Bangladesh Delta Plan 2100: Monitoring & Evaluation (M&E)

Md. Mafidul Islam, Chief, GED

General Economics Division
Bangladesh Planning Commission
Ministry of Planning
Government of the People's Republic of Bangladesh

Concept of Monitoring and Evaluation (M&E)

- **Monitoring** is a continuous process that uses systematic collection of data on specified indicators to provide policy makers and the stakeholders with an idea of the extent of progress and achievement of objectives of a project/programme.
  - *concerned with setting goals, indicators, targets and the information.*
  - *help the policy makers to choose appropriate policies among a set of alternatives*
  - *help in improving the design and implementation of policies.*
  - *Information obtained by monitoring can be used to evaluate a project/programme*
- **Evaluation** is the systematic and objective assessment of a project/programme or policy with a view to determine
  - *the relevance and fulfilment of objectives, effectiveness, impact, and*
  - *sustainability of that project/program or policy.*

M&E Practices in Bangladesh

M&E is concerned primarily with tracking spending and the physical progress of the project/programmes. IMED as a dedicated govt. M&E machinery

- *monitors and evaluates the development projects for efficient implementation primarily oversees the implementation process, identifies the challenges in terms of quality, time and costs and provides recommendations for improvement.*
- *IMED is involved at various stages of the project cycle implementation - project preparation (pre-project), project completion and also post-project impact evaluation*
- GED prepares plans, strategies and policies at national level and conducts their mid term implementation and end implementation reviews. An important breakthrough in this review is that the *6th* FYP for the first time introduced the concept of results-based monitoring and evaluation (RBM&E). It included a DRF that defined certain quantitative results to be achieved at the end of the completion of the Sixth Plan. *This RBM&E is further consolidated in 7th 5YP.*

Results-Based M&E for the BDP 2100

- The BDP 2100 demands immediate policies, programme and interventions for achieving its long term objectives, goals and targets. On the contrary, there are uncertainties about the future path of climate variabilities and policy responses of the upstream countries wrt WRM. The quality, relevance and adequacy of the current interventions and the need for changes in light of new evidence on the stated uncertainties can only be assessed properly if there is a well-developed M&E system.
- The BDP 2100 provides a strategy and suggests institutional arrangements for coordination of the various interventions as they relate to BDP 2100 goals and targets. These goals and targets constitute the DRF for BDP 2100. This DRF becomes the main focus of the BDP 2100 M&E.

Lessons Learnt from International Experiences for Delta Program plan M&E

The following lessons emerge for improving water resources M&E and data management in Bangladesh:

- Need for a systematic approach that links the delta objectives and targets to the M&E exercise.
- Need to develop measurable quantitative indicators to monitor progress with delta management. These indicators change with time as new information is available, especially in view of the uncertainties of climate change.
- Invest in data, analysis and research. The Netherlands and Germany are two excellent examples of this.
- Assign institutional responsibility for M&E.
- Conduct M&E exercise at regular intervals and make this widely available for policy analysis and research.

The BDP 2100 M&E Framework

In order to ensure ADM, uncertainties and risks have to be managed appropriately. Policy pathways have to be converted into actions and adaptive measures need *to* be implemented timely. A BDP M&E Framework is a pre-requisite for ensuring successful multi-sectoral coordination, integration among agencies and their practices of M&E.

BDP M&E Systems is required in

- Providing a decision-making structure that fosters communication between implementing agencies and decision makers
- Establishing an authority facilitating timely decisions are made and implemented.
- Providing institutional capacity to interact, learn, and adapt.
- Guiding and ensuring effective implementation and M&E in relation to progress and identification of tipping points and possible change in pathway(s).
- Leading periodic adjustments in management of the BDP interventions and updates in operations and monitoring plans.

The M&E system is envisioned to be a living process and would need to remain flexible to respond effectively to unanticipated events.

BDP 2100 M&E Framework

Measuring environmental, social, and economic conditions and influences on these conditions constitutes an important part of knowledge-building and adaptive management.

- The BDP 2100 M&E Framework brings together indicators that will inform stakeholders about water system conditions and their relationships to ecosystems, social systems, and economic systems.
- The evaluation of the selected indicators is anticipated to reveal how different actions or inaction can degrade or improve conditions that lead to water sustainability.
- The Framework is built around both statements of intent (e.g. objectives) and themes (e.g. water quality).
- The Framework is intended to support reporting of indicators to a wide array of water and environmental stakeholders, the public, and decision-makers to build knowledge and to enhance adaptive decision-making and policy change.

