

## Bangladesh Delta Plan 2100 Formulation Project

Developing Strategies for Adaptive Delta Management in the Face of Climate  
Change & Trans-Boundary Issues  
Adaptation Futures 2016

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**GoB General Economic Division (GED)  
Planning Commission  
and  
GoN Embassy of Kingdom of The Netherlands (EKN)**

Bangladesh Dutch Delta Advisory  
Services (BanDuDeltAS)

### BDP 2100 Formulation Project



*BDP 2100 objective: to realize a sustainable and commonly agreed upon strategy for:*

- *Optimum level of water safety & security*
- *Adequate water conditions for food security and sustained economic growth*
- *Institutional Framework for its implementation*

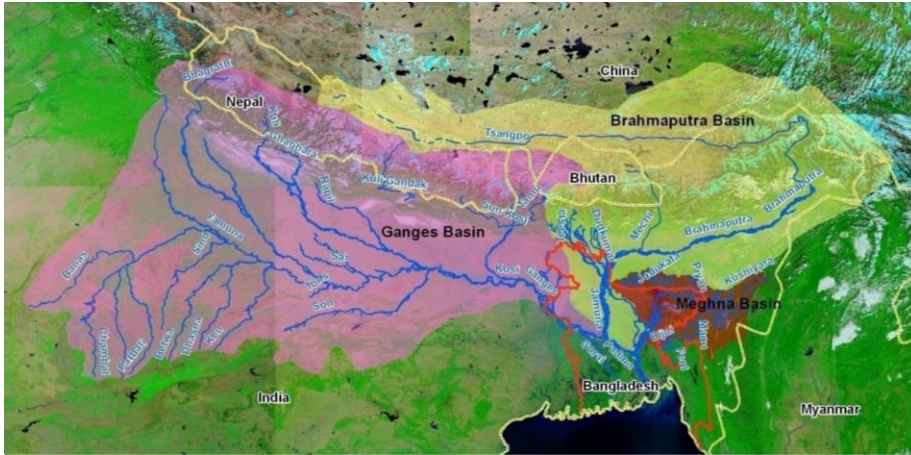
*BDP 2100 is a*

- *water centric, multi sectoral techno-economic long term adaptive plan*
- *continuously knowledge and science driven*

*BDP 2100*

1. *BDP 2100 Strategic Planning Process: 'what to do' / 'what to know'  
on short / medium / long term*
1. *BDP 2100 Implementation Process: 'how to achieve expected outcomes'  
(institutional strengthening, capacity building, funding, investment planning)*

## Bangladesh Delta shows many challenges



Ganges Basin		Brahmaputra Basin		Meghna Basin	
Catchment Area (Sq. Km)	1087000	Catchment Area (Sq. Km)	552000	Catchment Area (Sq. Km)	82000
Av. Annual rainfall (mm)	1200	Av. Annual rainfall (mm)	1900	Av. Annual rainfall (mm)	4900
Av. Annual Discharge (m <sup>3</sup> /s)	11000	Av. Annual Discharge (m <sup>3</sup> /s)	20000	Av. Annual Discharge (m <sup>3</sup> /s)	4600
Max. Discharge (m <sup>3</sup> /s)	78000	Max. Discharge (m <sup>3</sup> /s)	100000	Max. Discharge (m <sup>3</sup> /s)	20000
Sediment transport (m ton/yr)	550	Sediment transport (m ton/yr)	590	Sediment transport (m ton/yr)	13

## Bangladeshi & Dutch Delta Plans

### Lessons learnt from Dutch

#### Delta Plan:

1. Adaptive Delta Management: sequence of major adaptive planning actions over time
2. Long term, flexible (TP/PW) and integrative approach to address Climate Change
3. Strategy making with use of Hotspots (focus areas); working with Scenarios to test Robustness of Strategies & Interventions
4. Governance & Institutional Framework already developed during planning process: preparing the institutional setting, embedding BDP in core governance, funding principals, preparation of implementation

