of severe financial exigency.

PROGRAMMES OF THIRD PLAN

2.25 The programmes envisaged for implementation during Third Plan period are discussed below.

Oil, Gas and Mineral Development

2.26 Survey/ Exploration : The geological and geophysical surveys will be intensified during the plan period to discover and delineate more structure with prospect of containing oil and gas and to determine the extent of existing gas fields. Besides the completion of the on going detailed and reconnaisance seismic surveys in the Hinge Zone, South West region and over the existing fields, additional gravity and seismic survey work would be undertaken both in the east and western zone covering atleast 5000 L. Km. A total of 6—8 exploratory drilling, more or less in equal number in between the east and the western zones would be implemented by BOGMC. Necessary base maps and blocks would be prepared for involving and encouraging private sector to undertake exploration work through Production Sharing Contract (PSC), particularly for exploration in the western zone. Provision has been kept for drilling 15—20 exploration wells under private sector.

2.27 Development/Workover & Appraisal Wells : To meet the projected demand shown in Table 2·2 below 17 additional development/workover wells have been planned for the Third Plan. Among others, the development of Begumganj, Feni and Semutang gas field will be considered. Upon implementation of the programme the total supply capacity would be 30% in excess of the projected demand of 1989/90. This excess capacity is necessary for repair and maintenance of some of the existing production wells. It is expected that at the end of Third Plan period natural gas will contribute about 68% of the total commercial energy requirement of the country. In addition 6 appraisal drilling in four major fields would be under-taken to confirm the proven reserves of these fields. The list of development/workover and appraisal wells are given in Table 2.3.

TABLE 2.2

Peak-hour Gas Demand Forecast

(In MMCFD)

Use.	1984/85	1985/86	1986/87	1987/88	1988/89	1989/90
1. Power ..	200	230	250	270	300	346
2. Fertilizer ..	150	160	160	180	180	180
3. Other (Ind/Com/Dom)	150	175	200	230	270	310
(a) Total demand :	500	565	610	680	750	830
(b) Adjusted peak for delivery	450	500	550	610	700	750
(c) Peak demand in TFA	320	370	415	475	500	555

TABLE 2.3

Franchise-wise Demand and Supply Projection

(In MMCFD)

	1984/85	1985/86	1986/87	1987/88	1988/89	1989/90	
1. Titas ..	353	398	449	505	518	555	Demand
	315 (12)	375* (13)	405* (14)	435* (15)	465* (16)	510** (18)	Supply
2. Jalalabad ..	40	41	42	44	67	67	
	60 (4)	90 (5)	120 (6)	150 (7)	210** (9)	240** (11)	
3. Bakhrabad ..	58	64	105	122	130	140	
	60 (5)	150* (5)	180* (6)	210* (7)	240* (8)	270* (9)	
Total : ..	451	503	596	671	715	762	Demand
	435	515	705	795	915	1020	Supply

* The deficit of gas supply in Titas Franchise Area will be met from Bakhrabad Area.

** The deficit of TFA will be met from Jalalabad Area through North-South Pipeline.

Notes : The number over the line represents demand ; that below the line supply. The bracketed figure is number of production/development wells in each area.

2.28 **Transmission and Distribution :** Besides the completion of on-going transmission and distribution lines with necessary surface facilities, three more transmission lines, namely, (a) Kailashtilla-Beanibazar-Rashidpur-Habigarj-Ashuganj (North-South) gas pipeline (b) Bhairab Bazar-Kishoreganj-Mymensingh-Jamalpur Pipeline and (c) Joydevpur-Tangail-Jamalpur Pipeline will be completed during the Third Plan. The gas distribution network of Titas Franchise Area, Bakhrabad Area and Jalalabad Area will be expanded during the period. The transmission line in the Brahmaputra Area should be planned in such a way that it can be extended across Jamuna River to the Western zone in future.

2.29 **Gas Supply to Western Zone :** In order to meet the requirement of energy demand of the Western zone it has been planned to take gas line along side the Jamuna Bridge, feasibility of which will be undertaken during the Third Plan.

2.30 The target of gas sub-sector in the Third Plan is given below :

TABLE 2.4

Gas and Oil Development during TFYP

	1984/85	1985—90	1989/90
	Benchmark	Increment.	Total.
1. Gas :			
(i) Peak demand of gas (MMCFD)	450	300	750
(ii) Gas Supply (MMCF) ..	94,600	85,400	1,80,000
(iii) Customers connection ..	2,40,000	1,60,000	4,00,000
(iv) Exploration well ..	42	8	50
(v) Development workover well ..	21	17	38
(vi) Transmission line (miles) ..	400	350	750
(vii) Disttribution line (miles) ..	2,000	2,000	4,000
(viii) Appraisal wells (Nos) ..	..	6	6
(ix) Survey (Lkm) ..	10,000	5,000	15,000
2. Oil/Oil products (In lakh tons) ..	1500,000	100,000	1600,000

Petroleum and Oil Products

2.31 Bangladesh has a small refinery having a capacity of 1.5 million for refining of crude oil. As its products fall short of demand for some critical POL products, imports of these distillates amount to the tune of 5 lakh tons adding to the fuel import bill for crude oil. The refinery is now running at 60% of its capacity, partly because of its loss of efficiency over time and partly because of relative advantage of oil products against crude oil import. As it is expected that the future increased demand for energy would primarily be met from the indigenous natural gas, the present quantum of crude oil and POL, with marginal adjustment, will continue up to the end of Third Plan.

2·32 At present the refinery meets about 50% of the middle distillates (diesel/kerosene and JP) demand and the rest is imported. Furnace Oil (FO) is also being imported for the last one and a half years at the rate of about 1,00,000 tons a year. However, if the refinery operates at full throughput, FO would be surplus to the extent of 2,50,00 tons annually. The transmission of Bakhrabad gas to Chittagong areas has substantially reduced the demand of FO by 1,25,000 tons annually, but the commissioning of 110 MW FO based power plant at Khulna has more than offset this. The impact of East-West inter-connector development will have a favourable effect on FO demand for power generation in the east zone, particularly when the Shiddirganj Power Station will be fully operative on gas. With the increased supply of condensate from the gas fields the domestic demand for Naptha will further decrease, thus making more surplus available for export. To avert the situation, (a) to upgrade the surplus F. O. into HSD by adding secondary conversion facilities and (b) to add a Naptha splitter to have a heavier cut o Naptha which could be punched with Kerosene to augment the supply of middle distillate. It is expected that with these additional facilities about 150,000 tons of extra middle distillate will be available without any increase in crude throughput. In addition, projects like transportation of LPG to North Bengal and improvement of supply back-up system for refuelling facilities at Zia International Airport would be undertaken. So the only project to be implemented during the Third Plan is the rehabilitation of the Eastern Refinery.

Geological Survey

2.33 The major activities during Third Plan will be (i) collection of baseline geological, geophysical and geochemical data particularly geological mapping using aerial photographs and other remote sensing techniques, (ii) detailed exploration for minerals namely coal, limestone, kaolin, constructional aggregates and possible metallic minerals in the basement rock; (iii) detailed study of glass-sand, white clays, alluvial clays and rivers sand; (iv) geotechnical mapping for civil works in and around urban areas; (v) water resources study, particularly analysis of groundwater data; (vi) stratigraphic research, subsurface study by geophysical methods and geochemical and chemical analysis of the collected samples, and (vii) publication of maps and reports.

2·34 The expected targets are as follows:

(a) Regional Geological mapping	7000 sq. miles
(b) Mineral Exploration	400 sq. miles
(c) Boreholes logging (5 holes)	10000 feet
(d) Geotechnical surveys	750 sq. miles
(e) Groundwater study	1000 sq. miles
(f) Stratigraphic Research	10 sections
(g) Laboratory sample analysis	1100 samples
(h) Gravity and magnetic surveys	1500 sq. miles
(i) Seismic survey	90 line miles
(j) Test drilling (4 holes)	8000 rft

2.35 To undertake the above programmes the institutional capability of the Geological survey will need to be strengthened with modern plan, this area of OGMR sector suffered very much for lack of adequate organisational support. The importance of this institution for our economic development follows from the fact that mineral base of the economy is the thinnest of all making the country critically dependent on imports.

Financial Outlay

2.36 To implement the programmes of the Third Plan for OGMR development, an amount of Tk. 1295 crore (at 1984/85 prices) has been allocated under Public Sector. This amount is about 5.2% of the total Public Sector outlay of Tk. 25,000 crore slightly below the proportionate allocation under Second Plan. About 30% of this allocation will be absorbed by the spill-over projects. However, a provision of Tk. 500 crore has been kept under Private Sector investment for hydrocarbon (oil/gas) exploration. The total allocation for the sector thus stands at Tk. 1795 crore which is 4·6% of the total plan outlay. The major share of the allocation, about 87% of Public Sector investment, will be given to Bangladesh Oil, Gas and Mineral Corporation. Allocation for mineral resources development and mining is provided under Industries Sector.

2·37 The Agency-wise and activity-wise break-up of the allocations is shown in table 2·5 and 2·6 below :

TABLE 2·5

TFYP Allocation by Agencies

(At 1984/85 Prices)

[Tk. in crore]

Agency	Public Sector	Private Sector	Total
1. BOGMC	1125	500	1625
2. BPC	130	..	130
3. GSB	30	..	30
4. P&MR Division (including BPI) ..	10	..	10
	1295	500	1795

TABLE 2·6

Break-up of OGNR Allocation by Activities
(At 1984/85 Prices)

[Tk. in crore]

Programmes.	Cost for new components.	Spillover cost.	Total.
A. Bangladesh Oil, Gas and Mineral Corporation (BOGMC):			
(a) Survey and Exploration :			
(i) Survey (Seismic/Gravity)	10	30	40
(ii) Exploration Drilling (6-8 wells) ..	100	30	130
(iii) Rigs and other logistics	..	30	30
Sub-total of (a) ..	110	90	200
(b) Production/Appraisal Drilling :			
(i) Production well (8-10)	125	20	145
(ii) Workover well (4-5)	50	..	50
(iii) Appraisal well (6)	80	..	80
(iv) Drilling Rigs & others	25	..	25
Sub-total of (b) ..	280	20	300
(c) Transmission :			
(i) North-South Pipeline (117 mls.) ..	160	..	160
(ii) Bhairab-Jamalpur Pipeline (200 mls.) ..	120	..	120
(iii) Bakhrabad-Chittagong Pipeline (110 mls.) ..	..	20	20
Sub-total of (c) ..	280	20	300
(d) Distribution :			
(i) Brahmaputra Gas Distribution (150mls.) ..	20	..	20
(ii) Greater Dhaka Gas Distribution (500 mls.)	20	50	70
(iii) Jalalabad Gas Distribution (300 mls.) ..	25	..	25
(iv) South-East Gas Distribution (1000 mls.) ..	15	100	115
(v) Sylhet Tea Estate Gas Distribution (100 mls.) ..	30	5	35
Sub-total of (d) ..	110	155	265

TABLE 2·6 (*Contd.*)

Programmes	Cost for new components	Spillover cost	Total
(e) CNG Commercialization and Misc. Feasibility Study.	10	..	10
(f) Recovery of LPG from Natural Gas ..	50	..	50
Total of A	840	285	1125
B. Bangladesh Petroleum Corporation (BPC) :			
(a) BMR of ERL	..	20	20
(b) Secondary Conversion of ERL	90	..	90
(c) LPG Transportation to North Bengal ..	20	..	20
Total of B ..	110	20	130
C. Geological Survery of Bangladesh (GSB) ..	..	30	30
D. P&MR Division including Bangladesh Petrolcum Institute. ..	..	10	10
Total A to D .. (Public Sector Allocation)	950	345	1295
Private Sector Allocation for Hydrocarbon Exploration (15—20 wells).	500	..	500
GRAND TOTAL .. (Public and Private)	1450	345	1795

SECTION 3 : TRADITIONAL, NEW AND RENEWABLE ENERGY RESOURCES

The existing division of energy into traditional and commercial energy, which has been so far discussed from development need point of view, has a more far reaching implication than as apparent from it, for commercial energy is mainly nonrenewable and traditional energy is wholly renewable,. Hence the emphasis on commercial energy is one sided (by consuming) which makes conservation policy an integral part of its development. On the other hand, though renewable, traditional energy also has not got much renewed. It is in this perspective that the Third Plan focuses on the development of new and renewable energy resources.

3.2 New and renewable sources of energy include all biomass fuels and non-biomass sources like sunlight, wind, current, etc. Biomass is the principal source of fuel in rural areas of Bangladesh. More than 90% of the total population depend on the traditional sources of biomass fuel cooking, paddy par-boiling, gur making and other activities. Besides, biomass fuels are also used in industries such as tea processing, sugarcane processing, tobacco curing and baking, brick burning, pottery, soap making, lime making, blacksmith works, etc. More than 80% of the fuel comes from traditional sources alone, but the supply of traditional biomass fuel is continuously diminishing, adversely affecting fertility of land as agricultural wastes are being increasingly withdrawn for use as fuel and ecological balance because of indiscriminate felling of trees for fuel and other uses.

Evaluation of the Second Plan

3.3 To improve the energy supply situation in the country, particularly in the rural areas, the Second Plan emphasized for an integrated research and development of technology for new and renewable sources of energy in addition to development of fuel wood which has been discussed under Agriculture Sector in Chapter IX. Under the project, "Integrated Development and Promotion of Rural and Renewable Energy Technologies and Resources in Bangladesh (with eight sub-projects)" for a period of three years (1984—87), solar pumping and hydrogen production from water using solar energy were taken over. A solar pump was installed at Savar by BAEC which can lift 30 gallons of water per minute on an average, from a depth of 60 feet using solar photo-voltaic cell. Its techno-economic performance, improvement of operational efficiency, optimum use, etc. are now under evaluation. The study for production of hydrogen from water using solar energy was undertaken by the Department of Applied Chemistry, Dhaka University (DU) in 1982. Laboratory scale investigations have been completed reaching the stage of developing a prototype unit for hydrogen production.

3.4 R & D works for developing suitable low cost biogas plants have been carried out by BAU, BCSIR, DEPC, etc. in the BAU, several types of biogas digester have been tested with various agricultural wastes and their mixtures and the result need to be evaluted for commercial use. Cow-dung based fixed dome and floating dome types of biogas plant have been experimented by BCSIR leading to the development of a family size cheaper biogas plant. So far only 75 biogas plants have been set up in different parts of the country by BCSIR at the cost of the owners, but the demand is greater. 219 (110 fixed dome and 109 floating dome) biogas plants have been set up under the supervision of DEPC at the zila and upazila headquarters at the cost of the Govt. against the SFYP target of 250 units.

3.5 During the Second Plan considerable effort was directed to improve efficiency of village *Chula* (earthen cooker). BCSIR has developed some types of low cost and simple design chula which can save fuelwood by about 50—70%. They have also developed solar cooker at a cost of Tk. 415·00 each in their Institute which is capable of cooking lunch on a bright sunny day for a family of 5-6 members. DU in collaboration with Meteorology Department have studied wind velocity in different locations and observed that coastal areas, particularly of Chittagong and Noakhali will be most suitable for setting up windmills for generation of electricity for irrigation. D U and Rajshahi University (RU) have made substantial progress in the development of solar photovoltaic cells.

3.6 The main problem is that the technology oriented activities on the new and renewable sources of energy are currently spread over as many as five ministries and eight agencies with virtually no co-ordination among them. A number of research/educational institutions such as BAEC, BCSIR, DEPC, BWDB, DU, BUET, BAU, RU are carrying on researches for finding out suitable technologies for the efficient use of biomass, sunlight, wind etc. as the potential sources of energy for the rural economy. Such activities in many cases, are overlapping and duplications resulting in the waste of valuable national resources. In the Planning Commission also there is not enough coordination between the sectors which are directly involved in the use of such natural resources as water and forest products and promotion of new and renewable energy resources and technologies. Secondly, the area that has not drawn much research interest is the problem of drying of agricultural products particularly food grains and processing of crops (e. g. parboiling). Post harvest technologies will become increasingly important with expansion of output.

Third Plan Objectives

3.7 Considering the progress made and constraints mentioned above, the objectives of the development of NRSE for TFYP (1985—90) have been fixed up as follows :

(i) To achieve a system of balance between agriculture, water and energy emphasizing optimum use of indigenous energy resources like biomass, biogas, sunlight, wind, water current, etc.

(ii) To aim at increasing technical capability in the field of new and renewable sources of energy development.

(iii) To introduce extension/motivational services for adoption of various technologies for efficient and economic use of new and renewable energy resources.

Targets of TFYP

3.8 During the TFYP the following major targets have been fixed up :

(i) Construction of 5000 biogas plants throughout Bangladesh (at least one in each Union).

(ii) Manufacturing and distribution of 7 lakh improved single stoves and 10,000 multiple stoves.

(iii) Establishment of 5 (five) rural energy centres in villages for dissemination and back up services for devices on biomass/solar energy/wind, etc.

Policy Recommendation

3.9 To achieve the objectives and targets set above the following policies need to be followed during the TFYP :

(i) Due emphasis should be given for the development of NRSE by enhancing the R & D work in the augmentation and conservation of energy from biomass, solar, wind, etc.

(ii) Use of fuelwood for brick-burning should be banned by ensuring the supply of fossil fuel-coal, gas, etc., to maintain the ecological balance of the country.

Strategies of TFYP

3.10 To achieve the objectives for new and renewable energy resources main thrust during the TFYP will be given on the following strategies :

(i) In addition to the central station at Dhaka, research on the assessment of solar energy resources including the techniques of photovoltaic cells will be strengthened by setting up some more stations in the different regions of the country.

(ii) Development of silicon technology will be pursued in a phased manner with focus on wet and soft ware in the Institute of electronics, BAEC in close co-operation with IFRD of BCSIR, DU, etc.

(iii) Five rural energy centres proposed for setting up in different parts of the country will disseminate proven NRSE technologies, use photovoltaic cells/wind/biomass in an integrated manner, to generate electricity for pumping of water for irrigation, running of small village (textile) industry and ice-making for preservation of fish and vegetables and provide back up services therefor.

(iv) Efficient technologies (gasifier, pyrolysis, briquetting, etc.,) for thermo-chemical and other conversion of biomass and agricultural and industrial residues will be developed.

(v) Proven technologies developed in the various institutions, for efficient use of new and renewable sources of energy, will be disseminated among the common people through training, demonstration, mass media, pamphlets booklets, etc.

Physical Programmes of TFYP

3.11 **Development of Bio-mass Conservation and Conversion Technologies:** Promotional activities in regard to converting various agricultural and industrial residues into energies will be carried out in a coordinated way. For further improvement of biogas plants (using agricultural residues and sewage), cooking stoves, village chula, researches will be carried out in BCSIR, BAU, BUET, etc. For both urban and rural households efficiency of stoves will be further improved through applied research and its use will be promoted through extension personnel and training of stove builders. Under the supervision of IFRD of BCSIR, 7 lakh improved single stoves and 10 thousand improved multiple stoves will be manufactured and distributed.

Biogas Production

3.12 IFRD of BCSIR will construct about 5000 demonstration biogas plants (at least one in each union). Rural energy centres will provide back up services and collect operational data for transmission to BCSIR.

Development of Solar and Other Energy Sources

3.13 Both promotional and development work on solar energy for generating electricity for multifarious uses will be undertaken. Technologies in respect of the use of solar energy will be further tested and improved. Research on the use of solar energy for rural electrification using photovoltaic cells, cooking, heating, etc. will be carried out in BCSIR, BAEC, DU, etc. Work for generating electricity from miscellaneous energy sources like biomass mini-hydro, wind, river water flow will be undertaken by BWDB, BCSIR, BAEC, etc. Programme will also be continued for further improvment of animal drawn draft implements by BAU.

Training

3.14 For undertaking research and promotional activities on the different aspects of NRSE including production, conservation, conversion, utilization, etc., concerned officials and the users will be imparted training of different durations, both within the country and a road.

Financial Outlay

3.15 To implement the various programmes as discussed above a total amount of Tk. 20·00 crore at 1984/85 prices has been allocated under the TFYP. Programme-wise allocations are given below :

TABLE 3

Programme-wise Allocation in TFYP.

[Tk. in crore]

Programmes	Amount
(1) Research and Development ;	
(a) Biomass ..	2·00
(b) Solar ..	5·52
(c) Misc. ..	2·98
	10·50
(2) Promotion	
(a) Biomass ..	5·50
(b) Solar ..	1·50
(c) Misc. ..	2·50
	9·50
Total ..	20·00

CHAPTER XII

TRANSPORT AND COMMUNICATION

SECTION 1: TRANSPORT

Bangladesh has 4,827 km. of paved arterial and feeder roads, 2,892 km. of railways and 4,827 km. of perennial waterways. The riverine character of the country with annual monsoon floods makes the terrain difficult for construction and maintenance of roads and railways and its deltaic formation overladen by millions of tons of silts carried by the Ganges and the Jamuna makes it equally difficult to keep the waterways open. Their high cost of construction and maintenance together with resource constraint makes Bangladesh the least developed infrastructure for transportation. There are only 7·45 km. of paved roads per 100 sq. km. of area against 16·76 km. in developing countries in the south-east Asia region.

1.2 The existing transport system as it reflects the subsistence need of the economy is inadequate for its development as the major demand for freight traffic has come to originate from arterial movement of imports and exports. Imports have grown fast since Independence in relation to aid inflow and are now about three times the export. Though this imbalance would mean underutilised transport capacity on return journey and higher transport costs, it is hardly avoidable as imports will have to exceed export in general to absorb aid, but it has tended to encourage too cautious a view of the development of the arterial system to cause its efficiency suffer in handling long haul traffics.

REVIEW OF THE PAST DEVELOPMENT

1.3 The meagre transport system suffered heavily during the War of Liberation. Therefore, the period of the First Plan and the Two Year Plan (1973—80) was largely the period of rehabilitation except for such marginal improvements as a newly independent state urgently needed to handle increased import traffics. These improvements consisted of pavement of 804·5 km. of road; construction of Zia International Airport; construction of five permanent jetties at Chalna; procurement of locomotives, coaches and wagons; acquisition of 18 ocean going ships; procurement of dredgers, etc. as the passenger and freight traffics expanded by 39 and 21 per cent respectively and the share of road and rail together rose from about 36 per cent of freight traffic in 1973 to about 49 per cent by 1979 while their share in passenger traffic decreased from 80 per cent to 75 per cent during the same period. There was thus some reallocation of traffics between water and other components of the transport system.

Evalnation of the Second Plan

1.4 In view of the critical role of the transport sector in modern economic development the Second Plan allocated Tk. 1,819·00 crore (1983 price) to the Transport Sector. Actual utilisation slightly exceeded it (Tk. 1,943·99 crore) due to increased allocation for higher absorption capacity of the road sub-sector. In the aggregate, the financial and physical performance of the transport sector during the Plan period was however mixed as the following discussion will show.

1.5 **Bangladesh Railways :** During the plan period a sum of Tk. 552·97 crore was provided to the Bangladesh Railways but actual expenditure was Tk. 541·34 crore. As regards physical achievements, number of diesel locomotives increased to 289 in 1985

from 192 in 1980; route length slightly increased to 2,891·85 km. from 2,883·90 km. and 684 km. of tracks were renewed. However total freight (million ton) carried declined to 2·8 in 1984/85 from 3·2 in 1979/80 and ton-kilometre declined to 748 in 1984/85 from 855 in 1979/80. There was also a decline in efficiency of Bangladesh Railways in terms of use of its rolling stock as shown in the Table below:

TABLE 1.1

Operating Efficiency Of Bangladesh Railways

Operating Areas.		1969/70	1979/80	1984/85
I. Freight Movement :				
(i) Wagon turn round time (days)	: BG	8·5	17·7	15·0
	MG	10·2	23·7	16·0
(ii) Percentage of wagons available for use to total on line.	: BG	93·9	88·0	93·0
	MG	91·9	85·7	94·5
(iii) Net ton km. per wagon day on line:	BG	229·0	183·0	160·93
	MG	190·0	150·00	122·00
(iv) Av. speed of diesel freight train (KPH)	: BG	18·19	14·73	11·27
	MG	13·49	11·57	10·46
II. Passenger Carriages :				
(i) Percentage of coaches available for service to total on line.	: BG	87·4	83·6	85·5
	MG	86·6	82·9	85·0
(ii) Passenger km. per vehicle on line	: BG	243·0	195·0	222·09
	MG	211·0	154·0	173·81
III. Diesel Locomotives :				
(i) Percentage of Locomotive available for service to total on line.	: BG	91·9	85·9	77·0
	MG	84·1	72·9	79·0
(ii) Engine-km. per engine on line per day	: BG	378·0	285·0	193·12
	MG	214·0	192·0	160·93
(iii) Engine-km. per engine day in use (for goods traffic only).	: BG	307·0	254·0	160·93
	MG	203·0	187·0	160·93

1.6 In passenger traffic there has been an increase in volume mainly due to increase in population and population movement and cheaper fare compared with other modes of transport as tariffs failed to increase with costs. The downward trend in freight traffic was mainly due to inter-modal shift of traffic from railway to road because of the latter's comparative reliability, flexibility and ready availabilityof delivery service. The Railways have however been handicapped for lack of heavy repair and maintenance facilities and rehabilitation of tracks. It has continuously failed to generate adequate revenues to undertake normal maintenance works so much so that maintenance problems accumulated over years called for total replacement works. Many factors such as inefficient resource management, inadequate pricing to reflect true resource cost and inter-modal competition contributed to the financial problems of the Railways. These problems were compounded over the plan peroid by misplaced investment priority on procurement programmes at the expense of asset maintenance and skill development.

1.7 Total flow of foreign aid to Bangladesh Railways after the War of Liberation was more than Tk. 1,000·00 crore constituting about 50% of the total value of assets of Bangladesh Railways. But in spite of this massive investment the railway system could not be fully rehabilitated into an efficient operator because of ad hoc measures based on misplaced priorities. Purchases rather than planned development characterized the Railway's programmes. As a result the system suffers from lack of standardisation of its rolling stock, signalling equipment, etc. This aggravated the problems of maintenance and repairs and increased pressure on the already depleted strength of skilled-manpower and available foreign exchange for spare parts.

Finance—Cost and Tariff

1.8 Financial performance of the Bangladesh Railways which is a commercial-*cum*-utillity enterprise has also deteriorated during the plan period although revenues have increased in absolute terms. Operating ratio in 1979/80 was 104.5 and the same in 1983/84 was 123·2. In reality, the situation worsened because in 1979/80, 0·79 percent of the total revenues were charged to the depreciation fund, whereas no provision for depreciation was made in 1983/84. This appears to be alarming compared with the situation of 1969/70 when the operating ratio was 83·4 even after charging 9·92% of the gross revenues to depreciation fund. Apart from this, Railways also failed to meet its other obligations such as payment of adequate return on Government investment and allocation of adequate funds for maintenance of the capital assets, thereby pushing all accumulated replacement into the development budget. Railways have been persistently incurring losses since Liberation except in 3 years as shown below :

TABLE 1.2

Financial Performance of Railway.

[Tk. in lakh.]

Year	Total operating revenue	Total operating expenses	Net operating income.
	Tk.	Tk.	Tk.
1971/72(*a*)	600	880	—280
1972/73	2,469	2,361	+108
1973/74	2,783	3,426	—643
1974/75	4,027	4,071	—44
1975/76	5,048	4,941	+107
1976/77	5,430	5,725	—296
1977/78	6,272	6,603	—331
1978/79	8,286	8,003	+283
1979/80	9,226	9,638	—412
1980/81	10,408	12,272	—1,864
1981/82	12,902	13,171	—269
1982/83	14,946	15,029	—83
1983/84(*b*)	14,461	17,822	—3,361
1984/85(*b*)	16,706	20,339	—3,633

(a) Figures for 6¼ months.
(b) Provisional figures.
Source: Bangladesh Railway.

1.9 Principal causes of continuing increase in financial losses are underutilization of the capital assets, leakages of revenue, lagged response of fares and freight rates to increasing operating cost and continued operation of certain branch lines on net losses. Although each of these items deserves special analysis in the interest of formulating appropriate investment decision for improvement of these vital utility service, special mention may be made of the tariff and cost of operation. Railway tariff was fixed in 1954 on the ageold principle of 'what the traffic can bear'. Since then there has been no rationalization of the structure except *ad hoc* increases from time to time. As a result increase in tariff has failed to keep pace with increase in costs as is evident from the fact that freight rate per ton km. in 1984/85 has been Tk. 0·75 as against an estimated cost of Tk. 1·86. Similarly fare per passenger km has been Tk. 0·07 as against an estimated cost of Tk. 0·21. While tariff has apparently failed to respond adequately to increased cost, it is also important not to transfer the cost of inefficiency on to the shoulder of railway users. From the number of rolling stock and locomotives *vis-a-vis* the kilometerage of passengers and freight carried and the cost of operation of the railways it connot be denied that efficiency of operation has significantly declined since Independence. One area of high cost is the fuel cost/km which has increased by over 8 times since 1969/70 against an international fuel cost increase by around 14 times.

Roads and Highways

1.10 Major emphasis of road programme was laid on (a) upgrading and improvement of existing arterial road system for capacity increase commensurate with the increasing volume of road traffic and the axle load and (b) construction of missing links such as roads and bridges on the arterial system together with feeder roads connecting upazilas to the nearest metalled road transport system. The Plan allocated Tk. 690 crore which was fully utilized.

1.11 A total of 669 km. of paved roads were added during the plan period, bringing the total kilometer of paved roads to 4827 km; beside this, another 512 km of roads were upgraded and 531 km of roads were paved with brick/gravel. Total length of bridges/culverts constructed was 7,528 metres including 3,302 metres of portable steel bridges (Bailey bridges) raising the total length of bridges and culverts to approximately 76,220 metres. In the middle of the Second Plan the government decentralised the administration to bring it close to people and accordingly upgraded the old thanas (police stations) into upazilas. To make this local administration effective a programme to link the upazila centres with the nearest metalled roads was taken up from 1982/83. The number of roads under the upzila programme and those under the Roads and Highways Department's regular programme were 176 and 30 respectively.

1.12 As mentioned already transport system had a critical role to play in the absorption of external resources during the Second Plan. As such connecting the two ports, Chittagong and Chalna, with the main industrial and commercial centres was given a high priority with the development of the ports. The most important development in the road sector over the Second Plan was thus the construction of Khulna-Mongla Road and upgrading the Dhaka-Chittagong and Dhaka-Aricha Road. Other important upconutry roads and bridges completed during the Plan period were Bogra-Natore Road, Chiringa-Alikadam Road, Dhaka-Sylhet Road (Narshingdi-Sarail-Sylhet Section), Panchagar bridge, Surma bridge, Lamakazi bridge, etc. Besides, feasibility studies for Buriganga bridge (Postogala point), Meghna bridge, Megna-Gumti bridge and Gorai bridge on Jessore-Faridpur Road have been completed. Out of 19 war damaged bridges at the beginning of the Second Five Year Plan 11 were rehabilitated leaving another 5 to be taken up during the Third Five Year Plan.

Problems of Prioritization and Maintenance

1.13 **Fund Constraint :** During the Second Plan there was the added emphasis on roads connecting upazilas with the transport system. As a large number of projects were already under implementation the consequential expansion of the road programme created severe pressure on available resources and manpower of the R & H Division leading to spreading out of limited resources over too many projects. Number of projects under implementation were 121, but only 4 were completed ; and out of 4,552 km of roads construction programme only 210 km. were completed. Besides, out of 176 Upazila road projects with a total kilometerage of 4,200 and 13 road projects of Chittagong Hill Tracts with a total kilometerage of 483 only 47 upazila road projects having 342 km. were partly completed. Too many incomplete projects mean foregoing benefits from investment made. The weakest point in the road programme was thus inclusion of too many new roads and bridges before completion of serveral old projects. The existing structure of the organisation of R & H Department which is organized on division (Zone) basis also contributes to the process of thinning out of resources as work has to be found for each division. But the main problem arises from the fact that when road kilometerage is so under-developed, there is a natural tendency to increase it by undertaking too many projects, though it is the resource constraint that ultimately determines the length of new roads, the number of roads undertaken becoming irrelevant. This has two implications from the point of view of choice of roads and the organisation. First, roads should be selected on the basis of traffic density, existing or potential as administrative consideration makes any road justified for development. Secondly, maintenance and development should be separated to keep maintenance in focus in the activitie over regional dimentsions of R & H and avoid spreading development activities among them.

1.14. **Road Maintenance :** Undertaking too many road construction projects appears all the more untenable when provision of fund for maintenance of existing roads remained grossly inadequate. Given this constraint pressure for construction of more roads means less of maintenance fund per km. of road : thus, there exists an inverse relation between construction and maintenance. Not only that, the distortion extends to on-going projects as incomplete projects have had to be maintained before they become operational. The extent of mis-allocation of resources between construction and maintenance brought out by the fact that while Tk. 566·54 crore was spent on road development programme (Upazila programme excluded), allocation for maintenance was Tk. 139·25 crore only over the plan period giving a maintenance to investment ratio of 24·5%. As the maintenance programme fell short of need, road maintenance suffered to the point when the rehabilitation of the entire road becomes necessary, eventually finding place in the annual development programme. Though it makes the distinction between construction and maintenance meaningless from the budget point of view, nonetheless it is important to recognize their differential impact on benefit for when the spread of investment defers benefit, lack of maintenance means loss of benefit. It does not therefore make sense to forego the present benefit for future benefit unless the latter compensates the loss. In fact, as replacement is done through development budget a part of the latter does not increase infrastructure facility and add to benefit.

1.15 **Road Transpotation :** Road transportation is provided by both public and private sectors and consists of both automotive vehicles and indigeneous modes like carts and paddle rickshaws. The latrer modes are of local importance but contribute a significant proportion (60% of passenger-kilometres and 36% of freight-ton kilometres) of road

traffic. Automotive vehicles—buses, trucks, cars, etc. increased from 1,05,782 to 1,79,924 over the plan period and were largely operated by the private sector. Out of the total number of on road buses and trucks (32,800 in 1984/85), 98% was owned by the private sector. While the public sector road transportation is confined only to the mechanised transport, the private sector is engaged in both mechanised and traditional non-mechanised transport.

1.16 **Public Sector Road Transpotation :** In the public sector the main operator is the Bangladesh Road Transport Corporation (BRTC). BRTC has a Bus Division having an active fleet of 465 buses and a Truck Division having an active fleet of 168 trucks. It provides services mainly in the cities of Dhaka and Chittagong and on a few inter-district routes. It operates its services from 12 depots, 9 sub-depots and 11 stations located in the cities and on inter-district routes. Because of inherent management and operational problems of fleet operation BRTC, at no stage, could operate its bus fleet on a commercial basis. The percentage of off-road buses during the Second Plan period was, on an average, 29 ; this is very high for an organisation supposed to operate on commercial basis.

During the Second Plan Period the main emphasis was on augmenting the operational efficiency of the existing fleet of buses and trucks through proper maintenance and management and with this end in view modern workshop facilities and a training centre for operators/mechanics and other Bangladesh Road Transport Corporation personnel were set up. Bangladesh Road Transport Corporation acquired 202 buses incuding 63 mini-buses and rehabilited 30 buses under its development budget and with resources from other sources. Its main workshop at Joydevpur set up at a cost of Tk. 23·50 crore has an installed capacity of repairing and overhauling 1,300 buses a year but hardly 30—40% of the annual production capacity of the workshop could be utilised. The comparative fleet position of Bangladesh Road Transport Corporation's buses and trucks as on June, 1980 and June, 1985 is shown below :

TABLE 1.3]

BRTC Fleet Position (1980 to 1985)

Type of vehicles.	Total fleets (active).		Road worthy		Av. on road %	
	1979/80	1984/85	1979/80	1984/85	1979/80	1984/85
Bus	675	465	373	331	55%	71%
Truck	110	168	97	155	88%	92%
Total	785	633	470	486	71.5%	77%

Source : Bangladesh Road Transport Corporation (BRTC).

It would appear from the above table that the proportion of off-road buses was 3:10 in 1984/85 which is very high for an organiastion supposed to operate on commercial basis. Due to poor operation of its fleet the Corporation could carry, on an average, 70 lakh passengers per year and incurred a net operating loss of Tk. 50.00 crore including depreciation during the Second Five Year Plan. The cumulative loss of the Corporation since its inception stood at Tk. 96.00 crore.

1.17 **Private Road Transportation :** As already mentioned, private sector dominates the road sector. Share of the private sector in terms of mechanised road transport vehicles had been about 86% in 1984/85. Then again, in the private sector the role of the non-mechanized mode is overwhelmingly larger than that of the mechanized sector. A comparative statement of the various road transport vehicles, both mechanized and non-mechanized for 1979-80 and 1984/85 is shown below :

TABLE 1.4

Growth of Road Transport (1980—85)

[Figure in number]

Category of vehicle.	1979/80	1984/85
I. Mechanized (on road)		
Bus	10,294	9,365
Truck	16,118	17,270
Minibus	370	6,165
Car (Private)	19,848	40,000
Jeep	8,321	9,000
Taxi Car	1,113	1,817
Auto-rickshaw	10,632	17,806
Truck Tractor	1,815	3,402
Motor Cycle	38,778	70,767
Other	1,602	2,282
Truck trailor	939	2,050
Total (Mechanized) ..	1,05,782	1,79,924
II. Non-Mechanized		
Rickshaw	1,63,000	2,00,000
Bullock cart	2,16,043	2,76,000
Total (Non-Mechanized) ..	3,79,043	4,76,000

Source : Transport Survey Wing, Planning Commission.

It will appear from the above table that the mechanized and non-mechanized vehicles increased by 70% and 26% respectively over the plan period and the ratio between mechanized to non-mechanized vehicles in 1984-85 had been 27:73 as against 22:78 in 1979/80. This increase in the share of the mechanized mode was due to the incentives provided by the government towards private investment in the mechanized mode. Shares of the non-mechanized modes in transporting passenger and freight were 60% and 35% respectively in 1984-85 against 59% and 39% respectively in 1979/80.

1.18 During the Second Five Year Plan period value of private sector investment in the mechanized sector had been Tk. 534·00 crore as against Tk. 274·20 crore during the period 1972—80. This clearly reflects government's emphasis on private sector and the latter's enterprise.

Port Development

1.19 Because of the export-import gap requiring import for absorption of aid, the ports at Chittagong and Chalna have come to have an important place in the process of development. In the case of crop failures the ports have to stress their capacity to handle huge food imports. Between 1979/80 and 1984/85 cargo handled by the two ports increased by 1 million tons to 9·8 million tons due to greater volume of non-food items. The impact of aid was also imprinted in the relative volume of inward and outward traffics. Three -fourths of the traffics handled were on account of imports which were also three times as large as export. The share had, however, declined from 79% to 75% because of slower growth of imports than exports during the Second Plan period; but the imbalance in the direction of traffic flows was overwhelming and would continue till aid financed import declines and export increases. Aid financed import has also imporant bearing on the capacity limit of the physical infrastructures of ports because of bulk-handling of food and fertilizer. This problem will be discussed later on.

1.20 Cargo handled at the Chittagong and Chalna ports during the Plan period compared to the base year (1979/80) is shown below :

TABLE 1.5

Import and Export handled from 1979/80 to 1984/85

[Figure in lakh ton]

Year.	Chittagong Port.			Chalna Port.		
	Import	Export	Total	Import	Export	Total
1979/80	59·99	3·34	63·33	6·76	14·70	21·46
1980/81	50·15	5·47	55·62	7·41	8·86	16·27
1981/82	51·47	5·03	56·50	7·08	9·20	16·28
1982/83	49·63	4·54	54·17	8·02	10·98	19·00
1983/84	56·81	3·93	60·74	6·88	10·86	17·74
1984/85	68·28	3·30	71·58	5·77	20·86	26·63

Source : Chittagong and Chalna Port Authorities.

1.21 The above table brings out two important characteristics of the two ports in relation to maritime traffics. First to notice is that the Chittagong port dominates the import trade while the Chalna port export trade. In 1984/85, for example, over 90% of import took place through Chittagong port but it handled only about 13% of export.

In a way export-import imbalance at national level has cast its inverted image on the operation of the ports, further aggravating the cost of export-import imbalance; for while at the national level the imbalance is 1:3, at port level it is 1:20 for Chittagong and 4:1 for Chalna. Though by nature of traffic (*e.g.*, jute export) and transport mode Chalna has particular advantage in export trade, looking from the national point of view, taking the two ports together, there are strong reasons that the present dichotomy is uneconomic since it means gross shortfall in reverse traffic in round trip to make best use of existing facilities. It means empty journey for railways, trucks, tugs and ships and long waiting. The situation deteriorated over the Second Plan period increasing the cost of seaborne traffic for the export-import ratio was 1:18 for Chittagong and 2:1 for Chalna in 1979/80. The second feature is that, though overall traffic load at both the ports had increased by 13% and 24% at Chittagong and Chalna respectively, over the plan period, the traffic movement shows considerable inter-year fluctuations partly due to instability of international trade and aid situations but mainly due to fluctuating importation of food. Lack of stable growth of traffic has its logical bearing on both the efficiency of port operation and its development.

1.22 **Chittagong Port :** Chittagong port has a long approach channel with maximum permissible draft of 9 metres and a vessel length restriction of 186 metres. In order to maintain the desired draft of the approach channel, dredging of the channel on a regular basis is necessary. Through a trial dredging it was determined that annual dredging requirement would be 1.35 million cubic metres which could be undertaken with the help of a 2,500 cubic metre capacity trailing suction hopper dredger. The approach channel was dredged in 1981/82 through contract as the existing dredger was not capable to do the work. Other activities included increase of storage capacity by 6,172 square metres equivalent to 16,500 tons, enhancement of lighterage handling capacity by 1.0 lakh tons, construction of one jetty for handling explosive cargo, acquisition of 17 different types of vessels and craft for port operation, opening of 5 workshops and 2 slipways for repair and maintenance of vessels and craft, procurement of equipment for two light houses to facilitate night navigation, rehabilitation of railway track, procurement of container handling equipment and undertaking construction of 2 multipurpose berths to enable Chittagong port to handle containers.

1.23 **Chalna Port :** The approach channel to the Chalna port is 109 km long. The draft of this port is limited by a 16 km long outer bar. Consequently, ships having drafts of even 8 metres cannot enter the port. Draft of the jetty side was 9 metres when the construction of jetty started in 1965 and it was reduced to 5—7 metres in 1976. A study undertaken during Second Five Year Plan recommended that regular dredging would keep the jetty side deep enough for berthing of vessels with 8 metre draft. Trial dredging undertaken during the Second Five Year Plan had brought about improvement of the channel.

1.24 Some physical achievements during the Second Five Year Plan period were construction of one warehouse, 3 transit sheds and 6 km of access roads and 3,049 metres of perimeter fencing, acquisition of navigational aids for day and night navigation and procurement of 13 different types of vessels and craft for port operation, while the development of Mongla as a township continued. When fully developed, Chalna port will be able to handle 1.0 million tons of cargo in addition to 0.5 million tons that could be handled at the anchorage.

Shipping and National Flag Vessels

1.25 Under the international convention Bangladesh is entitled to handle 40% of its incoming and outgoing cargo. At the time of launching Second Plan the capacity of the vessels registered in Bangladesh was limited. As the Bangladesh Shipping Corporation set up after Independance was constrained by resources, private sector, so long confined to inland and coastal shipping, was increasingly encouraged to enter into ocean shipping. As a result private dwt increased from 10,000 tons in 1979/80 to 80,000 tons in 1984/85.In spite of this increase the total dwt for Bangladesh decreasod from 3·78 lakh tons in 1979/80 to 3·44 lakh tons in 1984/85 due to disposal of some vessels by the Bangladesh Shipping Corporation (BSC) without having corresponding replacement; yet the BSC dominates the shipping sector.

1.26 During the Second Five Year Plan period Bangladesh Shipping Corporation procured only 4 cargo vessels. On the other hand, 4 cargo vessels, one lighterage tanker, one coaster and one passengor ship (pilgrim ship) were disposed off during this period reducing the capacity to 2·64 lakh tons dwt in 21 vessels in June, 1985 from 3·68 lakh tons dwt in 25 vessels in 1979/80. The reason for failure to make up this shortfall was non availability of external resources at suitable terms. The table below gives a picture of cargo carried by the Bangladesh Shipping Corporation during the plan period:

TABLE 1.6

(In lakh ton)

Year.	Cargo carried by BSC, chartered and own vessels	Total sea borne cargo of the country	Percentage of cargo carried by BSC over total sea borne cargo
1979/80	14·32	84·80	16·89
1980/81	12·03	71·89	16·73
1981/82	11·20	72·79	15·38
1982/83	14·14	73·19	19·32
1983/84	12·47	78·49	15·89
1984/85 (Estimated)	14·60	98·21	14·87

Source : Bangladesh Shipping Corporation (BSC)

1.27 As a member of the conference line Bangladesh flag vessels are entitled to carry 40% of country's sea borne cargo. In 1980, Bangladesh Shipping Corporation carried 17% of the cargo includig charters; the same foll to 15% in 1984. The main reasons were reduction of capacity and increased competition in world shipping. Financial performance of Bangladesh Shipping Corporation is available up to 30th June, 1983. Though the corporation has been able to earn net profits since 1979/80 the level of profit continued to slide from Tk. 7·59 crore in 1979/80 to 5·22, 3.58 and 2·43 crore in 1980/81,

1981/82 and 1982/83 respectively. This declining trend is due to sharper competition following recession in international trade and loss of capacity through disposal of over-aged vessels. One point in regard to the net profits may, however, be noted that while computing the profits debt servicing liability arising out of acquisition of vessels on grant was not included. In the event this liability has to be serviced by the BSC, not only the entire profits would be wiped out but also its accumulated profits and reserve would be reduced almost to nil. It may also be noted that one of the main sources of profit was sales of impounded vessels in some years.

Marine Academy

1.28 This Academy was set up in 1962 to train nautical and engineering cadets to serve the requirement of international shipping. Initially it used to provide pre-sea courses. During the Second Plan period it introduced several post-sea courses and coaching classes for mates, masters, DOT Ist Class and 2nd Class examinations which used to be held in England. The Academy has certain infrastructural facilities such as cadet hostel, radio-radar instruction building and training equipment. Intake of cadets was also increased from 44 to 48 in order to meet the requirement of the present and future fleet of the BSC. The Academy trained 1,532 students in various courses—284 in pre-sea courses and 1,248 in post-sea courses; out of them 381 qualified in DOT courses.

1.29 Marine Fisheries Training Academy for training cadets for the fishing trawlers was transferred from Fisheries Development Corporation to the management of the Marine Academy in 1983. The Academy, on a small scale, was established during the First Five Year Plan. A revised project was undertaken during the Second Five Year Plan to modernise the Academy. Between 1980 and 1984, 191 cadets had been trained in the Academy. When completed it will be able to train 455 trainees by 1986/87. The cadets are being trained in the fields of navigation, marine engineering, fish processing, electrical engineering, refrigeration engineering, radio engineering, trawler operation and sailorship. The trained personnel are being employed in national and international fishing vessels. Up to December 1980, 558 cadets were admitted and 231 cadets were trained. 74 cadets were sent for higher training.

