

# Learning Deltas Asia Initiative (LDAI)

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## Deltas in a Changing Climate: Key Features

### ❖ Deltas – low lying coastal areas

- fertile, food baskets
- often strongly urbanized
- rich ecosystems
- often in transboundary river basin



### ❖ Challenges

vulnerable to extreme weather events, including flooding from 3 sources (rain, river and sea)

- salt intrusion
- soil subsidence
- erosion/sediment starvation



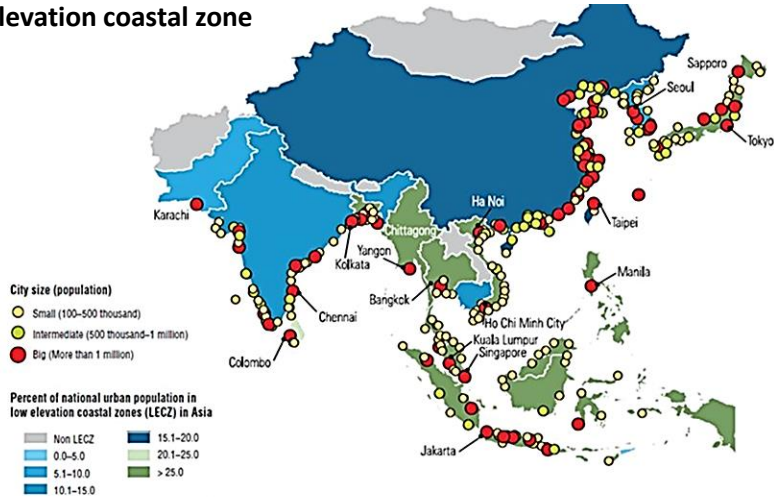
### ❖ Aggravated by

- climate change, incl. sea level rise
- upstream developments
- transboundary water management



## Deltas and Coastal Cities in Asia

Coastal cities in Asia and percentage of national urban population in low elevation coastal zone



Source: Fuchs, R (2010): Cities at Risk: Asia's Coastal Cities in an Age of Climate Change. In: Analysis from the East-West Center, No. 96.

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## Climate-related Disasters – Deltas as hotspots

Region	Area	Major Cities
East Asia	<ul style="list-style-type: none"> <li>Coastal areas of PRC</li> <li>Deltaic areas of Yellow, Yangtze, and Pearl rivers</li> <li>Southern Honshu</li> <li>Qinghai-Tibetan Plateau</li> </ul>	<ul style="list-style-type: none"> <li>Guangzhou</li> <li>Nagoya</li> <li>Osaka</li> <li>Shanghai</li> <li>Seoul</li> <li>Tianjin</li> <li>Taipei City</li> </ul>
South Asia	<ul style="list-style-type: none"> <li>Deltaic areas of Ganges-Brahmaputra, Mahanadi, Godavari, Krishna, and Indus rivers</li> <li>Nepal's Himalayan region</li> <li>Most of Bangladesh</li> <li>Southern Parkisan</li> </ul>	<ul style="list-style-type: none"> <li>Chennai</li> <li>Dhaka</li> <li>Kolkata</li> <li>Mumbai</li> <li>Karachi</li> </ul>
Southeast Asia	<ul style="list-style-type: none"> <li>Deltaic areas of Mekong, Red, and Irrawaddy rivers</li> </ul>	<ul style="list-style-type: none"> <li>Bangkok</li> <li>Ho Chi Minh City</li> <li>Jakarta</li> <li>Manila</li> <li>Singapore</li> </ul>

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## Climate-related Disasters – Top 10 Countries

Table 1: The Long-Term Climate Risk Index (CRI): the 10 countries most affected from 1994 to 2013 (annual averages)