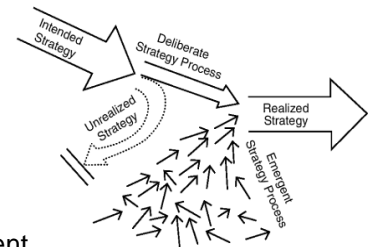
### Specific Characteristics BDP

#### 2100

1. These 4 Dutch Delta Plan points are covered
2. Delta Vision and Goals show a broader scope (water, food, economy) leading to:
  - a holistic approach with 19 themes
  - large network of stakeholders and involved issues, broad consultation
  - opportunities for the ongoing development of the country
2. Larger and highly dynamic delta with mighty rivers and more than 400 other rivers
3. Trans-Boundary and Governance challenges

## BDP 2100 challenges

- Water resources problems, trans-boundary issues and climate change
- Long term (to 100 year) perspective, delta vision & goals with holistic approach
- Scenario based adaptive strategies and interventions
- Widespread socio-political support and private sector involvement
- Institutional and governance setting making BDP 2100 approach possible and implementable
- Coordinated action for short & medium term investment and implementation



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## BDP 2100 Approach & Methods

Next slides show the main components in our approach with corresponding methods

- Strategic Planning Process
- Continuous interplay with Governmental and Stakeholder context and related aspects of Governance
- Overview of the work process from Baseline Studies to Monitoring & Evaluation

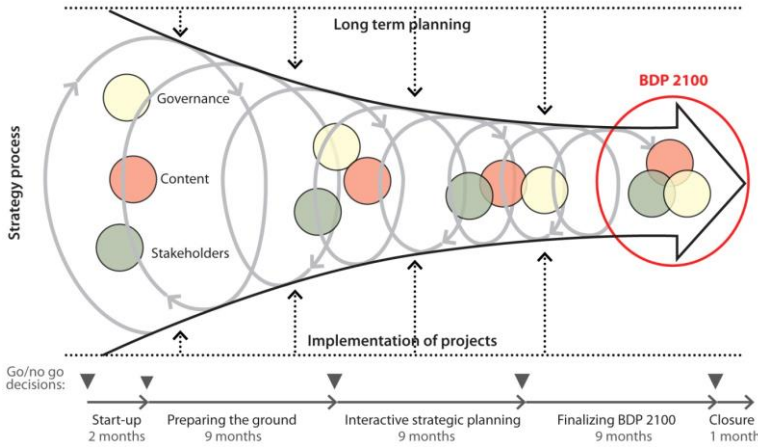


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### Interactive Strategic Planning process

Governance, Content, and Stakeholders will come together, via learning cycles



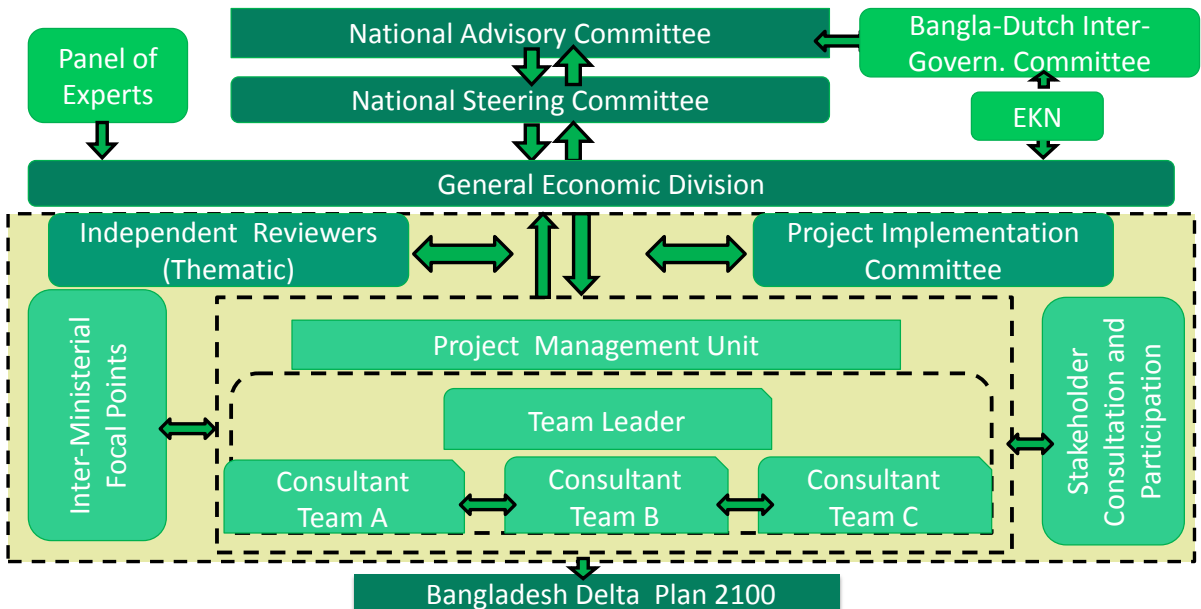
- Concepts:
- Planning as Learning
  - Adaptive Management
  - Strategy Process sense-making - sensegiving

