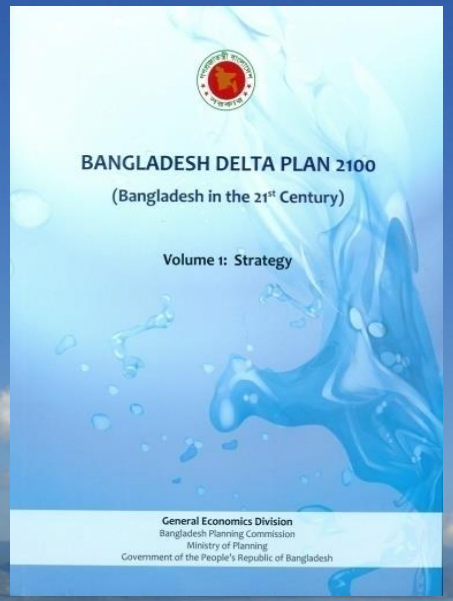
Integration of BDP 2100 in the 8th FYP



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Principles and Features of BDP 2100

- **BDP 2100 is a**
  - **long term and visionary plan covering the 21st Century**
  - **Holistic and integrated Plan,** considering many themes and sectors, individual strategies as well as integrated ones for the whole country considering the needs of all water-related sectors have been articulated in a single plan
  - **Techno- economic water centric plan,** which covers both technical and economic issues (GDP growth, Poverty Reduction, Employment, Food Security, Investment, etc.)
  - **Implementable plan** having an investment programme upto year 2030 linked with financial resources

- BDP 2100 has strongly focused on **Climate Change issues and Adaptive Delta Management (ADM)** approach which is a paradigm shift in planning and managing projects.

BDP 2100 Vision & Goals

Vision: Achieving Safe, Climate Resilient and Prosperous Delta

Mission:

Ensure long term water and food security, economic growth and environmental sustainability while effectively reducing vulnerability to natural disasters and building resilience to climate change and other delta challenges through robust, adaptive and integrated strategies, and equitable water governance.

Higher Level Goals

Goal 1: Eliminate extreme poverty by 2030
Goal 2: Achieve Upper Middle Income Country (UMIC) status by 2030
Goal 3: Being a prosperous country beyond 2041

Delta (BDP 2100) Goals

Goal 1: Ensure safety from floods and climate change related disasters
Goal 2: Ensure water security and efficiency of water usages
Goal 3: Ensure sustainable and integrated river systems and estuaries management
Goal 4: Conserve and preserve wetlands and ecosystems and promote their wise use
Goal 5: Develop effective institutions and equitable governance for in country and trans-boundary WR management
Goal 6: Achieve optimal use of land and water resources

Framework for Strategy Development

Strategies developed at 3 Levels:

- **National Level Strategies**
  - Flood Risk Management
  - Fresh Water
- **Hotspot Level Strategies**

- **Strategies for Cross-cutting Issues**
  - Sustainable Land Use and Spatial Planning
  - Agriculture, Food Security and Livelihood
  - Trans-boundary Water Resources Management
  - Dynamic Inland Water Transport
  - Blue Economy
  - Renewable Energy

  -Earthquakes

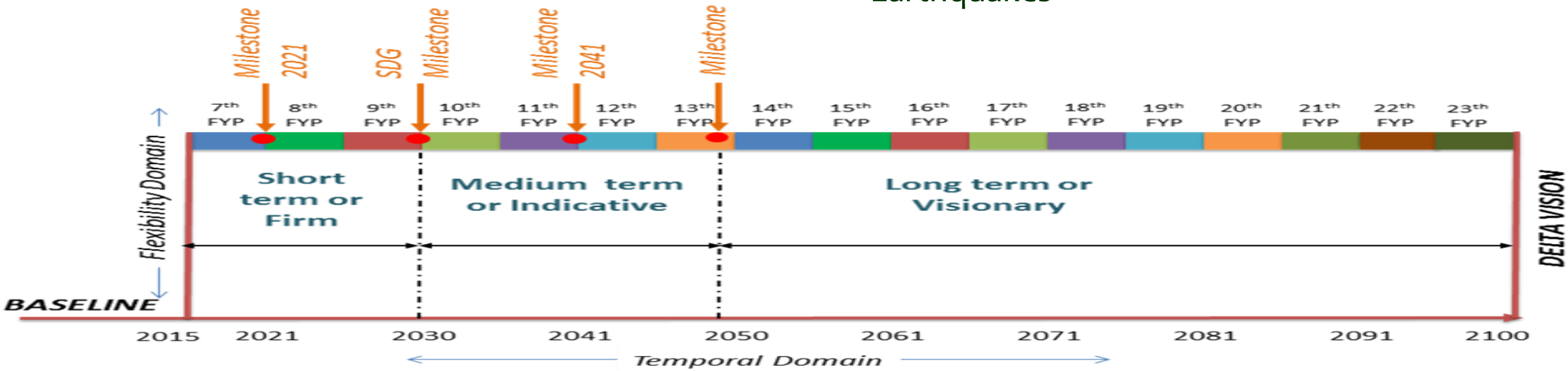

Figure: Time Frame of BDP 2100 Strategy

Strategies for water resources management including transboundary water issues are fully aligned with BDP 2100