BDP 2100 M&E Framework (cont'd)

- BDP 2100 M&E framework brings indicators together that will inform stakeholders about the water system condition and their relationship to ecosystem, social system, and economic system. The Framework is built around statement of intent (objective)and themes (water quality).
- The basis of the M&E Framework is an overall vision for water-related sustainability indicators for Bangladesh, including an understanding of sustainability, indicators, and related terms.
- The M&E Framework is designed to be scale-independent, so it can be applied from local to national scales.
- The starting point for developing BDP 2100 DRF is the Delta vision and the associated goals, objectives and targets.

Ultimately, the M&E Framework informs policy makers how well the country is sustaining the natural, social, and economic systems that the population depends upon, at least in terms of water, and based on what is known about stresses to these systems and how degraded conditions can be improved.

BDP 2100 Development Results Framework (DRF) (cont'd)

The below table illustrates a possible approach to the BDP 2100 DRF. This is done on the basis of existing knowledge.

No	Indicators	Sub-Indicators	Quantity	Parameters		
				2016	2030	2050
Goal 1: Ensure safety from floods and climate change related disasters						
1A	Risk free zones from natural disasters	Average flood affected area[37]	% of total area of Bangladesh	25	25	25
		Catastrophic flood affected area[38]	"	60	55	50
		Drought (extreme) free area[39]	"	53	75	90
		Storm surge affected area[40]	% of total Coastal Zone[41]	29	10	5
		Dry season salinity[42] intrusion free area	"	47	50	50
		Water logging free area	"	97	100	100
1B	Population vulnerable to natural disasters	Flood vulnerable people	Nos. in million	88	60	20
		Cyclone vulnerable people	"	8	7	5
		Erosion vulnerable people	"	1	0.7	0.2
		Water logging vulnerable people	"	0.9	0.2	0.1

BDP 2100 Development Results Framework (DRF) (cont'd)

Goal 2: Ensure water security and efficiency of water usages						
2A	Dry season flow availability (Jan-May)	-	% of total flow	14	30	30
2B	Dry season irrigation coverage	-	million ha	5.5	7	7
2C	Irrigation water efficiency[43]	-	% of supplied water	30	40	50
2D	Urban domestic water efficiency[44]	-	% of supplied water	60	90	100

No	Indicators	Sub-Indicators	Quantity	Parameters		
				2016	2030	2050
2E	Rural population with safe drinking water access	-	% of rural population	87	100	100
2F	Rural population with safe sanitation	-	% of rural population	58	100	100
2G	Surface water polluted by industrial wastes	-	% of total river areas	11	9	5
2H	Surface water sources polluted by other wastes[45]	-	% of total river areas	10	7	5
Goal 3: Ensure sustainable and integrated river systems and estuaries management						
3A	Erosion along major rivers	Area eroded along Jamuna	ha/ year	1,500	1,000	400
		Area eroded along Ganges	"	600	450	250
		Area eroded along Padma	"	1,300	650	400
		Area eroded along Lower Meghna	"	2,900	2,000	1,200
3B	Area of reclaimed lands	-	ha (total)	52,313	170,000 (approx.)	300,000 (approx.)

BDP 2100 Development Results Framework (DRF) (cont'd)

Goal 4: Conserve and preserve wetlands and ecosystems and promote their wise use						
4A	Permanent wetland with connectivity		Percent connectivity	Establish connectivity asap	Full main-tenance	Full main-tenance
4B	Seasonal wetland with connectivity	-	Percent connectivity	Establish connectivity asap	Full main-tenance	Full main-tenance
4C	Habitat protection	Area of perennial aquatic habitat	Ha	13,200	15,000	Tbd
		Area of seasonal aquatic habitat	"	30,880	50,000	Tbd
		Area of marine habitat	"	32,300	50,000	Tbd
4D	Harnessing of ecosystem services and goods	-	Expert judgment	Poor	Fair	Good
Goal 5: Develop effective institutions and equitable governance for in-country and transboundary water resources management						
5A	Rural people with adequate capacity for WRM	-	% of rural population	20	35	50
5C	Equitable share of water among users	-	Qualitative judgment	Poor	Fair	Good
5D	Adequate monitoring mechanism	-	Qualitative judgment	Poor	Fair	Good
5E	O&M budgeting	-	% of Delta Plan budget	5%	25%	25%

Tbd= to be determined

Source: Basic base year data updated to 2016 using CEGIS 2015, CSIRO 2014, IWM 2015, BADC 2015