CRI 1994–2013 (1993–2012)	Country	CRI score	Death toll	Deaths per 100,000 Inhabitants	Total losses in million US\$ PPP	Losses per unit GDP in %	Number of Events (total 1994–2013)
1 (1)	Honduras	10.33	309.70	4.60	813.56	3.30	69
2 (2)	Myanmar	14.00	7137.40	14.80	1256.20	0.87	41
3 (3)	Haiti	16.17	307.80	3.41	261.41	1.86	61
4 (4)	Nicaragua	16.67	160.15	2.98	301.75	1.71	49
5 (7)	Philippines	19.50	933.85	1.13	2786.28	0.74	328
6 (5)	Bangladesh	20.83	749.10	0.54	3128.80	1.20	228
7 (6)	Vietnam	23.50	391.70	0.48	2918.12	1.01	216
8 (8)	Dominican Republic	31.00	210.45	2.38	274.06	0.37	54
9 (10)	Guatemala	31.17	83.20	0.68	477.79	0.62	80
10 (12)	Pakistan	31.50	456.95	0.31	3988.92	0.77	141

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## The Learning Deltas Initiative: A Brief Chronology

- 2014: **“Enabling Delta Life” Initiative**, a global project drafted with support of Delta Alliance
- Dec. 2015: Regional **Workshop on Flood Management**, Guangzhou, China
- May 2016: **HLP on Water Security and SDGs**, Yangon, Myanmar (delta focus)
- July 2016: Early discussion on **“Learning Deltas”** at Singapore Water Week
- Sept. 2016: **Meeting with IFIs** at SWWW and planning of **Manila Workshop**
- Oct. 2016 : **Learning Delta Initiative**, Manila Workshop



## Learning Deltas Asia Initiative: Principal Objective

### The principal objective of the LDAI

To accompany urbanizing deltas in better connecting three processes that often unfold in relative isolation, and in learning from one another in so doing:

- Enbaling IWRM planning and implementation of ADM
- Engaging broader sectorial integrated and inclusive societal development processes that guide socio-economic resilience
- Supporting the planning and implementation of investment projects through innovative learning and knowledge processes building commitment and capacities

→ Need to follow an **integrated, holistic and inclusive approach!**



## Learning Deltas Asia Initiative: Outcome & Ultimate Beneficiaries

### ❖ Outcome of LDAI

- an enhanced capacity of engaged stakeholders and institutions in policies and political efforts to enable higher levels of impact and sustainability while allowing for scaling up of resilience of urban deltas and assisting in climate change adaptation

### ❖ Ultimate Beneficiaries of LDAI

- the local communities in the deltas and relevant DRR communities, RBOs, NGOs, civil societies, private sector, etc. will be involved





## Learning Deltas Asia Initiative: Expected results

The LDAI, as a thorough knowledge exchange mechanism between key Asian deltas would:

- **Increase the understanding of challenges** faced by communities /populations living in Asian deltas
- **Foster cooperation to develop joint solutions** for increased water security and climate resilience in Asian deltas
- **Strengthen the capabilities of local institutions** to enhance targeted outreach, impact and sustainability of MDB/Climate Fund co-financed projects and to improve the quality of project pipeline proposals
- **Eventually lead to strengthened resilience** of populations living in coastal/deltaic areas in Asia

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## Learning Deltas Asia Initiative: How to do it...

- **Bring key players together** in the deltas:
  - ✓ IWRM planners (often water ministries)
  - ✓ Planning and economic ministries
  - ✓ Finance and other sector ministries
  - ✓ Knowledge institutes, NGO's, private sector
  - ✓ Multilateral development banks and bilateral donors
- **Learn of the successes, failures and lessons learnt** in delta management and development
- **Promote exchanges of the lessons** between deltas
- **Focus on south-south exchange and cooperation**
- **Taking into account the SDGs**, specifically IWRM in a trans-boundary context

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## Learning Deltas Asia Initiative: With whom to partner

- **The Delta countries:**

**Key players** to be brought together by GWP's **Country Water Partnerships (CWPs)** or **Delta Alliance (DA) Wings** (in many countries CWP=DA?)