Water Resource Management Challenges(8th FYP)-Fully aligned with BDP 2100

(BDP 2100 strategies: Flood risk management, Fresh water management)
(source: BDP 2100, volume 1, Chapt. 6, page: 211-331 & 8FYP, vol.2, sec: 4.6.2)

Water Resource Management section of the draft 8th FYP is heavily dominated by the BDP 2100. Here, Challenges of the water resource management and suggested strategies are mostly taken from BDP 2100.

- **Flood risk management**
- **Availability of water in the dry session**
- **River water management**
- **Coastal zone protection and management**
- **Wetland conservation:**
- **Population growth-** water demand and quality will be deteriorated
- **Upstream development:**

Water Resource Management Strategies (8th FYP)- Fully aligned with BDP 2100

(source: BDP 2100, volume 1, Chapt. 6, page: 211-331 and 8FYP Section 4.6.3)

8th FYP describes explicitly that the objectives and targets of the water sector for the 8th Plan have been set out in conformity with the PP 2041 and the BDP 2100.

The **strategic objectives** are mostly taken from BDP 2100:

- Continuing and strengthen river dredging,
- Increasing water use efficiency,
- Protecting riverbank from erosion,
- Ensuring conjunctive use of surface and ground water for sustainable irrigation, securing groundwater conservation
- Strengthening regional and international cooperation for basin-wide water resources management,
- Preventing saline intrusion,
- Developing modern early warning systems,
- Adapting of climate change mitigation strategies,
- Rain water harvesting,
- Implementing integrated coastal zone management strategies and
- Strengthening capacities of the institution in the water resource management etc. *(source: BDP 2100, volume 1, Chapt. 12, page: 587-603)*

WRM Strategies (8th FYP)- Fully aligned with BDP 2100

(source: BDP 2100, vol. 1, Chapt. 6, page: 211-331 & 8FYP, Vol. 2, Sec: 4.6.3)

In line with BDP 2100, **The Following Strategies** are considered for the 8th plan period:

- Develop and improve embankments, barriers and water control structures *(source: BDP 2100, vol. 1, Chapt. 6, FR 1.1, pg: 221)*,
- Restoration, redesign and modification of embankments and structures *(source: BDP 2100, volume. 1, Chapt. 6, FR 2.2, pg: 224)*,
- Adopt spatial planning and flood hazard zoning *(source: BDP 2100, vol. 1, Chapt. 6, FR 1.3, pg: 222)*,
- Extension of the flood warning lead time *(source: BDP 2100, vol. 1, Chapt. 6, FR 1.4, pg: 222)*,
- Improve operation and maintenance *(source: BDP 2100, vol. 1, Chapt. 6, FR 2.4, pg: 224)*,
- Restoration of water bodies and connectivity *(source: BDP 2100, vol. 1, Chapt. 6, FR 2.3, pg: 224)*,
- River management, excavation and smart dredging *(source: BDP 2100, vol. 1, Chapt. 6, FR 2.5, pg: 224)*,

  -circulated location for ‘’balumohol”
- Ensuring safe water to sustainable drinking water and sanitation *(source: BDP 2100, vol. 1, Chapt. 6, FW 1.5, pg: 245)*,
- Maintaining water quality for health, livelihoods and ecosystems *(source: BDP 2100, vol. 1, Chapt. 6, FW 2, pg: 245)*,
- Increase drainage capacity and reduce flood risk at the coastal zone *(source: BDP 2100, vol 1, Chapt. 6, CZ 1, pg: 270)*

WRM Strategies (8th FYP) (Continued)