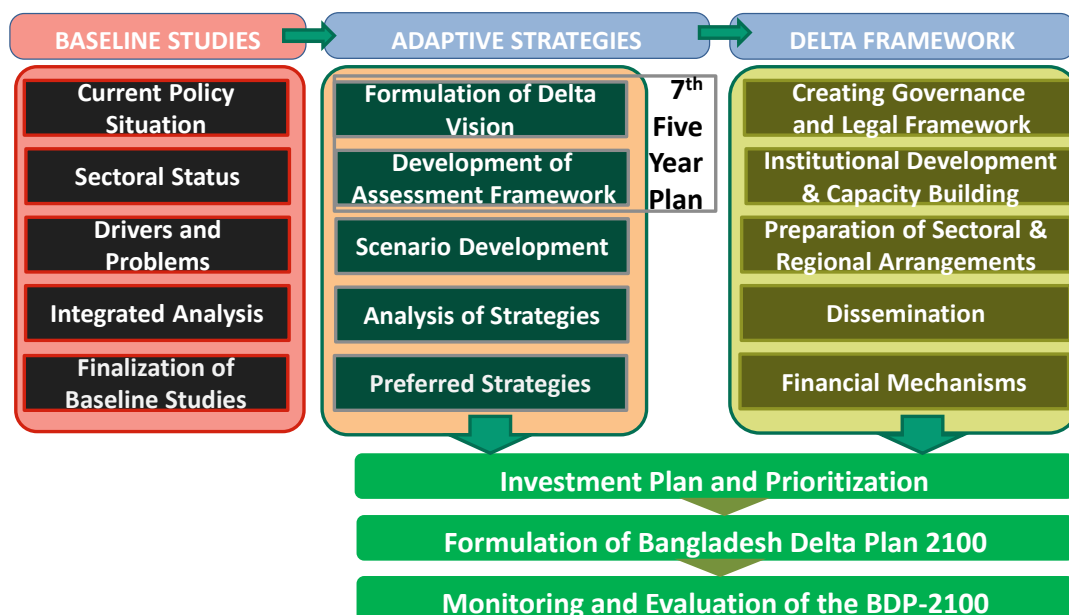
#### I. Mission and Organization

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### Overall BDP 2100 Organization





## Themes of 19 Baseline Studies

### Water Resources

- I. Morphological Dynamics & River Management
- II. Water Resources
- III. Coastal Zone Issues

### Water Supply and Sanitation

- I. Public Health, Water Supply and Sanitation

### Disaster Risk Reduction

- I. Climate Change Issues
- II. Disaster Management

### Spatial Planning

- I. Land Resources
- II. Urbanization and Settlement

### Food Security

- I. Agriculture and Food Security
- II. Fisheries and Livestock

### Environmental Management

- I. Ecological Settings
- II. Forests and Biodiversity
- III. Environmental Pollution

### Economics and Finance

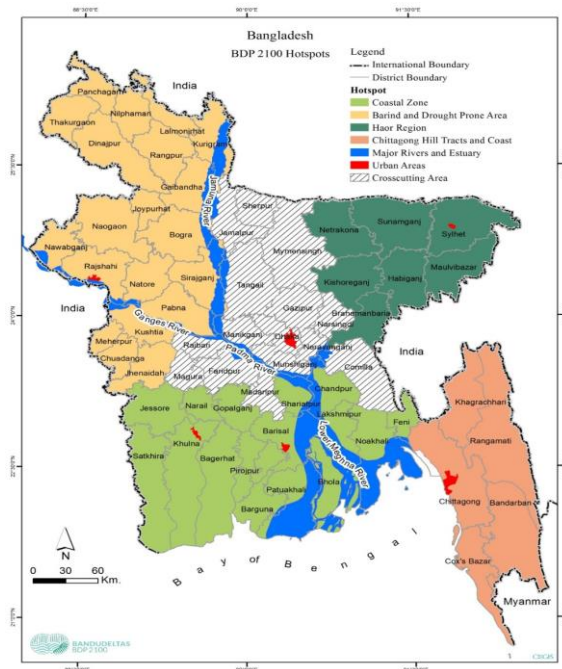
- I. Growth of Population and Management in the Context of Resources Setting
- II. Socio-Economic and Demographic Conditions
- III. Sustainable Transportation Infrastructures