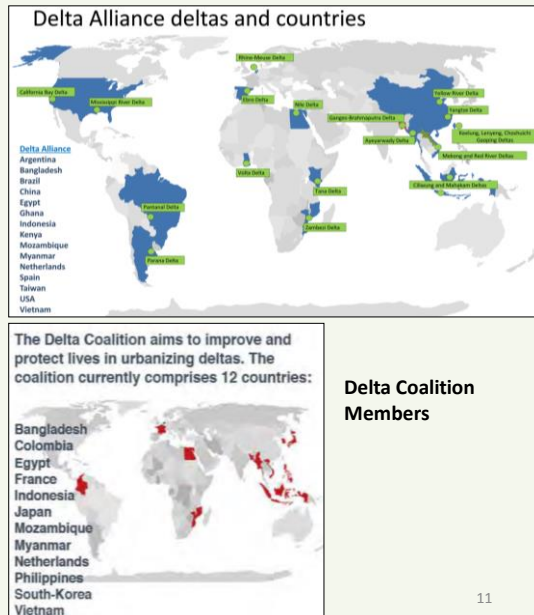
- **The Delta Coalition:**

**High level governmental cooperation** between delta countries

At this moment 12, of which 8 in Asia, growing

- The IFIs (ADB and WB):

## Supporting the process and bringing in some finance



## Learning Deltas Asia Initiative: Organizational set-up

- Focus on deltas in Asia

- Core to be established in one of the countries

- e.g. Bangladesh
- in a professional institute of the Country Water Partnership
- external financially supported (GWP, bilateral donor?)
- to be considered as the 'Engine' of the Learning Deltas initiative

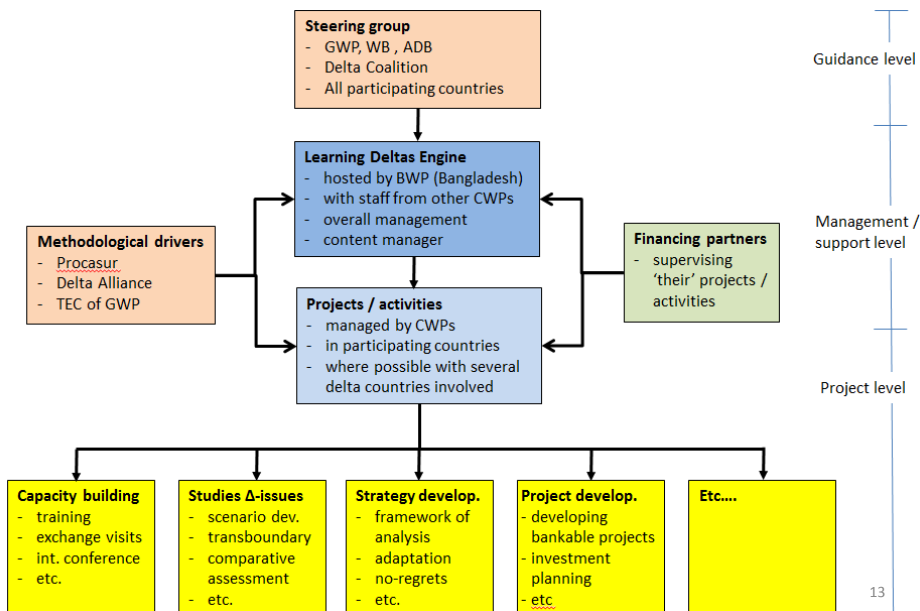
- Projects to be developed

- in and between delta countries
- that fits in on-going operational projects of ADB and WB
- to be financed by those projects

- **South-south orientation and cooperation**

... and with external support (e.g. by Delta Alliance, Procasur)

## Learning Deltas Asia Initiative: Proposed Organizational Set-up



## LDAI'S MAIN CHARACTERISTICS



### METHODOLOGY

1. LDAI supports **the expansion and adaptation of successful policies, programmes, projects and formal knowledge**, so the countries can leverage resources and partners to deliver larger results in a sustainable way.
2. **South South Cooperation (SSC)** and **South South and Triangular Cooperation (SSTC)** are at the core of the LDAI growth and sustainability strategy and will also explore complementary venues to the North-South technical assistance and funding model by **engaging with governments and International Financial Institutions (IFIs)** investing in the countries.