- Reclaim new land in the coastal zone *(source: BDP 2100, vol 1, Chapt. 6, CZ 3, pg: 274)*,
- Strengthening river and estuaries management in the newly accreted char areas *(source: BDP 2100, vol 1, Chapt. 6, RE 6, pg: 292)*,
- Protect agriculture and vulnerable communities in haor and flash flood areas *(source: BDP 2100, vol 1, Chapt. 6, HR 1, pg: 310)*,
- Implementing NRCC recommendations for conversation of rivers, water and biodiversity *(source: BDP 2100, vol 1, Chapt. 6, CZ 1, pg: 270)*,
- Strategy for water resources in Chattogram Hill Tracts etc. *(source: BDP 2100, vol 1, Chapt. 6, Sec: 6.10, pg: 319)*

Basin-wide Water Resources Development Initiatives

(source: BDP 2100, volume 1, Chapt. 4, section: 4.5, page 164 and 8FYP Vol. 2 Section: 4.6.3)

The following framework has been proposed in the BDP 2100 anf 8 FYP:

- **Ganges River Basin Organization** -- comprising Bangladesh, India and Nepal;
- **Brahmaputra River Basin Organization** -- comprising Bangladesh, India, Bhutan and China; and
- **Meghna/ Barak River Basin Organization** -- between Bangladesh and India.

Comments: SIBDP2100 currently preparing basin-wise management approach within the Bangladesh terriotorial limit deviding Bangladesh into **8 (eight)** river basin areas such as,

i. **Gorai Posur Basin**, ii. **Upper Meghna Basin**, iii. **Dhawleshari Basin**,
iv. **Hurasagor Basin**, v. **Baleshar-Tentulia Basin,** vi. **Gumuti-Muhuri Basin**,
vii. **Hilly Rivers Basin** viii. **Rivers and Estuary.**

Sectoral Strategies of 8th FYP and BDP 2100

Upstream development and Transboundary River Management

(source: BDP 2100, volume 1, Chapt. 4, section: 4.7, page 169 and 8FYP Vol. 2 Section: 4.6.3)

8th FYP has readily adopted the following text from the BDP 2100 as strategies for Transboundary water management.

- ❑ Incorporation of multi-layered dialogues that will enable participating countries to initiate negotiations from new entry points and also link water related negotiations with other river interests and regional cooperation issues. Issues such as climate change and its consequences can be discussed in parallel in conjunction with other river basin management issues as it has a profound effect upon many aspects of water availability and management.

- ❑ Besides, multi-track water diplomacy has to be applied to prevent or peacefully resolve conflicts related to water availability, its allocation or use between and within states for better understanding of transboundary issues and to ensure effective formulation and implementation of common river basin management schemes related to joint usage and equitable allocation of water resources that are centered on the concept of benefit sharing.

Upstream development and Transboundary River Management (Continued)

- It is imperative that **environmental flow is maintained in the rivers** and as such, necessary initiatives have to be taken both on a bi- and multi-lateral basis and enacted accordingly. Discharge and quality measuring stations need to be established and regularly monitored at different locations on the river.
- Simultaneous negotiation of **multiple treaties** has to be done to ensure that the benefits given up on one treaty could be used as leverage for another more significant treaty
- Prioritization of rivers has to be done in implementing devised schemes regarding water sharing.
- Demand based common river basin management schemes has to be initiated where the involved countries will weigh in their views regarding mutually beneficial river management and solve common issues both bi- and multi-laterally through construction of necessary infrastructure on optimal hydrological and ecological locations within the river basins.
- International approach can be implemented that will involve active participation of a third party, either an international organisation or a country.
- Benefit-sharing "mutual gains" model has to be implemented that discourages unilateral actions and further encourages coordination between riparian countries. The concept behind mutual gains is to incorporate non-water issues into the negotiation process to augment the basket of benefits.

WRM Targets (8th FYP)- Fully aligned with BDP 2100

(source: BDP 2100IP, volume 2 and 8FYP vol. 2, Section: 4.6.2)

Targets:

- Bank protection work (KM) 2,356,
- Embankment construction/reconstruction (KM) 3,949,
- Coastal embankment construction (KM) 1,043,
- Dredging of river (KM) 2,817,
- Excavation/re-excavation drainage canal (KM) 17,042,
- Excavation/re-excavation irrigation canal (KM) 1,119,
- Water control structure/hydraulic structure (Nos.) 2,050,
- Coastal cross-dam (Nos.) 7, WMG/WMA/WMF formulation (Nos.) 363,
- WMG/WMA/WMF registration (Nos.) 581, Land acquisition (Hectare) 7159.

These targets are very much in line with BDP 2100.

8th FYP Priority Public Investment Program for Implementation of BDP2100

(source: BDP 2100IP, volume 2 and 8FYP Vol. 2, Section: 4.6.4)

The total new Delta investments proposed for the 8FYP amounts to **47 new projects (all are from BDP 2100 IP)** involving a total cost of BDT 1400 billion or US$17.6 billion in 2015 prices. These convert to Taka 1940 billion in FY2021 prices (US$21.7 billion).