### Governance

- I. Information and Creation of Knowledge Management Institution
- II. Institutional Framework & Arrangements; Core Governance
- III. Regional Cooperation



## Selection of Hotspots Based on characteristic challenges



### Consultation - Delta Ateliers - learning from the people



- The first series - **Dhaka during 16-23 November, 2014** (99 participants).
- The second series - **Dhaka during 15-22 March, 2015** with three themes: (average 113 experts).
- The third series - in hotspot areas i.e. Dhaka, **Haor area, Rajshahi, Rangpur and Kurigram during 17-28 May, 2015** (average 80 participants).
- The fourth series - in different hotspot areas i.e. **Chittagong, Rangamti, Khagrachari, Banderbhan, Khulna, Sathkhmira, Gopalganj, Bagerhat, Barisal, Patuakhali, Noakhali, Sirajganj and Tangail** during 24 August - 16 September 2015.
- Issues being used for strategy making and drafting BDP 2100.

## Futuring & Visioning: Delta Vision



**“Ensure long term *water and food security, economic growth and environmental sustainability*”**

**while**

**effectively coping with natural disasters, climate change and other delta issues**

**through**

**robust, adaptive and integrated strategies, and equitable water governance.”**

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## Adaptive Planning: Adaptation Tipping Points & Adaptation Pathways

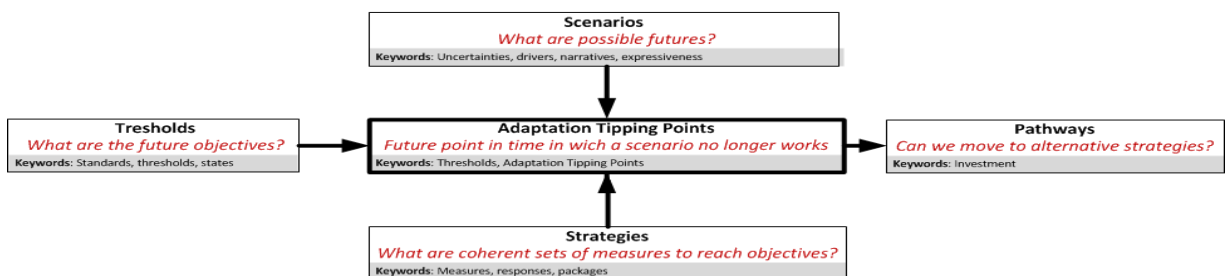
Thresholds: future goals (standards);

Scenarios: Possible futures (exogenous);

Strategies: Sets of measures

ATPs: future points in time when a strategy exceeds threshold for a given scenario

APs: possible transitions in strategies to ATPs that are further in future





## Goals to achieve the Delta Vision



- **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 water resources management**
- **Goal 6: Achieve optimal use of land and water resources**