Inland Water Transport

1.30 **Infrastructure :** Inland Water Transport system has over 4,827 km of perennial waterways and another 804·5 km of seasonal waterways and constitutes the main link between the urban centres and the country sides, particularly in the south-east. As already mentioned it gained over other modes of transportation in passenger traffic; but this national system has suffered continuous shrinkage due to siltation of main rivers and withdrawal of water for irrigation, though at the beginning of 1960s considerable importance was laid on the conservation of this natural transport system through the establishment of the Inland Water Transport Authority. The Authority is responsible for building and maintenance of inland water ports, maintenance of navigational channels, provision of navigational aids and performance of regulatory functions, *e.g.*, registration of vessels. In order to maintain the navigational channels and ensure safety measures the Authority is required to carry out hydrographic survey and hydraulic investigation to keep record of the hydraulic changes of the water regime and to take appropriate action. The Authority also trains dock personnel for both public and Private sectors.

1.31 During the plan period Bangladesh Inland Water Transport Authority completed Baghabari port at Pabna; constructed RCC jetties at Ekrampur, Khanpur and Maheswarpasha for handling foodgrains; expanded Dhaka port to cater for additional traffic; constructed landing stations at different places in the rural areas; procured one 60 ton salvage unit for rescue operations; provided ferry terminal facilities at Aricha, Nagarbari, Serajganj, Bhuapur, etc.; carried out dredging of the rivers Surma, Bauli, Buriganga, Lakhya, Titas and Hura Sagar and procured hydrographic survey vessels and navigational equipment.

1.32 **Water Transport Carriers:** In this area it is the private sector that plays the main role. In 1979/80 there were 2445 registered vessels operating in the waterways sector; out of these, 1845 were owned by private sector. When the Second Five Year Plan was launched Bangladesh Inland Water Transport Corporation (IWTC) owned 600 vessels of different types and carried about 50% of the total arterial freight traffic and about 10 percent of the main interdistrict passenger traffic. Following the government decision to promote gradual privatisation of the Inland Water Transport Sector, it was envisaged that during the Second Five Year Plan there would be no expansion of the Bangladesh Inland Water Transport Corporation but necessary investment would be made to consolidate the organization and increase the operational efficiency. Thus provision was made only for certain special types of vessels for carrying commodities such as fertilizer, foodgrain, passengers in the cyclone prone coastal areas and ferrying passenger and vehicular traffic at Aricha-Nagarbari and Aricha-Daulatdia ghats (Ferry service at other road-water intersection is provided by R&H Division.). The Corporation disinvested some of its uneconomic vessels. At the end of the Second Five Year Plan the Corporation had a fleet of 533 vessels of different types. It may be mentioned that the Bangladesh Inland Water Transport Corporation has been operating 'Rocket' passenger services between certain major points and coastal passenger-*cum*-cargo services for the off-shore islands. These services have never been found to be economically viable and have been a constant source of loss for IWTC and its accountability is also blurred in the process.

1.33 **Public Inland Water Transportation :** Cargoes and passengers transported by the Bangladesh Inland Water Transport Corporation during the period 1979/80 to 1984/85 are shown in the following table.

TABLE 1.7

Traffic Carried by IWTC (1980 – 85)

Year	Cargo (in lakh tons)	Passenger (No.in lakh)
1979/80	20·46	27·38
1980/81	15·84	27·94
1981/82	13·28	29·86
1982/83	10·26	28·08
1983/84	10·59	45·02
1984/85	13·18	48·21

Source :-Bangladesh Inlatid Water Transport Corporation (BIWTC)

1.34 **Private Inland Water Transportation :** Similar to the road sector share of private sector in inland water transport is very high. Share of the private sector in 1984/85 had been 84% of the total mechanized fleet of vessels as compared to 75% in 1979/80.

In the private sector the most dominant role is played by country boats in catering to the local transport needs. Estimated number of country boats in 1979/80 was 1·50 lakh and the same increased to 2·00 lakh in 1984/85. Goods and passengers carried by these country boats during 1984/85 had been 3,840 million ton-km and 2,400 million passenger -km respectively. Private sector investment in mechanized IWT sector during the Second Plan has been Tk. 391 crore compared with Tk. 114·24 crore during the period 1972—80.

Civil Aviation

1.35 **Infrastructure Development :** Notable development in civil aviation during the Second Plan was the commissioning of the Zia International Airport with the capacity to handle wide bodied aircraft for 3·5 million passengers and 0·63 lakh tons of cargo a year. Besides, two new airports, one at Rajshahi and another at Saidpur, were commissioned for domestic flights raising the total number of domestic airports connecting with Dhaka to seven Sylhet airport was upgraded to handle F-28 and the runway at Chittagong was widened and enlarged eventually to handle larger planes. But both hangar and training facilities remained short of needs.

1.36 **Air Service :** During the Second Five Year Plan period performance of Bangladesh Biman's international operation registered a rapid increase both for cargo and passengers but in the domestic sector cargo freight declined to less than half, while there was some decline in passenger traffic. The fleet capacity in the domestic sector increased from four F-27-600 to five consisting of three F-27-600 and two F-28. In the international sector fleet expansion was more significant; the number of aircraft increased from 4 Boeing-707 to 8 consisting of 5 Boeing-707 and 3 DC-10-30.

1.37 **Traffic Performance :** Biman carried about 0·64 million passengers during 1979/80 and about 0·73 million during 1984/85. The detailed traffic performance on domestic, regional and international routes during the plan period is shown in the following table :

TABLE 1·8

Traffic Performance of Biman

[*Figure in lakh*]

Types	Years					
	1979/80	1980/81	1981/82	1982/83	1983/84	1984/85
I. Domestic :						
(a) Passenger (Nos) ..	3·79	3·08	3·23	3·25	3·46	3·27
(b) Cargo (Kg) ..	35·88	23·31	23·31	15·57	15·80	14·32
(c) Mail (Kg) ..	1·45	1·34	1·32	1·35	1·68	1·32
II. Regional : ..						
(a) Passenger (Nos) ..	0·56	0·50	0·51	0·51	0·80	1·24
(b) Cargo (Kg) ..	8·51	3·72	4·22	3·20	5·58	12·71
(c) Mail (Kg) ..	0·28	0·30	0·31	0·21	0·32	0·41
III. International :						
(a) Passenger (Nos) ..	2·06	2·26	2·47	2·41	2·94	2·83
(b) Cargo (Kg) ..	40·58	35·88	41·96	55·06	84·74	94·31
(c) Mail (Kg) ..	1·64	1·46	1·63	2·05	2·31	2·07

Source : Bangladesh Biman (BB)

1.38 **Aircraft Utilization :** Block hours utilizations of DC-10, B-707, F-28 and F-27 aircraft during 1984/85 were 7925·19, 7233·46, 2160·49, 3104·52 hours respectively as against 5728, 8347, 2376, 4303 hours in 1983/84 for the same aircraft. It appears that except DC-10 block hours utilization has declined for Boeing and Fokker aircraft. Average daily utilization of a DC-10, B-707, F-28 and F-27 aircraft was 7·24, 3·96, 2·96 and 2·82 hours respectively during 1983/84. Though the performance of DC-10 is better than all other aircrafts, still it is lower than the international standard which is 10 hours.

1.39 **Financial Performance :** Costs and revenue earnings of Biman for the last six years are given below :

TABLE 1.9

Financial Performance of Biman

[*Tk. in lakh.*]

Year	Revenue	Expenses	Net profit/(loss)
1979/80	12,760·78	1,221·26	539·52
1980/81	14,789·13	16,241·84	(1,452·71)
1981/82	18,736·27	19,422·09	(685·82)
1982/83	22,978·02	21,884·72	1,093·30
1983/84	30,002·49	28,579·67	1,422·82
1984/85	37,013·82	35,878·64	1,135·18

1.40 It will appear from the above table that Biman has become a profitable organisation on an overall basis but the domestic traffic is being subsidized by the international sector. Revenue passenger km increased in 1984/85 to 668·67 lakh for domestic, 530·15 lakh for regional and 14585·28 lakh for international operations from 590·64, 157·56 and 11,644·98 lakh respectively in 1980/81. The growth in sales revenue in the regional and international sectors has been rapid. Domestic passenger km has also increased but at a much slower rate though domestic routes are subsidized. In spite of traffic growth there had been deterioration of cabin facotrs in domestic and international routes to 75.0% and 60·4% respectively in 1984/85 from 79.7% and 66·36% respectively in 1980/81. The cabin factor in regional sector remained more or less constant at about 72·5%. While it will be difficult to improve cabin factor in domestic sector as it is already subsidised, improvements in the international sector will contribute more to the profitability of the national airline.

THIRD FIVE YEAR PLAN (1985–90).

1.41 In spite of all efforts made over the last few plans transport facilities largely remain inadequate to meet the need of a growing economy.The increase of paved roads by 669 km to 4827 km still means 3·08 km of paved road per 100 sqr. km of area. The limiting factor to deve opment of the transport sector has been the shortage of fund; but even with this limitation application of fund suffered from inappropriate choice of priority and strategy such that fund had been too thinly spread over too many projects tehreby leading to time over-run. In turn, this meant sacrifice of potential benefit and lessening of development impact. Preference for new schemes in the face of scarcity of resources also meant lack of maintenance fund which also resulted in diminishing benefit from existing facilities. Thus the total effect of past strategies and priorities made transport sector as a whole more user of fund than a mobilizer of fund through growth

Objectives of the Third Plan

1.42 The Third Plan objectives have been set in the background of the basic problems inherent in the sector. These are :

(i) to develop adequate transport facilities to connect upazila headquarters as part of the national transport net work;

(ii) to maximize the utilisation of the existing transport capacities with efficiency both in operation and maintenance of physical facilities;

(iii) to ensure economic modal split of traffics through appropriate pricing of transport services and efficient allocation of resource among different modes and medium of transportation;

(iv) to encourage fuel economy and fuel substitution through technological development and adaptation; and

(v) to ensure better comfort and greater safety to passengers through proper maintenance of facilities and regulatory activities.

Third Plan Targets

1.43 Major targets for the Third Plan are :

(i) construction of 1288 km of paved roads, 15,244 metres of bridges including Buriganga, Meghna and Gorai bridges;

(ii) renewal of 925 km of railway tracks;

(iii) acquisition of 25 locomotives and 451 passenger carriages;

(iv) dredging of 23 million cubic metres of waterways;

(v) development of container handling facilities at Chittagong and increase of loading/unloading capacity of the sea ports by 6 lakh tons annually;

(vi) increase of shipping capacity by 2·86 lakh DWT;

(vii) development of major waterways by 161 kilometres

(viii) provision of launch landing stations at 150 places; and

(ix) providing navigational aids to 483 Km of waterways.

Targets for both the public and private sectors of TFYP have been given in details at annexure-I.

Strategies

1.44 The main strategies for the development of the sector in meeting its goal focus on (i) the completion of on-going projects on a priority basis, particularly at and in between points of heavy traffic, present or potential, (ii) limiting choice of new projects to economic consideration only, (iii) encouraging efficient use of existing facilities through appropriate tariff adjustment on the basis of intermodal transportation economics and liberal provisions of spare parts for maintenance of existing fleets and (iv) promotion of increasing participation of the private sector in the roads and waterways sector.

Financial Allocation

1.45 Total allocation for the Transport Sector is Tk. 4137 crore at 1984/85 prices under the Third Plan; but as the present infrastructure is underdeveloped, the Public sector has greater allocation both as operator and developer of the transport system. Public sector allocation in Transport Sector is Tk. 2637 crore including Tk. 200 crore for the Jamuna Bridge Authority while Private sector allocation is Tk. 1500 crore. Sub-sector wise break-up of Public sector allocation is given in Table below:

TABLE 1·10

Public Sector Allocation under TFYP

(Tk. in crore)

Sl. No.	Sub-sector	Allocation
1	Railways	836·00
2	Roads and Highways (RHD)	780·00
3	Jamuna Multi-purpose Bridge Authority	200·00
4	Bangladesh Road Transport Corporation (BRTC)	40·00
	Sub-total	1856·00
5	Chittagong Port	301·00
6	Chalna Port	74·00
7	Bangladesh Inland Water Transport Authority (BIWTA)	88·00
8	Bangladesh Inland Water Transport Corporation (BIWTC)	34·00
9	Bangladesh Shipping Corporation (BSC)	51·00
10	Marine Academy	20·00
11	Department of Shipping	2·83
12	Mercantile Marine Department	0·17
	Sub-total	571·00
13	Civil Aviation	70·00
14	Bangladesh Biman	140·00
	Sub-total	210·00
	Total	2637·00

In addition to above allocation, fund will be available for development of roads from the block allocation kept for Upazila Infrastructures and Special CHT Plan. Roads of these two categories may have a provision of about Tk. 345 crore making a total allocation of Tk. 4482 crore under the Transport Sector.

1·46 **Special Features of the Road Sector Programme :** A sum of Tk. 780·00 crore has been allocated for the regular development programme of the Roads and Highways Department (RHD) Sub-sector. Besides, out of the block allocation for the Upazila Infrastructure, and Special CHT Plan a sizable amount, estimated to be about Tk. 345 crore, will be available for road projects. Considering all these and the likely share of the Roads and Highways Department out of the block allocations for Technical Assistance Programme and Customs Duty and Sales Tax (CDST) the real allocation for the road sub-sector will be substantially higher. For Jamuna Bridge an initial allocation of Tk. 200 crore has been made to undertake feasibility study and detailed engineering. Thus the public sector allocation for road sub-sector is estimated to be around Tk. 1600 crore including its likely share from assistance to upazilas.

1·47 In order to determine the anticipated total demand for traffic and the modal shares a study has been completed. Total demand and the modal shares of the principal modes in total domestic traffic as projected by the Study are shown in the table below. In allocating investment funds for various transport modes due consideration has been given to the projected share of the different modes.

TABLE 1·11

Modal Split of Passenger Traffic and Major Freight Traffic (Mechanised modes only).

Mode.	1984/85				1989/90			
	Freight Traffic		Passenger Traffic		Freight Traffic		Passenger Traffic	
	In lakh tons.	In%	In lakh numbers.	In%	In lakh tons.	In%	In lakh numbers.	In%
1. Rail ..	28·2	12	1,325	30	41·0	13	1,581	25
2. Road ..	145·0	63	1,718	38	182·0	59	2,545	41
3. Water ..	57·3	25	1,410	32	87·0	28	2,120	34
Total ..	230·5	100	4,453	100	310·0	100	6,246	100

Source : Inter-modal Transport Study Final Report.

The above projection implies a growth of freight traffic of 7·7% for railway, 4·7% for roads and 8·8% for waterways; the corresponding figures for passenger traffic are 3·6%, 8·2% and 8·5% respectively. The actual growth rates during the Second Plan for railways, road and waterways were (—)1·4%, 6·5% and 4·0% respectively for freight and 3·3%, 7·3% and 8·2% respectively for passenger traffic.

Bangladesh Railway

1.48 The objectives and strategies of the TFYP for the Rail sub-sector are as follows :

(i) rehabilitation and modernisation of the signalling and tele-communication system which are central to efficient operation of any railway;

(ii) improvement of existing repairs and maintenance facilities with greater emphasis on heavy repair works;

(iii) further development of local capacity for fabrication of carriage and wagons;

(iv) training of officers and staff for maintenance, operation and traffic management; and

(v) procurement of the minimum number of rolling stock only, when traffic demand justifies it.

1.49 Most of these objectives could be achieved through timely completion of projects already under implementation. The cost of on-going projects is Tk. 480 crore against the Third Plan allocation of Tk. 836 crore; the balance of Tk. 356 crore be available to undertake new projects which will appear to be essential to meet the demand of growing traffic and improve operational efficiency and safety.

1.50 **The Programme** : In order to acheive the foregoing objectives the Third Plan development programme of Bangladesh Railway (BR) will comprise the following :

(i) *Rehabilitation of Track including Bridges* : Portion of the then Indian Railways now forming the Bangladesh Railway suffered heavy wear and tear resulting from extensive use during the Second World War and thereafter suffered damages during the War of Liberation. During the Pakistani time and after Liberation adequate funds could not be provided for normal maintenance of the tracks. This caused deterioration to the track and bridges to such an extent that the major parts of the system needed complete rehabilitation. Based on the main streams of traffic, 702 route km of metre-gauge and 378 route km of broad-gauge main lines were identified for rehabilitation under special priority programme. Remaining sections can be maintained by B.R. within their normal maintenance and renewal programmes. Out of the priority sections rehabilitation of 320 route km of metre-gauge (Chittagong-Akhaura-Bhairab Bazar-Tongi-Dhaka) was completed earlier. Rehabilitation works on the other sections were taken up during the Second Plan and will continue during the Third Plan. Therefore, the Third Plan rehabilitation programme envisages rehabilitation of 925·38 km of tracks consisting of 547·18 km of MG and 378.20 km of BG. The tracks to be renewed are Akhaura-Sylhet Section (177·43 km), Bhairab Bazar-Mymensingh-Jamalpur Section (204·39 km), and Bonarpara-Kaunia-Parbatipur Section (165·36 km) on the metre-gauge and Parbatipur-Khulna Section (378·20 km) on the broad-gauge.

(ii) *Signalling System* : Signalling facilities are basic to safe running of trains between stations and train speed. The existing facilities suffer from heterogeneity ranging from old and almost obsolete to the most modern ones. Out of a total number of 517 stations there are 332 block stations and the rest are flag stations.

A large variety of signalling system such as conventional non-interlocking (140 stations), single wire mechanical interlocking (45 stations), double wire mechanical interlocking (80 stations) and modern relay interlocking (61 stations) which ensure higher speed and higher level of safety, exist. Besides these diversities, signalling equipment serving the vast majority of the stations are very old and have suffered deterioration through normal use apart from the damages suffered during the War of Liberation. Therefore, the policy adopted by the BR is to maintain the present facilities where feasible and to gradually change over to the modern relay interlocking system where the train frequencies are high. In pursuance of this policy all the stations between Dhaka and Chittagong and most of the key stations on the important routes, totalling 61, have already been provided with modern relay interlocking installations. The programme during the Third Plan includes modernization of the signalling system of the stations between Mymensingh and Jamalpur and four junction stations (Kulaura, Shaistaganj, Bonarpara and Kaunia). Allocation for the programme is Tk. 22·50 crore.

(iii) *Repair and Maintenance Facilities :* Diesel traction introduced in 1953 with a fleet of 10 diesel locomotives, was completed at the close of the Second Five Year Plan attaining a fleet strength of 289. But no facilities for heavy duty maintenance are yet developed. As a result percentage of MG locomotives awaiting repairs rose from 14·2% in 1969 to 27·6% in 1979/80 and 26·9% in 1983/84 and that for BG locomotives rose from 8·3% in 1969/70 to 28·9% in 1979/80 and 25·3% in 1983/84. As regards the repair and maintenance of passenger coaches and wagons, adequate facilities are available at Saidpur and Pahartali workshops and at the sheds and depots located at different places, but most of the machinery and equipment of these workshops sheds and depots are worn out and overaged to fully cater to the need for repair and maintenance. This resulted in deterioration in the availability of rolling stock, particularly the passenger coaches. Percentage of MG passenger coaches awaiting repair was 13·2% in 1969/70, 17·1% in 1979/80 and 15·2% in 1983/84. The corresponding figures for BG passenger carriages were 6·11%, 12% and 6·8%. Therefore, the investment programme during the Third Five Year Plan includes a modern workshop for heavy repair and major overhauling of 100 diesel locomotives a year and expansion and modernization of the existing facilities for wagons and carriages at Pahartali and Saidpur Workshops to augment their maintenance capacity. The cost of the programme is Tk. 127·87 crore.

(iv) *Procurement of Locomotives and Passenger Carriages :* Table 1.11 indicates the share of the passenger and freight traffic that the Bangladesh Railway would be called upon to carry during the Third Five Year Plan. In absolute terms the increase in passenger traffic is 25% and that in freight traffic is 13%. At the close of the Second Plan the number of locomotives, wagons and passenger carriage have been 289, 1,647 and 16,514 respectively. It has already been mentioned in Table 1.1 that the utilization of railway's assets is very low. With completion of the projects designed to improve the availability of rolling stock, the existing stock would be able to transport higher volume of traffic than envisaged during the Third Plan period. Therefore no procurement of freight wagons has been proposed. Mere increase in operational efficiency will not be able to carry additional 25% of passenger traffic. Besides, there will be a require-

ment of replacement for 120 MG passenger carriages. Therefore, the programme envisages procurement of 181 MG carriages from abroad, local assembly of 120 MG passenger carriages and rehabilitation of 100 MG and 50 BG passenger carriages. This will add to the existing strength of passenger carriages by 331 at the end of the plan period. For traction 25(20 MG+5 BG) additional locomotives would be procured on replacement account. There are 36 old MG locomotives which for lack of heavy duty repair facilities, will be available up to 1995 with only about 50% of their capacity. Therefore, there is the need for 20 MG locomotives. The total cost of this programme is TK. 247·22 crore.

(v) *Training Facilities :* Before liberation all officers and senior subordinates of the BR used to be trained at the Railway Training Academy in Lahore. There however existed a very inadequately equipped training school at Lalmonirhat to train the lower categories of staff excepting the workshop apprentices who have their traning facilities attached to the workshops at Saidpur and Paharali. After Independence, the necessity to set up a full-fledged national academy for training of railway staff at all levels become urgently necessary; accordingly an academy at Chittagong has been set up during the Second Five Year Plan. This Academy has the capacity to train, on recruitment, 335 staff including officers, and provide inservice training to 2,000 staff and supervisory and management training to 125 staff of departments and branches, annually. The programme in the Third Five Year Plan includes procurement of equipment, particularly for the model room, so that the Academy can be meaningfully operational. The cost of the programme is Tk. 7·96 crore.

Roads and Highways

1·51 In spite of best efforts total paved road kilometreage remained low in relation to the development need of the country. The comparative position of different categories of roads between 1980 and 1985 under the management of Roads and Highways Department is shown in the table below :

TABLE 1·12

Different Categories of Existing Roads

(In Kilometre)

Categories	Paved Road		Unpaved/ gravel road
	June, 1980 position	June, 1985 position	June, 1985 position
(i) National Highways	1,374	1,408	169
(ii) Regional Highways	861	885	193
(iii) Sub-Regional (District) Roads ..	748	965	434
(iv) Feeder Roads/Upazila connecting Roads	1,126	1,569	4,023
Total ..	4,109	4,827	4,819

In addition to the Roads and Highways Department paved roads there are also about 4,183 km of paved roads managed by the local governments. Thus the total paved road kilometerage in the country is 9010.

1·52 Besides the kilometreage being inadequate existing highways network suffer from a number of major problems. These are:

(i) The national/regional road network is not up to the standard in respect of geometric and structural capacity which requires immediate upgrading. The existing thicknesses of pavements of national and regional roads are 450 mm and 400 mm respectively as against the prescribed standard of 675 mm and 600 mm. As a result such roads do not remain negotiable even 10 years after construction. Similarly the width of the national and regional roads is 3·00—4·25 metres as against the prescribed standard of 5·5--6·7 metres.

(ii) The road network is broken by rivers and canals. Some of those gaps are bridged while others are connected by ferries, but many gaps still remain to be filled up. There are as many as 20 major gaps on the arterial road system which are connected by power ferries. Average daily traffic on these roads varies from 1500—4500 pce (passenger car equivalent) and the projected growth rate over the plan period is about 9%.

(iii) Paucity of resources and maintenance equipment affects routine/periodic maintenance of the road system. Normally the road surface should be maintained by providing seal coat every 3rd year and a bituminous concrete overlay of 25—50 mm every 6th year in addition to normal patch repairs. As already mentioned ratio of maintenance fund to development fund has been 1:4 where it should be at least 1:2. On the other hand existing equipment suffer disuse for lack of proper upkeep.

1·53 Development Strategies and Policies: As many as 117 on-going projects will spill over to the Third five Year Plan requiring an estimated amount of Tk. 2088·00 crore at 1984/85 prices. Not that all this amount will be required during the Third Plan because of sheer volume of work they will entail to complete. In spite of the gestation lag, there will not be adequate fund under the Third Plan to complete those projects which were technically feasible to complete. This unhappy situation has arisen mainly due to high propensity to undertake new projects even though the existing roads cannot be maintained for lack of fund and domestic resource shortage. Therefore, strategy and policy recommendations for Roads and Highways sector are as follows:

(i) Projects in hand numbering about 117 (excluding upazila roads) should be reviewed to determine interse priorities and ensure adequate allocation for the priority projects.

(ii) In order to cater for the increased traffic high priority will be given for improvement of national and regional highways.

(iii) Priority will be given to completion of all the on-going bridge projects including the war damaged bridges.

(iv) Development of feeder road system/upazila connecting roads along with bridges/culverts will be geared up. In this regard the technique of 'stage construction' should be followed.

Development Programme

1·54 (i) The regular development programme of Roads and Highways Department includes the following:

(a) Upgrading/widening of about 1,931 kilometres of arterial road system including bridges and culverts to meet increased capacity requirements. This will include among others, the national highways *viz.*, Nagarbari-Dinajpur highway (212 km) and Nargarbari-Rajshahi highway (154 km) in the West Zone and Dhaka-Chittagong highway (102 km), Tangail-Mymensingh highway (45 km) and Chittagong-Cox's Bazar road (114 km) in the East Zone.

(b) Feasibility study and construction of about 6,098 metres major bridges on arterial road system. This will include, among others, Meghna bridge on Dhaka-Chittagong highway, Buriganga bridge at Postagola, Gorai bridge on Faridpur-Jessore road, and bridges on Faridpur-Barisal, Dhaka-Sylhet and Dhaka-Mymensingh highways. Present and projected traffic over these gaps at the terminal year of the Third Plan are shown below:

TABLE 1·13

Average Daily Traffic (Vechicles)

	1985	1990
Meghna Bridge:	2,040	4,429
Buriganga Bridge	250	543
Gorai Bridge	600	1,302
On Dhaka-Sylhet Road	2,240	4,861
On Dhaka-Mymensingh Road:	780	1,693

Source: Intermodal Transpotation Study

(c) Construction/improvement of about 322 kilometres of missing links of regional network in the southern and central region.

(ii) The upazila connecting road progrmme includes construction of approx. 2,896 km of paved roads and about 9,146 metres of bridges and culverts.

(iii) The programme under the Special Five Year Plan of Chittagong Hill Tracts includes construction of approx. 320 km of paved road, including about 1,220 metres of bridges and culverts.

(iv) In addition, supporting infrastructural facilities will be created/expanded for effective quality control in road and bridge construction. This will include: (a) Improvement and modernization of existing ferries and ferry terminals at 30 locations including night landing facilities at important gaps. Following the recommendations of a study on 62 gaps, 30 locations were selected for improvement of ferry facilities. Up to the close of the Second Five Year Plan improvement was effected at 23 locations and the improvement at the remaining 7 locations will be completed during the TFYP; (b) Procurement of equipment/machinery which are basic for standard road construction

as per the specifications. Major equipment and machinery required for road building and maintenance are road roller, bull dozer, motor grader, concrete mixture machine, truck, soil compactor, etc. Total number of these equipment at the beginning of the TFYP is 1,158 and another 869 equipment of various descriptions will be procured during the plan period and (c) Strengthening of Central Road Research Laboratory with provision for setting up of 10 field quality control laboratories.

Bangladesh Road Transport Corporation

1·55 The private sector would continue to play an increasingly important role in road transport services under the policy of privatization. Therefore, no expansion of the fleet strength of the Bangladesh Road Transport Corporation is proposed during the Third Five Year Plan. Only replacement of its old and condemned buses will be undertaken in a programmed manner. For this purpose a sum of Tk. 40·00 crore is proposed which will enable replacement of as many as 275 buses. A feasibility study will be undertaken for introduction of electric trolley buses in the cities of Dhaka and Chittagong.

1·56 **Policies :** For augmentation of operational and financial performance of the Bangladesh Road Transport Corporation the following policy guidelines should be adhere to :

(1) Scale of operation of the Bangladesh Road Transport Corporation should be reduced and preferably limited to the cities of Dhaka and Chittagong till such time Bangladesh Road Transport Corporation can satisfactorily maintain its existing fleet and generate revenue to pay for rehabilitation of its off-road fleet.

(2) A competitive pricing policy should be pursued in road transport covering both the public sector (BRTC) and the private sector. Tariff structure should be periodically reviewed/revised to cover at least the true cost of operation.

(3) Subsidy should be paid to the Bangladesh Road Transport Corporation for any loss sustained for providing services under instruction from the government.

(4) Existing workshop and other maintenance facilities (depots/sub-depots) should be optimally utilised for keeping the number of on-road buses and trucks at or above 85%. The workshop should be run as an independent commercial enterprize under the Bangladesh Road Transport Corporation.

(5) Existing training facilities should be properly utilised to train up operators and mechanics for better upkeep and running maintenance of the buses.

(6) Vehicle personnel ratio should be rationalised keeping the number of personnel proportionate to the active fleet of vehicles.

Private Road Transport

1.57 Response to government policy towards privatisation in a larger scale has been reflected in larger investment during the SFYP. As the same policy will continue during TFYP also, it is envisaged that the private sector investment during the plan period will be about Tk. 955·00 crore.

In order to encourage larger participation of the private sector in the road transport sector, particularly in the metropolitan areas of Dhaka and Chittagong the following policy measures should be considered :

(i) Slow moving vehicles such as pedal rickshaws, push and pull carts (Thelias) etc. should gradually be eliminated through development of automotive vehicles and training of existing operators for such vehicles.

(ii) Some flexibility within a reasonable range in fixing up passenger fares by the operators to reflect cost and encourage efficiency should be allowed. Currently increase of fare even when warranted by increase of costs, is a difficult process and therefore most of the operators avoid operating within the metropolitan areas where the cost of operation is higher compared with that on long distance routes.

Maritime Ports

1.58 Main problems of both the sea-ports are draft limitations, handling of increasing volume of containerised cargo and above all optimal distribution of traffic between them in order to make efficient use of existing port and inland transport facilities. Therefore, the main objective of the development programmes of the ports will be to remove these problems as far as technical and financial conditions would permit so that the projected traffic of 11·15 million tons in 1989/90 may be handled efficiently and economically. It is estimated that the share of the Chalna Port will increase from 27% in 1984/85 to 30·5% as a result of increasing import through it while the share of Chittagong Port will decline from 73% to 69·5%, thereby bringing in more balanced distribution of cargo between the two ports. The import-export cargo ratio at both ports will improve to reduce the cost of empty hauls. The ratio is expected to decline from 20 : 1 at Chittagong to 13 : 1.

Port Development Programmes

1.59 **Chittagong Port :** A sum of Tk. 301 crore has been allocated for the Chittagong port. The programme includes the following :

(a) *Completion of the two multipurpose jetties:* Containerization is one of the new handling and packaging techniques developed to reduce the port time and port cargo transfer costs. Since 1970 increasing number of containerships has been calling at the South-East Asian ports including Chittagong. In order to cope with this situation this project was taken up during the Second Fiver Year Plan and is likely to be completed during 1987/88. Completion of this project will augment facilities for handling about 90,000 containers increasing the handling capacity of the port by 6 lakh tons.

(b) Chittagong Port has a 16 km long approach channel which needs regular dredging to maintain a maximum permissible draft of 9 metre. Trial dredging has shown that this can be done with a trailing hopper suction dredger of 2,500 cubic metre capacity. Therefore, procurement of a Trailing Suction Hopper Dredger will ensure the required draft of the port entrance channel.

1.60 **Chalna Port**: Chalna Port has been provided with an allocation of Tk. 74 crore. The development programme includes the following :

(i) *Back up Facilities* : Construction of five jetties were completed before the beginning of the Second Plan but these could not be commissioned for want of back-up facilities such as ware-house, transit sheds, internal roads, handling equipment, power sub-station, administrative and residential buildings, Khulna-Mongla road etc. At the close of the Second Plan most of these facilties have either been completed or at an advanced stage of construction. Therefore provision of necessary back-up facilities has been made so that the five jetties already constructed can provide an additional capacity of 10 lakh tons.

(ii) *New Jetties* : Initially the Chalna Port project included, amongst others, construction of 8 jetties but subsequently it was decided that in the first phase only five jetties would be constructed because of resource constraint and uncertainty of the increase of traffic. But, by the time this decision was taken, piling for seven jetties was constructed. Now that the construction of five jetes has been completed and increased volume of traffic has been projected in the terminal year of the Third Plan, construction of two jetties whose piling was earlier completed and which will increase the handling capacity of the port by about 4-5 lakh tons will be undertaken.

1.61 Demand for additional traffic as projected will be met with the help of commissioning of the five jetties at Chalna and the two multipupose jetties at Chittagong increasing handling capacity by 10 lakh tons and 6 lakh tons respectively. In addition, improved operational efficiency of the ports will be able to cope with a much larger volume of traffic than projected.

Deep Draft Port

1.62 As already mentioned major problems at both the ports of Chalna and Chittagong are the problems of draft limitation and silting. In view of the trend towards larger ships in international shipping, currently lighterage is resorted to meet this problem. But lighterage is time consuming and costly and not feasible at times during monsoon. It has been estimated that additional expenditure to the tune of US $ 25 million has to be made for the purpose of lighterage annually. In order to find a permanent solution a feasibility study was undertaken in 1978. This study recommended installation of bulk handling facilities for POL, fertilizer, foodgrains and cement at Patenga where vessels up to 50,000 dwt capacity would be able to berth. These recommendations could not be executed earlier for lack of funds. Therefore, provision has been made to review the earlier feasibility study leading to a complete engineering study, preparation of designs in the event the project is found viable.

Bangladesh Shipping Corporation (BSC)

1.63 A sum of Tk. 51 crore has been allocated to Bangladesh Shipping Corporation in the Third Five Year Plan. The development programme of the Bangladesh Shipping Corporation includes procurement of three oil tankers, ocean-going dry cargo ships including container ships and containers and modernization of workshop. Allocation for procurement of ships is only for down payment. Bangladesh Shipping Corporation is a commercial organization and therefore if procurement of some other ships and equipment which has not been specifically mentioned in the Plan, becomes financially and economically viable then the Bangladesh Shipping Corporation might go in for such procurement after observance of all the formalities.

Department of Shipping

1.64 The main responsibilities of the Department of Shipping are to regulate maritime shipping and train up technically qualified manpower for shipping sub-sector. At the time of partition of India in 1947, the number of registered Bangladeshi seamen employed on foreign vessels was about 50,000 and the same dwindled down to about 9,000 at present. Although there was a number of extraneous factors causing this depletion, lack of training was all so one of major factors. Currently there is one training school which is ill-equipped and located in temporary structure. Therefore during Third Five Year Plan a permanent Seamen's Training School will be established. For this a sum of Tk. 2·83 crore has been allocated in the Plan.

Mercantile Marine Department

1·65 The Mercantile Marine Department is responsible for providing assistance for search and rescue of distressed vessels in the territorial waters of Bangladesh. To assist ships with navigational aids for sailing between Chittagong and Chalna ports, the on-going project, "Rehabilitation of 3 Light House" will be completed during Third Five Year Plan period. A sum of Tk. 17 lakh has been made in the Third Five Year Plan for the Mercantile Marine Department.

Marine Academy

1.66 An allocation of Tk. 20 crore has been made for completion of two on-going projects (i) the Master Plan of the Marine Academy and (ii) the Marine Fisheries Training Centre. Completion of the Marine Academy will provide necessary facilities for both pre-sea and post-sea courses and coaching classes for higher level professional examinations.

Inland Water Transport

1.67 Bangladesh Inland Water Transport Authority (BIWTA) has been provided with an allocation of Tk. 88·00 crore. The major elements of the development programme of the BIWTA will be as follows :

(i) dredging of 160 km of existing channels to ensure the prescribed minimum draft throughout the year ;

(ii) provision of navigational aids to ensure night and safe navigation and covering over 480 km with navigation marks ;

(iii) establishment of 150 launch landing stations at important places ;

(iv) improvement of existing facilities and development of new facilities at various ferry ghats consisting of passenger waiting sheds, truck/bus parking yards, toilet facilities, restaurants etc. at Aricha, Nagarbari, Daulatdia, Sirajgonj, Bhuapur, Mawa and Kewrakandi and other important ferry points ;

(v) procurement of 3 hydrographic survey vessels ; and

(vi) technical and economic feasibility study for handling containers at the inland ports in view of increased containerization of ships.

1.68 During the Third Five Year Plan the Inland Water Transport Corporation will pursue the same development policy as envisaged during the Second Five Year Plan, *i.e.*, the Bangladesh Inland Water Transport Corporation will

not expand its capacity except procurement of ferries. Therefore its development programme will include improvement and modernization of its repair facilities. But Bangladesh Inland Water Transport Corporation may acquire coasters and oil tankers if it can generate sufficient surplus during the plan period or it can secure advances from the commercial banks by showing the economic and financial viability of such procurement. Therefore no financial provision has been kept for such projects. An allocation of Tk. 34 crore has been made for the Corporation in the Third Five Year Plan to implement the programme mentioned above.

Private Sector Water Transport

1.69 The public sector corporation will not expand its capacity except in areas where private sector has yet no contribution. Therefore private sector will have the main responsibility for meeting the increased water transportation needs during the TFYP. Private Sector investment in the IWT sector during the SFYP has been Tk. 391 crore. As the government policy to provide incentives to the private sector will continue and the public sector will not be allowed to expand capacity where private sector has the potential to grow, it is estimated that private sector investment in the IWT sector may be Tk. 545·0 crore over the Third Plan, which shows an increase by 39% over that in the Second Plan.

Civil Aviation

1.70 During the plan period the strategy will be the improvement of services at the existing airports through provision of more modern facilities and better maintenance. All the on-going projects which include development of Sylhet and Chittagong Airports, Civil Aviation Training Centre and extension of pavement system at ZIA, will be completed. Of the new projects, the major ones are construction of the domestic terminal building at ZIA and augmentation of handling facilities at ZIA as well as at Sylhet Airport. Implementation of these projects will provide adequate terminal and runway facilities at Sylhet for landing of F-28 aircraft and custom examination at Chittagong for landing of Boeing 707 aircraft and customs examination, baggage handling facilities at Sylhet and ZIA and additional parking space at ZIA as the present area is inadequate and relieve the congestion of the present terminal building where congestion already exists. To implement their programmes an allocation of Tk. 70 crore has been provided for Civil Aviation Authority in the Third Five Year Plan.

Bangladesh Biman

1.71 During the Third Plan all the on-going projects *i.e.*, Ground Training Centre, Operation Motor Vehicles, Communication Equipment and Assistance to Bangladesh Biman etc. will be completed. Among the new projects provision has been made for hangar complex, flight catering centre, modernization of printing press and procurement of a mock-up trainer DC-10. Biman has a fleet consisting of F-27, F-28, Boeing 707 and DC-10 aircraft. Although repair and maintenance facilities for F-27 and F-28 aircraft are available in the country, maintenance of the other aircraft is done on contract with foreign airlines. This is not only expensive but also is a hindrance to maintenance of schedule of flights. Flight catering centre also is a very essential requirement both for the Bangladesh Biman and foreign airlines landing at ZIA. Mock-up trainer is considered to be a necessity for imparting training to the Biman crew who are now required to be sent abroad for such training. Acquisition of this would not only facilitate training them locally but would also save foreign exchange. An allocation of Tk. 140 crore has been kept for Biman in the Third Five Year Plan.

1.72 **Biman will procure some additional aircraft in replacement of the existing fleet of ageing Boeing 707** aircraft and also complete the Sun-In-Shade hotel building near Kurmitola to serve as the administrative building of the Biman. Justification for replacement of Boeing 707 lies in the fact that three of these aircrafts were manufactured during 1962—67. Economic life of these aircrafts was already over and such aircrafts have almost gone out of use making procurement of spares almost impossible. Implementation of these projects would be financed with commercial loans.

Special Programme for Cyclone Preparedness

1.73 Natural calamities in Bangladesh are almost annual phenomena. Floods, cyclone and tidal bores and the like ravage the country particularly the coastal belt causing loss of lives and properties to such an extent that the entire country is often exposed to distressed condition. During the last 25 years, 13 cyclones of very severe nature hit Bangladesh. The recent one hit the south and the south-east parts of Bangladesh on the 24th of May, 1985 and caused enormous destruction of life and property.

1.74 There is no remedy against cyclones and tidal bores except giving timely warning and providing adequately safe community buildings where the people of the likely affected area may take shelters during such calamities. But adequate infrastructure facilities such as roads, inland and coastal water transport facilities, air transport facilities are essential for alleviating the sufferings of the affected people through quick transportation of various kinds of relief matetials after the cyclones and tidal bore have hit some areas. In this context the programme for cyclones preparedness envisages construction of local roads connecting the cyclone prone areas with the road network of the country, procurement of inland water transport vessels, navigational aids, rehabilitation of the existing inland terminal facilities (ghats) and construction of new facilities. The estimated cost of the programme is Tk. 36·00 crore and this would be met from the allocation provided for the Transport Sector.

ANNEXURE—I

Bench Mark and Physical Target for Third Five Year Plan of Transport Sector

Sl. No.	Sub-Sector	Units	Position in 1979/80.	Position in June 1985.	Target for TFYP			Expected position in 1990.	Percentage change,
					Addition	Replacement/Rehabilitation.	Total		
1	2	3	4	5	6	7	8	9	10
1.	**Railways :**								
	(a) Diesel Locomotives	Nos.	BG-44	76	..	5	5	76	..
			MG-148	213	..	20	20	213	..
	(b) Steam Locomotives	"	BG-68	Phased out	..	..	..	..	..
			MG-129		..	..	..	..	..
	(c) Total Locomotives	"	BG-112	76	..	5	5	76	..
			MG-277	213	..	20	20	213	..
	(d) Passenger Coaches	"	BG-370	342	..	50	50	342	..
			MG-1000	991	60	341	401	1,051	6·0
	(e) Other Coaches	"	BG-84	61	..	..	..	61	..
			MG-259	253	..	..	..	253	..
	(f) Freight Wagons	"	BG-4252	4,080	..	..	..	4,080	..
			MG-12105	12,434	..	..	..	12,434	..
	(g) Route KM	KM	BG-973·69	978·92	8	..	8	986·92	0·8
			MG-1910·21	1,912·91	..	..	..	1,912·91	..

ANNEXURE—J (*Contd*)

Sl. No.	Sub-Sector	Units	Position in 1979/80.	Position in June 1985.	Target for TFYP			Expected position in 1990.	Percentage change.
					Addition	Replacement/Rehabilitation.	Total		
1	2	3	4	5	6	7	8	9	10
	(h) Track KM	KM	BG-1,599·35 MG-2,942·80	1,604·58 2,945·50	8 ..	.. ..	8 ..	1,612·58 2,945·50	0·5 ..
2.	**Roads and Highways :**								
	(a) Paved Roads (R & H)	KM	4,112	4,830	1,288	1,932	3,220	6,118	26·7
	(b) Bridge and Culverts	Metre	64,024	76,220	15,244	1,829	17,073	91,464	20·0
3.	**Road Transport :**								
	(a) Buses (on road) :								
	(i) Public (BRTC)	Nos.	675	465	..	275	275	465	..
	(ii) Private	"	10,294	8,900	1,910	819	2,729	10,810	21·5
	(b) Truck : ..	"							
	(i) Public (BRTC)	"	110	168	..	..	..	168	..
	(ii) Private	"	16,118	17,102	3,828	2,061	5,889	20,930	22·4
	(c) Auto Rickshaw	"	15,188	16,535	2,514	1,077	3,591	19,099	15·2
4.	**Inland Water Transport Authority.**								
	(a) Development of Major Waterways.	KM	5,221	5,567	161	..	161	5,728	2·9

(b) Development of Major and Secondary River Ports.	..	Nos.	6*	14*	2	..	2	16	14·3
(c) Launch Landing Stations	..	"	200	250	50	100	150	300	20·0
(d) Dredgers and Ancillary Crafts	..	"	8 (32 ancillary crafts)	8	..	..	..	8	..
(e) Survey Vessels ..	..	"	17	22	4	..	4	26	18·2
(f) Major Ferry Terminals ..	..	"	5	6	4	..	4	10	66·7
5. IWT : (Public and Private) :									
(a) Oil Tanker ..	..	"	23	31	..	7	7	31	..
(b) Coasters ..	..	"	44	99	..	10	10	99	..
(c) Barges/Flats/Jute Boats ..	..	"	949	896	..	100	100	896	..
(d) Self propelled Barges ..	..	"	252	645	30	60	90	675	4·7
(e) Tugs ..	..	"	174	185	..	20	20	185	..
(f) H.D. Launches ..	..	"	18	16	..	..	..	16	..
(g) Passenger Vessels/Launches	..	"	968	1,500	400	75	475	1,900	26·7
(h) Ferries ..	..	"	17	20	4	..	4	24	20·0
6. Port :									
(a) Chittagong Port ..	..	Nos. of jetties.	17	18	2	..	2	20	11·1
(b) Chalna Port ..	..	"	5	5	2	..	2	7	40·0

*(i) Classified Ports only

(ii) Khanpur, Ekrampur included under Narayangonj, Moheswarpasha included under Khulna and Badamtali included intc Dhaka.

Sl. No.	Sub-Sector	Units	Position in 1979/80.	Position in June 1985.	Target for TFYP			Expected position in 1990.	Percentage change.
					Addition	Replacement/Rehabilitation.	Total		
1	2	3	4	5	6	7	8	9	10
7.	**Ocean Shipping :**								
	(a) Cargo Ship	Nos.	18	25	4	7	11	29	16 0
	(b) Oil Tankers	"	3	1	2	1	3	3	200 0
	(c) Coaster	"	3	2	..	..	..	2	..
	(d) Passenger Ship	"	1	..	..	..	..	..	..
	Total	"	25	28	6	8	14	34	21·4
8.	**Civil Aviation :**								
	(a) Airports	"	8	8	..	..	..	8	..
	(b) Aircrafts	"	8	13	1*	3	4	14	7·7

Note-I: Assumption ;

Annual growth rate for—

Bus—5·5%

Truck—6·1%

Auto rickshaw—4%

Reference : Inter modal Transport Study, 1985

Note-II : Ratio between addition and replacement for—

Bus—*add*-70%, Rep. 30%

Truck—*add*-65%, Rep. 35%

Autorickshaw *add*-70%, Rep. 30%

*Mock-up trainer rcraft-

SECTION 2 : COMMUNICATION

2.1 The existing telecommunication facilities are inadequate to meet the growing needs of the developing economy. The telephone density of 0.18 per 100 population in Bangladesh is one of the lowest in the World and its development follows from two development imperatives. First, decentralisation of public administration as a consequence of the shift of strategy in favour of participatory development has made communication an essential medium for interaction between the local and national governments. Secondly the required emphasis on external trade over the Third Plan will also require a communication system that transcends the national boundary.