Sl. No.	Hotspot Areas	No. of projects
1.	Urban Area	07
2.	Barind and Drought Prone Area	04
3.	Chattogram Hill Tracts	04
4.	Coastal Zone	12
5.	Rivers and Esturies	05
6.	Haor and Flash Flood Areas	05
7.	Cross-Cutting	10
	Total	**47**

Agriculture and Fisheries

(source: BDP 2100IP, volume 2 and 8FYP Vol 2 Section 4.6.4 and 8FYP Vol. 2, Section: 4. 3.3 and 4.5.3)

Some of the startegies and measure of the Agriculture and Fisheries sub-sector are aligned with the BDP2100

Agriculture

(source: BDP 2100IP, volume 1 chapter 8 and 8FYP, Vol. 2, Section 4.3.4)

In line with the BDP2100, 8FYP set strtaegies for ensuring sustained agricultural growth through more efficient and balanced utilization of land, water and other resources, and encourage more use of surface water for irrigation and reduction of pressure on ground water while expanding irrigation facilities through improving existing irrigation system and related infrastructures. Measures are also suggested for gradual shifting of high water consimng rice crops to low water consuming but high value non rice crops especially in the barind and drought prone areas.

The 8th FYP **emphasizes on technologies that enhances irrigation and its conveyance efficiency** (e.g. buried pipe, PVC/plastic/polythene pipe, etc.) and on-farm water use efficiency (e.g. drip irrigation, fertigation through drip irrigation system for the non-cereal crops, etc.) which is fully alligned with BDP 2100.

The Marine Fisheries as priority sub-sector in both the plans

(source: BDP 2100, vol. 1, Chapt. 6, table: 6.8, pg:328-330 & Chapt.8, sec: 8.4.4, pg:415-416 & 8FYP, vol. 2, sec: 4.5.3)

The strategies for marine fisheries in the 8th FYP plan are aligned with the perspective plan 2041 and the Bangladesh Delta Plan 2100. Key common strategies are:

- Stock and maximum sustainable yield/total allowable catch (quota) determination,
- Digital Marine Fisheries Resource Mapping(for efficient and sustainable harvesting of the marine resources),
- Collaborative effort for distant water fishing (beyond 200m of EEZ and ABNJ),
- Establishing MPAs (marine protected areas) as breeding grounds etc.

Strategy for Developing Inland Water Transport (IWT)

(source: BDP 2100, volume 1, Chapt. 9, page: 431-486 & 8FYP, vol.2, sec: 6.5.1)

Most of the the strategies suggested in the BDP 2100 are readily included in the 8th FYP for IWT which include:

- Establish priority routing *(source: BDP 2100, vol 1, Chapt. 6, Sub-Str. 3.1, pg: 479)*,
- Sharply improve the navigability of river routes *(source: BDP 2100, vol 1, Chapt. 6, Sub-Str. 3.1, pg: 479 & Sub-Str. 3.1, pg: 479)*
- Give priority to inter-regional river connectivity *(source: BDP 2100, vol 1, Chapt. 6, Sub-Str. 5.5, pg: 482)*,
- Integrate IWT with other transport modes *(source: BDP 2100, vol 1, Chapt. 6, Sub-Str. 9.8.4, pg: 473)*,
- Strengthen river transport safety standards *(source: BDP 2100, vol 1, Chapt. 6, Sec.2.3, pg: 478 & Sub-Str. 5.4, pg: 482)*,
- Enhanicng capacity of BIWTA to undertake hydrological surveys *(source: BDP 2100, vol 1, Chapt. 6, Sub-Str. 3.3, pg: 480)*,
- Conduct river training and implement dredging operations *(source: BDP 2100, vol 1, Chapt. 6, Sub-Str. 3.1, pg: 479 & Sub-Str. 5.2, pg: 481)*,
- Improve riverport facilities etc. *(source: BDP 2100, vol 1, Chapt. 6, Sub-Str. 3.3, pg: 480)*,

Sustainable Development: Environment & Climate Change

(BDP 2100, Vol. 1,Chapt. 13, Page: 631-633 & 8FYP, Vol. 2 Section 8.4.4)