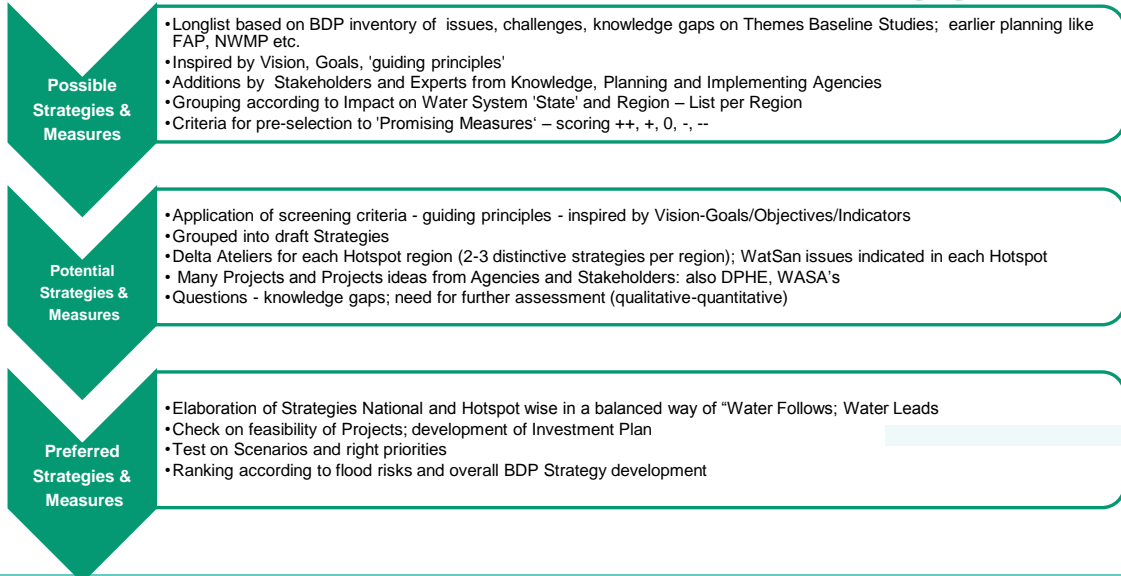
## Aligning with National & International Goals & Vision



- **Vision 2021**
- **Vision 2041**
- **National Sustainable Development Plan**
- **National Social Protection Plan**
- **National Water Management Plan**
- **7<sup>th</sup> Five Year Plan +**
- **Many other previous plans**
- **Sustainable Development Goals (SDGs)**
  - **Goals 6, 13 and 14**
  - **Goals 1, 2, 5, 8, 9, 11, 15**



## Strategy Formulation and Selection



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## (Indicative) Strategies per Hotspot



### Major Rivers and Estuaries

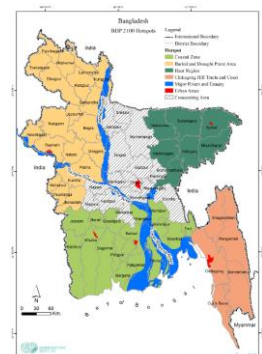
- River Basin Management through stabilization / channelization, dredging, balancing with ecological and environmental aspects
- Land reclamation in the rivers and Meghna Estuary
- Abstraction of surface water from major rivers e.g. through barrages & reservoirs
- Navigation and inland port development

### Coastal Zone

- Improvement of coastal defenses considering climate change & sea-level rise
- Land reclamation and land development
- Protection works, port development, considering environment and ecosystems

### Barind & Drought Prone Areas

- Improved surface water management programs
- Ground water management; retention
- Revitalization and restoration of beels and water bodies, conservation of ecosystems



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## (Indicative) Strategies per Hotspot



### Haor and Wetlands

- Integrated Water Management for livelihood improvement
- Village protection against wave action; measures against flashfloods
- Haor Ecosystem Management

### Urban Areas

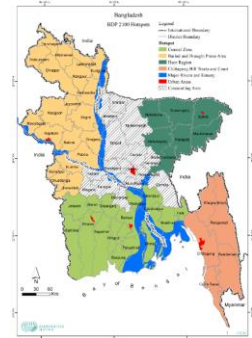
- Improved flood protection and drainage improvement
- Integrated Water Supply and Sewage Management Program, incl. water treatment and waste management

### CHT and Coasts

- Integrated Eastern Hills Resources Management, incl. ecosystem conservation
- Integrated River Basin Management and coastal protection