## LDAI'S MAIN CHARACTERISTICS

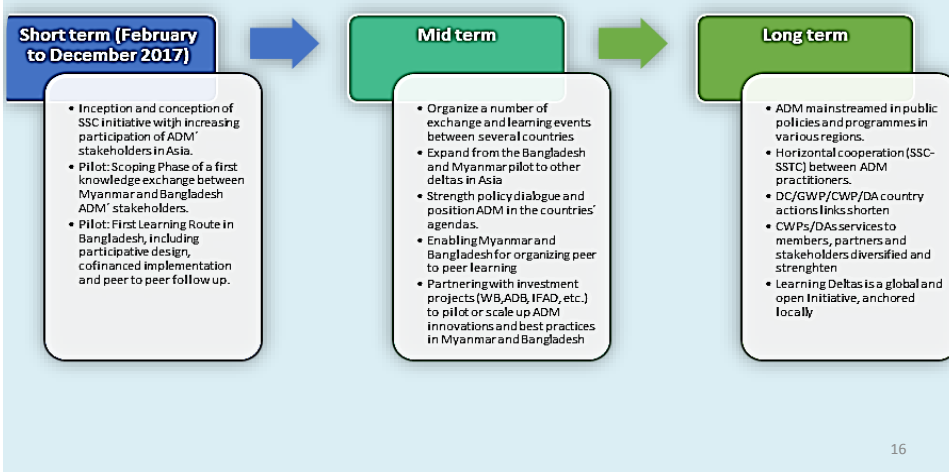
### METHODOLOGY

- The LDAI use **tailor made learning tools and promote experienced learning**. Through these tools, the **knowledge from the practice** will be capitalized and partners will gain direct access to field-tested, innovative solutions and develop the capacities to sustain learning and change in time:
1. **Network development**, by acknowledging and bringing together multiple stakeholders through face-to-face activities;
  2. **Strengthening of national organizations**, by equipping them with advance knowledge management and knowledge sharing skills;
  3. **Documentation and dissemination** of ADM best practices and innovation.



## LDAI'S MAIN CHARACTERISTICS

### • PHASED APPROACH





## Potential Target Deltaic Areas in Asia

COUNTRIES	DELTAIC AREAS	MAIN CITIES	RELEVANT ISSUES
<b>Bangladesh</b>	<b>Ganges – Brahmaputra – Meghna Delta</b>	<b>Mongla, Chittagong</b>	<ul style="list-style-type: none"> <li>• <b>Floods/droughts</b></li> <li>• <b>Saltwater intrusion</b></li> <li>• <b>Land subsidence</b></li> <li>• <b>Erosion/sediment starvation</b></li> <li>• <b>Infrastructure on soft soils</b></li> <li>• <b>Ecosystem conservation</b></li> </ul>
<b>Cambodia</b>	Tonlé Sap, Mekong Delta (transboundary), Bassac River	Phnom Penh	
<b>China</b>	Bohai Sea, Yangtze River Delta, Zhujiang Delta	Tianjin, Shanghai, Guangzhou	
<b>India</b>	Calcutta, Chennai, Mumbai		
<b>Indonesia</b>	Mahakam Delta	Samarinda, Jakarta	
<b>Pakistan</b>	Indus River Delta	Karachi	
<b>Philippines</b>	Pasig River Delta	Manila	
<b>Myanmar</b>	<b>Ayeyarwady Delta</b>	<b>Yangon, Patheingyi</b>	
<b>Singapore</b>	Singapore River	Singapore	
<b>Thailand</b>	Chao Phraya River Delta	Bangkok	
<b>Vietnam</b>	Mekong Delta (transboundary), Red River Delta	Ho Chi Minh, Hanoi	