Results framework fully adopted from BDP 2100

No.	Indicators	Sub-Indicators	Quantity	2016-2018	Target for 2025
(Goal 1: Ensure safety against water and climate change related disasters)					
1A	Risk zone susceptible to natural hazards	Average flood extent	% of total area of Bangladesh	30	20
		Extreme flood extent	"	50	30
		Cyclone damage extent	"	10	2
		Average drought extent	"	9	9
		Extreme Drought Extent	"	47	20
		Dry season saltwater intrusion	% of total coastal area	40	30
		Water logging extent	"	2.5	0.25
		Length of bank-line erosion	% of total river length	15	8

Sustainable Development: Environment & Climate Change

(BDP 2100, Vol. 1,Chapt. 13, Page: 631-633 & 8FYP Vol. 2 Section 8.4.4)

Results framework fully adopted from BDP 2100 (Continued)

No.	Indicators	Sub-Indicators	Quantity	2016-2018	Target for 2025
(Goal 1: Ensure safety against water and climate change related disasters)					
1B	Population vulnerable to natural disasters	Flood vulnerable people	Nos. in million	88	40
		Cyclone vulnerable people	"	8	5
		Erosion vulnerable people	"	1	0.5
		Water logging vulnerable people	"	0.9	0.1
(Goal 2: Ensure water security and efficiency of water usages)					
2A	Dry season water availability	-	% of total flow	15	30
2B	Dry season irrigation coverage	-	million ha	6	6.5
2C	Irrigation water efficiency	-	% of supplied water	30	40
2D	Urban domestic water efficiency	-	% of supplied water	67	75
2E	Internal Renewable Water Resources	-	cumec/ person	714	1,300
2F	Surface water sources polluted by industrial wastes	-	% of total river areas	11	6
2G	Surface water sources polluted by other wastes		% of total river areas	10	5

Sustainable Development: Environment & Climate Change

(BDP 2100, Vol. 1,Chapt. 13, Page: 631-633 & 8FYP, Vol. 2 ,Section 8.4.4)

Results framework fully adopted from BDP 2100 (Continued)

No.	Indicators	Sub-Indicators	Quantity	2016-2018	Target for 2025
(Goal 3: Ensure integrated river systems and estuaries management)					
3A	Erosion along major rivers	Area eroded along Jamuna	ha/year	1,750	1,050
3B	Area of reclaimed lands	-	Ha	N/A	35,500
(Goal 4: Conserve and preserve wetlands and ecosystems and promote their wise use)					
4	Habitat protection	Area of perennial aquatic habitat	Ha	13,200	13,200
		Area of seasonal aquatic habitat	"	30,880	30,880
		Area of marine habitat	"	32,300	32,300
(Goal 5: Develop effective institutions and equitable governance for intra and trans-boundary water resources management)					
5A	Rural people with adequate capacity for WRM	-	% of rural population	20	40
5B	Equitable share of water among users	-	Qualitative judgment	Poor	Moderate

Sustainable Development: Environment & Climate Change

(BDP 2100, Vol. 1,Chapt. 13, Page: 631-633 & 8FYP, Vol. 2,Section 8.4.4)

Results framework fully adopted from BDP 2100 (Continued)

No.	Indicators	Sub-Indicators	Quantity	2016-2018	Target for 2025
(Goal 6: Achieve optimal use of land and water)					
6A	Flood control, drainage and irrigation capacity	Area under irrigation schemes	Ha	672	900
6B	Sectoral use of water	Surface water used for irrigation	km^3	6.62	15
		Groundwater used for irrigation	"	24.88	22
6C	Navigation capacity	Wet season navigation course	km	5,968	5,968
		Dry season navigation course	"	3,865	5,500

Sustainable Development: Environment & Climate Change

(BDP 2100, Vol. 1,Chapt. 13, Page: 631-633 & 8FYP Vol. 2 Section 8.4.4)

Policy and Institutionl Harmonization Under BDP 2100 Umbrella: For central institutional coordination of this sector through BDP 2100, 8FYP underscores that

(i) Establishment of a **"Delta Wing"** within the General Economic Division (GED) of the Bangladesh Planning Commission for offering technical support, guidance and coordination for the implementation of the BDP 2100, *(source: BDP 2100, vol 1, Chapt. 12, Sec.12.5(a), pg: 608)*

(i) Establishment of a **"Delta Fund"** and the institutional framework necessary for its usage *(source: BDP 2100, vol.1, Chapt. 11, Sec.11.7, pg: 577 & Chapt. 12, Sec.12.5(C), pg: 610)* and

(i) Establishment of the **"Delta Knowledge Hub"** for hosting and offering intellectual support to the implementation of the Delta Plan would bring discipline in this sector. *(source: BDP 2100, vol 1, Chapt. 12, Sec.12.5(3), pg: 613 & , Chapt. 14)*

THANK YOU