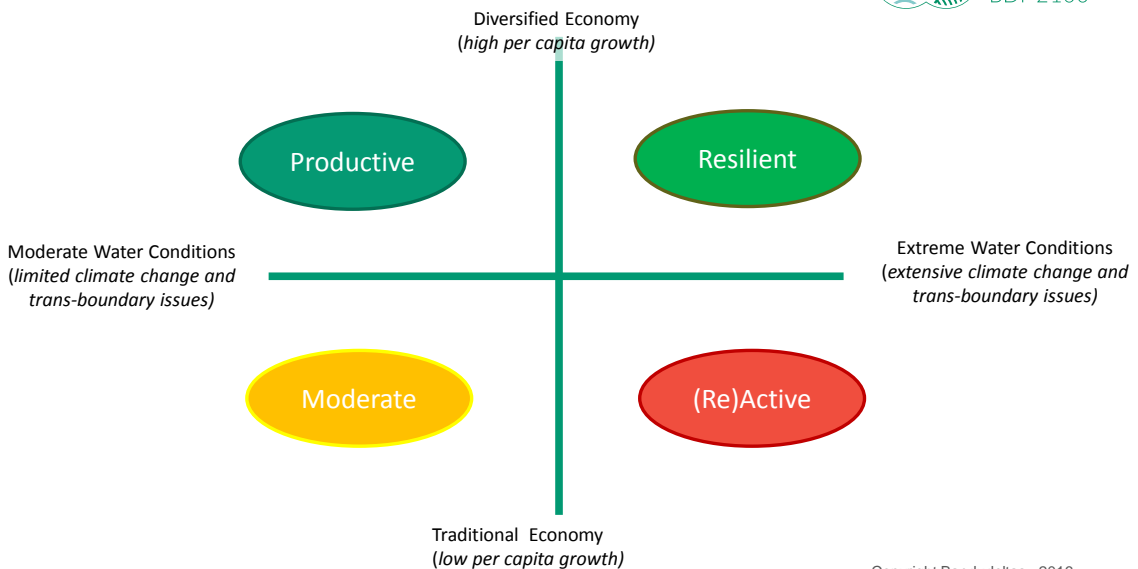
### Cross-cutting

- Fresh Water Management Program (irrigation, rural water supply and sanitation)
- Flood Risk Management and Rationalization of existing FCD/FCDI Projects



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## Scenarios: Two Axes representing key uncertainties



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## Preparing MoU for Cooperation with World Bank and IFC



BDP 2100 Strategies with Interventions / Measures deliver concrete set of investment opportunities on:

1. Physical infrastructure
2. Institutional Arrangements and Capacity Building
3. Research, Knowledge and Information Management

To prepare BDP 2100 Investment Plan a tripartite MoU was signed on 16 June 2015 between GoB, GoN, World Bank Group

World Bank Investment Planning team assists in preparing an Investment Plan

## Investment Planning and Implementation



Concept Notes are already under construction for each intervention / measure according to a specific format

World Bank Investment Planning team elaborates Concept Notes into an Investment Plan

Implementation Guideline will be prepared to:

- Implementation by implementing agencies through Implementing Ministries
- Guide and assist Implementing Agencies in different sectors to prepare their implementation plans
- Support the establishment and functioning of Delta Plan related institutions and implementing agencies.

## Bangladesh Delta Plan 2100 Institutional Framework



Approach:

- Generating socio-political interaction and support / ownership
- Embedding Delta Plan 2100 within the core governance and institutional setting of Bangladesh, using 5 D's
- Developing a frame of reference for review / assessment and decision making on prioritization of measures in relation to existing policies / plans
- Capacity building plays an important role
- Results based M&E based on agreed indicators

### The 5 D's of Bangladesh:

- **Delta Act:** constitutes the statutory basis for a Delta Program;
- **Delta Plan:** sets out vision, scenarios, strategy, priorities and interventions, investments
- **Delta Fund:** financial provisions for (future) Delta Programs
- **Delta Decisions:** strategic choices on Program and investments based on science and knowledge
- **Delta Commission:** Institutional setup to implement and update the Bangladesh Delta Plan 2100..

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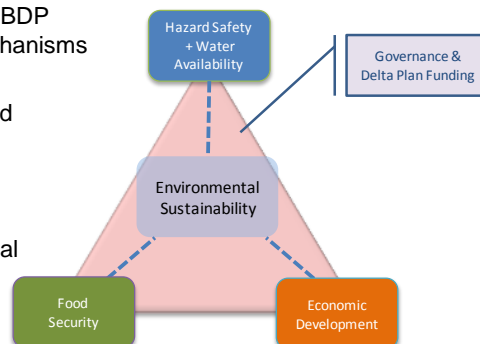
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## BDP 2100 Institutional Framework



Setup of governance and institutional framework:

- Embedding BDP2100 in the core governance planning system : Five Year Planning Cycle, Funding & Financial Allocation Process, Sectoral Plans and Strategies
- Providing Block Provision of at least 2% of GDP annually for BDP 2100 Investment Program, involvement of IFIs, financial mechanisms
- Establishment of high level Delta Commission and Delta Fund
- Draft Delta Act
- Coordinated action among and with the sectors; involving local government, WMOs
- Monitoring & Evaluation specifically on BDP 2100 result based progress