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## Starting to Push the Reel Learning Deltas Asia Initiative (LDAI)



- ❑ **Selection of 5 Asian Delta Countries**
  - Bangladesh, Myanmar, Vietnam, Cambodia, China
- ❑ **Objectives of LDAI**
  - Enable IWRM planning and implementation of Adaptive Delta Management;
  - Engage broader sectoral integration and inclusive societal development processes that guide socio-economic resilience; and
  - Support the planning and implementation of investment projects through innovative learning and knowledge processes building commitment and capacities
- ❑ **Companion Countries**
  - Bangladesh and Myanmar
  - Vietnam and Cambodia
  - China

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## THE PILOT PHASE

### 1. The Scoping exercise between Myanmar and Bangladesh.

In February 2017 the pilot phase began with a scoping exercise between Bangladesh and Myanmar. The exercise main objectives are:

- Building a [joint Learning Agenda](#) on Adaptive Delta Management between Bangladesh and Myanmar
- Selecting two Learning Territories, one in Myanmar and another in Bangladesh where to pilot Adaptive Delta Management best practices and innovations

### 2. The Learning Route in Bangladesh.

As a result of the scoping exercise a Learning Route will be designed. [The Learning Route](#) is a peer to peer in the field training on ADM best practices in Bangladesh, customized to Myanmar learning priorities. The training will target practitioners from government, civil society, private sector and academia institutions working on ADM, selected under criteria of converge work in a same territory.

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## THE PILOT PHASE (MYANMAR MISSION TO BANGLADESH)

### OVERALL DESCRIPTION OF THE MISSION TO BANGLADESH

- ☐ Between the 23<sup>rd</sup> and 28<sup>th</sup> February the mission was carried out as planned and professionally led by the IWMBD and the BWP
- ☐ It considered lectures, Q&A and field visit on nine learning areas
  - Bangladesh Delta Plan (BDP 2100) by GED
  - Climate Change Modelling and Coastal Resilience by IWMBD
  - Community level flood management, by CEGIS
  - Flood forecasting system, by IWMBD
  - Ecosystem services for poverty alleviation by BUET
  - Climate Change and Water Governance, by BCAS
  - Land reclamation by BWDB
  - Tidal River Management by IWMBD
  - Mangroves conservation
- ☐ The field visit focused on Land Reclamation by BWDB.

No	Name	Position	Organization
1	Dr Zaw Lwin Tun	Director	Design Branch, Irrigation and Water Utilization Management Department, Ministry of Agriculture, Livestock and Irrigation, Republic of the Union of Myanmar
		Representative of Myanmar Water Partnership Wing Coordinator, Myanmar Delta Alliance Wing	
2	Mr Hla Moe	Deputy Director	Directorate of Water Resources and Improvement of River Systems, Ministry of Transport and Communication, Republic of the Union of Myanmar
3	Mr Aye Myint	Senior Water Resources Engineer	National Engineering and Planning Services Co. Ltd (NEPS)
		Director (Retired), Irrigation Department, Ministry of Agricultural and Irrigation	
4	Mr Kyaw Nyein	Executive Committee member	Executive Committee, Forest Resource Environment Development and conservation Association (FREDA)

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## THE PILOT PHASE

### MAIN OUTCOMES OF THE MISSION TO BANGLADESH

➤ **Joint Learning Agenda for Myanmar and Bangladesh.** The pilot will focus on **three ADM priority learning areas** for Bangladesh and Myanmar:

- I. Polders management
- II. Tidal River Management
- III. Integrated Water Resource Management



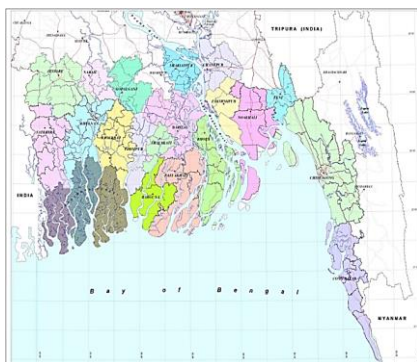
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## THE PILOT PHASE