REVIEW OF PAST DEVELOPMENT (1973—80)

2.2 **Post Office** : There were 6,680 post offices in the country in 1973/74. Though vast majority of the population is spread over 68,000 villages, the number of post offices increased only slowly in the seventies. The number stood at 7,292 by the beginning of the Second Plan and large number of that, about 6,000 were located in rural areas leaving only 1,292 to serve the urban areas. Besides this limited expansion of the postal net-work, delivery system was improved in a small way through the acquisition of mail vans.

2.3 **Telegraph and Telephone** : Total number of telephones at the beginning of the First Five Year Plan stood at 6,000 in rural areas and 54,000 in towns and cities. The number of telephones increased to 1,20,000 in 1979/80. There was modest achievement in domestic long distance telephone and telegraph net work. Major traffic centres were linked through medium capacity micro-wave or VHF net-work connecting districts and their sub-divisional towns and through low capacity land line on 3-channel VHF net-work up to Thana (now upazila) Headquarters. A notable development of this period was the setting up of a satellite earth station in 1975 to improve the overseas communication through the Indian Ocean Communication Satellite.

2.4 **Meteorology** : As Bangladesh is located in the monsoon belt, weather plays an important role in the life of people. Therefore, to improve the meteorological services during the First Five Year Plan, 8 First Class, 2 Pilot Baloon, 4 Rawinsonde Observatories and 4 Aviation Forecasting Centres were opened. These developments were followed during the Two Year Plan by establishing 9 First Class and 4 Pilot Baloon Observatories.

REVIEW OF THE SECOND PLAN

2·5 For the development of the communication system, Tk. 341.00 crore was allocated under the Second Plan, but the cumulative, ADP allocations stood at Tk. 321·87 crore which was slightly over 94% of Plan allocation. The actual expenditure was, however, Tk. 346·90 crore including a sum of Tk. 38·73 crore provided for upazilas and Chittagong Hill Tracts development. As for physical performance, a total of 39 projects were completed during the Second Five Year Plan while 30 on-going projects spilled-over to the Third Five Year Plan with a cost of about Tk. 308·88 crore.

Post Office

2.6 A sum of Tk. 24·22 crore was allocated for development of postal services during the Second Plan period. At the beginning of 1930/81, there were 7,292 Post Offices in the country and the Second Five Year Plan target was to open 700 new

Post Offices, but actually only 291 Post Offices were opened raising the total number of post Offices to 7,583 in 1984/85. For improvement of mail delivery and mail transportation services, a total of 16 vehicles were purchased against the target of 55 and put into operation. Besides, 95 new post office buildings and 298 residential quarters for the postal employees were constructed during the Second Plan. In 1982/83, a new programme at an estimated cost of Tk. 21.76 crore was taken up for construction of Upazila post office buildings in places where there was no pucca building. The programme would provide necessary physical facilities to all the Upazila post offices. An allocation of Tk. 7.20 crore from block allocation was provided for the programme during the Second Plan period. So far 76 Upazila post office buildings have been completed and 18 more are at different stages of construction.

Telegraph and Telephone

2.7 The programmes for the Second Five Year Plan were formulated to meet the need of an economy in the process of development and modernisation taking into consideration the technological development in communication, such as automation in national and international trunk exchanges. The plan target was to add 55,000 new telephones to existing 1,20,000 line units. The actual number of new lines added was about 62,000. The number of telephones installed in urban areas was 46,000 units and that in rural areas was 16,000 units. Telephone density which was 1·3 per 1000 population increased to 1.8 per 1000 population.

2.8 The Plan also envisaged replacement of manual exchanges to automatic exchanges at old and new district towns. The number of auto-exchanges increased from 45 to 84 at the district headquarters. The plan also provided for expansion of telephone facilities below the district level. A total of 144 magneto manual exchanges with 30 lines capacity each were set up at some Upazila towns, while in some Upazila towns 20 auto-exchanges were installed. Besides, 100 Union Councils and Rural Growth Centres were connected by Public Call Offices (PCOs) during the plan period.

2.9 To facilitate international communication, Digital Trunk Exchanges with automatic number identification (ANI) facilities were set up at Dhaka (3000 lines), Chittagong (1000 lines), Khulna and Sylhet each with 500 lines. Dhaka has facilities for direct dialling with 18 overseas countries and 67 countries in transit. Further, the International Subscriber Dialling (ISD) Local Exchange has so far provided 982 connections to the subscribers of Dhaka. A total of 96 new overseas telegraph/telex circuits and 129 overseas telephone circuits have been opened against the target of 20 and 30 circuits respectively. The total number of overseas circuits were raised to 291 in 1984/85 by expanding Betbunia Satellite Earth Station and establishing a new 'B' type Satellite Earth Station at Talibabad near Dhaka.

2.10 Four digital electronic exchanges were installed at Dhaka, Chittagong, Khulna and Bogra to provide nation wide dialling (NWD) facilities to the subscribers. So far 26 district towns have been connected with the NWD system against the Second Plan target of 34 district towns.

2.11 As a complementary communication system, 113 telegraph offices were set up in urban and rural areas and 1008 new telex lines were commissioned during the Plan period. In the national trunk network, new 960 channel microwave routes from Atwari-Thakurgaon, Dinajpur-Fulbaria-Rangpur, Bogra-Natore-Rajshahi, Pabna-Kushtia-Chuadanaga

and Khulna-Barisal routes have been commissioned. A total of 25 UHF spur links have been established to connect rest of the district headquarters with the microwave trunk backbone routes. Bangladesh-India microwave link *via* Kushtia-Chuadanga-Krishnanagar and Bangladesh-Nepal UHF link *via* Thakurgaon-Atwari-Bhadrapur were also commissoned. About 12000 new channels capacity has been added to the existing one against the target of 15000 channels. The Dhaka-Chittagong microwave channel of 1800 lines in place of existing 960 lines have been completed during the Second Five Year Plan.

2·12 A special project for development of telecommunication facilities in Chittagong Hill Tracts (CHT) was drawn up at the terminal year of Second Plan (1984/85). The project envisaged connection of 22 Upazilas of the region with the district towns of Rangamati, Banderban and Khagrachari with Ultra High Frequency (UHF) radio links. The district towns will, in turn be connected with Chittagong Nationwide Dialling (NWD) exchange.

2·13 With the expansion of the communication system, there was increasing need for trained personnel. To meet this need, five Telecommunication Training Subcentres at Dhaka, Chittagong, Rajshahi, Jessore and Barisal to impart training to operational and lower level technical personnel like telephone operator, line men, etc, have been set up, while establishment of a Telecommunication Training Centre at Bogra for training middle level technical personnel and a Telecommunication Staff College at Joydepur for training higher technical and managerial manpower were in progress.

2·14 Because of great demand for modern communication system, Telegraph and Telephone (T & T) Board have been able to earn a substantial amount of revenue surplus. The annual revenue receipt increased to Tk. 151·00 crore in 1984/85 from Tk. 60·00 crore in 1982/83.

2·15 While the communication system was being expanded and modernized, the existing electro-mechanical dialling (EMD) system of TSS began to fall into obsolescence. Second Five Year Plan, therefore, envisaged to change the existing Telephone Shilpa Sangstha (TSS) factory to an electronic switching factory along with the production of EMD equipment for some time. But the BMR target of TSS could not be achieved due to non-availabilty of foreign assistance. The existing annual production capacity of TSS is 20,000 lines of telephone exchange and 30,000 telephone sets, but was operating at 66% capacity due to shortage of raw materials, labour unrest and inefficient management.

2·16 As a support to the tele-communication system Bangladesh has a factory, Bangladesh Cable Shilpa Ltd. (BCS), to produce 2,25,000 conductor kilometer of cable per year. During the Second Plan, it was programmed to increase the production capacity to 3,65,000 conductor kilometer on two and a half shift basis. It was envisaged that the expanison would not only make the country self-sufficient in out-door and in-door telecommuication cables, junction cables and galvanised wire but would also leave a surplus for export. But the expansion and modernisation target failed to materialise. The fatory was running at a capacity of 70 percent on an average during the plan period mainly due to shortage of raw materials, labour unrest, management inefficiency and unstable market.

2·17 The level of production of both the factories during the Second Five Year Plan (SFYP) is indicated at the table below :

TABLE 2·1

Production of Telephone Exchange Lines, Telephone Sets and Conductor Cables.

Year.	TSS				BCS	
	Telephone Exchange Lines (Units)	% rated capacity of 20,000 lines p.a.	Telephone sets (Nos.)	% rated capactily of 30,000 sets p.a.	Quantity (Con. KM)	% rated capacity of 3,65,000 Con. KM p. a.
1980/81 ..	14,020	70·1	19,232	64·10	2,50,000	68·5
1981/82 ..	11,481	57·4	17,781	59·27	3,32,000	71·0
1982/83 ..	13,201	66·0	17,417	58·05	2,31,354	63·4
1983/84 ..	14,555	72·8	21,595	71·98	2,92,893	80·2
1984/85 ..	11,730	58·65	21,326	71·0	2,52,000	69·0

Meteorology

2·18 An amount of Tk. 12·85 crore was allocated for development of meteorological information under the Second Plan. Under the programme 8 First Class, 3 Pilot Balloon and 8 Agromet Observatories were opened and professional competence and various meteorological services were improved. The important achievement during the plan period was the completion of Meteorological Headquarters building with 13 storied Radar Tower. Atop the tower a modern hydrological-*cum*-weather surveillance radar was installed and commissioned with UNDP assistance. Besides, Meteorological Training Institute, Meteorological Workshop and Laboratory, Climatelological Division and Meteorological Telecommunication Services were established.

OBJECTIVES, STRATEGIES AND POLICIES OF TFYP

2·19 In the formulation of the Third Five Year Plan (TFYP), proirity has been accorded to completion of the on-going projects. Only a few inescapable new projects with prospect of foreign aid financing will be taken up. Priority has also been accorded to special Chittagong Hill Tracts (CHT) and Upazila projects. The major objectives, strategies and policies are outlined below.

A. Post Office

2·20 Post Office is considered as one of the basic public utility services and constitute a part of vital infrastructure for socio-economic development of the country. Of all modes of communication such as rail, roads and telecommunication, Post Office provides the cheapest and easy means of communicaion for the people of all walks of life. But the present quality of postal service is poor due to inadequate office and residential accommodation, absence of counter facilities, lack of prompt booking, collection, sorting and quick mail delivery services. The Third Five Year Plan programmes aim at developing such physical facilities by way of improvement and expansion of postal services by construction/renovation/improvement of postal office and residential accomodation, mechanisation, prompt mail services and welfare activities.

2·21 The International standard is to set-up a post office to serve on an average either an area of 20 to 40 square kilometers or 3000 to 6000 inhabitants. But at the end of the Second Five Year Plan the total number of post offices were 7,590 units. Thus one post office serves an area of 18·84 square kilometer or 13070 population (assuming 99·20 million population in 1984/85). Although in terms of area the situation of Bangladesh is better than international standard, it is very much unfavourable in terms of population. Besides the existing post offices are not evenly distributed through out the country. Therefore, to meet the growing needs, 500 post offices will be opened under revenue budget during the Third Five Year Plan. The strategy of the Third Five Year Plan will be improvement of postal services through better utilisation o existing services and development of physical facilities.

2·22 At the begining of the Third Five Year Plan, there are 7,590 post offices of which 80% are located in rural areas. The rural post offices are run in shops, markets, abandoned or dilapidated houses due to non-availability of rent free accommodation Most of the rural post offices are manned by extra departmental agents who get allowances for part time work. With the upgradation of the Upazila headquarters and the Government emphasis for development of rural areas, it is considered necessary to develop postal services in rural areas on sound lines. The Third Five Year Plan, therefore, envisages to provide minimum physical facilities to 200 rural post offices in the form o construction of tin-shed/semi-pucca room for branch post offices at union council headquarters and supply of equipment and furniture for 200 post offices.

B. Telegraph and Telephone Services

2·23 During the Third Five Year Plan (TFYP) efforts will be made to establish adequate and reliable telecommunication links both inland and overseas through consolidation of the existing facilities, improvement of managerial and operational efficiency and adoption of modern technology.

2·24 The technology in the field of telecommunication is fast changing. The general trend all over the world is to gradually switch over from analogue to digital technology. In some countries 100 percent overlay of analogue switches are in vogue for operational efficiency and cost effectiveness. Due to financial constraints, apolicy of co-existence of the two systems with ample scope for gradual transition will be considered in the Third Five Year Plan. Analogue switches will be gradually eliminated with the digital switches in phases. Therefore, the Third Five Year Plan envisages installation of digital microwave system and digital computer controlled electronic local exchange for improvement of telecommunication services and accurate billing. The telephone density will increase from the existing 0·18 in 1984/85 to 0·23 in 1989/90 per 100 population by installing about 75,000 additional telephones.

2·25 Most of the District towns are already connected by automatic exchanges; the remaining district towns will be covered by automatic telephone exchange replacing the existing manual exchanges. The district towns will be connected by stable microwave or UHF radio links and the channel capacity will be expanded to cater to the needs of telecommunication traffic.

2·26 During the Second Five Year Plan period, 26 district towns were brought under direct dialling (NWD) system. Efforts will be made under the Third Five Year Plan to bring the remaining district towns in phases under the NWD system. It may be mentioned that four main Trunk Automatic Exchanges (TAX) and one International Gate

Way Exchange (ITAX) using modern digital technology and computer processing of calls enabled Telegraph and Telephone Board to increase annual revenue earning two and a half times in two years. During the Third Five Year Plan the revenue earning is likely to be doubled due to expansion of coverage of both the system.

2·27 With the decentralisation of administration and devolution of development activities by the Government, it is imperative to extend telecommunication facilities to all the Upazila Headquarters (460 Nos.). Apart from the existing 332 manual exchanges, 144 magneto exchanges with capacity of 30 telephone lines each have been set up to cover initially all the Upazila Headquarters and a few important growth centres under the Second Five Year Plan . To meet the growing needs of the Upazilas, the Third Five Year Plan envisages installation of 42 auto-telephone exchanges with total capacity of 8,700 lines and expansion of existing 95 manual exchanges from 30 lines to 70 lines each. For improvement of transmission network, it is planned to have digital radio links as a preparatory network for transition to digitalization of rural telephones. Instead of existing physical trunk lines, UHF digital radio links will be established between district towns and their Upazila Headquarters. This will cover 322 rural Upazilas with provision of higher channel capacity and substantial improvement in quality of telecommunication services.

2·28 Telegraph is the most important and cheapest means of communication for the common people. But due to use of century old morse circuits phonogram and point-to point teleprinter circuits, the service is not clear and prompt and does not satisfy the goals of public utility. During the Third Five Year Plan telegraph services will be modernised by establishment of a Gentex Exchange at Dhaka and three sub-exchanges at Chittagong, Khulna and Bogra. District and Upazila Headquarters will be connected with the teleprinter services under Upazila telecommunication project. It will facilitate quick transmittal of telegraph service from one place to another. It will eventually reduce pressure on postal and other means of communication.

2·29 With the development of trade and commerce and economic activities, demand for overseas and inland telex services have increased. To meet the growing demands of Telex Services, the existing Digital Telex Exchange at Dhaka will be expanded during the Third Five Year Plan.

2·30 At the begining of the Third Five Year Plan, the total registered demand of telephones in the Greater Dhaka City has been in the range of 40,000 and that of other urban areas 60,000. The experience is that whenever a new exchange is established to meet the registered demand, new demand which otherwise is latent crops up due to expansion of exchange capacity. In almost all cases, the fresh demand surpasses the original registered demand. In view of resource constraints, the strategy will be at least to meet the registered demand of telephone during the Third Five Year Plan.

2·31 In the Second Five Year Plan, the total microwave transmission channels requirement was 15000. lines against which 12000 channels were achieved. When the target of new telephones would be achieved during the Third Five Year Plan period, additional requirement of 5000 trunk channels will be generated. This will be partly met by additional channel capacity of Dhaka-Chittagong and Dhaka-Khulna microwave (1800 channels) and 322 UHF radio links to be equipped for 1600 channels in rural Upazilas during the Third Five Year Plan. Apart from this, 1600 channel capacity will be expanded in the existing microwave network through addition of channelling

equipment under long distance telecommunication net work project of the Second Five Year Plan. This will meet the shortfall of long distance channel capacity for NWD working and will also provide stable telecommunication services with the rural Upazilas.

2.32 In order to improve the existing telephone billing and accounting system, installation of a computer is justified by its economics. In addition, the computer service will provide O&M and planning information to improve efficiency in the overall management. It will also help to introduce rebate and penalty system in revenue collection which is at present non-existent in the telephone billing system.

2.33 At the end of Second Five Year Plan, 291 overseas telephone circuits were available for direct connection with 18 countries. To meet the demand for opening direct circuits with many other countries of the world and also due to growing overseas traffic requirement of increasing number of subscribers during the Third Five Year Plan period, the total requirement of overseas channels will come to 600 channels. The life span of Betbunia Earth Station is nearing its end. Moreover, its technique is obsolete and the location is dis-advantageous from the network management and operational point of view. Therefore, a Digital Earth Stations Standard 'A' will be established near the gateway exchange at Dhaka under the Third Five Year Plan. This earth station will have 600 channles capacity. This will reduce pressure on domestic long distance network and increase reliability of overseas circuits.

2.34 With the introduction of digital switching system, the EMD production capacity of Telephone Shilpa Snagstha will be gradually reduced. It is envisaged that necessary BMR of the factory will be done for production of digital switching and digital telephone sets provided it is found to be economically justified. Initially a feasibility study will be undertaken.

2.35 In order to exploit the economic potentiality of Chittagong Hill Tracts region, adequate and stable tele-communication is essential. Therefore, under a special project, 22 Upazilas of the region will be connected with their district towns by 3/24 Channel UHF radio links. The district towns of Rangamati, Bandarban and Khagrachari will also be connected with Chittagong NWD exchange by 60 channel UHF radio link. This will facilitate improvement of law and order situation, security problems of the region and will accelerate economic activities.

C. Meteorology

2.36 In terms of meteorology, Bangladesh is vulnerable to seasonal effects of tropical cyclones, tornadoes and severe Nor'westers, floods and droughts. By now, necessary infrastructure has been developed for weather forecast, but Bangladesh Meteorological Department (BMD) is neither in a position to control their movement and intensity nor have necessary preparedness to face the challenge of nature. Many countries of the world do face similar or different kinds of natural disasters, but they have evolved suitable protective measures in the form of afforestation, embankment, cross-dam, drainage, irrigation, durable shelter and so on. During the Third Five Year Plan efforts will be made to minimise damages and loss of life at the time of natural disasters through accurate and timely forecasts of their occurances, movement and intensity.

2.37 During the Second Five Year Plan, Bangladesh Meteorological services made significant progress in physical facilities and operational procedures towards providing the basic capacity to indicate general forecasts and warnings. In the Third Five Year Plan, efforts will be directed towards development of capability in the field of meteorological application. To this end, the most important specialised field is agro-meteorology. The other most important areas of application having direct impact on meteorology are marine meteorology, oceanography, hydro-meteorology and seismology. Necessary expert services, equipment and training facilities are expected to be developed under WMO/ UNDP.

PROGRAMMES OF TFYP

2.38 The major programmes of the Communication Sector during the Third Five Year Plan are indicated below :

A. **Post Office (P. O.) :**

(i) Construction of 29 P. O. buildings and 246 units of residential quarters ;

(ii) improvement of mail van services of P. O. by procurement of 41 vehicles, 60 three—wheelers and 10 two—wheelers and 50 rickshaw vans ;

(iii) procurement of 131 various types of machines ;

(iv) construction of P. O. building-*cum*-post master's quarters at 157 Upazila Headquarters and construction of tin-shed for branch post offices (200 units) at Union level ; and

(v) extension/renovation and development of the existing Postal Training Centres at Dhaka, Chittagong and Rajshahi.

B. **Telegraph and Telephone :**

(i) Expansion of telephone services by installing 65,000 digital telephones in urban areas and 10,000 telephones in rural areas totalling 75,000 additional telephones. This will increase telephone density from 0.18 in 1984/85 to 0·23 in 1989/90 per 100 population and the total number of telephones will be 2,57,000 by the end of Third Five Year Plan (TFYP) ;

(ii) replacement of the remaining 10 district manual exchanges by automatic telephone exchanges and installation of 14 digital telephone exchanges at Metropolitan Dhaka City and major District Towns. This will increase the total number of automatic telephone exchanges at the district town from 84 in 1984/85 to 108 in1989/90 ;

(iii) installation of 42 automatic telephone exchanges at the important Upazila towns with capacity of 8,700 telephone lines. This will increase the total number of automatic exchanges to 62 at the Upazilas ;

(iv) installation of 322 UHF radio links between district towns and their Upazilas headquarters for improvement of trunk facilities ;

(v) establishment of a Gentex Exchange at Dhaka and three sub-exchanges at Caittagong, Khulna and Bogra. This will facilitate modernisation of existing 130 telegraph offices and establishment of 20 modern new telegraph offices in the urban areas. Under this programme, 322 telegraph offices will be modernised out of the existing 471 telegraph offices in the rural areas ;

(vi) extention of NWD facilities to additional 15 district towns over and above the 26 district towns already covered during the Second Five Year Plan (SFYP);

(vii) expansion of 3000 lines PBX/PABX and installation of 1000 telex and 1200 gentex lines ;

(viii) expansion of Dhaka-Khulna digital microwave system by 1800 channels ;

(ix) expansion of 167 overseas circuits for telegraph/telex and 142 overseas circuits for telephone during the Third Five Year Plan to make the total number of overseas circuits to 600;

(x) establishment of a Satellite Earth Station at Dhaka with 600 channels;

(xi) establishment of a Computer Centre for billing, accounts and planning purposes ; and

(xii) completion of the remaining works of Tele-communication Training College, Bogra and Tele-communication Staff College, Joydebpur.

C. Meteorology :

(i) Consstruction of 1st Class Meteorological Observatories at Mongla, Chand pur and Kutubdia for recording and reporting of meteorological data for accurate weather forecasts ;

(ii) establishment of Agro-met Pilot Station at Joydebpur for improvement of agro-meteorological services and establishment of a Pilot Balloon Observatory at Dhaka ;

(iii) construction of 22 staff quarters for operational staff of Meteorological Department of Dhaka Airport ;

(iv) development of Marine Meteorology and Oceanography, Hydro-Meteorology and Seismology through meteorological application and training funded by UNDP ; and

(v) replacement of radars at Cox's Bazar and Khepupara.

D. Ministry of Foreign Affairs :

Establishment of radio links with the remaining 4 important Bangladesh Mission's abroad.

Financial Outlay

2.39 To implement the above mentioned development programmes and targets, an amount of Tk. 388·00 crore has been allocated for the Communication Sector. The agency-wise break-up of the total allocation is shown below :

TABLE 2·2

Allocation for Communication Sector in the Third Plan (1985—90)

[Tk. in Crore.]

Name of Ministry/Agency.	On-going	New.	Total.
A. Ministry of Posts and Tele-communication :			
(i) T&T Board	280·75	65·00	345·75
(ii) Post Office	26·20	7·62	33·82
B. Ministry of Defence : Meteorological Department	1·23	6·00	7·23
C. Ministry of Foreign Affairs	0·70	0·50	1·20
Total ..	308·88	79·12	388·00

2·40 Apart from the above allocation, the sector will get an additional amount of around Tk. 59·00 crore to finance Upazila Tele-communication Project, Upazila Post Office Project and Special Tele-comumnication Project in CHT out of the block allocation for Upazila Infrastructure and Special CHT Plan.

2·41 The southern parts of Bangladesh, particularly the off-shore islands are vulnerable to occasional natural disasters, such as tidal bore and cyclone etc. During the last 125 years, as many as 41 devastating cyclones crossed the coastal areas of Bangladesh of which 13 such cyclones occurred in the last 25 years. The recent severe cyclone had hit the Bangladesh coatal areas and off-shore islands on the night of 24th May, 1985 and caused enormous destruction of life and property. The Third Plan recognises the need for security of lives and properties of the people through provision of accurate pre-cyclone warning system and tele-communication facilities for post-cyclone relief and rehabilitation activities. To this end, necessary provision has been kept in the normal sectoral programme for replacement of old and worn out radars at Cox's Bazar and Khepupara. The existing tele-communication facilities of the off-shore islands will be further strengthened through installation of additional PCO's and UHF radio links at suitable locations. This programme will be accommodated within the allocations proposed for this sub-sector.

Policy Recommendations

2·42 Actions called for, are interalia:

(i) The Government Department, Autonomous Bodies and Semi-Autonomous Bodies are often found defaulters for years together in paying telephone bills. Institutional arrangement should be made to clear up all outstanding bills;

(ii) urgent measures are needed to tackle the problem of irregular telephone/telex billing through introduction of rebate and penalty in telephone/telex bills and improvement of existing billing system;

(iii) expedite installation of digital telephone exchange with built-in accurate billing system in the Third Five Year Plan; and

(iv) as the existing level of domestic telephone services are still unsatisfactory, systematic and streneous efforts should be made for sustained improvement of such services and quick response to public complaints.

ANNEXURE-I

Statement Showing the Available Facilities of Telegraph and Telephone and Target for TFYP

Items	Position in 1979/80	Position in 1984/85	Target 1985-90	Proposed position in 1989/90
1	2	3	4	5
I. Telephone capacity (No. of lines).	**1,20,000**	**1,82,000**	**75,000**	**2,57,000**
(a) Automatic	1,00,000	1,58,660	75,000	2,33,660
(b) Manual	20,000	23,340	..	23,340
II. Urban	**1,09,400**	**1,55,400**	**65,000**	**2,20,400**
(a) Automatic	1,00,000	1,52,960	65,000	2,17,960
(b) Manual	9,400	2,440	..	2,440
III. Rural	**10,600**	**26,600**	**10,000**	**36,600**
(a) Automatic	..	5,700	10,000	15,700
(b) Manual	10,600	20,900	..	20,900
2. Telephone per 100 population	**0.13**	**0.18**	**0.23**	**0.23**
(a) % of Telephones in urban areas	91.17	85.4	85.8	85.8
(b) % of Telephones in rural areas	8.83	14.6	14.2	14.2
3. Area covered by Telephone				
(I) District (64 Nos.)	**94**	**94**	**14**	**108**
(a) Automatic Exchange	45	84	24	108
(b) Manual Exchange	49	10	(—)10	..
(II) Rural Areas covered by Auto, Manual or PCO (Nos.)	**949**	**1190**	..	**1190**
(a) Upazila (460 Nos.)				
(i) Manual Exchange	319	440	(—)42	398
(ii) Automatic Exchange	..	20	42	62
(b) Union Councils (4,350 Nos.)	530	590	..	590
(c) Rural Growth Centre (974 Nos.)	100	140	..	140

ANNEXURE-I(*contd.*)

Item	Position in 1979/80	Position in 1984/85	Target 1985-90	Proposed position in 1989/90
1	2	3	4	5
III. Public Call Offices (Nos.) ..	874	1431	..	1431
(a) Urban (including coin box)	140	634	..	634
(b) Rural	734	797	..	797
4. Telegraph Offices (Nos.) ..	488	601	20	621
(a) Urban	128	130	20	150
(b) Rural	360 (Manual)	471	322 (Converted to auto)	471
5. Nation-wide Trunk Dialling Facility :				
District (Total 64)		26	15	41
6 PBX/PABXs (Lines) ..	15,155	25,110	3,000	28,110
7. Telex/Gentex Lines ..	410	1,418	2,200	3,618
8. Overseas Circuits (No.) ..	66	291	309	600
(a) Telegraph/Telex ..	37	133	167	300
(b) Telephone	29	158	142	300

CHAPTER XIII

PHYSICAL PLANNING HOUSING AND WATER SUPPLY

Modern development process has come to produce rapid urban growth. More often than not it induces migration of people from rural to urban areas in numbers which can hardly be absorbed in their new environment at a decent level of living. Resulting effect is urban blight. Hence, one of the objectives of planned development is to improve the physical conditions of living such as housing and water supply. But as people eternally aspire for comfort, rural community also needs to have access to such basic facilities of life. In fact poor countries have come to be regarded as rural slums and the rural to urban migration is an attempt to escape it. The programme for development of physical infrastructures therefore covers both urban and rural communities in public and private sectors. The programme consists of development of housing, office and commercial buildings, site development for private housing, rural and urban water supplies, sewerage and sanitation, city roads and civic facilities.

2. In the middle of the Second Plan rather a comprehensive approch was for the first time taken to bring development to the door of people and stem urban migration. This consisted of the government policy of decentralisation of administration and acceleration of development activities at upazila level. This policy will require creation of necessary physical infrastructures there within the framework of national physical plan. A significant progress has been made in that direction since 1982.

Past Performance

3. Independence witnessed a rapid growth of urban population, particularly in metropolis. To accommodate this pressure the First Five Year Plan (1973—78) allocated Tk. 272 crore in the public sector for the development of physical infrastructures and Tk. 270 crore was spent. The Two Year Plan (1978—80) provided an allocation of Tk. 250 crore, *i.e.* 8 percent of the total plan outlay of Tk. 3,261 crore and Tk. 241 crore was invested for development of physical facilities. In spite of more or less full utilisation of resources allocated by the two plans, physical achievements fell short of the targets due to increase in the cost of construction materials, institutional weaknesses and lack of adequate policy support. The policy to encourage multistoried buildings in the private sector through cheap credit has been receiving comparatively less support of fund allocation since 1981 after four years of its introduction. This was in fact the period when there was a shortlived building 'boom'.

4. The Second Five Year Plan (1980—85) allocated a sum of Tk. 820 crore against which Tk. 739 crore was utilised. In addition, Tk. 319 crore was invested for development of infrastructure facilities such as construction of office and residential buildings at the upazila centres. Thus total investment amounted to Tk. 1,058 crore under the Second Plan against Tk. 511·00 crore invested under the First Five Year Plan and the Two Year Plan together.

5. Major Physical Targets achieved during the Second Plan were as follows :

(i) *Public Offices and Residential Accommodation* : Construction of office buildings was completed at 265 upazila shahars out of 460, and 1160 staff quarters and 145 dormitories were constructed at different upazila shahars. In

major urban centres 4731 housing units were constructed against the target for 4000 units and for private housing 5400 housing plots were developed and allotted to private owners. Important developments were the completion of the National Assembly Building and a 5-star hotel at Dhaka.

(ii) *Water Supply and Sewerage* : One tubewell for an average population of 138 has been provided against the target of one for 150; piped water supply has been provided to 56 district headquarters against the target of 64 along with expansion of water supply facilities at Dhaka and Chittagong. Five water sealed sanitary latrines have been provided for each village as per the target.

Constraints on Development

6. The main problems encountered in the course of implementation of the Second Plan were *inter alia*, as follows :

(i) *Resource Constraints* : The development of physical infrastructures is inherently limited by its high capital cost on the one hand and the absence of directly observable material output on the other, though housing and safe drinking water are integral parts of basic needs of human being. Allocation to the sector has been always low. Shortage of local currency resulted in slow-utilisation of available project aid. Multiplicity of programmes and projects of a large number of agencies also aggravated the problem of funding.

(ii) *Technology Choice* : The development of physical infrastructures consumes large amount of cement and steel for which the country is dependent on import. Even timber and forest products are becoming increasingly short in supply. Given the critical balance of payments situation, supplies of cement and steel products have been erratic over the Second Plan period adversely affecting growth of the sector. Though cement and steel are imported, a cheaper technology could not make much headway in spite of several alternatives being available.

(iii) *Regulatory Problem and Inter-agency Coordination* : Absence of a framework for development of urban centres, lack of enforcement of regulatory controls and multiplicity of agencies in metropolitan areas like Dhaka and Chittagong hindered planned development of the city areas seriously.

(iv) *Land Acquisition and its Use* : Land is the main resource of Bangladesh; therefore, any development naturally requires reallocation of this vital resource to new uses. This has resulted in transfer of even valuable agricultural land to accommodate urban expansion or development projects.

Since there is a strong attachment to land in an agrarian society like Bangladesh, land acquisition causes considerable delay to project implementation. It has, in fact, been identified as one of main impediments to project implementation. Often more land is acquired than what is needed for a project for future expansion of a facility, thereby foregoing immediate benefit from the acquired land. Since in coming years there will arise more claims on land which is really scarce, a national policy for land use is urgently needed. A study in this respect has been underway during the Second Plan.

Problems of Housing

7. In rural areas 30 per cent of families do not have homestead and about 80 per cent of the houses are kutcha. Against this condition of rural settlement the pressure on urban housing will grow acute with urbanization. The urban population, if it maintains its present growth rate—about three and half times the population growth rate, will double from the 1980 census base of about 11.8 million. Large cities are most likely to bear the brunt of this tremendous growth of urban population unless this can be contained by (a) dispersal of industriees, (b) promotion of rural employment and (c) development of upazilas as hubs of rural economic activites in a planned way. Absence of any such well defined settlement and employment policy may see Dhaka and, probably, other metropolis growing like mushroom. Even a conservative estimate, for example, shows population of Dhaka trebling (3·3 per cent growth rate) by 2000 A.D., requiring 50,000 new houses to be built a year on an average and a planned urban development.

8. This vast problem of housing cannot be tackled without a well conceived settlement policy. In contrast to many other developing countiries, Bangladesh is rather a unique case with its high population density which makes such a policy all the more urgent. However, a policy is good if it is acted upon by all concerned. In this context the private sector has a greater stake for house to live and so a greater role to play than the public sector, which shall concentrate more on regulatory functions to ensure economy in land use, promote harmonious development of housing facilities, avoid conspicuous consumption and stimulate private investment through fiscal incentives.

Objectives, Strategies and Policies of the Third Five Year Plan

9. **Physical Planning :** Following the official policy of administrative decentralization and devolution of development activities at local levels to local governments, the objectives of physical planning is to accelerate infrastructure development at upazila and zila headquarters and promote development activities there. This will induce rapid growth of small scale industries mainly based on locally available resources and human settlements in and around upazila and zila headquarters. The main strategy of physical planning in this context will be to formulate complete physical as well as land use plans for the upazila and zila headquarters.

10. **Housing :** The problem of housing is so enormous and the resources available are so inadequate that the public sector investment could solve only a fraction of it. Therefore, the major thrust in this area will be to formulate necessary policy prescriptions for stimulating expanded private sector participation. Public sector investment will be made only in those areas where it is inescapable, such as land development, roads construction, water supply and construction of residential buildings for public servants. Rehabilitation of squatters' famlies will also be the responsibility of the public sector and for some socio-economic groups the government will provide core houses on self-financed basis. To stimulate private investment in housing in district towns the government adopted the strategy of 'seed fund' during the Second Plan period for development of small serviced plots for the low and middle income groups of people. This strategy will contiue to be followed during the Third Plan period also.

11. **Water Supply and Sanitation :** This will include :

(a) *Rural Water Supply and Sanitation :* The Third Plan will continue with the programmes for village water supply and sanitation. The number of drinking water tubewells will be increased with greater emphasis on their repair and maintenance at local level. Use of water-sealed pans in lavatories will be encouraged in rural areas along with their manufacture at zila and upazila levels.

(b) *Urban Water Supply and Sanitation :* Completion of the on-going projects in this area will get priority to bring tap water supply and sanitation facilities to a larger number of population in the cities and municipal areas where slum dwellers are in a pitiable state. Supply of piped water at the upazila centres will also be adequately augmented to meet its increasing demand.

12. **City Development :** Metropolitan cities are suffering from haphazard growth of settlements and buildings often choking natural drainage system ; so Master Plans will be prepared for systematic expansion of three large cities of Dhaka, Chittagong and Khulna. Similar exercises will also be taken up for other major cities. At the same time it will be necessary for various metropolitan city authorities to give greater attention to co-ordination of these acitvities and concentrate more on their regulatory functions than on mere development activities except for common service facilities, *e.g.*, roads, street lighting, parks, conservancy, etc. Their focus should be the city as a whole, not development of enclaves of residential areas in the midst of slums ; civic facilities and comforts, not privileges.

13. **Tourism, Fire Services and other Developments :** A study will be undertaken to prepare a Master Plan for development of tourism during the Third Plan. Further programmes will follow this study. The existing fire service stations will be strengthened and new stations will be established at places of commercial and industrial importance. Facilities for imparting training to the Police, Ansar and Village Defence Party (VDP) will also be increased during the plan period.

Programmes for the Third Five Year Plan

14. In pursuance of the objectives and strategies described above the major programes of Physical Planning and Housing Sector are stated below :

(1) *Residential Housing :* Besides construction of 384 units of low-cost multi-storied flats in major cities, 1,911 flats at upazila complexes and 988 flats at new zila shahars, low income housing and environment improvement project at Kaibalyadham, Chittagong, low income housing project at Mirpur, Dhaka, squatters' settlement at Mirpur and Dattapara of Dhaka for about 5,000 families and provision of sites and services and sale of plots with seed money provided by the government will be covered under the programmes for development of residential housing.

(2) *Office Accommodation :* Construction of 1·50 lakh sft. of office accommodation at zila shahars and 6.00 lakh sft. at upazila centres, completion of the 20 storied Secretariat Building at Dhaka and construction of High Court Buildings at six zila shahars are the major features of the development programme for development of office accommodation.

(3) *City Development :* Updating of master plans and preparation of new zonal plans by the Urban Development authorities for launching substantial programmes for housing and related development on self-financing basis and completion of (i) National Physical Plan (Phase-II), (ii) Housing Development Policy (Phase-II) and (iii) Upazila and Zila shahar plans will constitute the main elements of physical planning in the Third Plan.

(4) *Water Supply :* Increasing piped water supply from 90 to 109 MIGPD in Dhaka, 19 to 39 MIGPD in Chittagong, 24.7 MIGPD to 40.00 MIGPD in Zila shahars and 0.99 MIGPD to 5.00 MIGPD in upazila shahars and provision of 1 tubewell for drinking water per 125 rural population are the

important targets of the Third Plan for avoiding waterborne diseases. An interim project, namely Third Dhaka WASA will be taken up to meet the critical need of water supply till establishment of the Demra Water Treatment Plant for which a study is underway. The existing water supply project of Chittagong and the various on-going projects for expansion and improvement of water supply in 35 districts will be completed by 1990. During the Plan period 1·74 lakh tubewells will be installed and 0·50 lakh tubewells replaced in rural areas. Further, to improve environment, provision of 13 water-sealed sanitation units in each village will be covered during the Third Plan period, and for that 5·00 lakh water sealed sanitary latrines will be produced and distributed among homesteads.

(5) *Tourism Development and Other Services :* Apart from the completion of on-going projects the study on preparation of a Master Plan for Tourism will also be completed. New fire stations will be constructed in important upazila HQs and the remaining 5 district HQs. Adequate training facilities for Police, Ansar and VDPs will be created during Plan period. Programmes cover also the on-going projects of Dhaka and Chittagong Municipal Corporations, while Tk. 92·00 crore has been set apart as bloc allocation for assistance to Pourashavas to supplement their own revenues.

Financial Outlay

15. Total allocation for PPH and Water Supply Sector is Tk. 4,200·00 crore at 1984/85 prices—Tk. 550 crore for Public Sector and Tk. 3,650 crore for Private Sector. In addition, the Sector will get around Tk. 696 crore out of the block allocations for Upazila Infrastructure, Special CHT Plan and Development Assistance to Pourashavas making a total Public Sector allocation of Tk. 1246 crore during the TFYP. The break-up of this allocation under major areas of activities and by agencies is shown in Table-1 and 2.

Private Sector

16. By nature housing development is overwhelmingly private sector activity. Over 90 per cent of residential facilities is provided by this sector. Recognising this, the government has been encouraging private house construction through fiscal and financial incentives. In recent years a special loan programme was undertaken to stimulate private construction in upazila centres. High cost of materials and high bank interest however limit the prospect for fast growth of this sector, particularly for the middle and low income groups. In this context policies and programmes along the following lines are needed :

(i) Bangladesh Bank may create a special fund for housing to be channelled through appropriate institutions.

(ii) Loan operation of House Building Finance Corporation may be broadbased so as to facilitate credit to cooperatives and groups.

(iii) Specified percentages of the General Provident Fund and also those of Insurance Companies should be set aside for housing loans to be administered by a Housing Bank.

(iv) Income tax exemptions should be accorded to dwelling units not exceeding 1000 sft. in plinth area for a reasonable time frame.

(v) Private corporate sectors should be encouraged in housing their employees.

(vi) Housing Co-operatives now functioning in the cities be regulated and controlled through appropriate new legislations.

(vii) Well planned research activities in the fields of housing design and construction should be organised. Universities or research institutions should be actively involved and supported for such activities.

(viii) No family be allowed to acquire more than one plot of land of specified size through any source within the declared city limits for house construction.

TABLE 1

Public Sector Allocation by Major Areas of Activities

[Tk. in crore]

Sl. No.	Areas of Activities.	Allocation.
	A. Sectoral Allocation	
1	Housing	73·39
2	Offices and Institutional Buildings	46·72
3	Urban Development (City Development Authorities and Municipal Corporations).	66·79
4	Rural Water Supply and Sanitation	80·00
5	Urban Water Supply and Sanitation	236·25
6	Tourism Development	5·85
7	Fire Prevention Services	20·00
8	Ansar and Police Training Facilities	21·00
	Sub-total	550·00
	B. Block Allocation	
1	Zila and Upazila Infrastructures	592·00
2	Special CHT Plan	12·00
3	Development Assistance to Pourashavas	92·00
	Sub-total ..	696·00
	Total ..	1,246·00

TABLE 2

Public Sector Allocation by Agency

[Tk. in crore]

Sl. No.	Agencies.	On-going	New	Total
	A. Ministry of Works	**40·19**	**102·64**	**142·83**
1.	Public Works Department:			
	(a) Public Servants' Housing	4·70	9·43	14·13
	(b) Government Offices and Institutional Buildings	16·32	28·33	44·65
2.	Housing and Settlement Directorate ..	6·38	52·88	59·26
3.	Dhaka Improvement Trust (DIT)	1·18	..	1·18
4.	Chittagong Development Authority (CDA) ..	2·18	10·00	12·18
5.	Khulna Development Authority (KDA) ..	0·20	..	0·20
6.	Rajshahi Town Development Authority (RTDA) ..	..	2·00	2·00
7.	Urban Development Directorate	9·23	..	9·23
	B. Ministry of Law and Justice	**2·07**	..	**2·07**
	C. Ministry of LGRD and Co-operatives ..	**328·25**	**30·00**	**358·25**
8.	Directorate of Public Health Engineering ..	177·42	13·00	190·42
9.	Dhaka WASA	90·25	..	90·25
10.	Chittagong WASA	33·00	..	33·00
11.	Dhaka Municipal Corporation (DMC) ..	21·00	12·50	33·50
12.	Chittagong Municipal Corporation (CMC) ..	6·00	2·50	8·50
13.	Local Government Engineering Bureau ..	0·58	2·50	2·58
	D. Ministry of Civil Aviation and Tourism ..	**5·85**	..	**5·85**
14.	Bangladesh Parjaton Corporation (BPC) ..	5·85	..	5·85
	E. Ministry of Home Affairs	**29·50**	**11·50**	**41·00**
15.	Fire Service and Civil Defence	18·50	1·50	20·00
16.	Ansar Directorate	11·00	..	11·00
17.	Police Directorate	..	10·00	10·00
	Sub-total ..	405·86	144·14	550·00
	F. Block Allocation			
	(i) Zila and Upazila Infrastructures ..	..	592·00	592·00
	(ii) Special CHT Plan	..	12·00	12·00
	(iii) Development Assistance to Pourashavas ..	..	92·00	92·00
	Sub-total ..	..	696·00	696·00
	Total ..	405·86	840·14	1,246·00

17. The Physical Targets by major areas are given in Table below.

TABLE 3

Physical Targets by Major Areas

	Items.	Unit.	Position in 1984/85.	Target for TFYP	Proposed position in 1985/90.
	Government Staff Quarter/Office				
1	Staff quarter excluding Upazila Shahar	Nos.	4,731	384	5,115
2	Staff quarter at Upazila Shahar ..	,,	1,160	1,911	3,071
3	Dormitory at Upazila Shahar ..	,,	145	522	397
4	Office Building at Zila Shahar ..	Sft. in lakh	..	1·50	1·50
5	Office Bulilsing at Upazila Shahar ..	,,	11·82	6·00	17·82
	Rural Water Supply				
6	Shallow Tubewells	Nos.	5,93,083	1,20,000	7,13,083
7	Deep Tubewells	,,	16,831	4,000	20,831
8	Deep Set Pumps	,,	8,891	50,000	58,891
9	Replacement of Choked up Tubewells	,,	50,727	50,000	100,727
	Urban Water Supply				
10	Dhaka City	MIGPD	90	109	199
11	Chittagong City	,,	19	39	58
12	All other District Shahars ..	,,	24.7	40·0	64·7
13	Upazila Shahars	,,	1.0	5·0	6·0

Cyclone Rehabilitation/Preparedness Programme

18. Cyclone and tidal surge frequently hit coastal areas and offshore is lands of Bangladesh causing devastation of life and properties. During the last twenty-five years as many as thirteen such cyclones and tidal surges occurred in the coastal areas of Bangladesh. Recently, the tidal surge of 24th May, 1985 caused colossal loss of life and properties which attracted the attention of the whole world. Therefore, while planning and developing physical facilities and infrastructures in rural and urban areas, the need for protective measures against those calamities will be specially taken into account. Within the allocated resource, the development of general physical facilities will be so oriented as to strengthen and optimise the protective facilities.

CHAPTER XIV

EDUCATION AND RELIGIOUS AFFAIRS

SECTION 1: EDUCATION

Education is one of the basic needs for developing human capabilities. But educational development in the past was not adequately geared to meet this human need in a growing economy; it generally followed the pattern of the existing system as it expanded marginally and continued to remain elitist in charcter. This has produced serious social imbalances. First is the fissure between the educated and the uneducated. In 1981, only 19·7% of the population was counted as literate. In 1961, this rate was 17·0%, thus showing a margial expansion of literacy in two decades supporting the elitist view about education. Secondly, being elitist, it produced surplus of people with liberal education having very limited employment prospect against an acute shortage of skilled manpower existing in the economy. This means not only an imbalance between education and job market, but it has also created an under-employment condition for the over-educated ones at a high cost. Thirdly, being elitist again, it has created a serious urban-rural imbalance. The rate of literacy in the rural areas was 17% in 1981 against 35% in urban areas. Paradoxically, however, the urban-rural gap has declined between 1961 and 1981 due to influx of rural population to the urban areas. In 1961, urban and rural literacy rates were 38·7 and 16·0 per cent respectively. Fourthly, the elitist nature of the education system has also had discriminatory effect on women education in a basically patriarchal society. The female literacy rate (13.2%) in 1981 was less than half the literacy rate among men (26%) on the national basis; in the rural areas, it was even worse—11·2% against 23% for the male. A rule of half seems to be working between urban and rural and male and female education. As the vast majority of the population live in the rural areas and about half of the population is female, the elitist legacy of the education system has, in general, an inhibiting effect on the growth of literacy as is shown by the slow growth of the literacy rate during the last 20 years. Further, with its focus on liberal education, it has not only produced a paradox of surplus of so-called educated people in an abjectly low level of literacy, it has also produced among the educated ones a feeling of frustration instead of a sense of enlightenment because the system encourages students to cram knowledge rather than crave for knowledge.