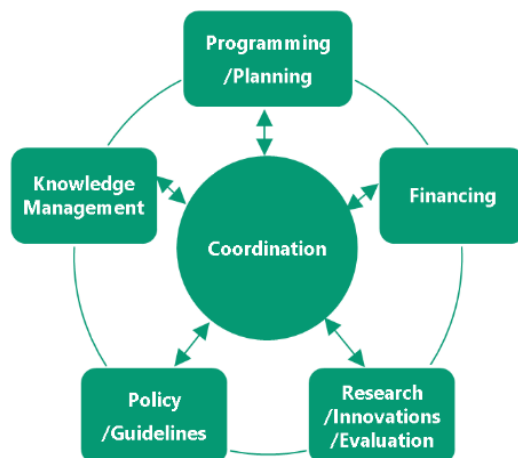
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## Proposal Delta Commission

- Proposed through a process of gradual progression of 4 options:
  - No new institution (business as usual)
  - Utilizing existing set up (like BCCT, BRCC)
  - Retrofitting existing set up (WARPO)
  - New Set up
- New set up is preferred, as Bangladesh Delta Commission, provides 'home' to multi-sectoral multi-Ministerial long term Bangladesh Delta Plan to steer the complex and dynamic delta process through adaptive delta management.
- Based on institutional set up of global delta programs – Dutch, Vietnam, Nigeria, Botswana and California.
- Based on discussions at different levels of government.

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## Key Roles of the Proposed Delta Commission



## Delta Fund

- The Bangladesh Delta Fund is conceived as a dedicated fund for finances involved in implementing the Bangladesh Delta Plan 2100.
- The Government shall allocate 2% of the GDP annually to the Delta Fund – an indicated commitment in the 7<sup>th</sup> Five-Year Plan.
- Some considerations for the Bangladesh Delta Fund
  - Bangladesh Delta Fund can be established through an Act.
  - The DF will be able to provide capital expenditure for investment projects AND recurrent budget funds for operation & maintenance to ensure sustainability of delta related projects.
  - A Multi Year Approach from the Dutch Delta Fund is essential for long term planning and sustainability in the case of Bangladesh as well.
  - Dual stream model, as explained later, requires significant donor coordination for their basket fund.
  - Though not yet established, we are aware that GoB is setting up the 'Project Preparatory Fund', which will be able to fund feasibility studies, environmental and social impact studies, land acquisition, etc. in the project preparation stage.
  - The Delta Fund will spend both grant money, loans.
  - A matching mechanism as well as a re-imbusement scheme are interesting concepts from PEDP III that have proved successful and may be adopted by the Delta Fund.

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## Bangladesh Delta Act 2016

*An Act is perceived to be necessary to bring about necessary institutional reform in relation to delta*

*Bangladesh Delta Act 2016* will provide a sound legal coverage for the long-term nature of BDP 2100 including establishment of the Delta Fund, establishment of the Delta Commission, the Plan itself and indicative investment priorities and approaches.

The draft version of the Bangladesh Delta Act has been prepared based on similar Acts in Bangladesh. These are:

- *Climate Change Trust Act 2010,*
- *Disaster Management Act 2012,*
- *The Water Act 2013,*
- *National River Conservation Commission Act 2013*

➤ **The draft Act consists of 27 sections, 114 clauses and 34 sub-clauses**

## Progress / Outputs 1 May 2016



- **A commonly accepted Inception Report**
- **19 Background Reports on delta themes with common Information Portal / Knowledge Base**
- **Input to the 7th Five Year Plan, short term strategy / Project Portfolio**
- **MoU between Bangladesh, the Netherlands, World Bank / IFC**
- **Many Consultations Workshops; Participation of Ministries and Stakeholders**
- **Vision, Goals and Scenarios, draft Strategies per Hotspot and Cross Cutting**
- **Institutional Framework of Delta Commission, Delta Fund and Delta Act**
- **Information Portal, Touch Table, Website**
- **Capacity Building in Bangladesh and the Netherlands**
- **ToC and Zero Draft of Delta Plan Document**

### Upcoming:

- **Draft Delta Plan** including Vision / Goals, Scenarios, Strategies and Measures, Institutional Framework, Financial Mechanisms
- **Investment Plan** with Implementation Strategy and Guideline

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