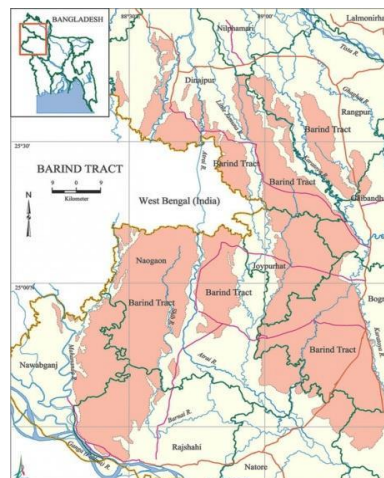
### MAIN OUTCOMES OF THE MISSION TO BANGLADESH

#### Bangladesh Learning Territory

1. Coastal Area
2. Barind Tract Area



*Map of the coastal zone of Bangladesh*



*Locations of Barind area*

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## THE PILOT PHASE

### MAIN OUTCOMES OF THE MISSION TO BANGLADESH

- It was agreed to organize a **Learning Route** on the late period of the Monsoon, most probably after the 15<sup>th</sup> of September.
- The training would last approximately **7 to 10 training days** and place special emphasis on **learning directly from the public and private stakeholders** of the experiences.
- The Myanmar delegation will be guided in the **collaborative design** of one or more **Improvement Plan(s)** for the adaptation and adoption of best practices and innovations to their intervention contexts.
- The financial support needs to be ensured.



### THE PILOT PHASE (BANGLADESH MISSION TO MYANMAR)

#### OVERALL DESCRIPTION OF THE MISSION TO MYANMAR

- ☐ Between the 1st to 5th June according to discussions that had taken in the consultation meeting of Myanmar delegation mission to Bangladesh
  - ☐ The second LDAI consultation meeting between Bangladesh Water Partnership (BWP), Institute of Water Modelling (IWM) and Myanmar Water Partnership (MmWP) representatives to define initial priorities and a timeline of learning menu options
  - ☐ The meeting was co-organized by GWPO, MmWP and GWP-SA
  - ☐ It considered presentations, Q&A and field visit on eight learning areas
1. Introduction to Myanmar Water Partnership, Delta Alliance (Myanmar), Delta Coalition (Myanmar), & IWUMD by SC member of GWP- SEA SC for MmWP
  2. Disaster Risks in Ayeyarwady Delta by Director, Ayeyarwady Region, IWUMD
  3. Introduction to DWIR, Improvement of River System in Ayeyarwady Delta by Deputy Director, DWIR
  4. Introduction to FD, Governmental Strategy on Mangrove Forest Management and Conservation in Ayeyarwady Delta by Assistant Director, FD
  5. Introduction to FREDA, Mangrove Reforestation Activities in Ayeyarwady Delta, NGO Context by Executive Committee Member, FREDA

No	Name	Position	Organization
1	Prof. Dr Mohammad Monowar Hossain	Executive Director	Institute of Water Modelling
2	Ms. Ismat Ara Pervin	Associate Specialist	Water Resources Planning Division, Institute of Water Modelling
3	Mr. K L Induruwage	Regional Coordinator	GWP South Asia Regional Office C/O International Water Management Institute
4	Mr. Ariel Halpern	Vice President	PROCASUR Corporation, Procasur Asia

6. Integrated Ayeyarwady Delta Strategy, Plan, Progress and Future by Deputy Team Leader, IADS Team, NEPS Co. Ltd.
  7. Integrated Water System Development of PanHlaing River Rehabilitation Project by Director, IWUMD
  8. Pan Hlaing River Integrated Development Plan by Team Leader, Water Business Line, Royal HaskoningDHV, Myanmar
- ☐ The field visit focused on Polders Management Integrated Water Resources Management and Mangrove Management