1.2 In order to remedy the imbalance in the education system, efforts were made after Independence to change the system with a view to making it effective and taking it closer to people. And the Second Plan made, for the first time, a commitment for universal primary education (UPE) and mass literacy; and some concrete steps were taken towards those ends during the plan period. However, because of resource constraints, shortage of trained teachers, administrative weakness and above all, lack of proper attitude, the task proved to be too difficult to be accomplished as envisaged.

REVIEW OF PAST PERFORMANCE

1.3 The total plan allocation for education over the First Five Year Plan (FFYP) and Two Year Plan (TYP) period together, was Tk. 454·01 crore, but because of the resource shortfall, the estimated expenditure was Tk. 258·86 crore. This accounted for 3·3% of the total development outlay in the public sector. Under the Second Five Year

Plan (SFYP), public sector allocation for Education and Religious Affairs was Tk. 707·0 crore which constituted 4·4% of the public sector allocation of Tk. 16,060·0 crore (at current prices). Expenditure during the plan period stood at Tk. 510·6 crore or 3·7% of the estimated expenditure in the public sector. This was below the planned target but it showed an upward trend.

1.4 During the Second Plan period, 143 projects were under implementation but a number of projects were dropped because of resource constraints. Ninety projects out of a total of 143 projects could be completed during the Second Plan and 36 projects remained incomplete. Of the completed projects, 38 were projects formulated in the Second Plan and 52 were projects which spilled over from the earlier Plans. An amount of Tk. 120 crore was spent under the SFYP for 65 projects staggered from the TYP. Though the number of new projects completed during the Second Plan was few (38), they absorbed about 76% of the resources. The achievement of the education system under SFYP is discussed in the following paragraphs for different levels of education.

1.5 *Universal Primary Education (UPE)*: SFYP accorded top most priority to the introduction of UPE by 1985 and with this end in view, about 47% of the total allocation to the Education Sector was earmarked for this programme. Of the total allocation of Tk. 707 crore, Tk. 331·7 crore (46·9% of the sectoral allocation) was allocated for the development of primary education. Actual expenditure on UPE was, however, Tk.210·7 crore or 41·4% of the estimated expenditure on education. The Plan envisaged an increase in the primary school enrolment from 82·86 lakh students in 1979/80 to 130 lakh in 1984/85. The programme focused on the development of physical facilities consisting of improvement of school buildings, expansion of class rooms and development of utilities like water supply and toilets, distribution of text-books and uniform as well as training of teachers. Physical achievements were: repair and renovation of 9,606 schools against a target of 13,209; construction of 11,274 class rooms out of 24,108 planned; supply of 3·28 lakh pairs of benches against the target of 4·41 lakh pairs; sinking of 6,242 tubewells out of the planned target of 20,300 and construction of 5,745 toilets against a target of 37,280. In respect of incentives to students, 231·30 lakh sets of text-books against the plan target of 186·08 lakh sets and 35·00 lakh sets of uniform were provided. In teacher and supervisor training, the target of 56,617 was exceeded by 272% reaching a number of 2,10,500. To strengthen the administration of primary education, a Directorate of Primary Education was set up and 1,834 Assistant Upazila Education Officers (AUEOs) were appointed. For smooth implementation of UPE programme, administrative and management responsibilities were decentralized down to the upazila level.

1.6 There was a substantial shortfall in the creation of physical facilities for UPE. Only 47% of class room construction target was realized; supply of benches was realized to the extent of 74·38%, tubewell sinking to 30·73% and toilet construction to 15·41% only. Unsatisfactory performance in respect of class room construction may be one of the causes for the shortfall in the expansion of enrolment in primary schools. Though the targets for teachers' training and distribution of books were exceeded, enrolment in primary schools increased by 6·34 lakh only against the plan target of enrolling 47 lakh additional children—a 13% success. This achievement is disproportionately low when compared with the level of expenditure which was 63·5% of plan allocation for primary education. This means ineffective use of resource

from enrolment point of view. The number of primary schools increased by about 10%, from 40,445 in 1980 to 44,200 in 1984/85. This apparently shows some correlation between school number and enrolment. The expansion rate of enrolment relative to the number of schools and teachers reveals a diminishing trend in the process of development of primary education facilities. This is a serious issue that must be addressed to by the education planners, administrators and social thinkers in view of the existing low level of literacy as well as severe resource limitation, as the problem appears to have a dimension beyond the problem of providing physical facilities. In fact, decline in the intensity of use of physical facilities and high rate of drop-outs indicate problems with demand also. Such problems may not be only economic like poor families requiring children at home to assist in farming and other activities, but also one of attitude. As to the latter problem, it may be pointed out that about one-third of the rural households has no member who is literate. But that may not give a true picture about the poor families, for they may have strong traditional feeling for religious education. There exists a large number of *maktabs* in the country. This scenario brings forth a number of important points *vis-a-vis* the system of primary education. First, they point at the distinction between primary education and literacy and the potential of increasing literacy rate beyond the system of Primary Education. High literacy rate in Sri Lanka is a case in point. Secondly, they expose the existence of attitudinal problems at both the ends of household and primary school as they reveal the hold of traditional culture on the rural society. The administration of primary education has since been given over to the upazila parishad and parent-teacher relationships are also being promoted. The existence of a large number of *maktabs* also indicates the existence of a vacuum in the rural education system which needs to be filled in through appropriate curriculum reforms, increased enrolment drives and strengthening the role of primary schools in the community.

1.7 *Mass Education :* Removal of illiteracy was considered to be an important pre-requisite for an allround development of the society. The Second Plan objective was to cover 400 lakh illiterates in the age-group of 10—45 by 1985. Following an evaluation of the programme in mid-1982, the strategy for its implementation was changed. Around 107 lakh books and one lakh charts were distributed among the learners but only seven lakh people could be made literate under the programme. This poor performance of the programme reveals the weakness of the strategy and inadequacy of the programme. Its implication for primary education is serious, for it is found that children from illiterate families have higher drop-out rate. It is also found that areas of low literacy have also low enrolment rate in primary schools. Therefore, for the success of primary education, adult literacy programme cannot be whittled down because of its slow progress. It needs also to be recognised that the mass literacy movement was initiated only in the Second Plan and where illiteracy is so massive, a quick result can hardly be expected. In fact, the programme to make 400 lakh people literate was too ambitious.

1.8 *Secondary and College Education* : There were 24 schemes taken up for implementation; out of these, 15 were completed by June, 1985, seven spilled over to the TFYP and two schemes were dropped. The major programmes envisaged were development of community schools to provide low-cost, non-formal vocational education to the rural populace and development of science teaching facilities in rural schools as compulsory science course was introduced at the secondary level. The other programmes were development of physical facilities in government and non-government secondary

schools for improvement of quality of instruction. Under the secondary schools development project, science equipment were provided to 1,200 secondary schools and 150 madrasas as the construction of laboratories in these schools was in progress and 6,500 science teachers were given orientation training for science teaching. Under the community school programme, construction of workshop in 341 schools was completed and equipment was supplied to 301 community schools which were made operational from March, 1985. About 6,000 trainees completed their course in those schools.

1·9 During the plan period, 25 non-government secondary schools (14 boys' and 11 girls') were nationalized. The number of secondary schools increased from 8,327 in 1980 to 9,085 in 1985. Total enrolment of students at the secondary level increased from 20 lakh in 1980 to 24·85 lakh in 1985 and that of girls increased from 6·14 lakh to 8·01 lakh. The number of teachers increased from 87,963 in 1980 to 97,748 in 1985. Enrolment in 16 commercial institutes increased from 2,720 in 1980 to 3,300 in 1985.

1.10 At the college level, 35 government colleges were developed and science teaching facilities were provided in 30 non-government colleges. Twelve government colleges were taken up for development for offering post-graduate courses and development work in 98 government colleges including 72 nationalised ones for providing basic academic facilities was in progress. The number of colleges increased from 556 (intermediate 213 and degree 343) in 1980 to 602 (intermediate 228 and degree 374) in 1985 and their enrolment increased from 3·96 lakh to 4·28 lakh only over the same period.

1.11 *Madrasa Education :* There are about 2,805 madrasas in Bangladesh constituting the traditional base for rural education, focused largely on religious education though there has been some modernization of the system. In pursuance of the modernization programme, introduction of science education in 150 selected non-government madrasas was included in the secondary schools development project. Enrolment at the madrasa level increased from 3·54 lakh in 1980 to 6·19 lakh in 1985.

1.12 *Teacher Education :* Development of the education system is largely dependent on the supply of trained teachers. To meet this need, a number of projects was undertaken. Six TTCs and 47 PTIs were further developed with special emphasis on training of female teachers and construction of their hostels during the SFYP period. Four Colleges of Education were converted into TTCs and developed. Laboratory facilities and books were provided to 10 TTCs. Out of the targetted three PTIs, two were established and the third one at Rangamati was under construction.

1.13 *Technical Education :* As mentioned at the beginning, our education system is traditionally centred around liberal education and as a result, it failed to respond to the need of the economy and produced educated youths who could not find jobs. Therefore, during the Second Plan, greater attention was focused on technical education. It received the third highest allocation after primary and secondary education. The amount allocated was Tk. 88·2 crore; but because of resource shortfall, it received Tk. 49·1 crore only (55·7% of the allocation). During the plan period, 38 schemes were under implementation; of them, 20 were completed up to June 1985, nine spilled over to the TFYP, two were dropped and four schemes were transferred to the Manpower Sector in course of implementation. The institutions developed included four engineering colleges, 12 polytechnics, one common finishing facilities centre for leather industry, 16 commercial institutes, one institute of glass and ceramics, one VTTI, 54 VTIs, one college of leather technology and an Educational Equipment Board. The major components of development were civil works, acquisition of equipment and furniture, expatriate advisory services, followships, etc.

1·14 The enrolment capacity of four engineering colleges increased from 2080 in 1980 to 3120 in 1985 and at the polytechnic level, enrolment capacity increased from 11,835 in 1980 to 12749 in 1985. Enrolment at the trade level declined due to closure of second shift trade courses in 13 polytechnics and abolition of modular courses introduced during the SFYP. It was reduced from 6420 in 1980 to 4490 in 1985. As a result, the ratio of engineers, technicians and skilled workers stood at 1: 5: 2 as against the target of 1:5:15.

1·15 *University Education*: Out of 38 schemes taken up for implementation under university education, 29 were completed, six spilled over to the TFYP and three were deferred. The physical programmes mostly included construction of students' accommodation and class-rooms, teachers' and officers' quarters, creation of common facilities including sports facilities, and procurement of books, journals and equipment. Enrolment at the university level increased from 30,000 in 1980 to 38,300 in 1985. Enrolment of girls marked an increase of 1562 (from 5783 to 7345). The Islamic University could not start functioning due to change of its site.

1·16 *Scholarships/Stipends:* During the Second Plan period, generous provision of scholarships was made on local, regional, national and sex basis and about 1,18,178 students were awarded scholarships and 3,49,980 students enjoyed stipends in five years including 1,03,912 students of technical education.

1·17 *Other Educational Activities* : Programmes were also undertaken for strengthening the capabilities of educational administration, management and planning, development of educational technology and updating of curricula and text-books. The National Institute of Educational Administration, Extension and Research (NIEAER) was established for imparting probation training to the BCS (Edn) recruits, and in-service training to the persons engaged in educational administration, management and supervision, and 791 persons were given training in educational administration, planning and management. The National Curriculum and Text-book Board was established as a measure of permanent institutional arrangement. Under the SFYP, seven schemes were undertaken by the Ministry of Defence ; of them, five were completed and two spilled over to the TFYP. Two more schemes—one for Modernisation of Parliament Secretariat Library and the other for preparation of Mid-Term Education Plan (MTEP) were taken up during the SFYP and were completed.

1·18 The evalution of performance of the educational programmes reveals a wide gap between the plan targets and actual performance, particularly in the fields of primary and mass education. Absence of effective implementation mechanism, particularly at the base, social inhibitions discouraging enrolment of girls, poverty of parents, inadequate management and weak supervision, shortage of trained personnel at the implementation level and lack of professional dedication and motivation among adults, administrative officials and local leaders and ineffective distribution net work of teaching and learning materials account for the shortfall. During implementation of the programmes, more emphasis was given on the creation of physical facilities and supply of furniture, equipment and learning materials without regard to enrolment increase. Civil works in many projects were completed exceeding their approved costs but without any approval of the competent authority.

1·19 Achievement in terms of enrolment at various levels of education is summarised in Annex 2.

THIRD FIVE YEAR PLAN

1·20 The implementation of SFYP education programmes had a late start due to delay in resource mobilisation and delay in project perparation resulting from shortage of trained personnel at the implementation level. As the SFYP was drawing to a close, three major events featured prominently. Firstly, the World Bank alongwith SIDA, UNICEF and UNDP showed interest to finance the UPE Programme in 416 Upazilas and all the metropolitan thanas in addition to IDA's earlier commitment for financing UPE programmes in 44 Upazilas. Secondly, the ADB came forward with a proposal to finance secondary schools development project with emphasis on science education. Lastly, an agreement was signed with the World Bank for financing a comprehensive programme for consolidation of built-in facilities of technical education institution. These three major programmes initiated during the SFYP period will virtually form the core of the TFYP programmes.

Objectives of TFYP

1·21 The objectives of the education sector in the TFYP will be as follows :

(i) to enrol 70% of the primary age-group children by 1990 and ensure their retention for completion of primary school cycle in order that UPE might be achieved by the end of the century;

(ii) to reduce the rural-urban gap in educational facilities ;

(iii) to provide in-service training to primary, secondary and technical education teachers;

(iv) to give emphasis on science, technical and vocational education;

(v) to reduce illiteracy among the adults;

(vi) to rationalise enrolment among various disciplines at the college and university levels; and

(vii) to reduce the gap in educational opportunities between sexes.

Strategies of TFYP

1·22 In order to attain the above objectives, the following strategies will be adopted :

(a) Physical facilities for enrolment of 70% of primary age-group children will be created; simultaneously emphasis will be given for retention of children in schools in order to avoid wastage.

(b) Adequate facilities for science teaching will be provided in the non-government educational institutions which are mostly in the rural areas and generous provision of Scholarships will be made on local, regional, national and sex basis.

(c) In addition to normal training programme in the PTIs and TTCs, cluster training programmes for primary school teachers will be organised at Upazila and school levels and in-service training for secondary school teachers will be arranged under the relevant schemes.

(d) In order to provide self-employment opportunities to the rural people, facilities will be provided for non-formal vocational education in the community schools.

(e) Enrolment of girls will be encouraged in all educational institutions beyond the separate provisions existing for them.

(f) Mass education programme will be localised and Upazila Parishads will be entrusted with the responsibility of organising and coordinating the programme.

(g) For imparting practical training to the students of technical education, industrial attachment programme will be organised.

(h) To optimise the utilisation of existing capacity in the existing educational institutions, necessary repair and renovation work will be undertaken.

Major Policy Issues of TFYP

1.23 There is an increasing demand for nationalisation of non-government educational institutions. This puts an additional burden on the government budget. It runs counter to the government policy of increasing community participation and help widen the gap in educational expenditure between the government and non-government institutions. As such, consideration will be given as to whether the policy of nationalisation should be continued.

1.24 The present recruitment policy of trained personnel for primary schools involves wastage of public money through training of those who do not join the teaching profession. In order to obviate the problem, persons with good academic background should be recruited first as primary school teachers and then they should be sent for training.

1.25 Primary education was given top priority in the programmes of the Education Sector and accordingly 47% of the total SFYP allocation for Education and Religious Affairs was earmarked for the programme. And for smooth implementation of the programme, administration of primary education had been decentralised. However, the entire expenditure of the UPE project was centrally controlled, over which the community had no say, thus defeating the very objective of decentralisation. In order to make decentralisation really meaningful and to ensure greater community participation, construction/repair of primary schools should be the responsibility of primary school management committees under the close supervision of the Upazila Parishads.

1.26 The present system of continuation of separate Honours and Pass degree courses simultaneously creates discrimination among the graduates. One way to approach the problem could be abolition of the present Pass and Honours courses in its present form and to have only one stream. Alternatively, for streamlining the system, the two streams could be reconciled by making them of the same duration, the Honours course students being required to take additional studies in a chosen subject.

1.27 Although labelled as Higher Secondary, the intermediate colleges still retain their earlier character as preparatory stage for higher education. Unless HSC is prescribed as the requisite qualification for Class I Government service, the HSC stage will retain their intermediate character. On the other hand, affiliation of the intermediate sections of the degree colleges with the Education Boards and the degree sections with the Universities creates unnecessary complications in the administration of the degree colleges. As such, HSC should be considered as part of college education and be affiliated with the universities as before. However, certain institutions (e.g. the Residential Model School in Dhaka, the Cadet Colleges, the Viqarunnisa Noon Girls' School, etc.) may continue to offer both secondary and higher secondary courses.

1.28 Unplanned opening of Departments in the Universities causes sheer wastage of resources. During the TFYP, conscious and deliberate attempts will be made for inter-university rationalization of Departments. Perhaps some departments in some universities may be gradually closed down and their teachers transferred to other universities to strengthen the same or similar departments there. Inter-university exchange

of teachers may be tried initially and adopted gradually. With this end in view, creation of a University Education Service may be considered. The existing system of affiliation of degree colleges to the teaching universities possibly does not serve any useful purpose. Hence the question of setting up an Affiliating University may be thought of.

1·29 The universities are costly enterprises which are maintained almost entirely with tax payers' money and as such some sort of cost sharing and selectivity needs to be thought of if higher education is to be meaningful and it is to expand rationally. Expansion of higher education will have to remain constrained by the limitations of government exchequer in any case.

1·30 At all levels of education, there should be provision for teachers' evaluation and the universities should not be an exception. For evaluation of the performance of university teachers, methods should be devised by the universities themselves.

Programmes of TFYP

1·31 The TFYP programmes at various levels of education are discussed below :

1·32 **Primary Education** : The SFYP aimed at introducing universal primary education (UPE) in the country by 1985 and with this end in view, it envisaged enrolment of 47 lakh additional children of the primary age-group in schools. Despite provision of incentives to the children, enrolment ratio at the end of the SFYP still remained near about its starting level.

1·33 The objective of primary education during TFYP will be to enrol 116 lakh of children *i.e.* 70% of the primary age-group population by 1990 (*i.e.* 26·80 lakh additional children) in order that UPE may be achieved by the close of the century. Though modest compared to the SFYP enrolment target, achievement of even this target would be difficult unless all other socio-economic conditions are made favourable and all-out efforts undertaken in this regard.

1·34 Increase in enrolment during the TFYP will result mostly from retention of the enrolled students. The following measures will be taken for increasing enrolment and retention of the enrolled students :

(i) involvement of the community in management and administration of the schools by following intergrated school development approach, particularly by forming parent-teacher associations at the school level;

(ii) improvement of supervision and administration of the schools by appointment of Assistant Upazila Education Officers who will be responsible for inspection and supervision of 15—20 schools on an average;

(iii) management information system will be developed and there will be provision for inbuilt and continuous evaluation of the measures;

(iv) free text books and learning materials will be supplied to the students which will act as a direct incentive to the students and the parents;

(v) creation of physical facilities.

1·35 Under the SFYP, two schemes were under implementation for introduction of UPE. The first one covering 44 Upazilas will be completed by 1985/86, while the second one covering the remaining Upazilas and Thanas in municipal areas has been revised to cover the UPE programme during the TFYP and will continue up to 1990. The major programmes include necessary repairs and renovation of 16,257 existing

primary schools including 3,000 flood damaged schools, construction of 29,563 additional class-rooms in 9,285 schools, provision of 16,641 latrines, 18,121 tubewells and class-room furniture (5,56,412 seat benches, 26,911 chairs, 26,911 tables and 4,410 steel almirahs), supply of text-books, 61·50 lakh learning materials and 18 lakh teacher edition of text-books, training and orientation of 195,646 primary school teachers, teacher trainers, supervisors and educational administrators, taking up of 1,000 non-government primary schools in unschooled areas under government management and appointment of AUEOs and primary school teachers.

1.36 *Mass Education* : Literacy is an important pre-requisite for development. Bangladesh with 74% of its illiterate population compares very unfavourably with other countries of the region. Experience of SFYP shows that a nation-wide scheme for mass education will not bring about the desired result. The programme would be the responsibility of the Upazilas which will receive grants for this purpose. Upazilas will receive books and learning materials from the centre as per need determined through bottom-up planning at the village level. In view of the limited progress of the programme, the target for the TFYP has been set to cover 24 lakh adults only.

1.37 *Secondary Education* : In the early 1960s, diversified courses were introduced at the secondary level. It has now been experienced that such diversification after completing class VIII is pre-mature because students at this stage are too tender to decide their future career. As such, it has been decided to introduce integrated courses again by abolishing the diversified courses. In order to provide non-formal vocational training to the rural populace, a 'community school' project was undertaken during the Second Plan. The current scheme will be completed by June, 1987, with a capacity to train 33,600 people a year in 400 such schools. The training courses include 5 areas, namely, agriculture, building, mechanical, sewing and food processing. If the project goes on well, it is expected that these schools will train 1,68,000 people over the plan period. Since these schools will work as the mainstay for development and transfer of skills in rural areas, a mid-plan review of this programme will be undertaken to assess their impact and to identify the gaps requiring improvement.

1.38 Post-liberation Bangladesh experienced an unprecedented and unplanned increase in the number of secondary schools which has resulted in running these schools (with a few exceptions) on an uneconomic scale. At present, there are on an average 275 students per secondary school. The unsound financial position, arising out of poor enrolment, compels many schools to maintain unqualified teachers resulting in deterioration of the quality of education in secondary schools, particularly in the rural areas. The impact of UPE will create some pressure of admission at the secondary level. However, the existing schools with below optimum level of enrolment will not only be able to accommodate this pressure but also this additional enrolment will perhaps enable the existing schools to improve their financial condition. Enrolment is expected to increase by 2·67 lakh during the TFYP (*i.e.* from 24·83 lakh to 27·50 lakh).

1.39 The objective of secondary education will be to provide science teaching facilities in the non-government secondary schools, particularly in the rural areas and to reduce the rural-urban and government-non-government gap in the educational expenditure.

1.40 The programmes envisaged for secondary education are as under :

(i) Work under the on-going secondary schools development project with emphasis on science will continue during the TFYP and 4,000 schools including 209 madrasas will be developed under this project

(ii) The incomplete work of the community school project covering 400 schools will be completed by June, 1986.

(iii) The on-going scheme for repair and renovation of physical facilities in government schools will continue.

(iv) In order to expedite introduction of integrated science course at the secondary level, science teaching facilities will be provided in selected non-government secondary schools not covered under the ADB assisted secondary schools development project.

1.41 *Madrasa Education* : At present, there are 2,805 madrasas in the country offering courses at various levels (from Ibtedayee to Kamil) out of which only two are managed by the Government and the rest are to depend mostly on public charity. Majority of the madrasas are in bad shape in respect of physical facilities and equipment. Away from the modern influences, the madrasa education system in Bangladesh had been continuing as a separate system of education from the colonial days. The objective of madrasa education during the TFYP will be to modernize the system through introduction of science course. The programme will include provision of science laboratories and equipment to 200 madrasas under the on-going scheme for development of secondary education. In addition, such facilities in a limited way, will be provided in another 125 madrasas. As a result, enrolment will increase from 3·19 lakh to 3·50 lakh at the madrasa level during the TFYP.

1.42 *Teacher Education* : The educational qualifications and professional training of teachers have direct bearing on the student's academic performance. In Bangladesh, there is an acute shortage of trained teachers at all levels. At the primary level, about 20% of the teachers are yet to be trained, but at the secondary level, only 30% of the teachers are trained. A foundation training in PTIs and TTCs, once for life, is not a solution to the problem. With the rapid technological changes, it has become essential to update the knowledge of teachers through recurrent in-service training at regular intervals. Moreover, introduction of new curricula at primary and secondary levels, introduction of non-formal vocational courses in community schools and science education courses in madrasas have made it essential to orient teachers with new curricula through short in-service training under a crash programme. In view of the above, teacher education will receive due priority during the TFYP.

1.43 The objective of teacher education will be to orient all primary and secondary school teachers with new curricula, and arrange training courses for madrasa teachers for teaching of science.

1.44 The programmes envisaged for the TFYP in the field of teacher education are as follows :

(i) Regular training of primary and secondary school teachers will continue in PTIs and TTCs.

(ii) For imparting in-service and orientation training to the primary school teachers, cluster training will be arranged as a crash programme under the UPE project.

(iii) In-service training of secondary school teachers will be decentralised and arranged in nine science education development centres (SEDCs) attached to the TTCs under the secondary schools development project.

(iv) The work of establishment of Rangamati PTI and incomplete work in other PTIs will be completed.

(v) One PTI at Joydebur will be established under the UPE (National) scheme.

(vi) Audio-visual aids, *viz*, charts, posters, globes, maps, etc. will be supplied to primary and secondary schools under the BIDE project.

(vii) TV sets, video tapes, cassettes, tape recorders, films, slides, film projectors, slide projectors and overhead projectors will be supplied to TTCs, NIEAER and NAPE under the BIDE project.

(viii) Correspondence courses in secondary teacher training will be experimented under a pilot programme.

(ix) In-service training of science teachers in madrasas will be arranged in the SEDCs under the ADB assisted secondary schools development project.

(x) In-service training of PTI instructors for subject teaching will be arranged at NAPE, while training of primary school supervisors and administrators in educational administration and management will be organised in NIEAER.

1.45 **College Education :** In 1985, there were 621 colleges in the country including 276 intermediate colleges (HSC-Classes XI and XII). Of these 621 colleges, 109 including three intermediate colleges are managed by the Government. The conditions of the non-government colleges, particularly in respect of science teaching facilities, are very poor. Out of 621 colleges, 512 colleges (239 degree and 273 intermediate) are under private management. Since integrated course has been made compulsory at the secondary level, there will be rush of students for science education at the intermediate level during the TFYP. As such, additional physical facilities shall have to be provided at the intermediate level for science teaching, particuarly in the rural areas. The process of rationalization of enrolment in the different disciplines should continue and the policy of selectivity in admission should be rigorously pursued. Some relaxation for disadvantaged groups (rural areas and girls) can perhaps be allowed.

1.46 At the degree level, 12 government colleges are being specially developed for offering Honours and Post-graduate courses. Moreover, 98 government colleges including 72 recently nationalised ones are being developed under a separate scheme. During the SFYP, no programme for development of non-government degree colleges was undertaken. The increased output of intermediate colleges will generate pressure of admission particularly in science at the degree level in the fourth/fifth year of the Third Plan. While the main thrust of the TFYP at the college level will be development of intermediate colleges for teaching science, a modest programme for further development of facilities in selected non-government degree colleges will be taken up.

1.47 The objective of college education will be to strengthen science teaching facilities, particularly at the intermedidate level and to develop few government degree colleges for post-graduate teaching. Enrolment at this level will increase by 12,000 during the TFYP (from 4·28 lakh to 4·40 lakh).

1.48 The following programmes have been envisaged for improvement of college education during the TFYP :

(i) The on-going project on development of 12 government colleges for post-graduate teaching and development of 98 government colleges including 72 newly nationalised ones will be completed on priority basis.

(ii) Selected non-government intermediate colleges and intermediate sections of degree colleges will be developed to provide facilities for science teaching.

(iii) Selected non-government degree colleges will be further developed for improvement of science teaching facilities at the degree level.

1.49 **Technical Education :** There are at present four engineering colleges, one college of leather technology, one college of textile technology, 17 polytechnic institutes, one graphic arts institute, one institute of glass and ceramics, 52 VTIs and one VTTI functioning in the country.

1.50 Bangladesh is in short supply of technical manpower particularly at the skilled workers level. Nevertheless, the existing facilities have been under-utilized due to weaknesses of the curricula and maladjustment with the needs of the economy, besides lack of linkage with industries. During the SFYP, attempts were made to improve the situation by introducing modular courses in the VTIs and second shift trade courses in the polytechnics. However, in course of implementation, the modular courses were abolished and the programmes for introduction of second shift trade course at the polytechnics were dropped. Instead, second shift polytechnic courses were introduced in order to make up the backlog polytechnic courses. Implementation of the technical education programmes was delayed due to resource constraints. However, a comprehensive scheme was undertaken with World Bank assistance in the closing year of SFYP mainly for implementation during the TFYP, for consolidation of engineering colleges, polytechnics, technical teachers' training colleges, Technical Education Directorate and Technical Education Board.

1.51 The objectives of the TFYP in the field of technical education will be as under :

(i) consolidation of physical facilities of technical educational institutions with marginal expansion ;

(ii) improvement of quality of technical education; and

(iii) increasing participation of girls.

1.52 With the consolidation of the existing facilities and their optimum utilisation, increase in the enrolment will take place and around 1671 additional students will be enrolled during the TFYP, *(i.e.,* enrolment will increase from 20,359 to 22,030). The Dhaka Engineering College which has been included in the comprehensive technical education project for consolidation of facilities will need some extra support for increasing its intake capacity.

1.53 The following programmes will be undertaken during the TFYP :

(i) The on-going programme of consolidation of facilities in the engineering colleges and polytechnics and revitalisation of Technical Teachers' Training College will be completed on priority basis.

(ii) Work of establishment of Mohila Polytechnic Institute will be completed to make it functional by 1985/86.

(iii) Incomplete works of Vocational Training Institutes will be completed.

(iv) Construction work of the Technical Education Board will be completed and made functional by 1986.

(v) Revision and updating of curricula will be undertaken by the National Curriculum and Text-book Board (NCTB) in cooperation with the Technical Education Board.

(vi) For giving them some practical experience in industries, industrial attachment programmes will be undertaken for students.

(vii) Work of establishment of polytechnic institutes at Tangail and Patuakhali will be completed.

1.54 **University Education** : University Education in Bangladesh experienced accelerated expansion during the past decades. The expansion was, however, unplanned which created serious imbalances. While the country is badly in need of highly skilled manpower for development activities, there are huge surpluses of graduates with liberal arts education. In the backdrop of the above situation, the SFYP aimed at consolidating the existing facilities, rationalising enrolment among various disciplines as per felt needs of the economy and introducing selectivity in admission. Increase in enrolment during the SFYP, however, suggests that the pattern of increase did not strictly follow the objectives of rationalization and selectivity as envisaged in the Plan. It is true that there might have been a general awareness about the serious inadequacies and imbalances in higher education but the situation did not change remarkably. Enrolment at University level will increase by around 3,600 during the TFYP (*i.e.* from 34,967 to 38,600). Agriculture and Health education will be developed under the respective Sectors. Enrolment projections for the various levels of education are shown in Annexure-3.

1.55 Under TFYP, two new universities will be established one in Khulna Division and the other at Sylhet. In order to relieve the teaching universities of their affiliating load, the issue of setting up an affiliating university for enforcing standards, providing guidance and supervision and conducting examinations of the degree colleges will be examined. There should be an adequate arrangement for regular inspection of the colleges for qualitative improvement of education.

1.56 The objectives of the university education during the TFYP will be as under :

(i) stabilisation of enrolment of the Dhaka, Rajshahi and Chittagong Universities at their existing levels and emphasis on qualitative improvement;

(ii) inter-university rationalization of departments;

(iii) rationalisation of enrolment among different disciplines;

(iv) limited expansion on desired lines.

1.57 The following programmes have been envisaged for attaining the above objectives :

(i) The on-going programmes spilled over from the SFYP which are mostly for construction of residential accommodation for students of Dhaka, Rajshahi and Engineering Universities will be completed.

(ii) The work of development of Faculties of Commerce under the Universities of Dhaka, Rajshahi and Chittagong will be completed.

(iii) Minimum facilities including major repair and renovation will be provided to the existing universities to make them functional with their existing enrolment.

(iv) Basic minimum facilities will be provided to the Islamic University for functioning in a modest way.

(v) Two new universities will be established, one in Khulna Division, and the other at Sylhet.

1.58 Deviation from the approved projects in course of implementation is the highest in the universities under the Education Sector. This is possibly because the Planning and Development Offices of the Universities have little control over the implementation process of the approved projects. The UGC should introduce a uniform system for smooth implementation and minimizing deviation from the approved projects.

1.59 *Role of UGC* : The role of UGC in planning and guiding higher education in the country needs to be more effective. It is appreciated that it has its problems and procedural limitations. Nevertheless, it appears to be trying to enforce plan discipline on the universities as far as it can. The UGC may be entrusted with more powers consistent with the university autonomy. Since the universities are autonomous bodies independent of each other, they should themselves strengthen the UGC as a coordinating body in the interest of overall planning and development of university education.

1.60 *Scholarships/Stipends* : Owing to poverty, it is difficult for the poor parents to ensure education for their children and this essentially leads to inequality in educational opportunity. In Bangladesh, where about 75% of the people live below the poverty line, the inequality in educational opportunity is a major problem in the education system. In such a situation, award of scholarships/stipends should play an important role in ensuring opportunity for study to the talented students. During the SFYP, a comprehensive programme for award of scholarships and stipends on the basis of merit as well as merit-*cum*-means was undertaken. Distribution of scholarships on regional and sex basis at the lower level (primary and junior scholarships/stipends on union and thana basis) worked as a good mechanism for wider dispersal of scholarships for nourishing talents throughout the country.

1.61 As before, under the TFYP also the objective of the scholarships and stipends programme, will be:

(i) to create opportunity through financial support for the meritorious students to prosecute studies ;

(ii) to expedite progress of disadvantaged groups through generous provision of scholarships; and

(iii) to channelize the students on desired lines of education by ensuring equality in opportunity.

1.62 The criteria adopted for award of scholarships and stipends in the earlier Plans were found to be working satisfactorily and these will be adopted during the TFYP as well. These include provision for award of general scholarships and stipends on the basis of merit-*cum*-means and a talent pool. Scholarship examinations will be held at the end of Classes V and VIII and the primary and junior scholarships will be awarded on the basis of Union and Upazila respectively and scholarships on the results of SSC and HSC examinations will be distributed on the basis of districts. In the field of madrasa education, scholarships will be awarded on the results of Dakhil,

Alim and Fazil Examinations. Scholarships for higher education will be awarded on the results of Degree, Pass and Honours examinations of the respective universities. Special provision will be made for award of stipends to the children of disadvantaged groups (students belonging to the scheduled castes, tribal areas and rural girls). Under the TFYP, general scholarships and stipends will be awarded to 1·25 lakh and 2·65 lakh students respectively, while 1·10 lakh students will enjoy stipends in the field of technical education.

1·63 *Educational Planning and Administration, Curriculum Development, Research and Innovation* : Elaborate programmes for reforms in educational administration and decentralisation of administration were undertaken during the SFYP. The Education Directorate was split up into three separate Directorates, *viz.* Directorate of Primary and Mass Education, Directorate of Secondary and Higher Education and Directorate of Inspection. In order to make permanent institutional arrangements for curriculum development on a continuous basis, the National Curriculum Development Centre was set up. For timely production and supply of text-books for Classes I—X, the Bangladesh School Text-book Board was set up earlier as an autonomous body. These two bodies were merged and renamed as National Curriculum and Text-book Board (NCTB). A pilot project for experimenting the innovative ideas of using mass media to overcome shortage of good teachers and books was undertaken during the SFYP. The scheme could not make much progress.

1·64 During the TFYP, the on-going programmes in the field of educational planning and administration, curriculum development and educational technology will be completed on priority basis. A new project for experimenting multi-lingual short-hand course will be undertaken.

1·65 *Bangladesh National Cadet Corps* : The Bangladesh National Cadet Corps (BNCC) was created with a view to achieving the following objectives :

(i) to mould students' character and inculcate in them qualities of leadership and a sense of dedication to national service;

(ii) to provide military training to the students so as to stimulate their interest in the defence of the country; and

(iii) to provide disciplined volunteers during national calamities.

1·66 The programme for the SFYP was to raise five Regiments in the Army Wing, three Flotillas in the Naval Wing and three Squardrons in the Air Wing. It was envisaged that the BNCC would have two divisions : the junior division comprising students of classes VIII to X having a duration of two years, while the other division would be formed with the college and university students having a duration of three years. During the Plan period, about 1200 cadets could be raised as against the target of 1,500. The incomplete works of the BNCC under the on-going scheme will be taken up on priority basis and completed.

1·67 *Cadet College* : Before liberation of Bangladesh, four Cadet Colleges were established with the purpose of imparting quality education and leadership training to the meritorious boys and orientation for joining the defence service. Some Residential Model Schools (RMS) were earlier established for imparting quality education, but these institutions did not prove successful like cadet colleges in achieving the objectives. As such, the built-in physical facilities remained under-utilized. In order to meet the

increased demand for more cadet colleges on the one hand and for better utilization of RMSs on the other, it was decided that six RMSs, would be converted into and developed as cadet colleges. During the SFYP, the schemes for conversion of Sylhet, Rangpur, Pabna, Barisal and Mymensingh Residential Model Schools into cadet colleges were completed and that of the Comilla Residential Model School spilled over to the TFYP. There would be no need for establishment of any new cadet college under the TFYP. However, since several cadet colleges were established in the early sixties, some of them need some major repair and renovation and provision of some residential accommodation for classes III & IV employees.

1.68 The programmes envisaged during the TFYP for cadet colleges are as under :

(i) completion of incomplete work of conversion of Comilla RMS into a cadet college by 1985/86;
(ii) repair and renovation of old cadet colleges;
(iii) construction of mosques for the converted cadet colleges ; and
(iv) construction of staff quarters for Class III and IV employees of the old cadet colleges.

1.69 *Women's Education :* In Bangladesh, women constitute nearly 50% of the total population. No nation can perhaps attain the desired level of economic growth keeping half of her people inactive. The Government of Bangladesh recognised the importance of the role of women in socio-economic life and in order to improve their lot, created a separate Ministry of Women's Affairs. Necessary steps were taken under the SFYP to provide increased educational facilities and employment opportunities for women. Against the vacant posts at the primary level (14000), as many female teachers were appointed as were locally available. All the 508 posts of Teachers' Assistants were filled up with female teachers. As a result, the number of female teachers at the primary level increased from 10,000 in 1980 to 16,000 in 1985. For increasing enrolment of female teachers at the PTIs and TTCs, female hostels were constructed and as an incentive measure, additional book allowances were given to the female trainees at the PTIs. Almost all the secondary schools in rural areas offer-co-education facilities for encouraging enrolment of girls in increased numbers, besides the provision of separate government girls' secondary schools upto new district headquarters. Out of 700 non-govt. secondary schools developed for science teaching facilities at upazila headquarters, 350 high schools are for girls.

1.70 One girls' college at each district headquarter (old) has been nationalised and developed during the SFYP. In addition to 15% places reserved for girls in all polytechnics a separate ploytechnic institute for girls has been established in Dhaka. Out of 10 cadet colleges in the country, one is exclusively meant for girls. In order to provide incentive to the girls for moving along the educational ladder, 40% of the general scholarships (apart from talent pool scholarships) has been earmarked for girls. These provisions, it is hoped, will go a long way towards ensuring participation of girls in increased number in the pursuit of education.

1·71 Out of 400 community schools set up for imparting non-formal vocational skill training to the rural populace and thereby providing opportunities for rural employment/self-employment, 200 schools are meant for girls. It is reported that those passing out from these community schools are getting employment in garment industries. In the field of employment, 15% of the non-gazetted posts and 10% of the gazetted posts of government and autonomous bodies have been reserved for women.

1·72 The above arrangements are positive steps towards increasing enrolment of girls at various levels of education. However, it has been observed that bright girls generally tend to get themselves admitted into institutions offering co-education instead of girls' institutions (where both types of institutions are available) in the hope of getting better and quality education. Co-educational institutions foster opportunities for a wider competition among boys and girls. Hence, in order to inculcate the spirit of competition among boys and girls and to bring girls on stronger footing, the policy of establishment of separate institutions for girls will be re-examined.

1·73 Many educational institutions have fallen in disarray on account of wear and tear. Some of the buildings require to be repaired, renovated and where necessary, reconstructed. The TFYP has therefore earmarked Tk. 30 crore which will be spent on the dilapidated educational institutions including university.

Cyclone Reconstruction Programme

1·74 The severe cyclone and tidal bore of May, 1985 caused considerable damage to the educational institutions in the affected coastal areas. About 254 primary schools, 39 secondary schools and 40 madrasas were demolished almost completely. Another 319 primary schools, 156 secondary schools, 109 madrasas and 16 colleges were damaged partially. It is estimated that nearly Tk. 10 crore will be needed to rebuild these educational institutions. The required reconstruction work will be undertaken within the plan provision of the Education Sector during the TFYP. The design of the buildings to be reconstructed as well as those which will be built in the coastal areas during the TFYP period will be prepared in such a way that at times of need, they can be used as cyclone shelters.

SECTION 2 : RELIGIOUS AFFAIRS

2·1 The need for religion in human life cannot be over estimated. Religion is more important today than it was in the past. With the advancement of science and technology and with the crave for economic development, new forces in human nature are getting upper hand and moral and ethical values appear to be deteriorating. Unless evil forces in human nature are subdued and moulded by religious values, power derived from science and technology and fruits of economic development could be misused.

2·2 Religious activities were first included in the ADP for 1979/80 and eight projects were included with an allocation of Tk. 2·05 crore. In the SFYP, Religious Affairs appeared as a separate sub-sector under the Education Sector. It was, at that time, placed under the Ministry of Sports, Culture and Religious Affairs. Subsequently, a separate Ministry was created for Religious Affairs.

2·3 Not withstanding the resource constraints for economic development, the crisis of moral and ethical values is also responsible for many of the failures in development efforts. Human element is more important than all other factors of production in the development process. Whatever may be the technological mix, unless human efforts are morally infused and ethically refined, development efforts in any direction may not achieve the desired results. For Bangladesh particularly, morality should be considered as an essential input for development. Though invisible, it is the only element which can stop leakage and ensure effective utilization of visible development inputs.

REVIEW OF PAST PERFORMANCE

2.4 During the SFYP, the major objective in this area was to arrest erosion of moral and ethical values through religious teachings. The SFYP allocation for Religious Affairs was Tk. 14·69 crore, against which Tk. 12·33 crore was allocated through the ADPs and Tk. 12·28 crore was actually spent. Nine schemes were under implementation under SFYP. Of these schemes, five were completed by June, 1985, two spilled over to the TFYP and the remaining two were dropped in 1982/83.

2.5 A network of Islamic Cultural Centres was created in the Divisional and old District Headquarters as planned. Moreover, 1500 Book Clubs in the educational institutions and 20 libraries in the Islamic Cultural Centre Offices were set up. Four Juvenile Magazines were published and four mobile vans for distribution of books were procured. The scheme for establishment of Islamic Cultural Centres (ICC) could not be completed during the SFYP and it spilled over to the Third Plan. Around 12,975 Imams were trained as planned, 2800 Mosque Libraries were set up against the target of 1875 by reducing provision for each library to meet the increasing demand for more libraries; 12,000 books and 28 journals were added to the Islamic Foundation Library thereby exceeding the target marginally; 348 books were published and 50 research papers were prepared under the publication programme. Construction of washing complex and ladies' prayer hall of the Baitul Mokarram Mosque was completed as per schedule. A short Encyclopaedia of Islam in Bengali was published and the work on the bigger one (in 20 volumes) was continuing. The schemes for 'Printing Press of Islamic Foundation' and 'Mosque Centred Social Welfare Programme' were dropped in 1982/83 after incurring expenditure of Tk. 17.13 lakh and Tk. 23.00 lakh respectively.

THIRD FIVE YEAR PLAN

2.6 Appropriate programmes were undertaken during the SFYP for attainment of the objective of arresting erosion of moral and ethical values. However, attainment of the objective within a span of five years is rather difficult. For any visible result in this respect, conscious and determined efforts for a long time are necessary. Obviously, efforts will have to be continued through the subsequent Plans. An amount of Tk. 40 crore has been earmarked for the Religious Affairs under the TFYP.

Objective and Strategy of TFYP :

2.7 The objective envisaged during the TFYP on religious affairs is: improvement in the moral and ethical values thereby motivating the people to give their best in the national development efforts. The strategy will be to utilize the services of the Imams for socio-economic development, particularly in the rural areas and through effective publication programme. The built-in facilities of Mosques will be utilized and only minimum additional physical facilities commensurate with available resources will be created.

Programmes of TFYP

2.8 To achieve the above objective, the following programmes will be undertaken during the TFYP :

(i) The spill-over programme for establishment of ICCs will be completed by June, 1986 and another programme for setting up of 20 more ICCs in the newly created districts will be taken up on completion of the on-going project.

(ii) The work of compilation and publication of a short encyclopaedia of Islam in Bengali and one volume of the larger encyclopaedia will be completed by June, 1986 and another scheme for completion of the remaining work of the larger encyclopaedia will be taken up.

(iii) Under the Imam Training Programme, about 18,000 Imams will be given training for motivating people for socio-economic development.

(iv) For reactivating the Mosques, nearly 4,000 Mosque Libraries will be set up with selected books to meet the needs of daily life of the local people.

(v) Under the publication programme of Islamic Foundation, 400 books on different aspects of Islam will be published, 250 selected books reprinted, 20 research papers perpared and work of translation of 'Bukhari Sharif' will be undertaken.

(vi) The National Mosque (the Baitul Mokarram Mosque) will be further expanded by constructing Minars.

(vii) A programme for cassetting Al-Quran with appropriate and short commentaries in Bengali, its Bengali translation and correct pronunciation in slow motion, will be taken up.

(viii) Programme for rehabilitation of 2,400 socially displaced persons will be undertaken.

(ix) Around 15,000 foreign and 20,000 local books will be added to the Islamic Foundation Library.

2.9 Practice of religion is also a community responsibility. The Islamic Foundation, in addition to implementing schemes covered by the ADP, should also undertake efforts to promote community participation and mobilize local resources. For development of religious activities of some minority communities, Trusts have already been created by the government. It is expected that these Trusts will take up meaningful programmes for development of the religious activities under different faiths.

Financial Outlay

2.10 To implement the development programmes of Education and Religious Affairs sector, Tk. 1370 crore has been allocated – Tk. 1220 crore in the public sector including a block allocation of Tk. 50 crore and Tk. 150 crore in the private sector. Out of this, Tk. 40 crore has been earmarked for Religious Affairs. Private sector is expected to invest Tk. 150 crore for development of schools, colleges, madrashas, etc. Programme-wise allocations in the public sector are given in Table 1.

