Water Security in the Delta

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Content

1. **What?**
   Water Security in Delta’s worldwide

2. **Why?**
   Need for an Integrated Delta Strategy in Myanmar

3. **How?**
   Integrated Ayeyarwady Delta Strategy Project (IADS)

4. **With whom?**
   MoU, Delta Alliance & Delta Coalition & Delta Development Working Committee

5. **Your input!**
   Your Delta issues & dreams with regard to Water Security
“Water Security is the capacity of a population to safeguard sustainable access to adequate quantities of acceptable quality water for sustaining livelihoods, human well-being, and socio-economic development, for ensuring protection against water-borne pollution and water-related disasters, and for preserving ecosystems in a climate of peace and political stability.”

– UN Water (2013)
What is Water Security?

Good Governance
Adequate legal regimes, institutions, infrastructure and capacity are in place.

Transboundary Cooperation
Sovereign states discuss and coordinate their actions to meet the varied and sometimes competing interests for mutual benefit.

Peace and Political Stability
The negative effects of conflicts are avoided, including reduced water quality and/or quantity, compromised water infrastructure, disrupted services, and political jurisdictions.

Financing
Innovative sources of financing complement funding by the public sector, including investments from the private sector and social capital.

What?
Water Security in the Delta
Challenges

- Conversion of upper delta to triple rice cropping has destroyed its “sponge” capacity: **absorbing** water in wet season and **releasing** it in dry
- Results are increased flood risk in wet and dry season water shortages
.. Bangladesh Delta..

Challenges

• Ambition to attain middle-income country status

• Extreme adverse climate variability, with frequent storm and tidal surges, flooding and droughts. (e.g. without action, by 2050, climate change impact could make an additional 14% extremely vulnerable to floods, dislocate more than 35M people)

• Recent and future anthropogenic changes in the hydrological cycle (e.g. construction of dams and barrages in the upstream countries and the increasing water demand)

• Need for an integrated holistic plan for long term future land and water management in relation to water safety and food security, supported by all relevant stakeholders
.. Bangladesh Delta..

**Goals**
- Ensure safety from floods and climate change related disasters
- Ensure water security and efficiency of water usages
- Ensure sustainable and integrated river systems and estuaries management
- Conserve and preserve wetlands and ecosystems and promote their wise use
- Develop effective institutions and equitable governance for in country and trans-boundary water management
- Achieve optimal use of land and water resources
... Dutch Delta..

- Netherlands protected after 1953 Storms
- Unprecedented protection level 1:10,000
- Completion of civil structures took 40 years

1st Dutch Delta Plan resulted in:
- Ecosystems degradation (algae)
- Impact on local economy (fisheries)
- Natural erosion/sedimentation balance
- Complete rely on prevention only
- Risk of catastrophic failure (O&M)
2nd Dutch Delta Plan includes:

- Adapting to climate change
- Public support, funding
- Systems/Multi-layer approach
- Living with Water
- Building with Nature
- Room for the River
- Long term
  2100 - 2200
With Whom?

1. **Delta Coalition (G2G)**
   First international coalition of governments
   a partnership to get things done to make
   Delta’s more resilient
   [http://www.deltacoalition.net/](http://www.deltacoalition.net/)

2. **Delta Alliance (K2K)**
   international knowledge-driven network organization
   Mission: *improving the resilience of the world’s deltas*
   [http://www.delta-alliance.org/](http://www.delta-alliance.org/)

3. **MoU on IWRM Cooperation**
   Myanmar ↔ Netherlands (G2G)

4. **Delta Development Working Committee**
   (Myanmar) & IADS Working Groups
Ayeyarwady River Basin

Ayeyarwady Delta

Issues and Developments

**Challenges**

- Small tidal movement
- Horseshoe shaped dike system
- Extreme high water levels after cyclone (2015)
- Concerns for future high water levels

- Tidal movement
- Availability of freshwater in the estuaries and creeks
- Some dike protected islands/polders
- Flooding in areas without dikes /lower parts

- Fast growing population
- Industrialization
- Changes in land use

**Population**

- Movement of sediments due to cyclone-induced storm surges
- Tipping point of accretion coast
- Coastal erosion
- Serious degradation of mangroves
Benefits of flooding

• water supply for the dry season,
• floods will bring sanitation of the land,
• enhance pest control, discharge accumulated pollutants,
• replenish the fish in ponds and open fields,
• enhance fish migration and spawning,
• provide more opportunities for navigation and recreation,
• bring fertile sediments to the soils, delta, coastal waters,
• enhance delta formation, bring nutrients to the delta,
• rejuvenation of wetlands,
• replenish groundwater storage,
• flush the water systems, improve water quality,
• cultural/religious values and esthetic aspects.
How?

Integrated Ayeyarwady Delta Strategy Project (IADS) – Step by Step together
Delta Layers Approach

Governance Working Group

Occupation

Network

Baseline
Example Layer Approach

**Occupation:** Water extraction for houses

**Data:** Number of settlements requesting for water. Water uses at the moment by houses and other sectors. Water demand.

**Network:** Water supply system

**Data:** Existing water supply systems. Using rainfall or groundwater.

**Baseline:** Water quantity and ground water and rainfall

**Data:** Groundwater availability in which seasons. Water quality. Rainfall.
GOVERNANCE WORKING GROUP
- MOTC – DWIR
- MOALI – Land Record Dept
- MONREC – Aerial Survey & Photography Div.
- Ministry of Planning & Finance
- General Administration Department

OCCUPATION WORKING GROUP
- MOTC – DWIR
- MOALI – Dept. of Fisheries
- MOALI – Dept. of Agriculture
- MOALI – Dept. of Rural Development
- MOALI – Land Record Dept
- MONREC – Forest Dept.
- MSWRR – Relief & Resettlement Dept.
- YCDC – Water & Sanitation

NETWORK WORKING GROUP
- MOTC – DWIR
- MOALI – IWUMD
- MONREC – Environmental Conservation Dept.
- MOC – Urban & Housing Dept
- YCDC – Water & Sanitation
- MoE – Yangon Technological University (YTU)

BASELINE WORKING GROUP
- MOTC – DWIR
- MOTC - DMH
- MOALI – IWUMD
- MONREC – Survey Dept.
- MONREC – Environmental Conservation Dept.
- MONREC – Forest Dept.
IADS Core team & Key Experts

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Step by Step together..

1. **Issues in the Ayeyarwady Delta?**

2. **Changes and trends in the Delta?**

3. **Dreams for the future Development of the Delta?**

Work Water Day’s IADS Online Survey:  
www.iadsmyanmar.com/survey
IADS

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