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## THE PILOT PHASE

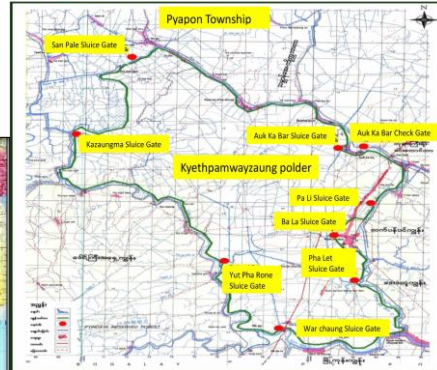
### MAIN OUTCOMES OF THE MISSION TO MYANMAR

#### Myanmar Learning Area

##### 1. Polders Management



Location Map of Polders and Embankments in Ayeyarwady Delta



Locations of Kyet hpa mway zaung polder area

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## THE PILOT PHASE

### MAIN OUTCOMES OF THE MISSION TO MYANMAR

#### Myanmar Learning Area

##### 2. Tidal River Management



Mezali Sluice Gate



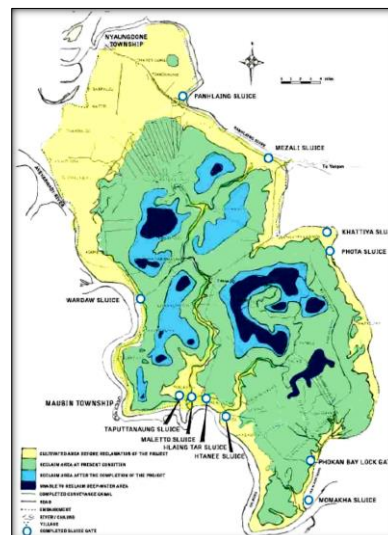
Paddy Cultivation



Drainage Channel



Fishing and Aquaculture



Location Map of Nyaung Done Polder controlled by Tidal River Management

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## THE PILOT PHASE

### MAIN OUTCOMES OF THE MISSION TO MYANMAR

#### Myanmar Learning Area

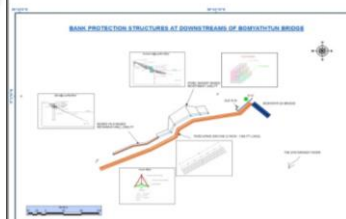
#### 3. Integrated Water Resources Management



Nyaung Done Town river bank protection works



Improvement of river system



Bank protection at  
Bo Myat Tun Bridge



Mangrove Forest  
Education Center

## THE PILOT PHASE

### MAIN OUTCOMES OF THE MISSION TO MYANMAR

- ❖ It is achieved that **concrete confirmation of agreement for selection of learning areas**, i.e., polders management, tidal river management and IWRM implementation, by both parties
- ❖ Based on this agreement, **one learning route will be prepared for selected learning areas** that will suitable for common knowledge background of the learning participants
- ❖ **Mangrove management** will be considered **as another learning area** and **learning route for that will be prepared separately** in the following period
- ❖ It is discussed that **numbers of learning participants** for first learning route **will be reduced as appropriate** considering financial support constraint and only competent, enthusiastic, qualified knowledge and experienced holders will be selected as learning participants
- ❖ After completion of the learning in Bangladesh, knowledge and experiences getting from the training will be applied in the actual field works in Myanmar by learning participants and if possible Bangladesh's learning champions will also be invited to Myanmar for guidance to apply said knowledge and experiences **in real Myanmar situation**



## Final Remarks

- ❖ The LDAI is an initiative of GWP, set-up in consultation with the Delta Coalition, a typical means of multi-stakeholder process-based implementation, is a new way to explore learning together, which is found interesting by all parties involved
- ❖ The LDAI assumes that participants will be funded by themselves or their organizations on an individual basis, which is so far not (yet) the case
- ❖ From Myanmar side, field based learning, rather than theoretical learning, is preferred



Thank you  
for your attention

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