TABLE 1

Programme-wise Allocation in the Public Sector
(At 1984/85 Prices)

(Tk. in crore)

	Programme	Total Allocation for Education &R.A.	
		Amount	%
1.	Primary Education	538·00	44·10
2.	Mass Education	25·00	2·05
3.	Secondary Education	125·00	10·25
4.	Madrasa Education	6·75	0·55
5.	Teacher Education	1·50	0·12
6.	College Education	58·34	4·78
7.	Scholarships	55·00	4·51
8.	Technical Education	169·35	13·88
9.	University Education	100·00	8·20
10.	Educational Planning and Management.	11·06	0·91
11.	Major Repair and Renovation of Educational Institutions Including Universities.	30·00	2·45
12.	Block Allocation	50·00	4·10
	Sub-total for Ministry of Education (A) ..	1170·00	95·90
	Sub-total for Ministry of Defence (B) ..	10·00	0·82
	Sub-total for Ministry of Religious Affairs (C) ..	40·00	3·28
	Total (A+B+C) :	1220·00	100·00

ANNEXURE I

Statement showing Programme-wise Allocation and Expenditure during SFYP

(At current prices)

[*Tk. in crore*]

Programme	SFYP (1980—85)	
	Allocation	Expenditure
1	2	3
1. Primary Education	331·6788	210·7006
2. Mass Education	6·9802	9·4080
3. Secondary Education	86·8576	75·3317
4. Madrasa Education	2·1779	1·6958
5. Teacher Education	9·5179	13·1302
6. College Education	19·0858	19·0200
7. Scholarships	50·0046	47·5273
8. Technical Education	88·1760	49·1392
9. University Education	48·8549	50·9061
10. Educational Planning, Administration and Management: ..	27·0192	3·7226
(a) Sub-total for Ministry of Education ..	670·3529	480·5815
(b) Sub-total for Ministry of Defence ..	21·9573	16·2218
(c) Sub-total for Ministry of Religious Affairs ..	14·6898	12·2775
(d) Others	...	0·4262
Total (a+b+c+d)	707·0000	509·5070

ANNEXURE 2

Target and Achievement of Enrolment during SYFP.

Level of Education.	Position in 1973.	Position in 1980.	1985 Target	1985 Achievement
1. Primary Education (lakh students) ..	60·00	82·86	129·90	89·20
2. Secondary Education (lakh students) ..	17·00	20·00	25·00	24·83
3. College Education .. (lakh students)	3·28	3·96	4·81	4·28
4. University Education ('000' students)	23·73	30·00	34·00**	38·30
A. General	19·29	25·68	29·00	31·89
(i) Science	6·28	7·29	9·39	8·50
(ii) Arts and Others ..	13·01	18·39	19·61	23·39
B. Professional : ..	4·44	4·32	5·00	6·41
(i) Engineering ..	1·94	1·90	2·20	3·08
(ii) Agriculture ..	2·50	2·42	2·80	3·33
5. Technical Education ('000' students)	15·71	20·33	30·83	20·36
A. Engineering	1·11	2·08	3·33	3·12
B. Technician	10·90	11·83	17·50	12·75
C. Vocational	3·70	6·42	10·00	4·49
6. Commercial .. .. ('000' students).	2·55	2·72	10·00	3·30

**Excluding University Colleges and Islamic University.

ANNEXURE 3

Enrolment Targets for the Third Plan.

Level of Education	1985 (Benchmark)	1990 (Target)
1. Primary Education (lakh students)	89·20	116·00
2. Secondary Education (lakh students)	24·83	27·50
3. College Education (lakh students)	4·28	4·40
*4. University Education ('000' students)	34·98	38·60
A. General :	31·89	34·90
(a) Science	8·50	10·70
(b) Arts and Others	23·39	24·20
B. Engineering	3·08	3·70
5. Technical Education ('000' students)	20·36	22·03
A. Engineering	3·12	3·44
B. Technician	12·75	13·26
C. Vocational	4·49	5·33
6. Commercial Education ('000' students)	3·30	3·58
7. Madrasa Education (lakh students)	3·19	3·50
8. Non-formal Vocational Training (including Community Schools). (lakh students) ..	5·54	7·56

*Excluding Agricultural University.

CHAPTER XV

HEALTH

Health is one of the basic requirements to improve the quality of life. Since Independence, the government has been consistently pursuing a policy for providing essential/ minimum health care to all, particularly to the underserved. Successive health plans have emphasised Primary Health Care (PHC) as the key approach to the improvement of health status of the people. The global strategy of "Health for All by the year 2000 (HFA-2000)" has been accepted by the government as the national objective.

Review of Past Performance

2. Although significant progress has been made in the Health Sector since inception of Bangladesh like building-up of rural infrastructure, development of medical, dental, nursing and paramedical manpower, full eradication of small-pox, control of communicable diseases like tuberculosis, malaria, diarrhoea and cholera, the real goal to provide a comprehensive health care covering all the people is still to be achieved. The past plans in the health sector had endeavoured to provide essential health care to reach the people and were able to cover only 30% of the entire population. Morbidity and mortality rate, even in the face of general sub-nutrition level, have by and large, been showing declining trends, suggesting improvement in health care. A review of performance of various health programmes is discussed below briefly.

Rural Health Infrastructure

3. Of the planned 356 Upazila Health Complexes (UHCs), as many as 341 were made functional and 100 UHCs were completed in all respects. Some 1,275 erstwhile union level rural dispensaries were partially functioning as Union Health and Family Welfare Centres (UHFWCs) under the Ministry of Health and Population Control (MOHPC). Another 1,054 UHFWCs had also been constructed by the Population Control Wing of that Ministry and by now, 2,329 union level establishments are available against the target of 4,500 in the SFYP.

Hospital and Specialised Health Care Services

4. Hospital bed strength had, over the years increased significantly. There were 10,450 beds in 1972 while in 1980 it stood at 15,343 beds. During the SFYP, another 4,318 beds were added giving a total of 19,661 beds as against targetted 25,382 beds.

5. Eight existing medical colleges and their attached hospitals, National Institute of Preventive and Social Medicine (NIPSOM) and Institute of Cardiovascular Diseases (ICVD) were further developed. Establishment of 250 bed hospitals in Khulna and Comilla could not be completed while most of the work of 200 bed hospital at Narayangonj was completed through Japanese assistance.

Drugs, Vaccines, Sera and other Supplies

6. The programmes for the establishment of a pharmaceutical production unit at Tejgaon and another at Bogra for production of essential drugs were completed. The scheme for local production of tetanus toxoid was completed and the country is now self-sufficient in this product. Expansion of the Institute of Public Health (IPH) for the

production of diphtheria vaccine and for enhanced production of intravenous fluids had also been undertaken. A new National Drug Policy was adopted in 1982 with emphasis on the provision of limited number of selected essential drugs for primary and secondary health care and their local production.

Health Manpower

7. Substantial progress had generally been achieved in this area. The cumulative number of medical graduates by June, 1985 was 16,000 against the target of 17,000. Against the revised target of 3,240 Medical Assistants in the SFYP, some 3,600 were trained during the period, but enough jobs were not available for all of them. Originally it was planned to establish 20 Medical Assistant Training Schools and 18 of these were actually started. Subsequently, it was decided to close down 10 of the makeshift schools functioning in rented houses. Construction of the 8 retained schools were completed.

8. Nurses training programme was strengthened during the plan period and total number of trained Nurses including Auxiliary Nurses were 6,500 as against the target of 6,864. About 28,000 Palli-Chikitshoks and 280 Junior Nurses were also trained at the Upazila Health Complexes.

Other Important Projects

9. Steps were taken to strengthen Health Education Bureau and the Health Information Unit and also to establish a national electromedical equipment repair and maintenance centre in Dhaka. Actual implementation of the projects on development of Unani, Ayurvedic and Homeopathic Systems of Medicine and for the establishment of a Cancer Research Institute and Hospital in Dhaka had just started. The work for establishment of the Institute of Epidemiology and Diseases Control Research (IEDCR) was completed.

Financial Allocation and Utilisation in the SFYP

10. The allocation for the Health Sector was Tk. 413 crore which was 2·6% of the total public sector outlay. Against this allocation, Tk. 403 crore was made available through the RADPs while actual utilization was Tk. 370·79 crore indicating 92% utilization of the available fund. Approximately 59% of resources was provided directly for rural areas.

11. A total of 93 projects were taken up during the SFYP out of which 46 projects were on-going and 47 new. Of these, 46 projects were completed during the Plan period, 12 projects were dropped/deferred and 35 projects were spilled over to the TFYP.

Major Problems and Deficiencies

12. **Management Problems:** There was very little application of modern managerial techniques or practices in running the health services. As a result, the system of project management and monitoring was hardly effective. Continuous delay in project formulation coupled with faulty preparation of projects; lack of effective coordination and co-operation between the executive agency (MOHPC) and the construction agency (PWD) resulted in slow implementation and inadequate service delivery. Due to dearth of requisite trained personnel, hospitals and health complexes were often poorly managed. Ill defined levels of

authority and inadequate local accountability created confusion in the management system. At the DGHS headquarter level, project monitoring and evaluation were inadequate. At district level, the abolition of the posts of Additional Civil Surgeon (Dev.) and reduction of other posts had also been responsible, to some extent, for deficient project management and monitoring.

Utilization of Institutional Facilities

13. Utilization of existing facilities in the rural areas was not satisfactory. The bed utilization rate in district hospitals, medical colleges and post-graduate institute hospitals was over 100% while in the UHCs, it was only 50 to 60%. This was not due to less morbidity in the rural areas, rather it was a reflection of generally poor quality of services arising out of inadequate technical and management system coupled with inadequacy of essential supplies. Therefore, the peripheral rural institutions could not create enough confidence of the local clients who tended to bypass such institutions causing overcrowding in the larger urban hospitals.

Organisations and Problems

14. The bifurcation of health and family planning brought about a lack of coordination between the two; therefore, the idea of integration was conceived. The services were functionally integrated at the upazila level and below leaving the supervisory controls mostly bifurcated. Though there was agreement in policy that the services provided by the personnel of the two wings were to be effectively coordinated and integrated, the actual modalities of achieving this objective were not fully defined at the district and divisional level where the two wings were completely separated. Because of these anomalies, the services at the grass-root level including vital PHC services like Maternal and Child Health (MCH) care suffered.

15. Similar problems of integration but to a lesser extent also existed within the health services itself .between its preventive, curative, academic and administrative components. This coupled with a lack of effective cooperation with other social and economic sectors led to a reduced efficiency of the system.

16. **Other Deficiencies**: Most of the UHCs still lack essential physical and functional facilities. Similarly the district level hospitals suffer from inadequate facilities as well as manpower. Referral system with clearly spelt-out linkage and communication could not yet been established between UHCs and district hospitals as well as national level teaching and specialised institutions.

17. Epidemiological surveillance and monitoring system and other essential sub-systems like health laboratory services, maternal and child health care , school health, industrial health services and administration of Public Health Legislation were not only inadequate but also not properly integrated with the general health care system.

18. Data information system also could not be effectively linked with the national headquarters and peripheral health institutions which created problems in development and operational planning as well as management system.

Budgetary and Financial Constraints

19. Allocations of financial resources, both in the development and the revenue budget were inadequate in the context of long-term national goals and strategies for HFA-2000. Allocation of development fund could not be made as per phasing of the schemes due to meagre resource position. The annual recurrent (revenue) budget was inadequate to meet the increased requirement generated by development efforts, thus adversely affecting supplies and services. Nearly 40% of the revenue budget was spent on PHC and its related activities and another 40% on hospitals and clinical services. Nearly 20% of the budget was spent for drugs and other medico-surgical requisites which were always in short supplies and did not meet even 25% of the actual requirements. UHCs and UHFWCs were established, but sufficient funds were not yet available for their maintenance and operational costs, including the cost of essential and life-saving drugs. As a result full benefits from capital outlays were not always obtained.

20. Inclusion of unscheduled projects without corresponding increase in allocation of funds led to further strain on already scanty resources. Allocation in the ADP did hardly correspond to the financial phasing of approved schemes. Due to these reasons, many projects did not receive their planned allocation resulting delay in project completion.

Problem of Cost Sharing

21. The most expensive components of health care are the hospital services which were made available free or mostly free. This, in itself, severely constrained expansion and further development of public health care system. If hospital care remains free, there would always be a tendency for the privileged groups of people who have access to the hospitals to overuse them at the cost of those who are really needy.

Status of Health and the Health Care System

22. Health status of the population has improved over the years. Present life expectancy at birth is now estimated to be around 50 years. Crude death rate is 15 per 1000 population as against 16·75 per 1000 population in 1980, while crude birth rate is 39 per 1000 population. Estimates show that there has been significant improvement in infant mortality and maternal mortality which are 125 and 6 per 1000 live births as against 140 and 7 during 1980.

23. Nutrition intake has, over the years, reduced from 2094 Kcl in 1975 to 1943 Kcl in 1982. Cases of vitamin 'A' deficiency night blindness and xerophathalmia, iron deficiency anaemia, iodine deficiency goitre, protein-calorie deficiency kwashiorkor and marasmus are increasing.

Disease Pattern

24. Communicable diseases are still the major diseases in Bangladesh. Mortality and morbidity due to these diseases are very high. Infectious diseases like cholera, typhoid, tuberculosis, leprosy, tetanus, diphtheria, whooping cough, measles, rabies, venereal diseases and parasitic diseases like malaria, filariasis and worm infestations are responsible for major morbidity. A survey conducted during 1975—78 period indicated that deaths due to diarrhoeal diseases, malnutrition and pneumonia accounted for 16·3%, 13·1% and 10·8%, of all deaths respectively while those for other diseases were prematurity/birth injury 8·6%, tetanus 4·4%, pulmunary tuberculosis 3·3%, measles 2·7%, and cardiovascular accidents 4·5%.

25. Among the non-communicable diseases, diabetes, cardiovascular diseases, mental diseases, gastro-intestinal diseases, cancer, rheumatoid arthritis, respiratory diseases and urogenital diseases are increasing.

Institutional Facilities

26. Upazila Health Complex (UHC) and Union level Health and Family Welfare Centre (UHFWC) constitute the peripheral network and focal point of the infrastructure for delivery of public health care. The UHC has a 31 bed hospital, an out patient service and a domiciliary component with field workers. The UHFWC presently is the first level of contact between the people and health care delivery system and considered to be the nucleus of primary health care (PHC) delivery. Its domiciliary component consists of home visits by field level health and family planning workers for counselling on preventive and promotive health aspects, population control and family planning, collection of blood slides for malaria, immunisation, distribution of Vit. 'A' and deworming tablets and marginal treatment of simple and common diseases. At present, there are 341 functional UHCs and 1,275 rural dispensaries (to be converted to UHFWCs) and 1,054 UHFWCs. Total number of hospital beds at upazila level and below is 8,100.

27. The district hospitals and some infectious diseases and specialised hospitals (T.B., Leprosy) constitute the second referral points for PHC. There are 14 general hospitals (with capacity varying from 100 to 150 beds each), 43 general district hospitals (50 beds each), 12 T.B. hospitals (20 to 120 beds each), and one mental hospital (400-beds) at Pabna. Besides, there are 38 urban out patient clinics, 44 T.B. clinics and 23 school health clinics.

28. Eight medical colleges and hospitals (500 to 1,050 beds each) and 8 post-graduate level specialised institutes (5 of these with attached hospitals) at national level constitute the tertiary level of health care. One Dental College, one Post Basic Nursing College, 8 Medical Assistant Training Schools, 38 Nurses Training Centres and 2 Para-medical Institutes are also there.

29. The administrative units under the Health Wing of the Ministry of Health and Population Control comprises of the Office of Director General of Health Services with 8 administrative units and two specialised agencies like Bureau of Health Education and Health Information Unit. Other units are Nursing Directorate and Drug Administration.

Primary Health Care (PHC)

30. Quality and coverage of PHC are not up to expectation. Health care facilities have so far cocered 30% of total population. BCG immunisation against T.B. has covered 60% of children under 15 years. While DPT immunisation covers only 2% of children under 2 years, less than 5% of mothers received ante-natal care before deliveries. Epidemiological targets are often missed.

31. Facilities at the UHCs and UHFWCs are inadequate in terms of diagnostic means like X-ray and pathological examination, supplies of essential drugs, vaccines, sera, services for emergency and life saving surgeries and medical care. Besides, due to lack of proper linkages and referral system, PHC services could not be provided to the desired extent.

In-patient and Out-patient Care

32. Public Health Sector constitutes about 75% of health facilities provided to the people. Of the total 27,637 hospital beds in the country, there are 19,661 hospital beds under the Health Services which are distributed over 436 different large and small hospitals. In 1983, there were 5,70,000 admission cases in public sector hospitals. Besides, there are 204 hospital beds in 8 MCH and FP Centres, 769 beds in 20 police hospitals, 476 beds in 9 railway hospitals and 1,041 beds in 125 other smaller facilities under various Ministries, other than the Ministry of Health. 133 Non-Government Organisations (NGO) are also providing health care. Present bed population ratio stands at 1 : 3589.

33. There are 1,406 out-patient facilities under the Health Services and nearly 51 million patients attended these facilities in 1983. There are 218 out-patient facilities in other Ministries and 313 such facilities in the private sector.

34. A substantial measure of health care is provided, specially in villages, by the Homeopaths, Hekims, Kabirajs, Allopathic quacks, Dais and also folk-healers of traditional medicine.

Health Manpwer

35. The country has, by now, about 16,000 Doctors, 1,050 Post-graduate Medical Specialists, 510 Dental Surgeons, 6,500 Nurses including auxiliaries, 3,600 Medical Assistants, 5,800 Pharmacists, 350 Radio-graphers, 1,350 Laboratory Technicians, 1,265 Health/ Sanitary Inspectors, 1,870 Assistant Health Inspectors and 15,000 Health Assistants/Family Welfare workers. Shortage of mid-level personnel exists particularly in paramedic group, namely, Radio-graphers and Dental Technicians. At Upazila level and below, the field level health and family welfare workers numbering around 40,000 are mostly engaged in delivery of various domiciliary components of PHC.

THIRD FIVE YEAR PLAN (TFYP)

Objectives of TFYP

36. Major objectives of the Sector have been formulated on the broad principles of promoting and supporting development and operation of a national health care system so as to attain the global strategy "Health for All by the year 2000." These objectives are :

(i) to improve the quality and to increase coverage of health care delivery system;

(ii) to consolidate and strengthen existing PHC programme and its supporting system ;

(iii) to prevent, control and treat major communicable and non-communicable diseases ;

(iv) to foster appropriate health manpower development and its optimum utilisation ;

(v) to promote systematic development of Homeopathy, Unani and Ayurvedic systems of medicine on scientific basis ;

(vi) to mobilize resources to support expanding health care services;

(vii) to promote adequate production, supply and distribution of essential drugs, vaccines and other diagnostic and therapeutic agents ;

(viii) to develop a network of health information system for monitoring and development of an affordable health care delivery ; and

(ix) to promote and provide facilities for bio-medical and health system research.

Strategies of TFYP

37. In order to attain the above objectives, the following strategies will be adopted:

(i) Primary Health Care (PHC) services will be provided through a three tier system of consultation and referral. The level of services considered are (a) community level (Village level) through community health worker/voluntary health worker/health volunteer, (b) Intermediate level (Ward level) through health posts with mid-level health manpower, and (c) Health Centre level (Union level) through Union Health and Family Welfare Centre. The on-going programme for establishment of UHFWC and raising up of voluntary community health workers/health volunteers will be speeded up. All Upazila Health Complexes will be provided with diagnostic and treatment facilities for acting as spearhead for progressive delivery of well defined services related to primary health care.

(ii) Health and Family Planning Services, so far integrated at upazila and union level, will be rationalised for providing better and smooth services for (a) safe delivery of pregnant mothers, growth chart, nutrition, immunisation, family planning, preventive and promotive health education (health consciousness/awareness) to the family in a package; (b) regisration and reporting of vital events; and (c) referral and follow-up.

(iii) To control communicable diseases effectively, the immunisation and other related programmes such as establishment of health laboratory, epidemiological surveillance/health information system and health education will be further expanded and strengthened. Towards achieving universal immunisation, the target for DPT immunisation to cover children below 2 years of age has been set at 80% and for BCG immunization for children under 15 years of age at 90%.

(iv) Health manpower will be developed through appropriate education, training and continuing education programme for doctors and paraprofessionals. The thrust will be on production of specialized manpower (technical and managerial) and also on production of the mid and grass-root level health manpower. To meet acute shortage of graded specialists, some of the existing medical colleges will be strengthened, in phases, with necessary facilities for post-graduate medical training and research. A training programme for general practitioners will be undertaken.

(v) Health infrastructure throughout the country will be built up with special emphasis on referral services. Ultimately, the entire health care system will be structured on a regionalised health care module and supported by a network of referral system in which special urban health establishments at district level will serve the rural people, being the referral institutions. District hospital will be expanded with increased number of beds for different specialities and beds at Upazila Health Complexes will similarly be increased in phases to provide first level specialised care at the door step of the people. Specialised units will be set up in medical college hospitals.

(vi) Supply of essential drugs, vaccines, sera, chemicals and reagents, rehydration fluids, etc. will be augmented by increasing their production through establishment of new manufacturing plants in the country. Bottlenecks experienced in

the past due to an over centralised system of supply of basic drugs and medicines will be removed by establishing supply depots and sub-depots and streamlining the distribution system.

(vii) Development of indigenous and homeopathic systems of medicine will be encouraged under public/private sectors. However, research, training and pilot clinics will be established initially through the public sector.

(viii) Adequate health care facilities for the industrial workers/other organised groups will be developed through setting up of Health Cooperatives to be run jointly by government, employer and employees.

(ix) Dimension of medical research will be expanded to priority areas particularly in developmental, operational and bio-medical fields.

(x) To generate resources, various methods like cost sharing, health insurance and cooperative will be adopted keeping in view the question of equity among various socio-economic classes.

(xi) Cooperation and coordination with other socio-economic development sectors as well as participation with the community in term of ideas, fund, staff, management of the organisation will be developed particularly in Primary Health Care towards self-reliance.

(xii) Private bodies will be encouraged to undertake programmes in the fields of training, development of infrastructure, pharmaceutical industries and extension services for Primary Health Care.

Development Programmes of TFYP

38. Major Targets and Indicators: The targets and indicators are essentially based on those developed as a part of the national strategy for HFA-2000; these are broadly categorised under four heads viz: health status, health care delivery, supportive services and health manpower. These have been placed at Table 1.

39. PHC and Ancillary Services: Functional inadequacies in all the existing UHCs, particularly in respect of preventive ans promotive care, are to be removed. At present, only 341 UHCs are funcitional; remaining 56 UHCs are to be completed partly through spill-over programmes and partly through a new programme. Consistent with the national strategies for HFA and also with the Government's policy of upgrading the upazilas into major centres of administrative, socio-economic and development activities, it is now appropriate that UHCs be gradually provided with adequate facilities including supplies so as to improve proper services at peripheral level.

40.. Many of the 1,275 existing HFWCs under the Health Wing of the Ministry of Health and Population Control still need to be properly developed, at least to the level of a standard UHFWC. All the required 4,500 UHFWCs shall be established and functionally standardized during the TFYP period. At community (village) level, health posts are needed and there should be one such health post in each village or ward. MCH and family planning services are especially to be emphasised at the health post. The health posts are to be managed by the community on a cost sharing basis. Funding in selected cases may be provided through the Upazila Parishads in the form of grants, as a support

to these communities which show willingness and come forward to develop self-financing PHC programmes of their own in the spirit of self-reliance. One such health post in each upazila is planned for the TYFP as a pilot measure; the remaining posts will be taken up, in future.

41. Special services are to be organised for the care of mothers and children at the UHCs and UHFWCs with specific targets for progressively covering under supervision all the pregnancies and deliveries in the area within a time-frame. Health education and expanded programme on immunization are to be closely coordinated with MCH services and activities.

42. The communicable disease control programmes will provide technical services for the control of major communicable diseases. A major portion of these activities are to be concentrated at the primary health care level including static care at the UHC and UHFWC. The central components of epidemiological surveillance will be strengthened to enable them to provide technical assistance and guidance to the local agencies. Surveillance is to be carried out essentially at the local level by timely detection of diseases with epidemic potential so that quick and effective measures can be taken. The public health laboratory component of epidemiological services will be developed at the central, as well as at the district level, as an integral part of the various communicable disease control programmes.

43. Some progress has been made during SFYP in the production and distribution of oral rehydration salt (ORS). A more comprehensive programme on diarrhoeal disease control will be undertaken in the TFYP including decentralised elements of detection and epidemic control, and also production/distribution of ORS. Expertise available at the ICDDR, B would be utilized in developing the programme, strategy and training of personnel.

44. Increasing the coverage under the Expanded Programme on Immunisation (EPI) against tetanus, diphtheria, measles, tuberculosis, pertussis (whooping cough) and poliomyelitis will be a major concern of the UHCs, UHFWCs and field level health workers. All the field level workers and their supervisory staff including doctors are to be fully involved, mobilised and made accountable for the implementation of the EPI programme within a rigid time frame. For this purpose, the community at each upazila and union should also come forward and be encouraged to participate in the programme so as to achieve their own specific targets for universal immunisation.

45. **Comprehensive Nutrition Programme :** It will include introduction of growth chart, promotion of breast feeding, use of ORS for diarrhoeal diseases, nutritional surveillance, establishment of nutrition units including rehabilitation centres at the UHCs, blindness prevention, improvement of diet with special reference to weaning and deworming of childeren. In collaboration with other sectors, a complete goitre control is to be achieved in the TFYP period through iodation of all edible salt used in the country.

46. **Health Education :** Health education needs to be further strengthened and developed as a major activity at the upazila and union level. Present skeletal school health services are to be strengthened to provide PHC to school children as a special target group. All schools are to be progressively and systematically covered.

47. **Malaria Control Programme :** Malaria has become once again, a major health problem. The on-going malaria control programme needs to be further strengthened to include better epidemiological coverage, spraying of wider areas with effective chemicals and use of appropriate technology.

Popular Participation

48. Primary health care activities need concerted effort and close participation of the people. People need to come up with their problems and resolve those problems within their means. Efforts are, therefore, necessary to enlist involvement of people of all walks of life, including communities, local government bodies, non-governmental organisations and other voluntary associations of people towards development of health awareness and skill, mobilisation of resources and management of PHC programmes. Initial efforts will be to assist/induce communities through mass education, health, family planning and nutrition education campaigns and other motivational approaches and also provide technical supports from local health institutions. The direction will be to gradually shift the present state of indifference regarding personal as well as community health to a position of active participation and self-management in health care. The Upazila Parishads and Union Parishads are already being involved in the maintenance and management of UHCs and UHFWCs and in the process of stengthening PHC in their respective areas.

PHC Supportive Programmes

49. A major programme in this area is for the expansion and modernization of district hospitals to enable them to act as referral centres for PHC. All district hospitals (including erstwhile subdivisional hospitals, but excluding seven districts with medical college hospitals) are to be modernized with adequate diagnostic and treatment facilities, standardized staffing pattern and provision of at least 100 hospital beds. The programme (including multiple projects) will involve upgrading 36 existing 50-bed hospitals into 100-bed hospitals, modernization of 9 existing 100-bed hospitals and establishment of 11 new 100-bed hospitals in new districts.

50. Production of essential drugs and vaccines for primary health care will be further enhanced. The Institute of Public Health will be strengthened to produce the necessary vaccines, sera, intravenous fluids and laboratory chemicals and reagents. Particular emphasis will be given for creating facilities for the production of all components of DPT vaccine and anti-venom sera. Drug control laboratories will be strengthened for ensuring the quality of pharmaceutical products. A pilot project for identifying requirement of essential drugs for PHC will also be undertaken in a few upazilas.

51. Efforts will be made to produce the required essential drugs for PHC locally in government plants and in the private sector. In addition to strengthening the two government plants in Dhaka and Rajshahi Divisions, another such plant will be se up in the country. Local production of basic pharmaceutical raw materials in bulk, including antibiotics will be promoted to attain greater self-reliance in the local production of essential drugs. A National Formulary of Essential Drugs will be published under the auspices of the government for wider dissemination of essential drug information.

52. A sub-system for industrial hygiene and health care of industrial workers is essential for the welfare of the people who are engaged in mills and factories. Health care of industrial workers will be provided through training of manpower in industrial health at NIPSOM, arranging laboratory facilities for chemical safety and provision of medical facilities in the main industrial areas.

53. The Health Information Sub-system will be further developed to collect valid and timely statistical and other information for planning, operating, monitoring and evaluating the health system. The system must be fully active at each upazila.

Health Manpower Development

54. While the most urgent need is to strengthen the existing skills through in-service training for optimum utilisation of the present manpower, there is also need for additional manpower of different categories for keeping pace with the expanding activities under the development process. For most of the priority health needs in Bangladesh, expensive training of physicians or specialists is not needed. However, doctors and specialists are needed in ever increasing numbers for rapidly expanding activities requiring higher knowledge and skill.

55. Doctors: The yearly output of doctors is now about 1,200 and at this rate, the cumulative number of doctors in 1990 would be nearly 22,500. Jobs for most of the additional 6,500 doctors to be produced during the TFYP period may still be available in the health services in view of expanding development activities. But sooner or later, a situation will arise, when it may no longer be possible to absorb all the new graduates in government services. Special efforts are, therefore, needed for utilizing the services of increasing number of doctors in the private sector, as well as in other ministries and non-government agencies. To facilitate self-employment in peripheral areas, special incentive needs to be provided in the form of long-term low-interest loans, to be repaid after a grace period. The possibility of engaging doctors under insurance scheme with remuneration on the basis of capitation should also be explored.

56. Assuming that the present emphasis on public sector health care including medical care shall remain unchanged, the annual intake and production of doctors should, as far as possible, be adjusted to the expansion of public health facilities and the very limited present needs of the private sector. No new medical college is to be established in the public sector during TFYP period except the on-going development of Khulna Medical College. However, provision has been made tentatively for the establishment of one or more medical institutions in the private sector.

57. The existing facilities in the 8 medical colleges will be strengthened to enable them to improve their standard and possibility for post-graduate level training. The dental college at Dhaka which is now temporarily accommodated in the Dhaka Medical College Hospital will be shifted to new premises. The training programme for teachers and specialists will be further improved. With the development of UHCs and district hospitals as referral centres for PHC, a much larger number of specialists would be needed in the near future. Facilities for post-graduate training will be expanded for selected specialities in some of the medical colleges and also at the post-graduate institutes. A College of General Practitioners will be established preferably under the private sector for imparting refresher training to general practitioners.

58. In-service training of health administrators in administative and management skills is a crying need. Existing facilities at the Public Administrative Training Complex at Savar, NIPSOM, National Institute of Population Research & Training (NIPORT) and Bangladesh Management Development Centre (BMDC) shall be utilized as far as possible for this purpose.

59. **Mid-level Health Workers:** The basic training of Nurses and Midwives will be taken up on a priority basis in the TFYP. Adequate provision will be made for expansion of training facilities. Training programme for all categories of Nurses, including Public Health Nurses and Auxiliary Nurse-Midwives shall be reviewed and revised. A ratio of at least 1 Nurse for every 4 hospital beds should be achieved by 1990 and this means that at least 10,200 Nurses, as against 6,500 presently available, are needed for hospital services alone by 1990 both in the public and private sectors.

60. The annual intake of students in the 8 Medical Assistant Training Schools is now 240. The target of production of Medical Assistants for 1990 has been set at 4,600. Efforts should be made to utilize the services of the Medical Assistants in the EPI, MCH and disease control programmes, rather than in curative roles.

61. The training programme for paramedical personnel, such as Laboratory Technicians, Radiographers, Pharmacists, Health and Sanitary Inspectors, Dental Technicians, Radiotherapy Technicians and Physiotherapy Technicians will be reviewed and readjusted in the context of present and future needs. In view of the great shortage of Radiographers, Dental Technicians and Laboratory Technicians, crash programme for training of these categories of workers will be taken up in some of the selected Medical Assistant Training Schools. Job opportunities and career planning for Para-medical Technicians and Medical Assistants will have to be given due consideration.

62. **Basic Health Workers:** Continuous educational programme for PHC workers will be arranged on a regular basis to maintain a high degree of performance and to keep them abreast of new development. Training of Health Assistants and similar other categories of basic health workers will be continued and field practice areas for on the job training will be upgraded. Training of supervisory level workers, EPI Technicians and their trainers will also be strengthened. The training of Health Inspectors will be institutionalised in the same line as in the case of Sanitary Inspectors. Training of Traditional Birth Attendants will be carried out under a special programme under the Population Control Wing of MOHPC.

63. At present the health and family planning services are integrated at upazila level and below. To be really integrated, there should not be any distinction between the field level workers of the two wings of MOHPC, and all of them are to be trained for both health and family planning services. Existing problems of co-ordination and control are also to be removed carefully and systematically.

64. Local perceptions of health needs may conflict with scientific judgements, but they cannot be fully ignored. If there is no local concern over a health problem or interest in solving it, people will not use the services offered. For example, preventive services, such as immunization or population control may not be widely accepted like curative services, because people cannot see the immediate benefits. Health workers may win credibility by providing curative services, but it would be unfortunate if they are bogged down only in their curative roles. In such situation, it is necessary to educate the community as well as the health workers carefully about the benefits that may come from preventive activities. For this purpose, community health workers and health volunteers will be organised by the community and they will be imparted with basic training in primary health care activities.

Hospitals and Clinics

65. Provisions will be made for further development of the existing eight medical college hospitals and other specialised hospitals. While Dhaka and Chittagong Medical College Hospitals will have 1,050 beds in each, the other six medical college hospitals are to be upgraded so that each has at least 750 beds including essential specialised units which are presently missing. The Shahid Suhrawardy General Hospital will be upgraded into a full-fledged 500 bed hospital with certain specialised services. The number of beds in the ICVD is to be increased. Nuclear medicine establishment will be attached to six large hospitals to provide special diagnostic and therapeutic services.

66. One 100-bed Tuberculosis and Chest Hospital is to be established at Rangpur by upgrading the existing unit. Two 100-bed Children Hospitals, one each at Chawkbazar (Dhaka) and Khulna and another 200-bed modern Children Hospital near the premises of IPGM&R at Dhaka will be established during the plan period. Faridpur Sadar Hospital will be upgraded to provide a total of 250 beds. Facilities for treatment of casualty cases will be provided in bigger hospitals.

67. Altogether, it is planned to add 9,873 new hospital beds in the public sector during the TFYP, so that the number of hospital beds under the health services is raised from 19,661 to 29,534 by 1990. Of the total beds, 12,231 will be at the upazila level. The number of hospital beds under other Ministries, NGOs and the private sector is estimated to increase from 7,976 to 11,200 in 1990. Thus by the end of TFYP, it is expected that a total of 40,734 hospital beds will be available in the country, giving a bed population ratio of 1 : 2712.

Other General Programmes

68. Programmes in this area are generally directed to strengthening of the health care system including its national level administration. One programme envisages construction of a headquarters for the Directorate General of Health Services which is now scattered over many places in hired accommodation. Construction of Nurses' quarter attached to hospitals will also be undertaken.

Cyclone Reconstruction Programmes

69. The following work with an estimated cost of Tk. 390·00 lakh has been identified under the Health Sector for implementation in the cyclone affected areas :

(i) Establishment of an upazila health complex at Hatia.

(ii) Establishment of an upazila health complex at Amtali.

(iii) Construction of 16 cyclone shelters—one each at the 2nd floor of Upazila health complexes and district hospitals of the cyclone affected areas.

70. The programmes at Sl. (i) and (ii) will be implemented under a comprehensive project entitled "Establishment of New Upazila Health Complexes" and the programme at Sl. (iii) will be implemented under the on-going projects "Upazila Health Complexes" and "Modernization of Subdivisional Hospitals". The design of the new health complexes will be made in such a way that these complexes could be used as cyclone shelters at times of need.

Financial Outlay

71. Taka 550 crore (at 1984/85 prices) has been allocated for financing the development programmes of Health sector. Out of this total allocation, Tk. 240·34 crore has been earmarked for 35 spill-over projects. In the Health sector programmes, primary health care activities have been given priority with a share of 73·6 per cent of the total allocation. Programme-wise allocation is given at Table 2. In addition to the above, it is expected that an amount of Tk. 50·00 crore will be invested for projects like development of polyclinics, X-ray clinics, pathological laboratories, nursing homes, private medical institutions etc. in the private sector.

TABLE 1

Major Indicators and Targets

Sl. No.	Health Indicator.	Unit.	1979/80 (Actual)	1984/85 (Actual)	1989/90 (Target)
1	2	3	4	5	6
	Health Status				
1	Infant mortality . ..	pe 1000 live births	140	125	100
2	Child mortality	per 1000 (1 to 5 yrs.)	24	22	12
3	Maternal mortality	per 1000 live births	-	6	4
4	Crude birth rate	per 1000 population	43·25	39·00	31·00
5	Crude death rate	per 1000 population	16·75	15·00	13·00
6	Population growth	% per year	2·65	2·40	1·80
7	Life expectancy at birth ..	In year	47	50	54
	Health Care Delivery.				
8	Hospital Beds :	Cumulative Number ..	21,141	27,637	40,734
	(a) Health Services	Ditto.	15,343	19,661	29,534
	(b) Other Ministries, NGOs and private sector. ...	Ditto.	5,798	7,976	11,200
9	Population per hospital bed ..	Ditto. ..	4,168	3,589	2,712
10	Upazila Health Complexes ..	One in each rural upazila.	290	341	397
11(a)	Union Health and Family Welfare Centres (UHFWC).	One in each union ..	1,773	2,329	4,500
	(b) Health Post for community based services (self financing).	One for about 5000 people.	..	..	397
12	Immunization against :				
	(a) Tuberculosis	% under 15 yrs. covered	50	60	90
	(b) Diphtheria, Whooping Cough and Tetanus.	% under 2 yrs. immunized	1	2	80
	(c) Measles	% coverage		0·8	80
	(d) Poliomyelitis	Ditto.		2	80
13	Control of diarrhoeal diseases ..	% coverage of ORS. distribution.	5	50	90

TABLE 1—*Contd.*

Sl. No.	Health Indicator.	Unit.	1979/80 (Actual)	1984/85 (Actual)	1989/90 (Target)
1	2	3	4	5	6
14	Control of Tuberculosis .	% case finding and treatment of estimated total diseased.	10	13	35
15	Delivery by trained Midwife/ Birth Attendant.	% deliveries attended	2	5	50
16	Ante-natal care	% pregnant women given care at least once.	10	15	50
17	Blindness prevention ..	% children under 6 receiving vit A capsule.	60	75	90
18	Goitre control	% covered for protection	20	30	100
19	Nutrition services	% of 2nd/3rd degree malnutrition cases found and treated.	5	5	30
20	Coverage of population by primary health care services.	% of population ..	25	30	65
	Supportive Services				
21	Essential drugs and vaccines ..	Availability for public health services (% of total required).	10	25	60
22	Production of essential drugs, vaccines, ORS & I.V. fluids.	Value in million Taka	15	80	300
23	Health Laboratory Services :				
	(a) Simpler clinical diagnostic lab. facilities at UHCs.	% of coverage ...	20	25	100
	(b) District laboratory facilities	Ditto. ..	20	25	60
	(c) Simple tests in UHFWCs	Ditto. ..	..	5	25
24	X-Ray facilities in the UHCs	Ditto. ..	10	20	60
25	Blood transfusion services in district hospitals.	Cumulative numbers	..	20	64
	Health Manpower				
26	Graduate doctor	Cumulative numbers ..	11,000	16,000	22,500
27	Post-graduate doctor ..	Ditto. ..	631	1,050	2,100
28	Dentist	Ditto. ..	262	510	750

TABLE 1—*Contd.*

Sl. No.	Health Indicator.	Unit.	1979/80 (Actual)	1984/85 (Actual)	1989/90 (Target)
1	2	3	4	5	6
29	Basic Nurse/Midwife ..	Cumulative numbers ..	2,700	6,500	10,200
30	Medical Assistant	Ditto. ..	450	3,600	4,600
31	Laboratory Technician ..	Ditto. ..	1,100	1,350	2,000
32	Radiographer	Ditto. ..	190	350	700
33	Pharmacist (Diploma) ..	Ditto. ..	5,200	5,800	8,500
34	Health Sanitary Inspector ..	Ditto. ..	930	1,265	1,500
35	Assistant Health Inspector ..	Ditto. ..	1,350	1,870	4,500
36	Health Assistant	Ditto. ..	12,390	15,000	23,000

TABLE 2

Programme-wise Allocation.

(*Tk. in crore*)

Programme Area.	Allocation.	Percentage distribution of total Allocation.
1	2	3
(A) PHC and Ancillary Services	275·08	50·02
(B) PHC Supportive Programmes	129·57	23·56
(C) Health Manpower Developnent	55·83	10·15
(D) Hospitals and Clinics	80·43	14·62
(E) Programmes of General Nature	9·09	1·65
Total ..	550·00	100·00

CHAPTER XVI

POPULATION CONTROL AND FAMILY PLANNING

Bangladesh has a large population with highest density in the Third World as well as high growth rate. The mid 1985 population size is estimated at 100·5 million which gives a density of 1808 persons per square mile. The crude birth and death rates are 39 and 15 per 1000 population respectively, resulting in a rate of natural growth of population of 2·4 per cent. This high rate of growth is most unfavourably influencing the socio-economic development of the country. First, the increasing density of population is further reducing the already poor per capita land availability requiring production of more food from the same amount of land; more than that, it means increasing landlessness as the rural areas where natural growth is also higher and given limited opportunities outside agriculture, it also means increasing pauperisation of the rural poor. Secondly, the working age population is increasing by about 1·5 million every year requiring additional job opportunities; this is bound to increase the problem of unemployment. Thirdly, the fast growing population, with 46 per cent below the 15 year age group seriously impedes the nation's efforts at economic growth because of its increased claim on limited resources for consumption. As a consequence of all these, a vast majority of the population is forced to live below the poverty line. A fast growing population has also other problems such as the increase of school age population requiring expanded educational facilities even to maintain the present low level of literacy and urban influx leading to slum. In short, the problems of the fast increasing population in Bangladesh are high unemployment, high dependency ratio and increasing poverty.

2. The problem of population control and family planning, therefore, attracted the attention of the social workers and planners in early sixties when government adopted formal programmes for family planning as a development strategy. Since then two population censuses have been taken; in spite of their limitations, the trend in population growth, as revealed in these censuses, indicates that the population control and family planning programmes have started to pay. Population growth has declined from 2·7 percent to 2·37 percent between 1961 and 1981*. A continuous demographic survey in operation now also shows that there has been decline in fertility rate as well as an increase in female marriage age. But the weak-point in this trend is that the progress in family planning has been very uneven between the urban and rural communities though the latter community constitutes the most populous section of the nation. Population size and its characteristics such as, illiteracy, unemployment and underemployment, preference for son, early age at marriage etc. together with the problem of delivery of family planning services at the doorstep of the people make the task formidable in the rural areas. Notwithstanding these limitations, efforts to combat the existing high rate of population growth (2·4%) must continue. Otherwise, not only the economic growth will be impeded the carrying capacity of land will also be sapped under the excessive population pressure aggravating further the current depressing socio-economic scenario.

REVIEW OF PAST PERFORMANCE

Objectives of SFYP

3. The problem of high rate or population growth was recognised as the most important national problem and consequently, very serious emphasis was laid on its control in the SFYP. As per long term goal of achieving a net reproduction rate (NRR) of

*The rates refer to intercensal growth of population between 1961 and 1974 (2·7%) and 1974 to 1981 (2·37%).

one by the year 1990, the SFYP demographic objective was fixed to reduce the crude birth rate (CBR) from about 43 to about 32 per 1000 population. Presuming a simultaneous decline in the crude death rate (CDR) from about 17 to 14, this would have meant a reduction of the rate of natural increase from 2·7 per cent to 1·8 per cent. The above demographic change would have required a rise in the contraceptive practice rate to 37·5 percent of eligible couples.

Achievements during SFYP

4. Fertility level did not decline to the extent envisaged, but there are significant trends in the recent programme performance which indicate that the nation is on the threshold of a more dramatic decline in fertility in the near future. The contraceptive practices have steadily increased in recent past, from 12·7 percent of eligible couples in 1979 to 18·6 percent in 1981, 21·7 percent in 1983 and 25 percent (estimated) in mid 1985. This rising trend in the rate of contraceptive practice in recent years documented through independent surveys, represents a turning point in our path of fertility decline. The CBR has correspondingly declined from about 43 in 1980 to 39 in mid 1985 and the population growth rate declined from 2·7 percent to 2·4 percent.

Contraceptive Performance during SFYP

5. The contraceptive performance during the SFYP is shown in Table 1 below, yearwise, along with percentage of target achieved :

TABLE 1

Method Specific Contraceptive Performance During SFYP

(Figures in lakh)

Method	1980/81	1981/82	1982/83	1983/84	1984/85
Sterilization ..	2·588 (65·2%)	3·029 (58·6%)	3·631 (54·7%)	5·521 (72·2%)	4·916 (53·5%)
IUD	0·416 (42·9%)	0·837 (52·3%)	1·177 (72·7%)	3·033 (163%)	4·324 (153·3%)
Oral Pill .. .. (in cycles) ..	81·377 (46%)	77·513 (37%)	82·579 (35%)	97·257 (38·2%)	115·528 (43·5%)
Condom .. .. (in pieces) ..	871·118 (75·8%)	932·304 (65·7%)	1168·214 (73·1%)	1310·964 (72·1%)	1519·98 (79·5%)
Injectables .. .. (in doses)	1·120 (32·9%)	0·811 (24·6%)	0·727 (17·9%)	1·225 (25·3%)	1·660 (29·2%)
Emko .. .. (in vials)	0·608 (17·9%)	0·635 (19·3%)	0·696 (17·2%)	0·643 (13·3%)	0·718 (12·7%)
Foam Tablets .. (in pieces) ..	50·111 (39·3%)	41·259 (33·4%)	54·044 (35·6%)	43·847 (24·2%)	32·222 (15·1%)
Others	0·280 (—)	0·434 (—)	0·585 (—)	0·567 (—)	0·686 (—)

(Figures in brackets show achievement in terms of percentage of target fixed).

Financial Progress during SFYP

6. Plan allocation for population control and family planning was Tk. 310 crore—2·8% of plan outlay in the public sector. Year-wise financial allocation through ADP mechanism along with utilization is shown in table 2 below :

TABLE 2

Year-wise Financial Allocation During SFYP

(Tk. in crore)

Year	RADP Size	Allocation for Population Secter through RADP	% allocated to Population sector	Utilization in Population sector	% of utilization
1980/81	2,369	69·64	2·9	47	67
1981/82	2,715	86·28	3·2	40	46
1982/83	3,126	85·65	2·7	71	83
1983/84	3,585	106·92	3·0	86.03	80
1984/85	3,498	111·01	3·2	102.03	92
Total ..	15,293	459·50*	3·0	346·06	75

*This also includes allocation for TAP Projects.

Future Prospect

7. In addition, achievement in certain programmatic and socio-economic factors appear to provide conditions suitable for future decline in fertility.

They are :

(a) an accentuated degree of public awareness about the population problem, and greater knowledge of family planning and its methods;

(b) indications of a declining trend in the level of desired family size, as revealed in the recent surveys, and the likely increase in the demand for contraceptive services;

(c) wider coverage of the population by family planning services, domiciliary and clinical;

(d) greater emphasis on maternal and child health services, including immunization, oral rehydration and training of Traditional Birth Attendants (TBA) and institution of an effective mechanism of coordination, with an expected decline in infant mortality;

(e) improvement in the quality of family planning services and its follow up care;

(f) increasing family planning worker population ratio;

(g) wider coverage with multi-sectoral programmes, particularly women's activities;

(h) a high level of political commitment and greater local participation resulting from decentralization of government functions to Upazila Parishads.