BDP 2100 Development Results Framework (DRF) (cont'd)

Goal 6: Achieve optimal and integrated use of land and water resources

No	Indicators	Sub-Indicators	Quantity	Parameters		
				2016	2030	2050
6A	Spatial zoning of integrated land and water uses	-	Qualitative judgment	Limited	Fair	Good
6B	Spatial standardization of drainage density	-	Qualitative judgment	None	Fair	Good
6C	Flood control, drainage and irrigation capacity	Area under irrigation schemes	Ha	672	800	Tbd
		Area under drainage schemes	"	878	1200	Tbd
		Area under drainage and irrigation schemes	"	434	800	Tbd
		Area under FCD schemes	"	1,863	3000	Tbd
		Area under FCDI schemes	"	2,209	3000	Tbd
		Area under coastal FCD schemes	"	1,000	2000	Tbd
		Area under coastal FCDI schemes	"	28	40	Tbd
6D	Sectoral use of water	Surface water used for irrigation	km^3	6.62	12	Tbd
		Groundwater used for irrigation	"	24.88	24	Tbd
		Domestic water use	"	3.6	Tbd	Tbd
		Industrial water use	"	0.8	Tbd	Tbd
6E	Navigation capacity	Wet season navigation course	Km	5,968	5,968	Tbd
		Dry season navigation course	"	3,865	4500	Tbd

Tbd= to be determined

Source: Basic base year data updated to 2016 using CEGIS 2015, CSIRO 2014, IWM 2015, BADC 2015

Institutional Arrangements for M&E

Proper institutional arrangements for M&E are important to establish clarity of accountability for this important task.

- Project M&E is the responsibility of the implementing agencies.
- Similarly, M&E of sectoral policies and programmes should rest with the concerned sectoral ministry.
- IMED will also continue to do its M&E giving more attention to RBM&E of projects working in collaboration with concerned line ministries.
- Regarding M&E of the entire BDP 2100, this will be a key responsibility of the GED. Needless to say, the M&E for the BDP 2100 will need to be done consultatively, drawing on the analysiss of the M&E at the project and sectoral levels, consultation with IMED and technical arms of all concerned Delta line ministries, especially the MoWR.
- The quality and usefulness of the BDP 2100 M&E will depend upon the quality of staffing and the adequacy of data.

Reporting Results

The M&E effort can only be beneficial if it is widely disseminated and is used for policy making.

- Frequency of M&E , two types of reports may be necessary. First, an interim progress report of the BDP 2100 implementation on an annual cycle may be useful to inform the formulation of next year's annual BDP 2100 programme. A second, longer term (3-5 year cycle) full M&E report of the BDP 2100 implementation to inform the necessary changes to the next medium term Delta Plan strategy and the associated DRF. This will be a critical input to adaptive delta management.
- The M&E reports should be prepared by GED in consultation with other Delta agencies and related other stakeholders.
- This final report may be submitted to the DGC and NEC chaired by the HPM.
- Once done, GED should use this report to inform the next update of the BDP 2100.
- The final document should be put on the website of GED/ Bangladesh Planning Commission for wider dissemination and use by the others.

BDP 2100 Accountability

As BDP 2100 will adopt RBM, its accountability will also be results based.

- GED is required to submit to the DGC and the NEC an annual Report called the 'State of the Bangladesh Delta'.
- GED will maintain a website to report progress and problems. The website will contain a feedback mechanism to receive comments/suggestions from stakeholders.
- GED is answerable to questions raised by Honourable Members of Parliament (MPs) in Jatiya Sangshad in relation to BDP 2100. Its activities will also discussed in the meetings of relevant Parliamentary Standing Committees.
- Implementation of both BDP 2100 and individual projects are audited by the Comptroller and Auditor General (CAG) of Bangladesh.
- GED will maintain 'Delta Knowledge Portal, at national level.

Conclusion

The M&E for the BDP 2100 will need to be done consultatively, drawing on the analysis of the M&E at the project and sectoral levels and involving all inter-ministerial agencies.

- The practice of conducting M&E of government policies and programmes needs to have a stronger link with Bangladesh policy planning. Water related M&E is no exception.
- A solid M&E effort is essential for sound implementation of the BDP 2100 in the context of ADM.
- As in the case of implementation of the knowledge agenda, GED can draw on the technical capabilities of its knowledge partners to help with the BDP 2100 M&E.
- Intermediate targets are to be set in every 5-10 years which would be revised in light of development experience.
- Further investment in data, research and analysis is crucial.

Thank You