THIRD FIVE YEAR PLAN

Demographic Goals

8. Considering the serious socio-economic implication of high rate of population growth the country has no option other than to invest all efforts to reduce drastically the population growth rate. After reviewing eight alternative demographic scenarios, ranging from assumed constant fertility and constant mortality to very rapid fertility and mortality declines, the path involving a very rapid fertility decline and a slow mortality decline, designed to reach NRR=1 by the end of the century, was selected as the basis for formulation of TFYP development programmes.

9. Table 3 below shows the year-wise targets for fertility reduction and population growth rates, with the required levels of contraceptive practice :

TABLE 3

Projected Population Size, Birth, Death and Growth Rates for the TFYP Along with Required Contraceptive Practices.

Year	Mid-year population (million)	Population at the beginning of the yoar (million)	Mid-year CBR	Mid-year CDR	Average growth rate	Contraceptive practice rate	Numbers of EC using (000)
1985 ..	100·5	99·2	39.0	15·0	2·4	25·0	41·95
1986 ..	102·9	101·7	37·6	14·4	2·3	28·0	49·10
1987 ..	105·2	104·1	36·2	14·1	2·2	31·0	56·51
1988 ..	107·4	106·3	33·8	13·9	2·0	34·0	64·44
1989 ..	109·5	118·5	32·4	13·7	1·9	37·0	72·80
1990 ..	111·5	110·5	31·0	13.4	1·8	40·0	81·59

The CBR is expected to decline from the present level of 39·0 per 1000 population to 31·0 by 1990. Presuming that the CDR will also decline during the period from 15·0 to 13·4 because of health measures, the rate of growth will decline from 2·4 percent to 1·8 per cent. Demographic change to this extent will require an increase in the rate of contraceptive practice from 25·0 percent in 1985 to 40·0 per cent in 1990. In absolute term this means that the number of eligible couples (EC) using contraceptives has to double from 4·2 million in 1985 to 8·2 million in 1990.

MCH Goals of TFYP

10. The overall goals for the maternal and child health (MCH) programmes under the TFYP are to improve the health condition of the mothers and children, in order to:

(i) reduce maternal mortality from 6 per 1000 live births in 1985 to 4 in 1990;

(ii) reduce infant mortality from 125 per 1000 live births in 1985 to 100 in 1990; and

(iii) reduce neonatal mortality from 85 per 1000 live births in 1985 to 65 in 1990.

Population Policy Approaches and Strategies

11. The major policy approaches for control of population under the TFYP will, in broad terms, have two major dimensions: provision of contraceptive services to meet the existing unmet latent demand and to create further demand through health, social, economic and legal measures.

12. **Provision of Contraceptive Services:** Available evidence indicates the existence of a considerable amount of unmet demand for contraceptive services. Some pilot efforts have achieved contraceptive prevalence of about 40 percent as compared to an estimated national average of 25 percent. The major thrust of the population policy would, therefore, be to strengthen contraceptive service programme through the following means:

(a) expansion of coverage with domiciliary and clinical services;

(b) improvement of the quality of services and follow up care, thereby increasing acceptability and continuation rates of practice;

(c) strengthening of IEM programme, particularly contraceptive education to increase the rate of effective knowledge;

(d) provision of a broader range of contraceptive methods with use of the most modern, safe and effective brands and techniques of different methods;

(e) improvement of programme efficiency, particularly the management, supervision, field workers performance and training.

13. **Health and MCH:** Greater emphasis will be laid on primary health care and maternal and child health with a view to reducing infant mortality and thereby enhancing the parental confidence about the chance of survival of their children.

14. **Education and Literacy:** Efforts will be made to promote levels of education and literacy in the country through education sector programmes as the means to promote the process of fertility decline.

15. **Women's Programmes:** The status of women will be enhanced through greater emphasis on women's education, women's participation in labour force and economic, social and political life.

16. **Community Participation.** Efforts will be made to develop, under the recently constituted Upazila Parishad, effective socio political institutions in the rural areas for mobilisation of the community support of small family norm, social legitimacy of contraceptive practice, late marriage and women's emancipation and their participation in broader social life. A programmatic mechanism for effective involvement of the community will be evolved by the Upazila Parishad for the purpose.

17. **Socio-economic Measures:** Social, economic and legal measures, along with a system of incentives and disincentives, in support of small family norm, would be instituted. The development policies in different development sectors will be reviewed to identify their fertility influencing potentials and appropriate re-orientation in the light of the same will be proposed.

18. **Multi-Sectoral Approach:** The present multi-sectoral approach will be pursued to identify the potential role of different Ministries/Divisions in population control and family planning. A technically competent mechanism of coordination will be instituted for better implementation of multi-sectoral programmes.

19. **Role of NGOs:** The role of non-government organizations (NGO) in the field of population will be promoted in support by government programmes.

Contraceptive Practices

20. The main strategy for contraceptive services will be to provide a broad range of methods to allow the people alternative choices. Although the relative mix of practice of different methods will be determined on the basis of voluntary choices, a method mix is to be chosen for planning purposes on the basis of recent trends. Table 4 shows the trend of contraceptive mix in different surveys:

TABLE 4

Percentage Distribution of Contraceptive by Methods under Different Surveys

Methods	BFS 1975	CPS 1979	CPS 1981	CPS 1983	BIDS 1984
Sterilization	10·4	25·9	25·8	40·1	51·6
Oral Pill	35·0	28·4	18·8	15·2	16·1
Condom	9·1	11·8	8·6	12·4	7·3
IUD	6·5	1·6	2·2	4·6	13·7
Injectable	..	1·6	2·2	0·9	1·5
Others	39·0	30·7	42·4	26·8	9·7
Total ..	100·0	100·0	100·0	100·0	100·0
Total use (% of all couples) ..	7·7	12·7	18·6	21·7	24·8
Total use of modern methods (% of all couples).	4·7	8·9	11·0	16·2	22·4

Note—In the BFS Study, injectables were lumped with others and vaginal methods were lumped with others but included in total use of modern methods.

The above trend indicates that promotion of pill use has suffered in recent years. This trend should be reversed with adequate programme measures. It is also presumed that relative role of Intra Uterine Device (IUD) and Injectables will increase at the expense of use of non-modern methods.

21. Table 5 shows the year-wise method mix :

TABLE 5

Year-wise Mix of Different Contraceptives under TFYP

	1983	1985/86	1986/87	1987/88	1988/89	1989/90
Sterilization ..	40·0	40·6	41·2	41·8	42·4	43·0
Oral Pills ..	15·2	15·5	16·0	16·5	17.0	17·5
Condom	12·4	13·0	13·0	13·0	13·0	13·0
IUD	4.6	7·5	9·0	10·5	12·0	14·0
Injectables ..	1·0	1·3	1·6	1·9	2·2	2·5
Others	26·8	22·1	19·2	16·3	13·4	10·0

22. Year-wise target for continued users and new acceptors for different methods, prepared on the basis of above method mix is shown in table 6 which follows :

TABLE 6

Year-wise Target for New Contraceptive Acceptors Required to meet the TFYP Target

[Fig in 000]

Methods	1984/85	1985/86			1986/87			1987/88			1988/89			1989/90		
	C	O	N	C	O	N	C	O	N	C	O	N	C	O	N	C
Sterilization ..	1,678	1,510	455	1,965	1,768	529	2,297	2,063	551	2,614	2,353	647	3,027	2,724	735	3,459
IUD	252	151	212	363	218	285	503	302	355	657	394	462	856	513	613	1,126
Oral Pill	629	315	435	750	375	518	893	447	585	1,032	516	699	1,215	608	800	1,408
Condom	545	273	357	630	315	410	725	363	450	313	407	521	928	464	528	1,046
Injectables	42	28	35	63	42	47	89	60	59	119	80	77	157	105	96	201
Others	1,049	525	544	1,069	534	536	1,070	535	485	1,020	510	447	957	479	325	804
Total ..	4,195	2,802	2,038	4,840	3,252	2,325	5,577	3,770	2,485	5,755	4,260	2,853	7,140	4,893	3,097	8,044
Requirement of Oral Pills (Million cycles)..	9·43			11·25			13·4			15·48			18·22			21·12
Condom (million pcs) ..	81·75			94·50			108·75			121·95			139·20			156·69

N.B. (*i*) O=Old user ; N=New user ; and C=Continuous user.

(ii) Assumptions regarding attrition/drop out rates are for sterilization 10%, IUD 40%, Condom and Oral Pills 50% ; Injectable 33% and Others 50%.

(iii) Use of 15 cycles of pills and 150 pieces of condom are respectively assumed to be one couple year of protection

Programmes of TFYP

23. Population programmes under the TFYP will include provision of family planning services, information, education and motivation (IEM), maternal and child health (MCH) services by non-governmental organization, multisectoral programmes, and supporting services like training, research, evaluation and reporting systems.

Family Planning Services

24. Family planning services will include contraceptive services and family planning related information, education and motivation.

Contraceptive Services

25. Contraceptive services will be provided through domiciliary supplies (oral pill, condom, vaginal methods) and advice on safe period and withdrawal and referral for clinical methods, clinical services through Health and Family Welfare Centres (HFWC), Upazila Health Complexes (UHC), Maternal and Child Welfare Centres (MCWC), Government Hospitals, Medical College Hospitals (including the Model Clinics and the supporting mobile surgical teams) and through social marketing of oral pills, condoms, vaginal methods and injectables. Contraceptive methods will include oral pills, condoms IUDs, injectables, tubectomy, vasectomy, menstrual regulation (MR), norplant, vaginal methods and traditional methods (withdrawal, safe period and breast feeding).

26. **Oral Pill :** Oral pills will be distributed through the field workers, provided through the clinics and marketed by the social marketing programme. The role and efficiency of the field workers in dispensation of oral pills will be strengthened with due emphasis on pill supplies and related education with a view to reversing the recent trend of relative decline of pill practice. The programme will procure the most popular brands of oral pill (like Combination-5 and Ovral) and will make efforts to gradually introduce suitable brands of low dose combined type of pill.

27. **Condom :** Being the only reversible male method in the programme, condom deserves special attention. In order to ensure supply of good quality condoms to users, a mechanism will be developed for regular testing of samples obtained from the peripheral service points.

28. **IUD :** In order to maintain a high level of acceptability of IUDs, facilities will be provided for necessary follow up and management of complications. More effective and safer brands of Copper IUDs (Copper T 380 AG and Multiload Copper IUD 375) will be made available.

29. **Injectables :** Since injectable methods are known to be popular, facilities should be expanded for their wider availability, through training of clinical personnel at upazila and union levels and provision of regular supplies. Both the presently used brands, Depo Provera and Noristerat will continue to be used in the programme.

30. **Tubectomy and Vasectomy :** With the expanding clinical facilities and improvement in the quality of clinical services, performance of these methods should rise as proposed in the targets. In order to maintain and further improve the quality of service the system of clinical surveillance will continue,. The practice of informed consent will be further strengthened to ensure completely voluntary acceptance of the method.

31. **Menstrual Regulation :** It must be recognised that without large scale use of menstrual regulation (MR) in the programme, our long term demographic goal of achieving NRR-1 by the year 2000 can never be achieved. MR is the only method which can effectively deal with failures of other methods. Facilities for MR services will, therefore be vastly expanded through training of doctors and paramedics and provision of equipment. MR services should be available in all clinics and hospitals in the country. MR should also be promoted through involvement of private and non-government organizations.

32. **Norplant :** This long-lasting method has the potential advantage of not requiring day-to-day use and, therefore, may be particularly suitable for our semi-literate population. It is proposed to introduce this method initially on trial basis, and the programme for its wider use can be decided according to the experience of the trial.

33. **Social Marketing Programme (SMP) :** This will continue to provide an additional channel for availability of non-clinical contracetive methods. By using the promotive commercial techniques, SMP can significantly contribute towards increasing overall practice of contraception. Non-government voluntary organizations will also be utilised for effectively providing clinical and non-clinical services in both urban and rural areas.

Information, Education and Motivation (IEM)

34. The IEM strategy will be designed to arouse greater public interest in small family norm and contraceptive practice as well as to orient the vast rural women with a set of appropriate maternal and child health (MCH) practices. For this purpose, all possible means will be used including mass media like radio, television, newspaper and mobile cinema vans as well as interpersonal communication through field workers and involvement of the community. Population related programmes both in radio and television will be considerably improved. Radio will broadcast population programmes for one and a half hours a day ; while television will telecast population related programmes for five hours a week.

35. The IEM programme will have several important foci, *viz.*, family planning and contraceptive education, population education and MCH education.

36. **Family Planning and Contraceptive Education :** There shall be specific focus upon the value of small family, health and economic rationale for spacing of births, social benefits of delayed marriage, different methods of contraception, their advantages and disadvantages, indications and contra-indications and follow-up requirement.

37. **Population Education :** There will be greater focus upon the economic, social and health implications of the high rate of population growth and the increasing size of population, the impact thereof at national, community and individual levels, and the role of individuals and community in this matter. Communication programme must take into account the socio-economic and health factors that have potential effect on fertility level and develop suitable strategy on each of them to influence the fertility behaviour in a negative direction. For example, communication approach can be designed to improve parental confidence about survival of the children, to develop negative social attitude towards use of children as labourers, to improve the social value of literacy and education, to develop positive social norm in favour of female participation in gainful labour, to generate greater interest towards savings as means to meet the old age security needs, etc.

38. **MCH Education :** MCH education will be designed to favourably influence the behaviour and practices relating to the existing birth care services in the rural areas mainly through field workers. Mass media will also be used to influence selected practices, like breastfeeding, aseptic precaution while cutting the cord of the newborn as well as to highlight the need for ante-natal care. Specific project goals of immunization and Oral RehydrationTherapy (ORT) will be highlighted in the communication programme. Indigenous folk media will be used through folk talent teams to promote small family norm.

Maternal and Child Health (MCH) Programmes

39. The present status of maternal and child health in the country is poor. The estimated maternal mortality rate is 6 per 1000 live births; and an infant mortality rate is 125 per 1000 live births. With only about 5 per cent of the child births institutionalized at present, the scope for a dramatic improvement in the institutionalized birth care service appears to be remote. As noted earlier, the national goals for MCH is to reduce maternal mortality rate from 6 to 4 per 1000 live births and infant and neo-natal mortality from 125 and 85 respectively to 100 and 65 per 1000 live births.

40. A national MCH strategy has recently been prepared delineating MCH programme approaches. MCH goals as per this strategy are proposed to be achieved through strengthening of MCH clinical facilities, training of TBAs, immunization of children, use of ORT and preventive and promotive MCH through field workers. Family planning itself is expected to contribute significantly to maternal and child health.

41. **MCH Clinics :** The clinical and service facilities in the 87 MCWCs and 356 MCH units in the UHCs will be improved and strengthened through provision of drugs and other supplies. FWCs will provide ante-natal, post-natal and child care.

42. **Training of TBAs :** In order to provide a minimum level of safe birth care to rural women, Traditional Birth Attendants (TBAs) will be trained in selected simple birth care techniques and identification of high risk cases. A continued programme linkage will be established between the trained TBAs and the functioning FWCs for their mutually re-inforcing roles.

43. **Immunization :** The Expanded Programme on Immunization (EPI) under the Directorate of Health Services will further expand its immunization services against 6 diseases (*e.g.* tetanus, diptheria, pertussis, poliomyelitis, tuberculosis and measles): These will be made available in all UHCs, HFWCs and MCWCs. In order to improve coverage, in addition to the static facilities, out-reach strategies will be tried through involvement of Family Welfare Assistants (FWAs) and Medical Assistants (MAs).

44. **Oral Rehydration Programme (ORP):** The ORP under the Directorate of Health Services will further expand production and supplies of ORS for management and control of diarrhoeal diseases.

45. **Other MCH Programmes :** During the TFYP, programme need for nutrition services and environmental sanitation will be determined towards a more comprehensive MCH/Primary Health Care (PHC) programme package.

46. **Coordination of MCH Programmes:** The present location of MCH projects in two separate administrative Directorates warrants an effective mechanism of coordination. A viable mechanism of functional coordination will, therefore, be instituted under the guidance of a National Coordination Committee. In order to make the functional

integration of the MCH projects effective, the job description of the field functionaries will be revised to make them complementary to each other and an integrated supervision mechanism and an integrated reporting system will be instituted.

47. **Contraceptive Manufacturing:** The Government will establish manufacturing plants for production of condoms and oral pills in order to minimise our dependence on foreign aid which is often fraught with uncertainty about its availability.

48. **Training :** Population is a comparatively new subject in our public programmes. Due to multi-disciplinary nature of its issues, training of personnel of various cadres under different projects deserve special priority and emphasis. Job-specific and skill related training will be imparted under various institutions and organizations. In order to provide continued guidance to training activities, an Advisory Committee under the National Institute of Population Research and Training (NIPORT) will be formed. The specific roles which these institutions will play during the plan period are as below:

(a) *NIPORT:* It will act as an apex institution for providing population related training to the upazila and district level officers of the health and population programmes, as well as to the officers of the multi-sectoral programmes and non-government organizations during the plan period. The NIPORT's training strategy will include group-training and specific job-related training. In order to ensure proper training, NIPORT will expand its training complex, develop modules and considerably increase the faculty strength. It will also develop various training materials and library facilities.

(b) *FWVTI:* In all, there are twelve Family Welfare Visitors Training Institutes (FWVTI) which will continue functioning during the plan period to train 1,800 new Family Welfare Visitors (FWVs) and retrain about 5500 FWVs. The Advisory Committee will determine the future needs of this cadre of personnel and the number of FWVTIs required for the purpose. It will also explore the possibility of utilising these institutes for other training purposes, if need arises.

(c) *Regional Training Centres (RTC):* Twenty Regional Training Centres established during SFYP will continue to provide training and retraining of the union level Family Planning Assistants (FPAs) and ward level Family Welfare Assistants (FWAs). In all, comprehensive training will be provided to 4,500 FPAs, 12,000 Health Assistants, 3,500 Assistant Health Inspectors and 23,000 FWAs including 10,000 new FWAs. Necessary training aids will be prepared.

49. At present, there are 24,000 trained traditional birth attendents (TBA). During 1985-90, 40,000 new TBAs will be trained to ensure that almost all villages in the country have at least one trained TBA. The Population Control Directorate will arrange their training.

50. Trade skill related training will be imparted under the three women's programmes in order to enable the programme participants raise their level of income.

Research, Evaluation and Monitoring (REM)

51. In a situation where three fourth of the eligible couples do not practise any contraception and take no benefits of family planning programme at all, both basic and applied researches are needed to dig out the underlying causes of their

apathy. Besides, imported contraceptive technologies having their obvious implicationsin our socio-cultural setting require basic research on their safety and acceptability;. Research and evaluation will, therefore, receive appropriate emphasis during the plan period.

52. Major areas of research and evaluation will include : (a) Socio-demographic research including levels and trends of fertility, and determinants and consequences of fertility; (b) Action oriented and operations research to seek answers to specific programme issues ; (c) Evaluative and Impact studies to assess the success or failure of population projects; and (d) Reproductive and Contraceptive Research.

53. Several research institutions, as mentioned below, will participate in aforesaid research and evaluation functions :

(a) *NIPORT* : The National Institute of Population Research and Training (NIPORT) will act as an apex institution to coordinate population related researches and disseminate their findings through periodic seminars and publications. It will organize operational and action-oriented research through a contract system. A national fertility survey will be undertaken during the plan period to determine the level and trend in fertility, in addition to conducting contraceptive prevalance surveys (CPS) every two years under its auspices.

(b) *PDEU* : Population Development and Evaluation Unit (PDEU) will undertake project related evaluative studies to assess the overall impact of the project in terms of their stated objectives as well as a number of policy related studies on integration of population into the development planning process. Some of the studies will be conducted by the Unit itself and some will be contracted out through an appropriate mechanism. The Unit will also review available evidences at national, regional and international levels and interpret them in terms of policy implication for development planning.

(c) *MIS Unit* : The Management Information System (MIS) unit of the Population Control Directorate will be strengthened by establishing a special family planning and MCH service statistics cell within it to collect programme related data and vital events in a sample of forty unions of the country. It will also monitor programme performances.

(d) *Bangladesh Bureau of Statistics* (*BBS*): BBS will endevour to further improve the sample vital registration system to provide reliable demographic indicators, in addition to population census.

(e) *ICDDRB* : International Centre for Diarrhoeal Disease Research in Bangladesh (ICDDRB) is furnishing important evidences on MCH-FP programme strategy. It can further undertake studies on long term impact of developmental and ecological changes of the Matlab Embankment Project on fertility and health parameters.

(f) *BFRP* : Bangladesh Fertility Research Programme (BFRP) will undertake basic research on reproductive health and contraceptive technology with specific reference to their safety, effectiveness and acceptability in our socio-cultural context.

Socio-Economic and Legal Measures

54. In our social context, high fertility is not at all a non-rational biological process. Most couples want large families for want seems to them a sound economic reason The average desired family size as found in most surveys, although showing a small declining trend, is still very high, nearly 4; compared to this, a desired family size of 2 will be more consistent with our demographic goal. High fertility is also supported by the basic socio-cultural value system in our society.

55. Therefore, in addition to the family plannig approach, the policy during the TFYP will be to aim at introducing new programmes and projects designed to achieve such social, economic, health and legal changes as to bear upon the fundamental reproductive norm of the population. These will include social measures (women's programmes, education and literacy, particularly, women's education, delayed marriage, community awards, community participation), economic measures (sterilization, bond schemes, no birth award scheme, economic security, employment security), health measures (maternal and child health programmes designed to reduce infant mortality), Legal measures (further rise in age at marriage, vital registration, limiting maternity benefits, medical termination of pregnancy) and a set of social disincentives. The Population and Development Unit in the Population Wing of the Planning Commission will constantly review the policy relevance of development efforts in order to integrate population bias in the national development policies.

Women's Programmes

56. Enhancement of the role of women in the family and society has been conclusively shown to have negative influence on the reproductive norm and fertility behaviour. Greater emphasis will, therefore, be given to further expansion of the women's programmes under the population sector. The Women's Cooperative programme will be expanded in phases, from the present 40 upazilas to 100 upazilas. The Mothers' Centre programme under the Social Welfare Directorate will expand from 40 to 80 upazilas. The women's vocational training programme will expand from 20 to 30 upazilas. Greater attention will be paid to development of trade skill, provision of credit and income generating activities within these programmes :

(a) *Women's Education :* Pilot efforts will be undertaken to promote female enrolment in schools through provision of educational support in the form of out of pocket expenses of the parents, books and stationeries, etc.

(b) *Delayed Marriage :* Delay in female age at marriage is crucial for fertility decline, as well as for women's status in the society. It is also linked with other social changes like female education and participation of female in gainful activities. Development of community awareness in favour of all these interlinked social changes is an essential pre-requisite. This objective should be built in all social sector rural programmes as additional component. Well designed IEM strategy is also needed in this regard.

Community Participation

57. Development of an intensive community awareness about the social goals of population programmes and gener ation of a community consensus in favour of small family norm is known to have a powerful negative influence on fertility. Under the given socio-economic structure favouring large family norm, such community mobilization appears to provide the ultimate means to our path of fertility decline. It should however be noted that an organized socio-political institution is needed to ensure adequat:

community awareness and mobilization. Efforts must be directed by the Ministry of Local Government in this regard to conceive further development of decentralized rural institution under the leadership of Upazila Parishad. The Upazila Parishad should also be provided with guidance to undertake programmes to generate community awareness and to ensure active community participation in population programmes. A system of community awards will also be instituted to generate greater popular interest in this regard.

New Approaches

58. During the Third Plan, some new tools may be built to accelerate family planning. These are :

(a) *Sterilization Bond Scheme :* A sterilization Bond scheme will be introduced as a system of deferred payment of a large sum in the form of a 12 year maturity bond, as a partial alternative to parental dependence on children's income in old age. An inter-ministerial mechanism is needed to determine the mode of implementation. Sterilized couples with 2 or 3 children may be eligible for bonds of sliding denominations which, after a maturity period of about 12 years, would be expected to nearly quadruple.

(b) *No Birth Award Scheme :* This scheme will be a complement of the bond scheme in that while the bond scheme is inherently designed to terminate child bearing, this scheme is designed to promote the concept of spacing. Couples with 0 to 2 children who can effectively delay the next birth by a specified period of about 5 years, may be entitled to a 5 years' maturity savings certificate or bond.

(c) *Social Security :* Since the need for old age economic support is an important determinant of large family norm, efforts will be made to identify feasible alternative means of meetings, even partially, the need for economic security. Community based employment guarantee schemes, food for works programmes at the time of economic distress, a system of pension for contraceptive acceptors, an innovative savings programme—all of these do appear to have potential in creating some degree of perceived sense of economic security.

Orientation of Development Strategy

59. In order to provide feedback on the policy needs regarding integration of population in the development process, efforts will continue to further identify the nature and extent of population and development inter-relationship through the Population Development and Evaluation Unit. Experience thus generated can provide important policy direction for appropriate re-orientation of the development strategy in a way to achieve maximum fertility decline.

Social and Legal Disincentives

60. A series of socio-administrative disincentives and legal measures can be introduced in order to create a climate in favour of small family norm. Some specific propositions are :

(a) **Ration Card :** The benefits of ration card may be limited to two children and to a maximum of four members in the family, both in the statutory and modified rationing areas.

Conservancy tax : Conservancy tax may be determined on the basis of the umber of occupants in a holding, rather than its size.

(c) **Overseas Posting :** Preference may be given to government servants with smaller family members for overseas posting.

(d) **Appointment in Government Service :** Preference may be given in general to single candidate rather than married person in all appointments under the government and autonomous bodies.

(e) **Allotment of Government Housing :** Preference may be given to small families in allotment of government housing.

(f) **Maternity Benefits :** Laws relating to maternity benefits may be amended to limit the same up to the second child, if the earlier one is alive.

(g) **Charge for Maternity Services :** A rate of graduated fees may be charged for the third and subsequent births in the government health institutions.

(h) **Medical Termination of Pregnancy (MTP) :** Medical termination of pregnancy within 12 weeks may be allowed by authorised medical practitioners and paramedics to protect the health of the mother, when there is a risk of the child being born deformed and under certain socio-economic conditions, like pregnancy occurring out of rape, incestuous relationship or contraceptive failure.

(i) **Income tax :** Limiting income tax benefits for up to 2 children only.

(j) **Age at Marriage :** The present legal age at marriage may be further raised from 18 to 20 years for the female and from 21 to 25 years for the male.

(k) **Vital Registration :** Certain amendments may be made in the existing vital registration law, making birth certificate or equivalent evidence to be legally required for marriage and other public purposes, such as admission in school, appointment in government services, issue of passport etc. Similarly, death certificate may also be made a legal requirement for settling legal matters, particularly inheritance.

Role of Various Ministries

61. Within the basic population policy framework, the various multi-sectoral agencies are expected to undertake certain population related activities under the overall coordination of the Ministry of Health and Population Cotrol :

(a) The Health Wing of the Ministry of Health and Population Control will be responsible to provide institutional health facilities including doctors for family planning clinical service, particularly for sterilization, menstrual regulation and management of complications arising out of clinical contraception. It will ensure necessary cooperation for implementing the integrated programme of health and family planning. Required number of beds should be kept reserved for sterilization cases in all hospitals and the Upazila Health Complexes.

(b) The Ministry of Planning will be responsible for the preparation of population plan documents, integrating demographic variables in the planning process, external evaluation of population programmes, population studies in relation to development census and collection of vital data.

(e) The Ministry of Local Government, Rural Development and Cooperatives will implement the Women's Co-operative project and introduce population education activities in the curricula of all local government institutions.

(d) The Ministry of Education will continue to implement population education curricula already integrated in the formal school system and would also undertake new projects to promote female education.

(e) The Ministry of Information and Broadcasting will implement the on-going population projects with the Radio and the Television with greater intensity, focusing population policies, project related goals, family planning and MCH programmes.

(f) The Ministry of Social Welfare and Women's Affairs will implement the on-going projects of Mothers' Clubs and Vocational Training to raise women's income and contraceptive practice level. It will provide supportive services in collaboration with relevant organizations for better designing and marketing of products.

(g) The Ministry of Labour will implement the on-going Family Planning Projects in Labour Welfare Centres and will develop new programmes for organized industries and plantation areas.

(h) The Ministry of Religious Affairs will develop programme for training of Imams and Madrasha teachers in population related matters.

(i) The Ministry of Youth will provide population related training to youth to make them aware of population problems and motivate them for the late marriage.

(j) The Ministry of Agriculture will integrate family planning and nutrition activities in its agriculture extension programmes.

Financial Outlay

62. Given the urgency of achieving the demographic goal of the TFYP, as well as the diversified approach of population activities through various sectors, a large number of projects with multi-dimensional activities shall have to be implemented. As many as 32 projects have so far been identified for the TFYP. Of these, 25 projects will be redesigned to implement on-going activities with greater intensity and wider coverage of population and 7 projects will be completely new and designed in line with demand creating approach. An amount of Tk. 870 crore (at 1984/85 prices) has been allocated to implement the public sector programmes. Further, it is expected that about Tk. 70 crore will be spent by the non-government organisations for family planning programmes. Component-wise allocation for the Public Sector is given below in Table 7.

TABLE 7

Component-wise Allocation

[Tk. in crore]

	Components	Allocation.
1.	Salary Support	350·00
2.	Family Planning Services including Contraceptives	150·00
3.	Construction of Family Welfare Centres	150·00
4.	MCH Programmes	110·00
5.	IEM Programmes including Women's Programme	65.00
6.	Research, Evaluation and Training	45·00
	Total	870·00

CHAPTER XVII

SCYSWAM*

SECTION 1: SOCIAL WELFARE

Social welfare activities aim at helping the physically, socially and economically handicapped members of the society to participate in the development process and improving their quality of life. They supplement the developmental process and programmes in general in dealing with the problems of poverty and unemployment, particularly in order to assist the most disadvantaged groups, *viz*—children of poor families, destitute women, the handicapped and the infirm. An integrated and comprehensive approach taking the family as the primary unit of the community for development of their potentials as a whole will be the guiding principle in formulating social service programmes during the Third Five Year Plan.

REVIEW OF PAST PERFORMANCE

1.2 Just after Independence the entire resource of the country was mobilized to restore its war ravaged social and economic structu e by undertaking programmes which were oriented mainly towards relief and rehabilitation. A number of programmes for relief and rehabilitation of the orphans, widows, destitute women and families primarily affected by the war and for the physically handicapped were taken up in this sector.

1·3 In fact during the First Five Year Plan, some attempt was made for the first time to give due emphasis on the role of Social Welfare Sector in the overall socio-economic development of the country and to adopt programmes for the benefit of those who were unable to find a place for themselves in the society unaided either by government, voluntary organizations or philanthropists.

1.4 Under the urban community development programme, 68 centres were established to provide vocational and income generating training for making the urban poor and slum dwellers productive and self-reliant. Forty rural upazilas were covered under rural community development programme to make disadvantaged groups and landless people productive through skill training and production oriented programmes. All these programmes taken during FFYP have helped the neglected and by-passed segment of the population in developing their skills for engaging themselves in various income earning activities to a limited extent.

1.5 In the First Five Year Plan, an amount of Tk. 12·28 crore was allocated for these programmes and the entire amount was utilized. During the Two Year Plan, allocation was given mainly to complete the incomplete projects of the First Five Year Plan. A total sum of Tk. 13·60 crore was allocated of which Tk. 11·30 crore was utilized during the plan period. In the Second Five Year Plan, an amount of Tk. 59·00 crore was allocated of which Tk. 39·11 crore was utilized to implement 32 projects. During this plan period, rural community development programmes were undertaken to promote comprehensive rural and social development with special emphasis on disadvantaged groups like school drop-outs, youth, women and the landless in order to develop their potentials through education and skill training.

*Sports, Culture, Youth Development, Social Welfare, Women's Affairs and Mass Media.

1.6 Under the above programme, 104 upazilas were covered to extend the Rural Social Services (R.S.S.) and 196 community centres were constructed to organise educational and cultural training. Skill training and income generating activities were taken up for making orphans productive and self-reliant. With this end in view, 70 craft training centres were set up at former sub-divisions. All these programmes mainly aimed at improving the technical, managerial and organizing capabilities of the disadvantaged groups and providing them with more basic service towards raising their level of income and improve their living conditions. The approximate number of people benefited from those programmes were about 400,000.

THIRD FIVE YEAR PLAN

Objectives of TFYP

1.7 The major objectives of TFYP will be as follows:

(i) to create opportunities for productive employment for rural population of the country who live below subsistence level and thereby ensure participation of poorer segment of people in productive activities and development process,

(ii) to reduce the rate of population growth by raising the standard of living of poor households through engaging themselves in gainful and income generating activities;

(iii) to improve technical, managerial and commercial capabilities of poor people through village development oriented programmes;

(iv) to propagate social, religious and cultural values amongst people for motivating them to share responsibilities of the old, infirm, beggar and other socially and physically handicapped members of the family and society and also to motivate people towards the joint family system in order to share more responsibilities;

(v) to promote and improve the institutional programmes of socially, economically and physically handicapped and mentally retarded children as well as vagrants for enabling them to become self-reliant and productive members of the family and society; and

(vi) to help the creation of family environment in the institutions dealing with orphans and destitute children which is essential for their proper development and making them self-reliant.

Strategies of TFYP

1.8 To achieve the above objectives, the following strategies will be adopted:

(i) All the existing Sarkari Shishu Sadans and Baby Homes will be converted into Shishu Paribar in phases in the line with SOS children village so that the destitute and orphan children in institutional settings are not deprived of loving care and affection of family life.

(ii) Educational programmes for the physically handicapped will be redesigned taking into account their aptitude and available employment opportunities including self-employment.

(iii) Instead of thinning out resources among various organizations, only those voluntary organizations whose past records of social activities indicate a positive contribution towards socio-economic development will be selected for providing financial assistance for supplementing private efforts.

(iv) At present, social welfare is primarily oriented towards development of social services at the local level. As such, a good number of social programmes were to be implemented with the assistance of Upazila Parishads; so the motivational aspect of primary education, family planning and primary health care programmes along with the income generating activities for the poor would be integrated with most of social service projects during the plan period.

Programmes of TFYP

1.9 The following major programmes will be undertaken during the plan period :

i) *Rural Community Development :* The programme envisages organising poorer house holds of the rural communities and supporting socio-economic activities for the members in order to enable them to increase their family income and thereby improve their standard of living. Under this programme, special target groups of children, youth, women and male adults will be formed in each union. Each group will have 200 members who will be directly benefited from the programmes. Besides, this programme will also assist small/marginal and other farmers as well as occupational groups. Development grants will be provided to each union for undertaking income generating activities and training programmes. In each upazila, 8 unions will be covered and 100 upazilas will be taken up during the TFYP to introduce the above programme.

(ii) *Welfare Services for Children :* Present condition of existing Sarkari Shishu Sadans is not conducive to proper development of children. In order to ensure proper psychological, emotional and social development of the children, all the 73 Shishu Sadans will be converted into Shishu Paribars aiming at creation of family environment in these institutions as far as practicable.

(iii) *Welfare Services for the Physically and Mentally Handicapped :* The existing centre for physically handicapped, known as P.H. Centre, Dhaka will be shifted from its present site to a new place with required modification and adjustments. One additional unit for mentally retarded children will be attached to the new complex . Besides, a training college for the teachers of the handicapped will be established in the proposed centre. The education system and training components of all the existing centres as well as the proposed new ones will be redesigned according to requirement and aptitude of the different handicapped groups.

(iv) *Welfare Services for the Vagrants :* Construction of physical facilities including new buildings will be taken up for all the six existing vagrant homes in order to improve the living condition of the vagrants. Besides, facilities for their training will be diversified and modernised with a view to rehabilitating them in the society within a reasonable time.

(v) *Social Services by Voluntary Agencies :* As voluntary social welfare agencies play an important role in realizing the welfare objective of the government, some selected agencies including BIRDEM will be assisted for supplementing government efforts in the fields of education, literacy, population control, health, sanitation, nutrition and income earning activities of the disadvantaged groups.

Financial Outlay

1.10 An allocation of Tk. 75·00 crore has been provided for implementation of the programmes of the Social Welfare Sector, the break-up of which is given below :

TABLE 1

Programme-wise Allocation

[Tk in crore]

Programmes	Allocation
(a) Rural Community Development	31·76
(b) Welfare Services for the Physically and Mentally Handicapped ..	12·15
(c) Welfare Services for the Children	16·79
(d) Welfare Services for the Vagrants	7·10
(e) Treatment and Rehabilitation Services for the Diabeties ..	5·20
(f) Development Programme for National Academy	2·00
Total ..	75·00

SECTION 2 : WOMEN'S AFFAIRS

Women constitute almost half of the total population of Bangladesh as also of the world. To ensure a balanced socio-economic growth and development of the country, equal participation of women is an absolute necessity. But social customs and traditions, illiteracy, limited facilities of technical and vocational training and lack of employment opportunities have hampered the total integration of women in the main stream of development activities in Bangladesh. The traditional attitude of the socity regarding the role of women give them a limited scope for education and training. Only 14·3% of women are literate compared to 32·9% of men. In higher education, the gap is even wider. Participation of women in the labour force is equally poor. The census data of 1981 show that 4·66 million people are engaged in the non-agricultural labour force and out of them, only 0·26 million are women. Their economic mobility is affected not only by their traditionally lower status in the family but also by the status of their household in the society in relation to ownership and control of land.

2.2 As in other developing countries, women in Bangladesh play a major role in traditional household activities, but their contribution has mostly remained unaccounted for. This has happened mainly due to the fact that the level of female participation in income generating activities has been usually low and their contribution at home is not reflected in census data. In the organised sector, not only their participation is limited, they are usually engaged in low income jobs. When viewed as a resource, women are either unutilised or misutilized which deters their proper participation in development. Therefore, as a long term aspect of the planning process, full integration of women is considered essential to bring them under the purview of development activities by exploiting their full potentials.

2.3. To make women's participation in development activities increasingly possible and to realise the ultimate goal of 'Equality, Development and Peace' of the UN Decade, not only firm commitments were made by the Government but also attempts have been made to fulfil the commitments with necessary programmes and policy supports. The Ministry of Women's Affairs has been undertaking activities to ensure conducive atmosphere for women's participation in the socio-economic activities and formulating necessary policies in this respect. Along with the Ministry of Women's Affairs, several other Ministries of the Government, such as Agriculture, Education, Health and Population Control, Finance, Local Government and Rural Development etc. are also implementing a large number of special projects for women in line with the principles of the UN Decade for women.

REVIEW OF PAST PERFORMANCE

2.4. No specific role of women was visualized at the time of preparation of the First Five Year Plan. However, some specific programmes were taken up during the later part of the First Five Year Plan to improve the lot of the women by creating congenial socio-economic atmosphere, but overall situation remained unchanged. None of the projects (5 projects) undertaken could be completed during the First Five Year Plan and all of them were spilled over to the Two Year Plan. In addition to the previous 5 projectes, 2 new projects were taken up for implementation during the Two Year Plan period. However, by the end of the Two Year Plan period, only two development projects were completed *viz.*, (a) Bangladesh Shishu Academy and (b) Planning and Development Cell.

2.5. At the time of preparing the Second Five Year Plan, it was felt that far more dynamic and diversified programmes would be needed for a more meaningful participation of women in the development process. In the Second Five Year Plan, a sum of Tk. 31·00 crore in current prices was allocated for the implementation of 26 projects out of which 21 were completed, one was dropped and remaining 4 spilled over to the Third Five Year Plan. Total allocation provided through RADPs (1980—85) for the sector was Tk. 29·00 crore of which Tk. 23·50 crore was utilized constituting about 82% of the allocation.

2.6. Major physical achievements during the SFYP included establishment of 204 skill development training and production centres, one poultry farm (at upazila level) and 38 union development centres in order to provide skill training to the poor and destitute women. Two pilot income generating programmes were undertaken with a view to replicating them in other places depending on their success. One was Weaving Factory at Khulna for the rehabilitation of deserted women and the other was a Radio and Watch Repairing Centre at Rajshahi. One feasibility study was also carried out for setting up of a textile and food processing industry for women. But no follow-up action has yet been taken for these three projects. In order to create employment opportunities for women in the teaching profession, a crash programme was launched to repair and renovate 47 existing PTI hostels to accommodate more number of female students which was successfully completed. To reduce the acute accommodation problem of working and job seeking women, 4 career women's hostels were established at 4 Divisional Headquarters. Socio-cultural and moral upliftment of children and their maintenance were given due attention through the establishment of Bangladesh Shishu Academy with its 20 district branches and through development of existing 32 day care centres. A National Academy at Dhaka and BJMS Offices at National, District, Subdivisional and Upazila levels were established. Limited achievements were made in the field of women's

non-formal education in the existing skill training-*cum*-production centres and improvement of the existing day-care-centres. However, no programmes were undertaken in the field of research, establishment of small industries and leadership training for women despite provision for them in the SFYP.

THIRD FIVE YEAR PLAN

Major Focus of Women's Development

2.7. **Health:** In the TFYP, a rural-oriented health service for women will be adopted in which maternal and child health care, family planning, nutrition, immunisation services, family health education and environmental, sanitation will be the major components. Since mothers during pre-natal and post-natal periods and children under five constitute the priority group of primary health care programme, emphasis will be given to improve the health condition of mothers and children to reduce maternal mortality, infant mortality and neo-natal mortality to a considerable extent. About 21,000 field workers of various categories in rural areas are offering family planning, maternity and child health care service to women in over 1225 Family Welfare Centres. In the TFYP, the number will be increased to 3000 centres. Female Family Welfare Assistants will motivate women to accept family planning and educate them in nutrition and maternal and children health care.

2.8. **Education :** To reduce the educational gap between the sexes, the government has taken steps to accelerate and expand educational facilities for women. It has been observed that in spite of all efforts in the past to improve the status of women, an imbalance existed between the sexes mainly due to educational gaps. In the TFYP, priority has been accorded to cater to the educational needs of rural women. A number of scholarships at various levels has been reserved for girls. To meet the policy of recruiting only female teachers at the primary level in near future, 50 seated ladies hostels have been built for women in all primary teachers training institutes. Places are reserved for women candidates in schools and colleges and talented women from rural areas are given especial subsidy in addition to scholarships. One girls' college in each of the old district headquarters and one girls' school in each new district have already been nationalized. Besides, non-formal and vocational education and skill training form an integral part of all womens' programmes. In 200 community schools for girls, non-formal and vocational trade courses are being offered. In the TFYP. programme will be taken up to introduce science in all the nationalised secondary girls' schools.

2.9. **Employment :** In the field of employment, the ultimate objective of the government is to achieve equal opportunity for women workers and their integration with the labour force. The gradual development of educational and training opportunities for women has created conditions for women's employment, specially in the informal and non-farm sectors. Reserved quota for women in the public sector employment has been raised from 10 to 15 per cent. In the health and population area, more than 60% of the jobs are filled in by women. Employment opportunities for women in other sectors are also being expanded. Action programme is being designed by developing new technologies for the improvement of traditional skills and to revive those skills which are on the wane. For greater participation of rural women, programmes have been tailored to enable them to take up home based production. A number of skill development centres and production-*cum*-training centres upto the grass-root level have been set up. The number of career women's hostels and day-care centres for children is being increased. For generating self-employment among landless rural women, Grameen Bank has been established to extend credit facilities without collateral.

Objectives of TFYP

2.10. For overall integration of women in the development process by raising their socio-economic status, the objectives envisaged in the Third Plan are as follows:

(i) to reduce imbalance between the development of men and women through increased participation of women in income generating activities;

(ii) to motivate women for greater participation in education (both formal and non-formal) and skill training;

(iii) to expand credit facilities for women to enable them to become self-employed;

(iv) to expand accommodation facilities for job seeking and career women and expansion of community based day care facilities for the children of working women;

(v) to provide leadership and managerial training to women at various levels;

(vi) to take measures for moral, physical and cultural development of children; and

(vii) to train and rehabilitate socially handicapped and deserted women.

Strategies of TFYP

2.11. To achieve the above objectives at a minimum cost, the following strategies will be adopted during the Third Plan period:

(i) In recognition of the fact that improvement of women and children's condition is a necessary pre-requisite for overall development, a Supreme Council for Children and Mothers has been set up with the President at its head in order to adopt measures for welfare of the children and mothers mainly relating to maternal and child care, health, nutrition and rehabilitation of handicapped children.

(ii) The role of non-government organizations in the field of socio-economic development of women will be promoted to supplement overall government activities. The NGOs will be strengthened to provide social, health and economic benefits to women living in poverty.

(iii) Low cost community based day-care centres for children will be developed to enhance women's participation in organised labour force. Attempt would be made to develop a model to replicate the same at local initiative.

(iv) Skill training to women will be imparted through different rural social service projects and upazila level production-*cum*-training centres. Job specific and skill-related training will receive special attention. Attempts would be made to provide technological support to minimise women's workload. All training programmes would be designed to utilize women potentials effectively for balanced economic growth and self-reliance.

(v) Leadership development programmes would be emphasised to create a self-perception and increased awarness among women. To safoguard their social and economic rights and privileges and to carry out their responsibilities towards themselves and to the society, promotional activities including production of films, research and publication would be undertaken on relevant issues.

(vi) Components of non-formal education will be added to each womens's programme for motivational education covering literacy, health, nutrition, family planning, agricultural extension work and training in self-reliance.

(vii) Because of multi-disciplinary nature of women's programme, coordination among the Ministries and agencies involved in women's development activities is extremely important. A National Coordination Committee will be set up to formulate guidelines and functional integration of women's programmes. Supervision, monitoring and evaluation of women's programme will also be instituted by the Coordination Committee.

Programmes of TFYP

2.12. **Skill Development Training and Production Centres :** During the TFYP, construction of training-*cum*-production centres will be undertaken to give wider coverage to the unemployed and destitute women. The major areas of training will be on poultry, dairy, livestock, garments, handicraft and food processing. Each training-*cum*-production centre will also provide training in family planning, adult education, nutrition, basic health and cooperative management along with skill training.

2.13. **Service for Women :** Considering the acute accommodation problem of many working women in Dhaka, the second phase work of the Career Women's Hostel, Dhaka and the incomplete work of Khulna Hostel will be completed. Provision of accommodation for career women in new places will result in increased participation of women in development. Women's self-employment programme will also be supported through involvement of NGOs.

2.14. **Day Care Services for Children of Working Mothers :** In many cases the children of low paid working mothers remain uncared for in their homes while their mothers attend to their duties. During the Third Five Year Plan, Day Care Centres for the children of low paid working mothers will be established in different locations. UNICEF assistance will be available for the project "Development of Day Care Services" (2nd phase) during the TFYP period.

2.15. **Strengthening of Women's Academy and the BJMS :** The existing National Academy and BJMS will be strengthened for the maximum utilization of the available resources. The Academy will be a centre for training for skill development, in service training and refreshers training.

2.16. **Activities of Bangladesh Shishu Academy :** Following the completion of the SFYP project "Establishment of Bangladesh Shishu Academy Branch Offices at District level", branches of the Shishu Academy now exist in 20 old district H. Qs. These branches will be maintained and they will continue to have jurisdiction all over the country for rendering professional advice to the Upazila Parishad and carrying out other promotional activities in connection with children's programme.

2.17. **Evaluation Studies of Development Programmes :** In order to measure the performance of the development projects and their impacts on the economy, it is necessary to carry out evaluation studies on them. Results of such studies will be of immense use in the preparation of projects under the TFYP.

2.18. **Training and Rehabilitation of Socially Handicapped Women:** It is found that on account of poverty, allurment, and other socio-economic circumstances, a number of women, including minor girls and teen-aged women, are led to adopt beggary and some anti-social activities including prostitution which is not only resulting in an undesirable situation in the society, is also causing health hazards, uncertainty of their life and wastage of human resources. In order to pervent them from falling prey to

anti-social influences and to make them useful and productive members of the society opportunities for care, protection, education, training and other means would be provided gradually for their gainful employment and meaningful rehabilitation in the society.

Financial Outlay

2.19 For the implementation of the above programmes, an allocation of Tk. 50·00 crore has been made for Women's Affairs in the TFYP, Programme-wise allocation is shown below. In addition, another Tk. 50·00 crore will be spent for special women development programme in other sector such as population, L.G.R.D., Finance, Agriculture etc.

TABLE 2

Programme-wise Allocation

[Tk. in crore]

Sl. No.	Programme	Allocation
A.	Spill over Projects from the SFYP:	2·67
B.	For Winding up Projects:	0·15
C.	New Programmes:	
1.	Skill Development Training and Production Centre for Women.	12·45
2.	Services for Women.	5·59
3.	Services for Children	5·55
4.	Strengthening of National Womens Training Academy.	3·59
5.	Rehabilitation of Socially Handicapped Women	18·00
6.	Credit Revolving Fund.	2·00
	Total ..	50·00

SECTION 3 : YOUTH DEVELOPMENT.

The youth is the most potential and viable human resource of the country and the population in this group is increasing very rapidly. The youth in the age range of 15–30 years constitutes nearly 30% of our total population and 90% of them live in the rural areas most of whom neither attend any institution nor do they have much opportunity to learn any skill to engage themselves in productive activities. Consequently, a vast majority of the youth have remained alienated to and outside of the main stream of the country's development activities. They are handicapped with severe poverty, illiteracy or lower level of education and training, regressive attitude and values, and therefore, their contribution to development is not only low but they are also posing a threat to social order.

3.2 The youth is the most useful group of the society having vigour and vitality and when organised and mobilized properly, they can be turned into a great productive force. What the youth need now is a sense of direction and scope for participation in the organized activities leading to their physical, mental, social and economic development.

3.3 A disciplined, properly orgaised and trained youths can take part in and make contribution to the development process of the nation. Sustained economic progress in a developing country like Bangladesh can be achieved by harnessing and utilizing the potentials of this youth force by imparting vocational skill and inculcating in them moral values and attitude. With this end in view, the Ministry of Youth Development was created in December, 1978 (redesignated later as Ministry of Youth and Sports) to provide unified direction and coordination to all youth development programmes concerning organisation, motivation, mobilization and utilization of the youth forces of the country for nation building activities.

REVIEW OF PAST PERFORMANCE

3.4 Separate youth programmes at government level started for the first time in 1979. During the Two Year Plan, an amount of Tk. 9·50 crore was provided for Youth Development programmes; out of which Tk. 7·01 crore was utilized. The physical target fixed for the Two Year Plan was to train 42,255 unemployed youths of which 36,200 were actually trained.

3.5 A sum of Tk. 26·00 crore at current prices was allocated for youth development in Second Five Year Plan. During the plan period, 22 projects were undertaken for implementation out of which 16 were completed by June, 1985. Total allocation for the sector through RADPs during the Second Five Year Plan was Tk. 25·50 crore out of which Tk. 19·60 was utilized. A total number of 6,238 youths received training in different vocational trades, livestock and poultry farming, telecommunication, secretarial science, agriculture, fisheries, driving of auto-rickshaws etc. and 2,999 trained youths undertook self-employment projects.

THIRD FIVE YEAR PLAN

Objectives of TFYP

3.6 The objectives of the Youth Development Programmes in the TFYP are as follows:

(i) to inculcate proper values in the youth through study and practice of the national culture and to inspire them in creative activities;

(ii) to equip the youth with working skill and suitable training in technical, vocational and professional field, and to ensure optimum utilization of the existing training facilities;

(iii) to motivate the youth force to assist the community in development work through voluntary youth organizations;

(iv) to encourage the youth in realising the dignity of labour and to be self-reliant;

(v) to promote NGOs involved in youth development activities; and

(vi) to encourage formation of youth clubs, exchange of ideas among the youth at national and international levels and development of relationship with youths of other countries.

Strategies of TFYP

3.7 To achieve the above objectives, the following strategies will be adopted :

(i) Motivational and promotional programmes will be undertaken to inspire youth forces to make maximum contribution to the socio-econoic development of the country and to create an urge in them for achievement of their goals.

(ii) Multi-dimensional/sectoral programmes relating to youth development will be taken up under the co-ordinating role of the Youth Development Ministry to turn the youth into an effective productive force. Major reliance will be placed on nonformal and vocational education to meet their needs.

(iii) Youths will be involved in community development at the local level through different youth orgaisations. They will be effectively used in road building canal digging, land development and afforestation, construction of embankment, literacy drive, family planning, etc.

(iv) Rural orientation will be the essence of youth development planning so as to get to the core of the problem.

Programmes of TFYP

3.8 The following are the major programmes for youth development during the TFYP:

(i) *Socio-economic Programme and Skill Development Training for the Youth* : The major thrust in the youth development programmes would be to improve the socio-economic status of the youth by involving them in community development programmes and different income generating activities. Skill development training will be imparted to the youth to enhance their capability.

(ii) *Self-employment Programme* : In view of the limited opportunities for wage-earning jobs in the country, all possible assisance will be rendered for self-employment programmes to the trained youth.

(iii) *International Youth Year Activities* : Greater involvement in youth activities through the various UN Agencies, Commonwealth Youth Programme as well as international NGOs specially as a follow up programme of the IYY was contemplated under the first phase of the programme in 1985/86. Seminars, workshop, youth exchange programme both regional and international, study tours, youth worker training camp, etc., are expected to be undertaken under the second phase of the programme.

(iv) *Introduction of National Award and Publication on Examplary Acts* : Upazila-wise national award will be introduced for the examplary acts of character by the youth of both sexes in order to promote their qualitative development and to inspire them in doing noble work for the society. With this end in view, special publications would be brought out. Production of character building films for the youth with a moral bias to inspire young men and women will also be a part of this programme.

(v) *Subvention to NGOs* : Co-ordination of activities of NGOs involved in the youth development work will be done by the Ministry and provision for assistance to NGOs for specific programme activities has been made in the TFYP in this behalf.

Financial Outlay

3.9 A sum of Tk. 17·00 crore has been provided to the Youth Development Sector in the TFYP. The major programme-wise allocation is as follows:

TABLE 3

Programme-wise Allocation

[Tk. in crore.]

Sl. No.	Programmes	Allocation
1	Socio-Economic Programme and Skill Development Training for the Youth.	7·00
2	Self-employment Programme for the Youth	3·00
3	International Youth Year Activities	0·90
4	Introduction of National Award and Publication on Examplary Act of Character and Production of Character Building Film for the Youth.	1·10
5	Subvention to NGOs for Specific Programme Activities	5·00
	Total ..	17·00

SECTION 4 : MASS MEDIA

Mass Media is one of the most effective instruments of development. The socio-economic value of the mass media such as radio, television, press, etc. to inform, educate and motivate people can hardly be over emphasised. In a developing country like Bangladesh, the media has an enormous importance for dissemination of knowledge for motivating the mass towards development oriented programmes and imparting formal and nonformal education, besides providing recreation. Since more than 80 percent of the population live in rural areas, the mass media especially the radio and television play a vital role in transmitting the needed and desired information to the rural people and in encouraging them to participate in the national development process.

4.2 Bangladesh, as one of the least developed countries of the world, is beset with various problems such as unemployment, mass poverty, illiteracy and population explosion. The mass media can play an effective role in propagating new ideas about agriculture, family planning, adult education, health care, etc. With the decentralization of administration and diffusion of development process, the mass media will have a greater role to play in bringing effective communication between the people and the government.

REVIEW OF PAST PERFORMANCE

4.3 **Television** : During the First Five Year Plan the planned programme had stipulated creation of necessary facilities at Dhaka TV Station and establishment of 4 relay stations to bring almost 80% of the population under T.V. coverage. Dhaka

T.V. Station located at DIT was shifted to the newly constructed Rampura Television Station and three more relay stations at Rangpur, Noakhali and Mymensingh were commissioned during the Two Year Plan period. The work on Television satellite stations and Dhaka Television at Rampura were completed during the SFYP. In addition, some progress was made towards introduction of colour TV.

4.4 **Radio** : During the FFYP, 1000 K.W. medium wave transmitter of Radio Bangladesh at Nayerhat, Dhaka and 10 K.W. medium wave at Khulna were commissioned. During the TYP, 100 K.W. medium wave transmitter at Khulna and 20 K.W. medium wave at Sylhet were installed raising the number of transmitters from 13 to 15. To cover almost 90 percent of the population of the country, a 10 K.W medium wave transmitter and Broadcasting House at Rangpur and National Broadcasting House at Agargaon, Dhaka were commissioned during the SFYP.

4.5 **Other Programmes** : During the FFYP, 1208 T.V. sets were distributed to different clubs/associations by the Department of Mass Communication. Out of the total sets, 610 were given free of cost and 598 at 50% subsidized price. In addition, 4500 sets of radio were distributed free of cost. As many as 4000 T.V. sets were distributed free of cost during the TYP. The achievement during SFYP included distribution of 8490 T.V. and Radio sets and construction of the Press Institute Building.

THIRD FIVE YEAR PLAN

Objectives of TFYP

4.6 In order to establish mass media as a powerful means of communication, the objectives envisaged for the TFYP are as follows :

(i) to provide greater facilities in the production of domestic and external service programmes in order to bring entire population of the country under radio and television coverage;

(ii) to impart knowledge through radio and T.V. and other mass communication programmes about food production, planned parenthood, formal and non-formal education, nutrition, mass education etc. in order to make people aware of the national problems and their solutions;

(iii) to promote attitudinal change through motivational programmes so as to raise social conciousness reflecting the culture and values of society; and

(iv) to disseminate knowledge aimed at orientation to new skills towards improving the quality of life.

Strategies of TFYP

4.7 To achieve the above objectives, the following strategies will be adopted :

(i) Mass communication, especially radio and TV, would be made easily accessible to the target population.

(ii) Since 85% of the total population live in rural areas, rural life oriented programme will be emphasized.

(iii) Attempt will be made to establish two-way communication between the listeners/viewers and the broadcasters for both radio and TV.

(iv) Emphasis will be laid on motivational programmes to raise social conciousness reflecting the culture and values of society.

Programmes of TFYP

4·8 The following programmes will be undertaken during TFYP :

(i) *Television* : During the TFYP, the facilities for Dhaka TV station at Rampura will be extended. The addition of new facilities will greatly enhance the capability of DTV for production of more quality programmes locally on the one hand, and on the other hand, properly produced T.V. programmes for rural population will cover the vital communication gap existing at present. Besides, three small OB-ENG with limited facilities will be established at three Divisional Headquarters. Storing facilities and workshop including garage will also be provided for BTV.

(ii) *Radio* : To bring 100% population under radio coverage, 100K.W. Capacity M.W. Transmitter at Chittagong will be established and a project entitled "Expansion of National Broadcasting House at Agargaon" will be taken up. The quality of existing transmitters and other machinery used in different Radio Stations, has considerably deteriorated. To maintain uninterrupted good quality transmission, a 'BMR' project will be undertaken to improve and replace the old equipment.

(iii) *Other Programmes* : The training facilities for both Radio and TV personnel and personnel engaged in other communication agencies will be provided for improving the quality of programme. A multi-storied building with other facilities will be constructed for National Institute of Mass Communication, Film Archive and Censor Board. Besides, the work on the printing and writing of the History of War of Liberation will be completed.

Financial Outlay

4·9 An allocation of Tk. 50·00 crore has been provided for this sub-sector in the TFYP. Programme-wise allocation is given below :

TABLE 4

Programme-wise Allocation

[Tk. in crore]

Programmes	Allocation
(i) Programme for Radio	25·34
(ii) Programme for Television	14·66
(iii) Programme for other Mass Communication Agencies	10·00
Total ..	50·00

SECTION 5 : CULTURAL DEVELOPMENT

A nation is better understood through its culture which reflects hope, aspiration and values of the society as a whole. Culture moulds individual, social and national life. Language, literature and art and music which manifest various aspects of human life are the ingredients of culture. Development of these ingredients means development of the society in desired economic, moral and social aspects.

REVIEW OF PAST PERFORMANCE

5·2 This sector did not receive due attention in the First Five Year Plan. However, during the Second Five Year Plan, some infrastructural facilities were developed for qualitative improvement as well as quantitative expansion of activities in this area. Emphasis was given on: (a) research and publication on Bengali language, literature and text books in Bengali for higher education, (b) book promotional activities, (c) construction/development of libraries at different levels, (d) promotion of national, regional and tribal culture, (e) construction of museum and mausoleums and (f) conservation of archaeological monuments. The physical achievements made during the SFYP were as stated in the following paragraphs.

5·3 **Language and Literature** : Construction of National Book Centre Building was completed. During the plan period, Bangla Academy published 180 research books and 120 journals out of targetted number of 180 and 174 respectively. In respect of text books and reference books, total publication was 266 which was 140% of the targetted number of 189. National Book Centre organised training and workshop on book promotion and book business. It also organised book exhibition throughout the country.

5·4 **Library and Archives** : Construction of national library building at Shere-Bangla Nagar, Dhaka—which will also house the national archives was completed. Development of Central Public Library at Dhaka, Khulna Divisional Public Library and Rajshahi Divisional Public Library was completed. Construction of Chittagong Public Library is in progress. Besides, 68 rural upazila libraries were provided with some furniture and books.

5·5 **Fine Arts and Performing Arts** : The temporary auditorium and art gallery of Shilpakala Academy were renovated and construction of its modern auditorium was started. Shilpakala Academy carried out regular programmes on holding jatras, paintings exhibitions, drama festivals, etc. and organised various training programmes and workshops on music, drama and dance. In order to develop tribal culture, the Tribal Cultural Academy at Birisiri, Mymensingh was developed and provided with necessary physical facilities.

5·6 **Museums, Shrines and Mausoleums** : The National Museum at Dhaka was completed and a large number of museum objects were procured. Development of folk art and craft museum at Sonargaon could not make satisfactory progress. Construction of mausoleum on the mazars of late Maolana A.H. Khan Bhashani, Sher-e-Bangla A. K. Fazlul Huq, H.S. Suhrawardy, Khawja Nazimuddin and poet Jasimuddin was completed. Survey work on archaeological sites and monuments in 3 districts have also been completed and work on other 5 districts is in progress. Conservation work on 15 monuments and four museums was completed.

5·7 Against the plan allocation of Tk. 24·98 crore, Tk. 26·71 crore was spent for implementation of the above programmes. An additional amount of Tk. 1·73 crore was provided through inter-sectoral adjustment to complete the National Library building.

THIRD FIVE YEAR PLAN

Objectives of TFYP

5·8 Major objectives of the TFYP are as follows :

(i) to promote and foster cultural activities throughout the country in line with hopes and aspirations of the people;

(ii) to develop institutional facilities for further development of Bengali language and literature:

(iii) to develop and expand library services system up to upazila level;

(iv) to ensure publication of quality books and to make them available to the common people;

(v) to encourage private and voluntary organisations to strengthen their efforts in the field of fine and performing arts;

(vi) to arrest the deterioration of national culture and its invasion by "Apasanskriti" and to foster the growth of a sense of patriotism; and

(vii) to preserve national history and heritage.

Strategies of TFYP

5·9 For attainment of the above objectives the following strategies will be adopted :

(i) Bangla Academy will be equipped with modern equipment such as electric type-writer and Bangla word processors for further development of Bengali Language and literature.

(ii) National Book Centre will be involved with the development of book promotion and book business.

(iii) To encourage publication of quality books and to make them available to the common people, printing materials would be made available at a subsidized rate.

(iv) More auditoria and other facilities will be provided for the flourishing of national, regional and tribal culture.

(v) Measures will be taken to arrest the deterioration of culture by projecting universal values cherished by the majority people of the society through promotion of folk and classical music and literature.

(vi) Participation of the community, particularly the youth organizations, in the development of cultural activities will be encouraged.

(vii) Individual talents in the cultural fields will be patronized.

(viii) More museums will be established and historical monuments will be identified and preserved.

Programmes of TFYP

5·10 The major programmes of this sector for the TFYP will be as follows :

(i) *Language and Literature* : Bangla Academy will carry out work on (a) research and publication of books , journals, periodicals in different fields of language and literature, (b) preparation, production and distribution of text and

reference books in Bengali for higher education and (c) improvement of Bengali Typewriter and its electrification. National Book Centre will undertake promotional activities for production of quality books and growth of reading habits of the common people. It will organise training/workshop for publishers, book sellers, editors, compositors, etc.; and regular book exhibitions will be organised at national and district levels.

(ii) *Library and Archives* : Development work on Chittagong Divisional Public Library will be completed, 17 district public libraries will be developed and 7 district public libraries will be established. These libraries will be provided with necessary furniture and books. Training programmes for the librarians will also be organised.

(iii) *Fine Arts and Performing Arts* : Construction of the modern auditorium at Shilpakala Academy, Dhaka will be completed. Shilpakala Academy Centres at some selected districts will also be developed to strengthen the activities of the Academy. These centres will be provided with minimum facilities such as stage, musical and painting equipment, furniture, etc. Tribal Cultural Academy at Birishiri, Mymensingh will be developed further and two sub-centres of Rangamati Tribal Cultural Academy will be set up at Cox's Bazar and Bandarban. An auditorium for the Rangamati Tribal Cultural Academy will be constructed. Besides, programmes for promotion of classical music will be taken up.

(iv) *Museums, Shrines and Mausoleums* : National Museum at Dhaka will be provided with a planetarium. Chittagong Circuit House and Chittagong Ethnological Museum will be converted into general museums. A Divisional museum at Khulna, a museum on Liberation War at Dhaka and a museum at Sylhet will be established. The ancient monuments at Paharpur and Bagerhat will be preserved with the help of UNESCO. A programme for conservation and development of Lalbagh Fort will be taken up. Renovation of Ahsan Manzil will be undertaken to convert it into a museum. Besides, survey of archaeological sites and monuments will continue.

Financial Outlay

5·11 An allocation of Tk. 51·00 crore has been provided in the TFYP for this sector. The major programme-wise allocation is as follows :

TABLE 5

Programme-wise Allocation

[*Tk. in crore*]

Programmes	Allocation
(i) Language and Literature	6·25
(ii) Library Activities	5·55
(iii) Fine and Performing Arts	21·80
(iv) Museums, Shrines and Mausoleums	17·40
Total :	51·00

SECTION 6 : DEVELOPMENT OF SPORTS

Sports are considered as major elements responsible for the development of discipline, good physical and mental health and moral character of the nation. Lack of these qualities results in failure in achieving the desired goals and objectives both in individual life and national life. As such, the role of sports and games can hardly be over-emphasized. In view of this, sports activities would be planned and developed in a manner so as to foster all round human resources development.

REVIEW OF PAST PERFORMANCE

6·1 The First Five Year Plan laid the foundation for the development of essential elements of physical education. During the Second Five Year Plan, some measures were adopted for qualitative improvement and some quantitative expansion.

6·2 Most of the projects undertaken for implementation during the SFYP were for the development of infrastructure like national, divisional, district and subdivisional stadia, gymnasium-*cum*-sports training centres at district headquarters, swimming pools and setting up of a College of Physical Education and Krira Shikkha Protishtan. Besides, some training programmes for players, coaches, referees, umpires, etc., were also organised and some sports gears were distributed to educational institutions free of cost. To improve the standard of games, national teams in different sports were sent abroad and many foreign teams were received in the country.

6·3 The physical infrastructures that were built during the plan period include, National Sports Training and Coaching Centre, National Tennis Complex, multi-storyed Scout Building, Outer Stadium (partial development), Bangladesh Krira Shikkha Protistan (first phase) at Dhaka, College of Physical Education at Rajshahi, etc. In addition, 14 Gymnasium-*cum*-Sports Training Centres in District Headquarters and 33 subdivisional stadia were made functional during the SFYP. Besides, 16 district stadia were partially developed and construction of three divisional stadium was in progress.

6·4 Under the training programme, 3,960 players, 3,216 referees, umpires and sports organisers and 456 local coaches were given training in various fields of sports and games. Sports gears were distributed to about 5,385 secondary schools and colleges. Out of the plan allocation of Tk. 34·86 crore, Tk. 28·25 crore was spent for implementation of the various programmes.

THIRD FIVE YEAR PLAN

Objectives of TFYP

6·5 The following are the major objectives of sports sector in the TFYP :

(i) to generate more interest among masses for participation in traditionally rural and inexpensive games;

(ii) to channelise the energy of the youth forces in disciplined activities by involving them in games and sports;

(iii) to improve the standard of games and sports so as to make a place for the nation in the international arena of sports;

(iv) to provide special training facilities for sports talents;

(v) to ensure wider participation of the women folk in the activities of sports and games; and

(vi) to strengthen physical education facilities in educational institutions.

Strategies of TFYP

6.6 For attainment of the above objectives, the following strategies will be adopted:

(i) Measures will be taken for development of indigeneous and loss costly games for wider mass participation, specially in rural areas.

(ii) The existing physical facilities will be consolidated and some expanded facilities will be provided.

(iii) Sports facilities will be provided for the out-of-school youths in the rural areas with the help of local authorities and associations. Youth organisations will be involved in sports activities to complement the government efforts in nation building activities.

(iv) Each upazila will be equipped with at least one standard play ground for round the year practice in different games and sports.

(v) Promising sports talents from the younger groups will be identified and intensive training on scientific lines alongwith general education will be provided. Intensive training programmes for coaches, sports organizers, etc. will also be provided to enhance their skills.

(vi) Steps will be taken to provide physical education in all educational institutions and measures will also be taken to provide physical education teachers in all secondary schools.

(vii) Sports facilities for the women folk will be expanded to ensure their greator participation, by construction of more women's sports complex.

(viii) Regular training and workshop will be organized at national, divisional and district levels and arrangements will be made for publication of books, journals, etc. on national and international sports and games.

Programmes of TFYP

6.7 Main programmes for development of sports are discussed below:

(i) *Institutional Facilities :* Bangladesh Krira Shikkha Protishtan established earlier could not start its Krira College due to shortage of physical facilities. A suitable programme will be taken up during the TFYP to make it functional from 1986. The physical Education College at Rajshahi and Dhaka did not have sufficient physical facilities for which proper functioning in these two institutions was hampered. These two institutions will be developed further during the TFYP.

(ii) *Development of Stadia, Gymnasia, etc. :* Construction of indoor stadium at Dhaka could not be started during the SFYP due to non-availability of suitable land. Measures will be taken to construct the indoor stadium during the TFYP. The incomplete work of gymnasia and stadia at district level will be completed during the plan period. Work on four divisional stadia was in progress which will be completed to make them functional. National Stadium at Dhaka will be developed further to meet the growing demand and a stadium at Bandarban district will also be constructed.

(iii) *Development of Sports facilities for women :* A programme will be taken up for further development of Dhaka Women's Sports Complex and construction of three such complexes in three Divisional Headquarters.

(iv) *Training :* Intensive training programmes will be carried out for national players, coaches and sports organizers during the plan period. A programme for organization of games and sports for the boys and girls of 12—16 years age group will be undertaken. Sports facilities will be extended to the rural youths by providing sports gears to the rural sports and youth clubs.

Financial Outlay

6.8 An allocation of Tk. 64·00 crore has been provided for sports sector. The major programme-wise allocation is as follows :

TABLE 6

Programme-wise Allocation

[Tk. in crore]

Programmes.	Allocation.
(i) Institutional Facilities	22·10
(ii) Development of Stadia, Gymnasia, etc.	22·70
(iii) Sports Facilities for Women	15·20
(iv) Training	4·00
Total ..	64·00

A Summary of the Allocation for SCYSWAM

To implement the development programmes of SCYSWAM, Tk. 307 crore (at 1984/85 prices) has been allocated during the TFYP. Sectoral allocation is shown below:

TABLE

Summary Allocation for SCYSWAM

[Tk. in crore]

Sector.	Allocation.
1. Social Welfare	75·00
2. Women's Affairs	50·00
3. Youth Development	17·00
4. Mass Media	50·00
5. Cultural Development	51·00
6. Development of Sports	64·00
Total ..	307·00

CHAPTER XVIII

SCIENTIFIC AND TECHNOLOGICAL RESEARCH

Application of science and technology is indispensible for economic growth. It helps efficient and productive use of resources. While the developed countries have attained a high degree of technological advancement, the developing countries are yet to find appropriate technologies consistent with their factor endowments, skill and development needs. Imported technologies are not only costly but also not always suited to the existing socio-economic conditions, resource position, and the technical skill available in those countries. Often dependence on foreign aid also involves high level technology import resulting in operational and management problems in the user countries and resource transfer from those countries to the developed countries. The poor and developing countries should therefore strive at developing their own technologies as far as possible and import only such technologies which can be effectively used for their development.

2. The development plans of Bangladesh accordingly laid emphasis on development of appropriate technologies, indigenous and adapted, which would contribute to the development process of the country. The plans identified the priority areas of R&D activities and recommended (a) reorganisation and development of existing R&D institutions, (b) formation of a central agency, the National Council for Science and Technology (NCST) for coordination and direction in R&D planning and (c) formulation of comprehensive scientific and technological policies to guide science and technology development in the country.

3. **The STR Sector :** Science and technology has wide application in almost all the sectors of the economy. Accordingly, individual sectors like agriculture, irrigation and water uses, industries, etc. have their own programmes and financial allocations for technological research and development in the Plan. Apart from this, the Plan constitutes a separate sector, known as Scientific and Technological Research (STR) sector with specific financial allocations and programmes like nuclear technology of Bangladesh Atomic Energy Commission, agro-industrial research of BCSIR, space research and remote sensing of SPARRSO, environmental pollution control, etc.

REVIEW OF PAST PERFORMANCE

4. The objective of the STR sector in the Second Five Year Plan, as in FFYP and TYP, was to develop scientific and technological research of applied and adaptive nature suited to the economic and social development needs of the country. The Plan emphasised that R&D activities in this sector should aim at (a) development of indigenous technology based on local resources and craft and (b) adaptation of imported technologies. The S&T programmes were to be directed towards development of economic infrastructure and productive capacity in different sectors.

5. The Plan identified the following basic weakness and problems existing in the fields of S&T research : unplanned R&D work, multiplicity of organisations resulting in lack of coordination of work, overlapping of goals and functions, wastages of resources, and lack of comprehensiveness in the S&T policy. The SFYP laid down more comprehensively than the previous plans the directions and manner in which R&D work should be carried out and the priority areas where it should be given emphasis.

6. The R&D activities were to be directed towards technological development from simple product or process to that of engineering and fabrication and adaptation of imported technology. In this regard the Plan laid stress on reorientation of R&D activities towards problem solving research with emphasis on pay off in relatively shorter period of time. The priority fields of application of improved technologies as recommended in the Plan were : (i) agriculture, irrigation and water management; (ii) large scale industries including engineering and metal industries; (iii) small scale and rural industries; (iv) energy; (v) housing, sanitation and public works. For undertaking R&D work, manpower development was a necessity and the Plan accordingly recommended both field oriented training and basic education in science and technology for which suitable curricula were also recommended to be developed. Since multiple agencies were working in technological fields of diverse nature, a proper direction as well as coordination of work was felt necessary. The Plan accordingly recommended formulation of national S&T policy for direction and coordination of R&D planning. It also proposed that National Council of Science and Technology (NCST) should play an effective role towards this end.

7. Two major research institutions in the STR Sector namely, the Bangladesh Atomic Energy Commission (BAEC) and the Bangladesh Council of Scientific and Industrial Research (BCSIR) have been functioning since the pre-liberation days. During the period from FFYP to SFYP the institutional facilities for R&D work of BAEC and BCSIR and also of other existing organisations were developed. A new organisation, SPARRSO was also developed during the SFYP period for space research and remote sensing. Investment for institutional development and R&D in the SFYP period was quite large compared to that in the FFYP and the TYP. An allocation of about Tk. 120 crore was made through the Annual Development Programmes during the Second Plan period.

Nuclear Technology and Exploration of Minerals

8. Bangladesh Atomic Energy Commission continued its research work in nuclear science and technology and application of the same in different fields. It started setting up an Atomic Energy Research Institute at Savar in 1976 and the project implementation had continued during the SFYP period and would spillover to the TFYP. The Institute would develop integrated R&D facilities in the use of atomic energy in different fields and have five divisions to carry out R&D work : (i) Nuclear Science and Technology Division for research in nuclear technology and isotope production; (ii) Food Research and Biology Division for radiation process in disinfestation and preservation of food and other perishable commodities; (iii) Electronics and Material Science Division for research and production of electronic equipment and instruments; (iv) Nuclear Medicine Division for clinical research and application of nuclear techniques for diagnosis of diseases; and (v) a Computer Science Division for developing computer facilities and programmes.

9. During the SFYP period, construction of functional and laboratory buildings was almost completed and research facilities were also developed with procuremet of necessary equipment. Alongwith development of such facilities, the R&D work had continued in the radiation processing of foodstuff and nuclear medicine. The Nuclear Medicine Centre had been equipped with machinery and it had provided diagnostic treatment to patients. A number of electronic equipment had been designed and a Computer Centre had been set up. Repair and maintenance service facilities had been provided

to various establishments of the BAEC and other organisations. A 3 MW nuclear research reactor was under installation for carrying out basic research in nuclear technology. With the production of radio isotopes in the Centre, research scope would be further expanded.

10. Besides the basic research on nuclear science and technology, the BAEC had also undertaken projects for exploration of minerals and development of nuleear medical facilities.

11. The exploratory work of finding minerals in the beach sands started as far back as in 1968. As the survey showed potential deposits of minerals, a pilot plant was established in 1975 to experiment on the processing and production of minerals for industrial uses. The plant is still under operation. Though the results of the surveys and experimentations had indicated potential deposits of minerals (estimated 4 million tons), the production process could not reach the stage of commercial operation as yet. The minerals produced had been mostly used bythe BAEC for its own Atomic Energy Research Institute. The survey for finding uranium and thorium in Sylhet and Chittagong regions had likewise continued since 1976. The BAEC had established two nuclear medical centres (Dinajpur and Sylhet) during the SFYP period.

Scientific and Industrial Research

12. The BCSIR had been engaged primarily in applied research and development of products and processes for commercial use. During the period through the FFYP to the SFYP, it had developed R&D facilities in three research laboratories (Dhaka, Rajshahi and Chittagong), established an institute of food science and technology and developed facilities for establishments of pilot plants for process development. The laboratories and the establishments carried out research work in the fields of chemicals, leather, glass and ceramics, food processing and preparation of food products, fuel and energy, herbal medicine, etc.

13. Institutional development of the BCSIR started as early as in 1955 and has since continued through various projects. It has so far developed and released a number of products and processes on food, beverages, chemicals, oils, papers, instruments, etc. but only a few have gone under commercial production. Its experimentations on fuel and energy (solar cooker and biogas plants) also have not yet found commercial use. It has developed a fibre (jutton) and its product, the potential market for which is still to be assessed. A study on the economic and technical aspects of its commercial production has been undertaken.

Space Research and Remote Sensing

14. A space research and remote sensing technology had been developed for surveying natural resources and monitoring weather and natural hazards. A Space Research and Remote Sensing Organisation (SPARRSO) had been set up and developed under a project. During the SFYP period technical and research capabilities of SPARRSO had been developed.

15. SPARRSO undertook monitoring of weather conditions and supplying imageries or information to various agencies. Besides, it carried out resource survey studies from aerial photography and satellite data.

16. The remote sensing programme, undertaken by SPARRSO envisaged its operation on regional basis covering Bangladesh and the neighbouring countries within a radius of 2000 KM for surveying natural resources. A project for 'Establishment of a Regional Remote Sensing Centre' was under implementation during the SFYP period; it included installation of a ground station to receive resource survey information or scenes from the space satellites of LANDSAT of the U.S.A. and SPOT of France with French assistance of about Tk. 28·94 crore; the two-thirds of which is loan. Additional foreign exchange investment would be required to complete the project.

17. In addition to high investment cost, the programme, when it goes into operation, would also involve a high annual operational cost against which income expected from the sales of resource imageries or tapes to the countries that it would cover, would be insignificant. The various issues of operation and financing the programme have to be resolved before the project can be made functional.

Environment Pollution Control

18. Environment pollution studies and monitoring of air and water pollution were carried out by Department of Environment Pollution Control under its environment pollution control project. Under another project, namely, Construction of Biogas Plants, the Department had established 259 biogas plants. Of those plants, only 149 plants with floating typed domes had been functioning and the rest with fixed type domes had operational problems and remained almost non-functional. The plants had been set up as only demonstration plants and the technology is yet to find the acceptability of the people.

Standardisation and Quality Control

19. Central Testing Laboratory (CTL) undertook quality control test of both imported and local products while Bangladesh Standard Institution (BDSI) undertook certification of standard weights and measures and introduction (and publicising) of metric system in the country. The CTL had a development project to develop physical and operational facilities. The project could not be implemented as the equipment were not imported till the end of the SFYP period.

National Science Library and Museum

20. Preparatory work for establishment of a National Museum of Science and Technology was undertaken by the Science and Technology Division and the same Division also developed National Science Library primarily through procurement of books.

Financial Allocation (1973—85)

21. Plan allocation, resource availability and utilisation in past three plans (at current prices) for the STR Sector were as follows :

[Tk. in crore]

Plan	Total Public sector outlay	Plan Allocation for STR Sector.	% of Allocation	RADP Allocation for STR Sector.	Actual Utilisation.
FFYP	3,984	23·27	0·58	16·18	14·15
TYP	3,261	39·17	1·20	26·54	24·97
SFYP	16,060	129·00	0·80	119·88	109·88

The SFYP allocation at constant price of 1979/80 for the STR Sector was Tk. 92·00 crore.

22. In addition to the above allocation for the STR Sector, financial allocations were also made for activities relating to S&T development in other sectors like agriculture, water resources, industries, transports, energy. Total ADP allocation in these sectors during the SFYP for technological research and R&D activities is estimated to be about Tk. 264·00 crore. This together with the allocation for the STR Sector constitutes roughly over 2·5 percent of total ADP financing of the SFYP.

23. The SFYP allocation of Tk. 129·00 crore for the STR Sector constituted about 0·80 percent of the total SFYP public sector outlay. Allocations through Annual Development Programme for the Sector amounted to Tk. 120·00 crore.

24. Thirty projects were included in the SFYP; of these 24 projects had been carried over from the FFYP and the TYP and six were new. Out of these 30 projects, three were subsequently dropped after an investment of Tk. 1·42 crore (Tk. 0·56 crore in pre-SFYP and Tk. 0.86 crore in SFYP period). Implementation of 27 projects had continued during the Plan period and out of them 20 projects were completed by the end of the SFYP period and seven would spill over to the Third Five Year Plan.

25. Estimated expenditure during SFYP is Tk. 109·88 crore which is about 85 percent of the SFYP allocation or 92 percent of ADP allocation for the Sector. The major allocation had been for the programmes of space research and remote sensing technology and nuclear research. Higher investment in the former was possible largely on account of foreign aid.

Implementation Problems and Weaknesses

26. **Gaps between Policies and Implementation :** The main problem affecting S&T development is the lack of direction in planning, programming and coordination of work. The development plans (FFYP, TYP, SFYP) laid emphasis on proper direction in the S&T planning and coordination of the R&D activities. The plans also recommended wide ranging policies for such purpose. The National Science and Technology Policy formulated in 1980 also recognised that the existing multiple objectives of the National Research Councils or research organisations with uncoordinated R&D policy had been ineffective in formulating, conducting and implementing R&D activities in a national perspective. The S&T policy also broadly laid down the areas of S&T development, R&D work, institutional arrangement for planning and coordination of R&D work.

27. Even with such policy prescriptions, the problems in the direction and coordination of S&T planning and research persisted throughout the plan periods. The National S&T Policy 1985 (draft) resounds the same problems. The progress of R&D activities had accordingly suffered.

28. There had been also a lack of comprehensiveness in the S&T policies in directing S&T research towards short-term and long-term goals and phasing out implementation of programmes in consideration of time. A lack of synchronisation of S&T planning with national development goals and targets and adequate policies in respect of development of indigenous technologies, import substitutions and control, selection and adaptation of imported technologies also affected S&T development in the proper direction.

29. The problems of coordination in research largely stemmed from institutional and functional weaknesses. Multiple organisations had functioned under different administrative ministries each carrying out their activities virtually in an uncoordinated way. This had also led in some fields to researches of repetitive nature (as in fuel and energy).

30. **Unplanned R&D** . Researches or R&D work without proper assessment of the market demand for the technologies either in industries or households had also affected S&T development.

31. **Drag on Project Implementation**. Most of the projects implemented had long duration, some stretching even from the pre-FFYP period to the SFYP period. The projects, had to undergo revisions to accommodate increase in cost or add new facilities. The slow and prolonged implementation had affected proper delivery of the expected benefit or result. Deficiencies in project planning implementation, monitoring and evaluation had contributed to the prolonging of project implementation and the resultant slow progress in the S&T development and its contribution to the economy.

32. **Technology Dissemination** : The problem of transfer of technologies from the research laboratories to their uses affected the spreading and utilisation of technologies. For some sectors like agriculture extension system contributed to the use of technologies. However, the basic weakness had been the absence of proper linkages between the economic needs, R&D planning and the applicability of the technologies.

THIRD FIVE YEAR PLAN (TFYP)

Objectives of TFYP

33. The objective of S&T development for the Third Five Year Plan would be to develop a scientific and technological process which would help accelerate the country's socio-economic development.

34. Given the limitations of factor endowments and imbalances in supplies (land, capital and labour), small industrial base, low productivity both in agriculture and industries and inadequate infrastructure for development (transports and communication, power, energy, etc), the objective would be to develop technologies which would be appropriate to the needs of the country for wide applications in public or private sector and at the same time would be most cost-effective. The objective, scope and dimension of scientific and technological research would necessarily relate to the development policies and objectives in the national perspective.

Strategies of TFYP

35. There would be a need for selection and prioritisation of scientific and technological activities including research. Science and technology, though interlinked, are but two distinct areas and disciplines. On the question of relative priority, specially for a short-term period like the TFYP, and in the face of immense technology improvement needs, emphasis must be given more on applied and adaptive research than on fundamental research. The basic scientific research which would help develop and also strengthen technological advancement should be highly selective. Fundamental research again should not be taken up in any *ad hoc* manner. Its need should be conceived in providing the necessary technological inputs to the field oriented research.

36. Technological advancement is needed in almost all the sectors, specially in the areas of production and infrastructure, like agriculture, industries, construction, communi in cation, energy and fuel, etc. As a departure from the hitherto S&T planning, the needs

of technological improvement for each sector should first be carefully assessed and R & D activities accordingly planned in order of priorities. For each sector, R & D planning must relate to the sectoral programmes and targets.

37. The S & T research would aim at developing a wide range of technologies to meet inter-industry demand. Technology development must cater to the needs for both horizontal and vertical linkages among different sectors or industries. A shift in direction of technological research from the simple products or processes to that of engineering and fabrication of plants and materials would also be necessary. While this would be the one aspect of meeting the inter-industry demand for higher technological advancement, improvement of traditional low cost craft oriented technologies in which millions of people are engaged, would also need special consideration till economic transformation gradually change the economic structure.

38. As the need for imported technologies would remain, it should be restricted to those which are absolutely necessary and for which indigenous technologies are either not available nor can be developed; a careful evaluation of their adaptability in the socio-economic conditions of the country would also be necessary.

39. The scientific and technological advancement is a long-run process. In this framework, science and technology would be directed towards increasing the productive potentials of the economy. This process would relate to the stages of economic growth, changes in the socio-economic structure and pattern of resource use. The S & T activities should be directed in the short-run towards meeting the immediate needs of of the economy, like production and employment, with emphasis on the utilisation of the existing institutional facilities supplemented, where necessary, by development of only essential new facilities.

S & T Policies

40. In order to guide S & T development and its research, it is necessary to have national S & T policies consistent with the national development policies addressing specifically to the following :

(a) objectives of S & T development, determination of inter and intra-sectoral priorities of S & T research, and establishment of targets or achievable results within a time frame;

(b) policies and measures for development of appropriate institutional structure for S & T development;

(c) policies and measures for development of indigenous technologies and selection, acquisition, adaptation and use of imported technologies;

(d) development of institutional mechanism for coordination of R & D activities of different institutions and continuous monitoring and evaluation of work; and

(e) dissemination of technological information and effective follow-up measures in the use of technologies from the laboratories to the field, and its feed-back to the research process.

Policy Support to S & T

41. A package of national policy support will be needed to promote and develop science and technology. This would relate to production and employment, price support, import substitutions and protection and development of local industries and technologies. National development plans and policies in these respects would have to lend support to S & T policies and programmes.

Organisation

42. The entire S & T organisational structure would have to be reviewed in order to rationalise the existence of multiple organisations and their administrative placement or linkages of different organisations with the Ministries and Divisions and evolve an institutional mechanism for coordinated R & D planning and dissemination of technologies. The functional goals and responsibilities of different organisations have also to be streamlined to avoid any overlapping functions and resource wastage. The NCST and the S & T Division would have to undertake a review of entire S & T organisational structure and functions, the weaknesses and deficiencies in the S & T development and formulate S & T policies and plans for future directions of S & T both in short and long-term perspective.

Manpower Development

43. Scientific and technological advancement would greatly depend on the availability of trained manpower to undertake the R & D work and its application in development fields. Along side with the general education, an important element for manpower development would be job or craft oriented training. Institutions for providing such training do exist in different sectors, both under the public and private management. Since manpower development plans and policies could not yet be properly integrated with the national development policies and process, there have been imbalances in the availability and requirements of trained personnel in different fields. Along with the formulation of the national S & T policies, a manpower development plan also needs to be prepared keeping in view the needs of S & T development in different sectors.

Programmes of TFYP

44. The R & D institutions would continue to carry out normal R & D activities in their respective fields. They receive financial allocations both from the development budgets and the revenue budgets for development of R & D facilities and carrying R & D work. During the TFYP, on-going development projects carried over from the SFYP will be implemented and completed. In addition, new projects will, also be taken up for development of research facilities and studies in some essential new areas of research.

Bangladesh Atomic Energy Commission

45. The BAEC would continue its research on nuclear technology. The project on Atomic Energy Research Institute at Savar would be completed during the TFYP (in 1986/87). Along with the development of research facilities, research would be simultaneously carried out in the laboratories of the institute. The BAEC will also set up three nuclear medical centres attached to medical colleges and hospitals in Rangpur, Barisal and Khulna where no such centres exist. Simultaneously, the BAEC will take

up a project for improvement of the equipment facilities in the three existing nuclear medical centres at Dhaka, Rajshahi and Chittagong. It will also take up another project for replacement of old essential equipment of the Atomic Energy Centre at Dhaka.

46. For exploration of uranium and thorium, the ongoing project has been included in the TFYP but the progress of its implementation and findings of the surveys would have to be reviewed for its further continuation.

47. Residential facilities for the staff of the Atomic Energy Research Institute at Savar will be further developed and a project for construction of low cost housing will be taken up for the purpose.

BCSIR

48. The BCSIR will continue its normal R&D activities of applied nature in different fields in its laboratories and establishments. The research programmes will have to be planned keeping in view the needs of different sectors or fields and also prospective demand of the processes or products for industrial and commercial use. For undertaking the R&D activities and development of processes and products, the BCSIR would take up a project only for necessary replacement of existing as well as acquisition of new equipment for the Dhaka Laboratory.

SPARRSO

49. The SPARRSO would continue to function under the completed project. The implementation of the Regional Remote Sensing Project which has been carried over from the SFYP has been included in the TFYP. The various issues regarding its operation, financing, and maintenance will be reviewed and resolved before the project makes a headway.

Science and Technology Division

50. The S & T Division will undertake two feasibility studies, one on Biotechnology and the other on Oceanographic Research.

51. A National Science Academy Bhaban will be constructed which will house only the Bangladesh Academy of Sciences. For development of documentation and library facilities, a project will be taken up for acquisition of books and equipment for BANSDOC and National Science Library, the two being merged into one organisation.

52. A National Museum of Science and Technology (NMST) will be established and the ongoing project for the same has been included in the TFYP.

Bangladesh Standard and Testing Institutions

53. The CTL and BDSI have been merged in 1985 into one Institution as Bangladesh Standard and Testing Institution (BSTI). The BSTI would function for setting standards of quality of products and materials, promotion and adoption of those standards and inspection and testing of quality of products and materials, both local and foreign. The ongoing SFYP project, 'Modernisation and Development of Central

Testing Laboratories' has remained mostly unimplemented as no equipment for development of testing facilities could be procured. Along with development of testing facilities, physical facilities for buildings and equipment for standardisation will be also developed during the Third Five Year Plan. A project would be taken up during TFYP for development of both testing and standardization facilities which would integrate the facilities envisaged under the ongoing project of the testing laboratories. Two new branches of testing laboratories will also be established, one at Khulna and the other at Chittagong, under a separate project.

Financial Allocation

54. The financial allocation of the STR Sector for the TFYP is Tk. 60·00 crore (at 1984/85 prices). Of this, Tk. 28·66 crore has been earmarked for seven spill-over projects. Agency-wise allocation is given in Table 1.

TABLE 1

Agency-wise Allocation

(Tk. in crore)

Agency	Allocation
1. BAEC	24·91
2. BCSIR	5·77
3. SPARRSO	8·40
4. NMST	4·00
5. S&T Division	6·50
6. BSTI	10·42
Total ..	60·00

55. In addition to the above allocation of Tk. 60·00 crore for the STR Sector, the TFYP also envisages technological research and development programmes in different sectors of the economy for which financial allocations have been provided under respective sectors.

CHAPTER XIX

MANPOWER AND LABOUR

Human capital is essential for development particularly in a country like Bangladesh which is deficient in other resources but has abundant manpower that can be harnessed for productive activities. Since the quality and productivity of labour is largely determined by the amount of formal education as well as training, it is necessary to place due emphasis on proper educational and skill training policies and programmes. Manpower situation in Bangladesh is mainly charactersied by the simultaneous existence of acute unemployment and under employment including that of the educated/skilled on the one hand and shortage of strategic skills, on the other. Such a situtation warrants balanced development of skill and its optimum utilisation by way of planned enhancement of employment opportunities in the economy as well as overseas employment markets which have also gainful balance of payment implication for the country. Programmes of occupational hygiene and safety, labour welfare and labour relations are important *sine-qua-non* of improvement of labour productivity which determines the effectiveness of the labour force. Effective monitoring of labour productivity and its development along with appropriate organisational mechanism therefore is also as important as undertaking devopment programmes. Manpower and Labour Sector's programmes generally cover the above areas and issues of development.

REVIEW OF PAST PERFORMANCE

2. Prior to launching of the SFYP, the country had a net-work of five Technical Training Centres (TTCs) including an Institute of Marine Technology with a total annual training capacity of 2880 for imparting skill training, four Vocational Guidance and Youth Employment Units, nine Employment Exchanges along with two Branch offices with added facilities for female job seekers, four Industrial Relations Institutes (IRIs) and 22 Labour Welfare Centres. Besides, work was initiated to set-up seven new TTCs with an annual training capacity of 2184. Apprenticeship training activities continued through three existing Apprenticeship Training Offices. In addition, on-the-plant crash training programme for skill development was carried out under the auspices of a number of sector corporations. The Bureau of Manpower, Employment and Training (BMET) was set up in early 1976 for better management, administration and monitoring of the craftsmen skill training programmes and employment promotion matters both at home and abroad.

3. Programmes for the SFYP were formulated for strengthening institutional training net work for skill development, expansion of the institutional infrastructure for overseas as well as in country employment promotion including self-employment, enhancement of labour welfare, improvemnet of industrial relations and manpower research and evaluation.

4. In the area of skill development training, seven new TTCs were established during 1980-85 and as such, the total number of fully operational TTCs was 12 by the end of the SFYP. Institutional network for skill development training also included the Vocational Training Institutes (VTIs). Four schemes relating to VTIs, earlier included under the education sector, were transferred to and implemented under the Manpower and Labour Sector. The total number of operational VTIs in the country increased from 42 to 52 at the close of the SFYP. Subsequently, however, consequent upon government decision in 1984, the VTIs have been transferred back to

the Ministry of Education. In respect of training activities, the total annual benchmark training capacity of the 5 TTCs and 42 VTIs was 5,156 in 1980, 2,713 in the regular programmes and 2,443 in the other special programmes including those of Ministry of Youth Development. It is estimated that the annual training capacity increased to 22,290 in 1985, 8,590 in the regular programmes and 13,700 in the special programmes under the network of 12 TTCs and 52 VTIs. In respect of actual training performance, it is estimated that a total number of 84,764 persons were trained under the TTC and VTI system through their regular as well as special trade programmes during the calendar years 1980—85. A Vocational Teachers Training Institute (VTTI) was established at Bogra to cater to the instructor training needs of the VTIs and TTCs.

5. An organisation with international status called the Islamic Centre for Technical and Vocational Training and Research was established at Dhaka with assistance from the member countries of the OIC for which Bangladesh provided the land and cost of land development.

6. In addition to the institutional skill training, apprenticeship and on-the-job training continued under the auspices of the BMET. Besides, about 1600 in-plant supervisors in three sector corporations were trained under a joint Government, IDA and ILO supervisory training project.

7. In order to formulate a unified skill development policy as also to ensure effective policy coordination for the country's skill development training activities, a National Council for Skill Development and Training (NCSDT) was constituted. Construction of its headquarters building and 4 Regional Offices was undertaken under an IDA assisted Vocational Training roject. Consumable training materials for the entire TTC network were also provided under the same project.

8. In respect of institutional development for employment promotion, the existing nine Employment Exchanges were strengthened and reorganised and 12 new Employment and Manpower Offices were set up during the plan period. Thereby, facilities in the form of District Employment and Manpower Offices (DEMOs) were created at 21 old district headquarters for institutional employment monitoring and collection of manpower and employment data/information for the purpose of objective in-country and foreign employment planning along with traditional job registration and placement services.

9. Supplemental to the efforts for promotion of regular wage employment organised arrangements were made and facilities provided under the auspices of the BMET for augmentation of self-employment. The programmes included tool-kits distribution among the technically trained persons, skill upgradation training and vocational guidance and provision of seed money with particular emphasis on rural landless poor including the females for augmenting non-farm self-employment.

10. Considerable progress was also made in respect of employment of professional, skilled, semi-skilled and unskilled labour from Bangladesh in the overseas employment markets particularly in the Middle East and the Gulf Areas. The BMET provided the institutional arrangement for the purpose. A total number of 30,073 persons out migrated in 1980, 55,787 in 1981, 62,805 in 1982, 59,316 in 1983 and 56,754 in 1984. Remittance received from Bangladeshi nationals employed abroad amounted to Tk 523·00

crore in 1980, Tk. 686·00 crore in 1981, Tk. 1,173·00 crore in 1982, Tk. 1,568·00 crore in 1983 and Tk. 1,265·00 crore in 1984. As a specialised organisational arrangement, on commercial lines, for promotion of overseas employment, the Bangladesh Overseas Employment and Services Limited was established under the auspices of the Ministry of Labour and Manpower.

11. In the area of Labour Welfare and Labour Relations, three new Labour Welfare Centres were established during SFYP. As against the SFYP benchmark number of 22 centres, the total number of labour Welfare Centres at the end of the SFYP stood at 25, including two catering for tea industry workers representing the institutional arrangement for catering to the health, family planning, educational and recreational needs of industrial workers. Four existing Industrial Relations Institutes (IRIs) at Tongi, Rajshahi, Chittagong and Khulna continued training in labour management relations and also organised motivational education programme for population control.

12. In the field of Research and Evaluation, the Bangladesh Manpower Planning Centre (BMPC) was established for carrying out research and surveys on manpower and employment including a country-wide 'Establishment Enquiry'. The Centre had also organised a number of training workshops on manpower planning techniques, employment planning and population and human resources development. A National Centre for Monitoring Labour Productivity was also established under the Ministry of Labour and Manpower to study labour productivity in different sectors.

13. A total of 29 projects were included in the SFYP with an allocation of Tk. 111·60 crore at current prices including 4 VTI projects transferred from the Education sector. Out of the 29 projects, 19 were completed, 5 were dropped, 2 were transferred back to Education sector and the remaining 3 would spillover to the TFYP.

Financial Performance

14. Fund utilisation of the sector improved over the years. A comparative picture of financial performance of the sector during FFYP, TYP and SFYP is given below :

TABLE I

Financial Performance during Past Plans

(Tk. in crore)

Plan	Plan Allocation.	Allocations through RADPs.	Fund Utilisation.	Fund Utilisation as percentage of RADP allocation.
1	2	3	4	5
FFYP	12·00	9·14	5·03	55%
TYP	16·00	16.62	9.68	58%
SFYP	111·60*	107·35**	89·80**	84%

*Including allocation of Tk. 23·60 crore for 4 VTI schemes transferred from the Education Sector.
**Including provision/utilization for 4 VTI schemes.

Review of Past Strategies

15. In view of the crucial importance of skilled craftsmen for productive activities in various sectors and also for self-employment and overseas employment, the skill development programme was assigned the highest priority under the Manpower and Labour Sector's programmes with allocations as high as 87% for the sub-sector in the SFYP. Emphasis was laid on quick operationalisation of the ongoing projects for setting up TTCs and strengthening and consolidation of the existing system for reaching the stipulated training targets rather than creation of new physical facilities. Efforts for development of a unified skill training policy, effective coordination between skill generation activities under the public and the private auspices, readjustments in the training duration for the vocational trade courses, development of standard course curricula and training manuals, uniform national standards for skill in different trades, development of standardised system of testing applicable to all tradesmen trained either in institutions or in industries or under any other system of training were important elements in the strategy for this sub-sector. With the dispersal of economic activities, it was an important element in the strategy of employment promotion to decentralise the country's employment service network. It was also considered appropriate to assign to the employment exchanges functions of a new dimension in the areas of manpower and employment along with their traditional role. Added emphasis was also laid on augmentation of self-employment and overseas employment in view of the fact that in-country wage-employment alone was not able to cope with the country's serious unemployment problem.

16. With regard to investment, the sectoral strategy was to complete and fully operationalise as many projects as possible during the respective plan periods with provision of adequate funds rather than thinning out resources on too many schemes. Accordingly, a number of schemes with relatively low priority were not taken up at all, while those taken up for implementation were mostly completed particularly during the SFYP.

Implementation Problems and Weaknesses

17. The main reasons for shortfall in the financial and physical performance over the different plans, particularly in the FFYP and the TYP, were increase in the cost of almost all the ongoing schemes following rising prices of construction materials, labour etc. and delay in formulation, processing and implementation of projects. Delay in preparation of plans and estimates and execution of actual construction work and above all, inadequacies in central and executing agency level mechanism for monitoring project implementation slowed down the progress of project execution. In respect of large aided projects, delay in aid disbursement and utilization also affected project implementation.

18. The skill development programmes encountered a number of problems, such as, underutilisation of the existing capacity of the training institutions, serious gap in the quality of the trained personnel and finally, the existence of the paradoxical situation of shortages of skilled workers in the economy on the one hand and large scale unemployment of some categories of skilled persons on the other. Such a situation was also due to the absence of a national policy for skill development in the country although the SFYP strongly emphasised the need for formulation of a policy based on objective assessment of training needs.

19. In respect of employment services, it was not possible to develop the District Employment and Manpower Offices (DEMOs) on the desired lines to take up additional responsibilities of new dimension with regard to collection of manpower and employment data and monitoring of employment along with their routine work of registration and placement, although the SFYP emphasized on development of a labour market information system responsive to the national needs. With regard to self-employment, programmes were not taken up in adequate dimension to show any significant result or any perceptible impact on the labour market.

20. The Labour Welfare Centres, set up during various plan periods, remained functionally weak having little or no welfare impact on the lives of the labour force. They failed to provide any meaningful welfare facilities and there was no effective mechanism for coordination and monitoring of their functioning. Similarly, the IRIs, except the one at Dhaka, lacked adequate physical facilities and manpower to organize training on labour management relati ns effectively.

THIRD FIVE YEAR PLAN

Objectives of TFYP

21. The broad objective of the sector will be to raise the level of skill of the labour force to meet the manpower demands of various sectors of the economy keeping also in view the aspects of their welfare and safety. In the light of the needs of skill development on the one hand, the prospects of employment at home and abroad on the other, and the progress and experience of programme implementation in the past, the specific objectives of the TFYP for the Manpower and Labour Sector will be as follows :

(i) to strengthen the craftsmen skill training system with better capacity utilization within the framework of a national policy for skill development;

(ii) to broaden the scope of in-plant apprenticeship training and more effectively coordinate all activities relating to such training ;

(iii) to promote manpower export activities and to strengthen necessary institutional support;

(iv) to promote self-employment activities on larger scale ;

(v) to reorganize and further strengthen the country's employment services network particularly in the context of dispersal of economic activities in the rural areas;

(vi) to improve industrial relations through more effective motivation, workers' education and training on labour-management relations ;

(vii) to ensure industrial safety and occupational hygiene ;

(viii) to strengthen the institutional set-up for provision of labour welfare including arrangements for vocational rehabilitation of disabled workers ; and

(ix) to carry out objective action research on manpower and employment situation and to streamline the system of monitoring of employment and productivity.

27. The above programme will be implemented through three on-going projects carried forward from the SFYP and 15 new projects envisaged for the TFYP. Hihgest priority will be assigend to the training programmes in view of the overwhelming importance of skill development.

28. **Skill Development :** The present skill training activities at craftsmen level are administered under the executing responsibility of the BMET of the Ministry of Labour and Manpower. The training programmes are carried out through the institutional facilities of the TTCs as well as non-institutionally in the form of apprenticeship, in plant, upgradation including supervisory level training and special skill orientation programmes for self-employment. Skill training is also imparted through the VTIs under the education sector. Besides, some training activitites are carried out under private auspices also.

29. Under the IDA assisted on-going Vocational Training Project the remaining work of construction of five TTCs (at Khulna, Bogra, Barisal, Comilla and Mymensingh), the headquarters buildings of the NCSDT and its four Regional office buildings will be completed in the first year of the TFYP. Under the same project, training will be provided to the instructional staff of the TTCs and the professional staff of the NCSDT secretariat; provision will also be made for development and supply of trainig materials to the entire skill training network under the BMET. The physical work of the TTC, Faridpur will be completed by June, 1986 and the centre will become operational to carry out training programmes at full capacity.

30. The existing 11 TTCs will be functionally strengthened and reorganised in order to ensure optimum utilisation of the facilities leading to increased output and better quality of training. Besides, diversification in the training programme would be brought about by adding additional trades which may be in demand and by creation of some additional facilities in order to promote self-employment. Arrangement would be made for attachment of TTC instructors to the industries in order to increase efficienecy of institutional training, at the same time, production-oriented training programmes will be introduced in the TTCs as a requirement of the training courses. It would, however, be necessary to take up the work in phases on the basis of comprehensive and objective assessment of the need for renovation and replacement, and introduction of new dimension in the training programme. The Bangladesh Institute of Marine Technology (BIMT) was established in early sixties under the name of Marine Diesel Training Centre offering both Diploma and Certificate Courses in marine technology. The institute will be strengthened in order to ensure more effective utilisation of the existing facilities and better quality of training for which new physical facilities may have to be developed.

31. It is envisaged to set up five new TTCs at old district headquarters where presently no skill training facilities exist. The actual location, trades, training methods etc. for these new centres will be firmed up on the basis of findings of the trainig needs assessment presently in progress. It is estimated by the BMET that present annual training capacity of the existing network of TTCs (12) is about 4,000. Assuming that the five new TTCs will come into operation roughly with effect from the 4th year of the TFYP, the network of 17 TTCs including the BIMT will have an annual training capacity of approximately 5,500 by 1989/90. The BMET is also of the opinion that this annual capacity can be nearly doubled if double shifts can be introduced in the TTCs with necessary instructional and logistics support.

32. Trainees of the TTCs and the BIMT will be provided with monthly stipend under a development project. Under the same project, the instructor trainees of the TTCs and BIMT would be provided with training allowances during the training at the VTTI. In addition, the student trainees would be provided with subsistence stipend during their 3-month industrial attachment period.

33. Recent surveys reveal that only little over one-fifth of the total demand for skilled workers is met by the institutional sources under the public sector. A large number of non-government training centres are operating in the private sector producing semi-skilled and skilled workers. Overall quality of training of most of these institutions is extremely poor and those who pass out of these institutions are generally found to be facing problems of employability both in the local as well as overseas employment markets. A selected number of non-government technical training institutions will be assisted by way of provision of necessary equipment and other support. Such institutions will be required to adhere to a prescribed trade testing and certification procedure.

34. Institutional, apprenticeship and in plant training are interdependent components of the country's integral skill training system and they should be developed equally for comprehensive skill development.

35. Shortages of skilled workers in the industries aggravated by employment of workers in the overseas employment markets, have adversely affected the production and maintenance capability of our industries. While there is a regular arrangement for institutional training in the TTCs, VTIs etc. for the production of semi-skilled workers (National skill grade-III), adequate arrangement do not exist for upgradation to skilled and highly skilled levels (National skill grade II and I respectively). It is proposed to make a broad-based arrangement to provide apprenticeship, in-plant and up-gradation training to industrial workers for increasing their skill level towards achieving higher productivity in the industries and also to replenish the skilled manpower depleted due to skill emigration. In the country, most industrial enterprises belonging to the public sector do not have either necessary budget provision or initiative to meaningfully carry out in-plant training for skill upgradation of their own workers. It is essential at least at this stage, to provide and arrange apprenticeship and in-plant training facilities for the overall skill development of the country's industrial labour. However, possibilities should be explored to increasingly motivate the industries to come forward for cost sharing in respect of apprenticeship and in-plant training.

36. **Employment Promotion:** In the context of the country's overall unemployment problem, need for augmenting self-employment and the increasing decentralization of economic activities to the rural areas, it will be necessary to functionally reorganise and reorient the employment services set up so that the system can show the desired results in terms of promotion of employment. While all aspects of operational and functional details including the manning scale of the existing DEMOs should be thoroughly reviewed, it will have also to be considered whether employment services of the newly created districts will be taken care of by the existing offices.

37. With increasing number of persons entering the labour force annually, it can not be expected that wage employment in the formal sector can be big enough to take care of the huge number of the unemployed including the backlog thereof, particularly in the situation of a developing country like Bangladesh. The possible answer to the problem is to motivate persons to inculcate the motto of taking up self-employment on an increasing scale and to create opportunities therefor in an organized manner. The country has immense potentials for promotion of self-employment, particularly for those with some sort of skill training background. During the TFYP, a programme for promotion of self-employment, covering both iurban and rural areas, will be undertaken on a pilot basis under the auspices of the BMET. The programme will operate in the form of distribution of tool-kits to the technically trained persons and cash loans to the unemployed as seed money for undertaking self-employment ventures. It is estimated that a total number of 25,000 beneficiaries will be covered under this programme. Under the proposed self-employment programme, the BMET will also arrange necessary training programmes of short duration to the unemployed and also provide orientation training to the concerned personnel of the BMET, DEMOs, the Banks and also the local employment associates on the philosophy and operational machanism of the programme. Self-employment programmes are persently under operation in organisations, both government and non-government. Some machanism should be evolved for coordination of all such activities within a national policy frame-work in order to avoid duplication of efforts and resource deployement. The BMET can take this coordinating role to be materialised through their DEMO net-work.

38. Manpower export still remains an issue of current national economic importance. Starting from the late seventies through early eighties, manpower export emerged as one of the highest foreign exchange earners for the country with emigration and remittance growing at an increasing rate. The process experienced a spell of decline with the number of migrants as well as remittance going down during 1983 and 1984 which, however, showed sign of recovery in 1985. In order to arrest the decline and to augment manpower export further, it will be necessary to provide all possible promotional support in an organised manner through the existing institutional facilities side by side with launching of massive market promotion activities. The Bangladesh Missions abroad including the Labour Attaches may be assigned the responsibility of playing a more vigorous and effective role in this regard.

39. In respect of manpower export, however, the local needs of the economy will have to be kept meticulously in view. The country must adopt a clear policy of identifying the specific skills required within the home economy and the professionals needed in the country should be restricted from going abroad. This task should be an important element in the country's overall employment monitoring machanism designed to keep the process of manpower export under constant review. A centre will be established under the auspices of the BMET for orientation of the migrant workers. The average annual target of man-power export will be 60,000 during the TFYP Period.

40. **Labour Welfare :** Labour welfare will be related to productivity and accordingly, provision of welfare facilities for the work force would be treated as a direct input towards enhancement of labour productivity. The work on establishment of some of the existing 25 Labour Welfare Centres (representing institutional arrangement for provision of health, motivational and recreational facilities to the industrial labour force) started as early as late fifties. Physical facilities of most of these centres have become dilapidated and their functioning as well as their overall management of the system has remained unsatisfactory resulting in too insignificant service delivery to have any meaningful welfare impact on the labour force. It is proposed that during the TFYP, 21 out of the 25 existing Labour Welfare Centres and the Labour Welfare Division for Tea Industry at Sreemangal will be improved and functionally strengthened and reorganized with necessary physical facilities and other logistics support.

41. Rehabilitation of the disabled industrial workers in the economy is desirable both from the welfare and economic points of view. A scheme will be taken up to rehabilitate the disabled workers by integrating them into the productive process through necessary training and employment facilities so that they can be useful members of the society.

42. **Industrial Safety and Hygiene :** With the progress of industrialisation, occupational hazards are increasing in various production activities. These hazards involve very often occupational accidents which lead not only to the damage of production equipment and decrease in productivity but also to loss of the lives of skilled workers. It is proposed that an integrated centre for both occupational accident analysis and accident prevention training be set up during the TFYP. The centre is proposed to be equipped with facilities capable of conducting investigations of occupational health and safety problems and imparting related safety training to management officials and workers.

43. **Industrial Relation :** Training and research in labour relations and labour administration for trade union leaders, supervisors, senior workers, representatives of the managements and labour officials in the government and private undertakings is important for development of healthy labour management relations in the country which is an important precondition of industrial peace and productivity. The three Industrial Relations Institutes (IRIs) at Chittagong, Khulna and Rajshahi established during the FFYP and the TYP periods could not come into full operation owing to inadequacies of facilities and paucity of operational funds. During these periods, the physical condition of the institutes had infact deteriorated (mainly due to delapidation of the buildings) and overall management had worsened mainly due to staff shortage. The IRI at Tongi which has been functioning since early sixties can organise more broad-based training activities effectively and can also play some coordinating role in respect of the country's overall training activities in the area of labour relations if the institute can be strengthened with certain additional facilities. During the TFYP, physical facilities of three existing IRIs at Chittagong, Khulna and Rajshahi will be improved and they will be functionally strengthened. Through another project, the existing IRI at Tongi will be strengthened by providing some additional facilities including equipment and logistics support.

44. **Organisational Development and Research Monitoring and Evaluation :** An adequate organisational set up with proper inspection facilities is essential for ensuring safety and hygiene at work-places and monitoring and supervision of the enforcement of the country's labour laws. The Department of Inspection of Factories and Establishments is responsible for enforcement and administration of various labour laws and rules concerning work hours, working conditions, labour welfare, safety, health and hygience of workers, payment of minimum wages, maternity benefit, workmen's compensation, conditions of employment and labour standard for workers engaged in different mills and factories, shops and establishments, road transport, tea plantation, docks and ports and inland water transport, etc.

45. After independence of Bangladesh, the number of mills, factories and establishments has been increasing substantially. At present, about 12,500 factories are registered and there are numerous shops and establishments in 48 Municipal areas of the country. The Department of Inspection of Factories and Establishments has not, however, been organisationally developed in adequate dimension to cater to the inspection needs of this increasing number of mills, factories and establishments. With a view to strengthening the inspection activities in the proper manner, the Department of Inspection of Factories and Establishments will be strengthened with some additional staff and some other facilities including some training equipments and other logistics facilities.

46. The efficiency and effectiveness of the government's labour administration machinery is suffering due to scattered location of different organisational units mostly in rented buildings. This creates serious coordinational problems as well. It is proposed to construct an office building for the labour administration machinery for unified location of the offices of the Chief Inspector of Factories and Establishments, Minimum Wages Board, IWTA Board and the National Centre for Monitoring Labour Productivity.

47. In order to carry out research, evaluation and monitoring activities in the areas of manpower, employment and labour productivity, two organisations namely, the Bangladesh Manpower Planning Centre (BMPC) and the National Centre for Monitoring Labour Productivity (NCMLP) were already created during the SFYP. These organisations will systematically carry out research and monitoring activities on a regular basis during the TFYP period. The BMET will also carry out studies and surveys on training needs, skill development and employment opportunities through its respective wings. The BMET will utilise the organisational net-work of the DEMO for collection of necessary data and other feedback information in this regard.

Financial Outlay

48. For financing the above programmes, an allocation of Tk. 93.00 crore (at 1984/85 prices) has been provided for the Manpower and Labour Sector under the TFYP. Of the total allocation, Tk. 12.20 crore has been provided for the three spill-over projects. Skill development has been assigned the highest priority in the sectoral programmes which claim as much as 72.80% of the total allocation for the sector.

49. Programme-wise distribution of total sectoral allocation is given below:

TABLE 2

Programme-wise Allocation

(Tk. in crore.)

Programmes	Allocation	Relative share
1. Skill Development	67·70	72·80%
2. Employment Promotion	7·00	07·53%
3. Labour Welfare	5·10	05·48%
4. Industrial Safety and Hygiene	4·00	04·30%
5. Industrial Relations	1·70	01·83%
6. Organisation Development and Research, Monitoring and Evaluation.	7·50	08·06%
Total ..	93·00	100·00

CHAPTER XX

PUBLIC ADMINISTRATION

Public administration has a great importance in a planned economy where the public sector plays the key role for planning and development on the one hand and regulating and motivating the private sector on the other. While the traditional regulatory functions of the state are multiplying, the administrative machinery of the country, of necessity, is also getting so much involved in the process of development that the public administration is no longer considered merely an arrangement of administrative control but also an essential input in the development process. A country like Bangladesh must, therefore, give attention to develop an efficient public administration system commensurate with the country's socio-economic development needs, keeping particularly in view the policy of decentralization of both adminstration and development.

REVIEW OF PAST PERFORMANCE

2. The FFYP, prepared in the wake of the country's significant post-liberation socio-economic and political changes, envisaged a much centralized planning and development process seeking two basic supports towards implementation of the plan; one, political commitment and the other, administrative reforms and efficiency. The responsibility of development administration of the government increased manifold with the nationalisation of a large number of industries and financial institutions and the management vested in the government. As a first step towards increasing the efficiency of a newly emerged administration based on the recommendations of a Services Reorganisation Committee, the Plan envisaged immediate training of officials at various levels involved in administration and management. As an institutional arrangement for such training the Plan provided for development of COTA, NIPA and STIs and establishment of a training set-up for the senior officers at the policy level. The Plan also emphasized formulation of unified administrative and management training policies and programmes and proposed constitution of a National Training Council (NTC) for providing direction to training.

3. The TYP also emphasized the need for further strengthening of administrative machinery so that it can render public service with efficiency Public Administration emerged as a separate development sector envisaging programmes in the areas of training, research in public and development administration, social science and human resources development and improvement of statistical services. Training of officers and staff at various levels in the government and public organizations was carried out through an institutional set-up of Bagladesh Administrative Staff College (BASC), National Institute of Public Administration (NIPA), Civil Officers Training Academy (COTA) and Staff Training Institutes (STIs). Institutional arrangements for research were geared up and strengthened through further development of the BIDS, BBS, and R&D Cell in the COTA and creation of new organizations such as the Social Science Research Council and the National Foundation for Research on Human Resources Development (NFRHRD). The planning capability of the Ministries and Divisions was enhanced through creation of planning cells in them.

4. Though the FFYP and the TYP visualised a comprehensive planning mechanism at the central level, both the plans recognised the need for development of a local level planning process by enhancing the project planning and implementation capability at local level with sufficient authorities delegated to the local bodies.

5. In view of the importance of public administration, the SFYP, compared to all previous plans envisaged a much wider scope of development, covering the entire spectrum of administration and management.

6. The Plan identified the major weaknesses of the country's public administration system as management inadequacies, shortage of trained personnel, inappropriate personnel policies, outmoded financial and accounting system and proliferation of organisations. In the backdrop of such weaknesses the SFYP viewed improvement of public administration in totality encompassing reorganization of administrative machinery, decentralization of administrative and financial management and increase in overall administrative efficiency.

7. With development of a efficient and effective public service as a basic goal, the sectoral development programme envisaged upgradation of job oriented knowledge and skill, attitudinal improvement of public servants through training, introduction of an element of career planning in personnel management, improvemet of morale of the public service through work-oriented incentives and staff welfare and development of a modern management information system in public administration. The Plan also considered the training for the local bodies and the institutions and accordingly envisaged extension of training facilities to these organisations. The Plan recognised that training would not by itself improve the efficiency of administration. Accordingly, emphasis was laid on rationalisation of system procedures and structures of the government machinery and simplification of accounting budgeting and financial control to cope with gradual decentralisation of administration.

Programmes and Major Achievements

8. The sectoral programme of Public Administration for the SFYP included projects relating to the development of facilities for administrative training, organisational development, system modernization, action research on management and human resources development and employee motivation through staff welfare.

9. **Training** : Highest priority under the sectoral programme was accorded to personnel training which claimed as much as 67% of plan allocation for the sector. The Ministry of Establishment was assisgned the responsibility of training of the officers and staff along with deployment of trained personnel in different jobs for proper utilisation of their skill. In view of the need for coordination and execution of activities within the framework of a unified national policy, the National Training Council was set up and a National Training Policy for the government officials in the field of training was formulated. SFYP programmes were undertaken mostly for the development of functional capability of training institutions. Such developments, however, started prior to the SFYP and continued during the plan period, the most important being the development of integrated training facilities in one single training institute. The Public Administration Training Centre (PATC) was thus established by merging COTA, NIPA and BASC and it became functional since April, 1984. The functional responsibility of the PATC covers training of officers of the BCS cadres and other organisations from the foundation level to senior management level. As distinct from this, the former Staff Training Institutes (STIs) were being doveloped as Regional PATCs for providing training mainly to the office staff, including junior officers of different grades. During the plan period different grades of junior field level officials and staff were also trained under a project called, Training of Staff Trainers and Crash Programme for Staff Training at the district level.

10. The SFYP set a target of imparting training to a total number of 6,000 officers at foundation level, mid-level and senior policy level during the plan period. As against this target, 4,900 officers were trained at various levels of which 948 were trained at the BASC, 1,493 at the NIPA and 1,670 at the COTA. The remaining 789 officers were trained under the unified institutional arrangement of PATC which came into operation from April, 1984. Out of these 789 officers, 81 were of the senior policy level, 483 of the mid-level and 225 of the post-entry foundation level. In respect of staff training, the SFYP target was to cover a total number of 21,750 through the institutional network of 4 Staff Training Institutes (STIs) at Divisional level and 17 District Staff Training Institutes (DSTIs). However, only the five DSTIs already functioning carried out crash programme for staff training. As against the target of 21,750 the staff training coverage during the SFYP was 13,693 (7,993 under the STIs and 5,700 under the DSTIs).

11. In addition to the above, a training institute namely Academy for Planning and Development was established for providing training to officers of various ministries, and organisations concerned with development planning and implementation of development programmes ; and a total number of 1,400 persons of different Ministries, Divisions and organisations were trained during the SFYP. In addition, the Academy made efforts, including arrangements of in-house training programmes, for faculty development also.

12. **Organizational Development and Systems Improvement :** Programmes in this field were under taken by External Resources Division, Finance Division, Statistics Division, I.M.E.D., Ministry of Establishment and Bangladesh Institute of Development Studies.

13. The External Resources Division developed computerised facilities for programming and monitoring of the technical assistance programmes, foreign aid coordination and accounting procedures. The project of the Finance Division related to the development of standard criteria for performance evaluation of the autonomous bodies. The Ministry of Establishment initiated a programme for modernisation of the personnel management system and development of O & M through computerised methods. Some of these facilities could not be fully developed yet and as such, the programme would spillover to the TFYP. IMED developed a project monitoring and data processing system with computer facilities. Statistical support facilities were developed by the Statistics Division in different fields including computerisation and reproduction facilities under various projects. Training and research capabilities of the BIDS were developed under a project. The BIDS also undertook construction of its office building which would, however, continue beyond the SFYP period.

14. **Research :** Socio-economic and administrative research activities were carried out by various organisations for which physical facilities were developed. The organisations were the training institutes, BIDS, Social Science Research Council and National Foundation for Research on Human Resources Development. Besides, under a development project of the Planning Commission, a number of studies were undertaken in connection with the preparation of the TFYP.

15. **Staff Welfare :** The Staff Welfare Directorate implemented projects for development of community centres providing welfare facilities to government employees in regions like Dhaka, Rajshahi and Chittagong.

Administrative Reforms

16. Since independence, several reforms and reorganisations in administration have been carried out. Commensurate with administrative and development needs of a new state, the Ministries, Divisions and public sector agencies were reorganised and new policies and procedures for administration, planning, project management and implementation were developed. At the initial years, some of the reforms or changes were adopted on *ad-hoc* basis to meet the felt needs as well as the exigencies of circumstances.

17. Over the past few years, there were some major changes and shifts in the political system as well as in the ideologies and character of economic institutions. Policies and strategies for development also went through some changes. Since the middle of the FFYP period, the management of the economy moved from state control and management to privatisation with increasing investment opportunities for the private sector in industries and trade. The New Industrial Policy (NIP) of SFYP virtually opened up investment facilities in all the manufacturing fields to the private sector except the six basic industries which were kept reserved for the government sector. A large number of industrial units were denationalised, foreign private investment was promoted and financial institutions like banks came up in the private sector.

18. Civil Service also underwent several changes. Following the recommendations of Pay and Services Commission in 1977, a rationalised pay structure was adopted which reduced over 200 pay scales to only 21 and the difference between the highest and lowest pay was considerably reduced. In 1981, the Civil Service in its entirety was reorganised by integrating all class I services into 28 sub-cadres and new recruitment rules were introduced.

19. A more comprehensive administrative reform was undertaken following the recommendations of the Committee on Administrative Reorganisation and Reforms in 1982 and the National Implementation Committee for Administrative Reforms (NICAR) was formed to oversee and guide the implementation of the reforms. The Ministries and Divisions and other public agencies were also reorganised and their staffing pattern rationalised. Along with such reorganisation at the national level, government implemented a programme for decentralised development administration as a result of which the development functions were largely transferred to the new administrative set-up at the Upazila level. The Local Government Ordinance, 1982 envisaged an elected local government system for local level development activities and also coordination of national development efforts. The thanas were upgraded into Upazilas and elected Upazila Parishads started functioning as local government bodies with a number of development subjects, hitherto administered directly by the national government, transferred to them. A comprehensive guidelines in connection with the implementation of development activities by the Upazila Parishads was formulated under the auspices of the Planning Commission. Administrative tiers were reduced from 5 (centre, division, district, subdivision, thana) to virtually 3 (centre, district and upazila). The Upazila administration in the new set-up has been strengthened with additional manpower, physical facilities and direct financial allocations from the development budget.

20. Since 1982, the Annual Development Programmes (ADP) were formulated on more pragmatic policies which related to avoidance of unproductive investment and thinning out of resources among too many projects, winding up of non-priority projects, preparation of Annual Technical Assistance Programme for purely technical assistance projects and control of resource use in non-core projects etc.

Projects, Allocation and Utilization

21. SFYP allocation for the Public Administration Sector was Tk. 55·0 crore at current prices. A total number of 54 projects (including 14 TA projects) were taken up during the SFYP. Against the above provision of the Plan, an amount of Tk. 64·1 crore was made available for financing the programmes through the ADPs; out of this amount Tk. 48·3 crore is estimated to have been utilized (75·4%). Of the 54 projects, four were dropped and 33 completed during 1980—85. The remaining 17 projects including eight TA projects had spilled over to the TFYP with an estimated cost of Tk. 61·3 crore.

Implementation Problems and Weaknesses

22. Implementation of development programmes of the Public Administration Sector during the SFYP suffered on account of a number of problems. Though quite a large number of projects were included in this rather newly emerging sector, many of the sponsoring agencies and organisations lacked adequate know-how and technical capabilities in project formulation and implementation. This resulted in serious delay in preparation and processing of projects besides delay in execution. Consequenty, there was a shorfall in the physical progress as well as in the fund utilisation as against the targets set under the Plan. Besides, delay in negotiation and lining up of foreign assistance for a number of aided projects affected project implementation.

23. In matters of organisation and management, though actions were initiated to streamline and improve the system, there remained problems of coordination in inter- and intra-organisational activities, staffing and personnel management and complicated administrative and financial procedures.

24. Training, which was the most substantive area of activity in this sector, suffered a set-back both quantitatively and qualitatively. The training programmes and contents had mostly been *ad-hoc* and not geared to the needs of either the organisations or of the personnel. A committee set up under the auspices of the Establishment Ministry to review the training activities observed that the contents of courses run at the staff training institutions were too brief and they gave no indication of scientific distribution of lessons per subject. The contents were not realistically listed and also not strictly in conformity with the courses. Training was not also very meaningful and topics were mostly vague. The Committee recommended development of more realistic and need-based course contents, uniformity of training in different institutes under the aegis of the PATC and development of necessary physical facilities. The SFYP estimated the training needs of over one lakh staff members, though the Plan set a modest target of training only 21,750. It was not possible to achieve even this target. The progress of development of physical facilities for staff training was also quite slow. Besides the quantitative and qualitative gap in training, there was hardly any follow-up through a systematic feed-back system to assess the performance of the trained officials and the impact of training activities on the organisational efficiency either in terms of output or services.

THIRD FIVE YEAR PLAN

Objectives of TFYP

25. Development of an efficient public administration system will be the basic goal of the sector during the TFYP. Development of public administration being a continuous process, improvement in its various aspects is needed to make it dynamic to meet the changing needs of economic and social development. Efficiency in administration is a function of a number of factors such as (a) job knowledge and skill, (b) employees motivation and commitment towards work, (c) organisational structure and procedures, (d) coordination and communication among various agencies and (e) information system and data inputs. Within the framework of the above parameters, the specific objectives of the Sector for the TFYP are as follows :

(i) to enhance the knowledge and skill of the public officials through systematic training ;

(ii) to plan and formulate training programme within the framework of a national training policy, particularly keeping in view the government's present policy of increasing decentralization of administration and development activities ;

(iii) to synchronize efforts of various training institutions making training more relevant to the process of national development keeping also in view the need to increasingly reduce dependence on foreign training ;

(iv) to develop a modern personnel management information system and to carry-out systematic action research for improvement of information and data-base in public administration ;

(v) to introduce career planning in personnel management in order to promote specialisation and professionalism in public service and to link training with the planned career development of public servants ;

(vi) to rationalize systems, procedures and structures of government offices/agencies in keeping with the process of decentralisation of administration and development ;

(vii) to simplify accounting, budgeting and financial control procedures ;

(viii) to systematically plan and create facilities for extension of training support to the local bodies for increasing their capabilities in formulation and implementation of development programmes and projects ; and

(ix) to provide work-oriented incentives and adequate staff welfare for improvement of morale and efficiency of the public service.

Strategies of TFYP

26. Overall development of public administration as a system would obviously need multisectoral approaches and programmes. Different ministries, departments and agencies will be required to launch a wide variety of programmes towards improvement of organisational management, systems and procedures commensurate with their respective organisational goals and needs on the one hand and the national objective and policies for development of public administration system as a whole in the country, on the other. The executing agencies, including local administration units, have to develop their capability of formaulation of development programmes, implementation, monitoring and evaluation of develoment projects and activities. Among the devemlopment programmes envisaged for the TFYP under the Public Administration Sector, highest priority has been assigned to training, organisational development, personnel management and information system.

27. In respect of training, more emphasis will be given on-the-job training as against academic types of training as are being imparted in the existing training institutions. The ministries and organisations will have their own staff development policies and programmes and the training institutions will organize the training courses consistent with such plans. This would replace the present system of offering courses according to the programmes traditionally undertaken by the training institutes and chalked out also by them. Professional capability of the training institutes will be developed through their own faculty and staff development as opposed to excessive dependence on external help. Consolidation and full capacity utilisation of the existing training net-work is to be emphasised keeping also in view the need for qualitative improvement of traning rather than simply expanding the training facilities.

28. All research activities would be action oriented and addressed to specific issues and problems wherefrom policy guidelines and remedial measures would emerge. Research should not be conceived as a function separate from the normal functions of the training institutions. Research would rather be a part of their normal activities which would provide inputs for training and improve the quality and effectiveness of training at the same time. It should be ensured that research is properly planned and directed along with proper resource allocation and objective determination of priorities and a suitable time frame. It would also be necessary to evolve a mechanism for coordination and monitoring of research activities ensuring accountability at the same time. The universities which have considerable physical facilities and potential should be increasingly associated with research activities sponsored by various public sector organizations and agencies.

Programmes of TFYP

29. Programmes for the Public Administration Sector for the period 1985—90 will be formulated on the basis of the objectives of the TFYP and the progress and performance of the sector during the SFYP. Staff development, structural and functional development of organisations, streamlining and improvement of personnel administration system, inter and intra-departmental communication, improvement of financial rules, procedures and management and research and studies on overall administrative and management system development would constitute the scope of activities of this sector during the TFYP.

30. The programmes to be undertaken in different areas of activities during the TFYP are briefly described in the following paragraphs.

31. **Training :** In view of the importance of training for enhancement of the job-skill of personnel, which is an important prerequisite for overall improvement of administrative efficiency programmes relating to both job-specific and personnel management training will be given the highest priority in the Public Administration Sector.

32. The training policy for the government officials as formulated by the Ministry of Establishme nt envisages coverage of the pre and in-service training to the government employees belonging to grades 1-10, 11-13 and 14-19 of the NPS numbering approximately 26,500, 30,400 and 265,200 respectively. Commensurate with the need for improvement of training in public administration and management, training activities will be further geared up under the existing institutional set-up and also by completing the work of new institutions for bringing them into full operation. Under the unified training arrangement, the PATC will impart foundation training to the officers of the BCS cadres on their recruitment and run refresher courses for mid and senior policy level officers. Physical construction of PATC is expected to be completed by June, 1986 and other facilities of the Centre would be completed by June, 1988. The annual training capacity of the PATC with its presently envisaged facilities and logistics is estimated to be 1,160. It is expected that a total number of 5,800 officers will be trained under the PATC during the TFYP.

33. With a view to augmenting the staff training arrangements, four Regional PATCs will be established by conversion of the former Staff Training Institutes with training responsibilities of broader dimension. While the RPATC, Dhaka has been located in the building of the former COTA, buildings and other necessary training facilities will be created for the three RPATCs at Rajshahi, Chittagong and Khulna. The trainin responsibilities of the RPATCs will mainly cover office/secretarial staff as well as field level officers and elected representatives and staff of local government bodies. On the basis of stipulated annual training capacity of the RPATCs (3,030) it is estimated that the total training clientele to be covered under the 4 Centres during the TFYP will stand at 15,150. It is apparent that the enormous need for imparting skill in administrative, financial and office management practices to the large number of staff in the government and other public sector organisations cannot be met only through the regular institutional outfit of the RPATCs. Accordingly, staff training on crash programme basis alongwith training of staff trainers will continue to be carried out under the five District Level Staff Training Institutes (DSTIs). Existing DSTI will annually organize nine training courses of one month duration each for the upazila staff members on accounting, financial practices and procedures and office management. In addition, short courses of seven days duration would also be organized for the district as well as upazila level officials for orientation in office management, secretarial procedures, accounting and financial rules and practices besides training of staff trainers. Annual training coverage of the DSTI net-work is envisaged to be 2,025. On this basis, it is estimated that it will be possible to impart staff training to 10,125 officials during the TFYP. Thus, total staff training coverage during the TFYP will be about 25,300 under the net-work of four RPATCs and five DSTIs.

34. The Academy for Planning and Development (APD) will continue to impart training to officers of various ministries, departments and other organizations concerned with development planning, project formulation, management and implementation. The Academy would also go for diversification of its training activities during the TFYP. It would organize a regular course on organizational leadership and orientation in rural development for the Upazila Chairmen, UNOs and other upazila officials concerned with planning and finance. The APD also envisages a six month pre-entry modular training programme in planning and developent for university graduates as well as public servants other than planners. The Academy will also conduct special development orinetation training programmes for female executives in the government.

The training activities of the APD during the plan period will be to a large extent addressed to sector-specific development programmes and problems connected therewith. Faculty development efforts of the Academy would be further geared up during the TFYP in order to increasingly reduce its dependence on external guest lecturers. With an annual training capacity of 600, it is estimated that a total number of 3,000 officers will be given training under the APD during the TFYP. Physical development of the Academy will relate to completion of some construction work and extension of hostel facilities.

35. In addition to the above training programmes, the Bangladesh Management Development Centre (BMDC), Industrial Relation Institutes (IRIs) etc. will conduct training in management and productivity while the Bangladesh Academy for Rural Development (BARD), the Rural Development Academy (RDA), the National Institute of Local Government (NILG), the Cooperative College and the Training and Development Centres (TTDC) at upazila level would impart training on rural development, planning and implementation and cooperative management. These specialised training institutes under different departments will continue carrying out in-service and refresher training programmes as per their respective departmental training needs. The Audit Training Academy at Dhaka would be developed through a separate Technical Assistance (TA) project.

36. Within the farmework of the National Training Policy, the Ministry of Establishment will carry out a survey of the training needs of various Ministries/Divisions and formulate five yearly and annual training plan for public sector manpower development.

37. **Organisational Development :** Programmes would relate to functional development of organisations to be undertaken by the Finance Division, the ERD, the BBS and the BIDS. Under an on-going project, the construction of the new building of the BIDS at Agargaon, Dhaka is expected to be completed by June, 1987. The Institute is already partially functioning in the building under construction. In order to create facilities for locating different offices of the Statistics Division/BBS, (now scattered at different locations) in one place, a building will be constructed under a development project during the TFYP. Other programmes to be carried out by the BBS during the TFYP include development of a system of community level statistics, enhancement of house-hold survey capabilities and development of a statistical cartographic system in the country which can be used for all types of surveys and census activities. Besides, some additional equipment and other logistics support will be provided to the BBS for overall strengthening of statistical operations.

38. Organisational development progrommes of the ERD relate to improvement of the programming, processing and monitoring capabilities in respect of various types of technical assistance programmes, aid accounting and procedures, debt-servicing and overall aid coordination and administration through a modern computerised system. Such organisational and procedural development is expected to ensure more speedy and effective utilisation of foreign aid including technical assistance. The IMED will carry out the work for further improvement of its monitoring capability.

39. **Personnel Management :** There is considerable scope for improvement in administration which is presently characterised by shortage of properly trained manpower in many key-fields while there is surplus in other fields, anomalies and inadequacies in personnel policies and career administration and planning. With a view to improving the personnel management and administration in the country, a personnel management

information system would be developed under the Ministry of Establishment. Computerised data processing system will be developed for storage and retrieval of personnel job, training and other records. The long-term benefit of the management information system would be to improve morale and productivity of civil servants as the current unplanned placement and seniority-promotion system is gradually replaced. A rationalised and codified personnel manual will reduce the time and manpower now utilised to oversee procedural compliance. The development of the Management Services Wing would improve speed and effectiveness in decision making and intra and inter-ministerial communication and linkages. This will be further facilitated through improved administrative rules and procedures.

40. **Research** : Different areas of the country's public administration system as well as the system of financial management and accounting require substantial simplification and modernization for which systematic studies and research for identifying the existing drawbacks and suggesting measures for improvement are extremly important. Such studies and research will be conducted by various research and training institutions. Physical facilities will be created for BIDS, as mentioned earlier, by way of completion of its own buildings and providing necessary logistics support enhancing the research capabilities of the Institute. The Finance Division would undertake an objective evaluation of management and performance of the autonomous bodies under a development project. A number of studies on development related areas would be completed under the project of studies and consultancy services of the Planning Commission.

41. **Staff Welfare** : In addition to the programmes envisaged above, staff welfare activities will be carried out by different ministries and organisations within the framework of a carefully planned incentive system in order to raise the motivational level of public servants. Efforts would gradually be made to meaningfully link the programmes of staff welfare with the productivity of public employees. Physical environment of living and working conditions of employees would be improved. The present welfare programmes of the Staff Welfare Directorate will also continue.

Financial Outlay

42. For financing the development programmes of the Public Administration Sector, an allocation of Tk. 65·00 crore (at 1984/85 prices) has been provided under the TFYP. Programmes related to training, organisational development and system improvement would be assigned the highest priority which would claim as much as 89 per cent of the total financial outlay for the sector. Programme-wise allocation is given below:

TABLE 1

Programme-wise Allocation

(Tk. in crore).

Programmes.	Amount.	Relative Share. (%).
1. Training	34·05	52·38
2. Organisational Development and System Improvement	23·89	36·75
3. Personnel Management	04·00	06·16
4. Research	03·06	04·71
Total ...	65·00	100·00

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