



ARBRO

**Ayeyarwady River Basin Research Organization
(Myanmar)**

**9th NARBO IWRM Training
(12-19, May, 2014)**

Laguna Lake Basin, Philippines

AP

WRTC



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MYANMAR



- Area: 676,577 sq km
- Coastline: 1,930 km
- Highest point: Hkakabo Razi, 5,881 m.
- Population: 60 millions
- Population density: 73 persons per sq km.
- Labor force: 70% agriculture, 23% services and 7% industry

Weather:

Tropical climate with three seasons

- Rainy season (mid-May to mid-Oct.)
- Winter season (mid-Oct. to mid-Feb.)
- Summer season (mid-Feb. to mid-May)



Introduction of Ayeyarwady River Basin



- ❖ Downstream, the river empties into the Andaman Sea through a nine-armed delta.
- ❖ The delta consists of a large and fertile plain that is 290 km long and 240 km wide.
- ❖ The lower part of the delta is a fragile and intricate ecosystem of mangrove swamps and tidal estuaries.
- ❖ The delta supports a population of over three million people and provides nearly 60% of Burma's total rice production. So it's known "Rice Bowl of Myanmar".

- ❖ Constitutes 61% of the total land area of Myanmar
- ❖ The Ayeyarwady River flows through the heartland of Myanmar.
- ❖ The river's basin is 413, 674 sq km.
- ❖ It covers a remarkable 61% of total area.
- ❖ Approximately 2, 170 km long.
- ❖ It is the most important commercial water-route of Myanmar.



About **ARBRO** and IWRM

- ❑ Integrated Water Resources Management (IWRM) is recognized by many as the paradigm for establishing good water governance and putting water resources on the recovery path.
- ❑ ARBRO was established in 2012 to share knowledge and build capacity for IWRM in Ayeyarwady River Basin and other river basins_ such as Chindwin, Sittaung, Thanlwin and so on in Myanmar.



Current Issue

- ☐ Many people lost their livelihood along the river due to uncontrolled gold mining in the upper reach. Flood, bank erosion, sedimentation, serious pollution and cyclones and other water-related disasters in the delta happen quite often.
- ☐ Water availability decreased and Navigability is limited.
- ☐ In the delta area people suffer from the extreme weather conditions caused by Climate Change and a lack of land rights.
- ☐ Private fish and shrimp farms and deforestation have destroyed the environment to such an extent so that the World Wildlife Fund called the future survival of wildlife in the Ayeyarwady freshwater swamp forest eco-region as “BLEAK.”



Situation of Ayeyarwady River

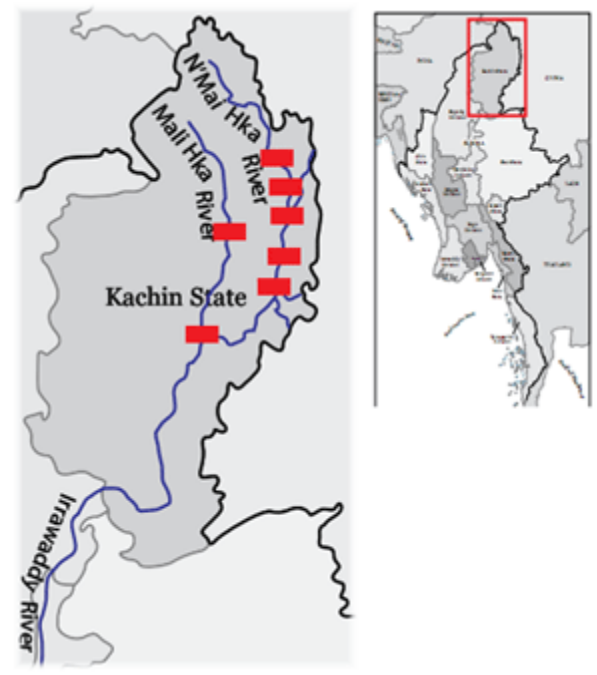














Photo: Kachin News Group (KNG)



Current Issue (Contd.)

- Ships can navigate up to Homelin  
- Water transport  
- River water **quality** and quantity(Polution)  
- Laws, Acts and Regulations under process  
- Law enforcement  
- Peoples participation and awareness  

“To do good is never too late!”



Key for Success

“Planning for Ayeyarwady River Basin Rehabilitation”

multi-sectoral and trans-sectoral approach

will benefit Myanmar_

- ❖ not only for electricity generation, commercial shipping, flood protection, eco-tourism, green economy etc.,
- ❖ but also for infrastructure development and environmental protection.



Solution of Issues (IWRM implementation)

Action Plan in the light of adaptation to the Climate Change

- ❖ **Research Network** => on going => 30+ members
- ❖ **River Modeling Centre** => to be established
 - **Data Bank** => verify, collect, generate
 - **Knowledge Bank**
 - **Research Groups**
 - **Survey Groups**
 - **Modeling Groups**
 - **Training Groups**
 - **Survey Groups**
 - **Water quality Groups**
 - **Civil Society Coordination**
- ❖ **Revisit the 30 years old Irrawaddy Master Plan**
- ❖ **Knowledge Centre with a comprehensive Data Bank**
- ❖ **Data development and data generation**
- ❖ **Role of Hydro-informatics – Prediction of Ungaged Basins – participatory decision making process**



Solution of Issues (Contd.)

Multi-sectoral approach:

- ❖ **Agriculture and Irrigation, Water Conservation and Utilisation (MoAI)**
- ❖ **Improvement of the River Systems (Ministry of Transportation)**
- ❖ **Hydro-power development (Ministry of Electrical Power)**
- ❖ **Fishery (Ministry of Livestock, Feeding and Rural Development)**
- ❖ **Finance (Ministry of Finance and Revenue)**
- ❖ **Planning (Ministry of Planning)**
- ❖ **Environment (Ministry of Environment and Forestry)**
- ❖ **Education (Ministry of Education)**
- ❖ **Trans-boundary issues (Ministry of Foreign Affairs)**
- ❖ **Civil Society Organisations**



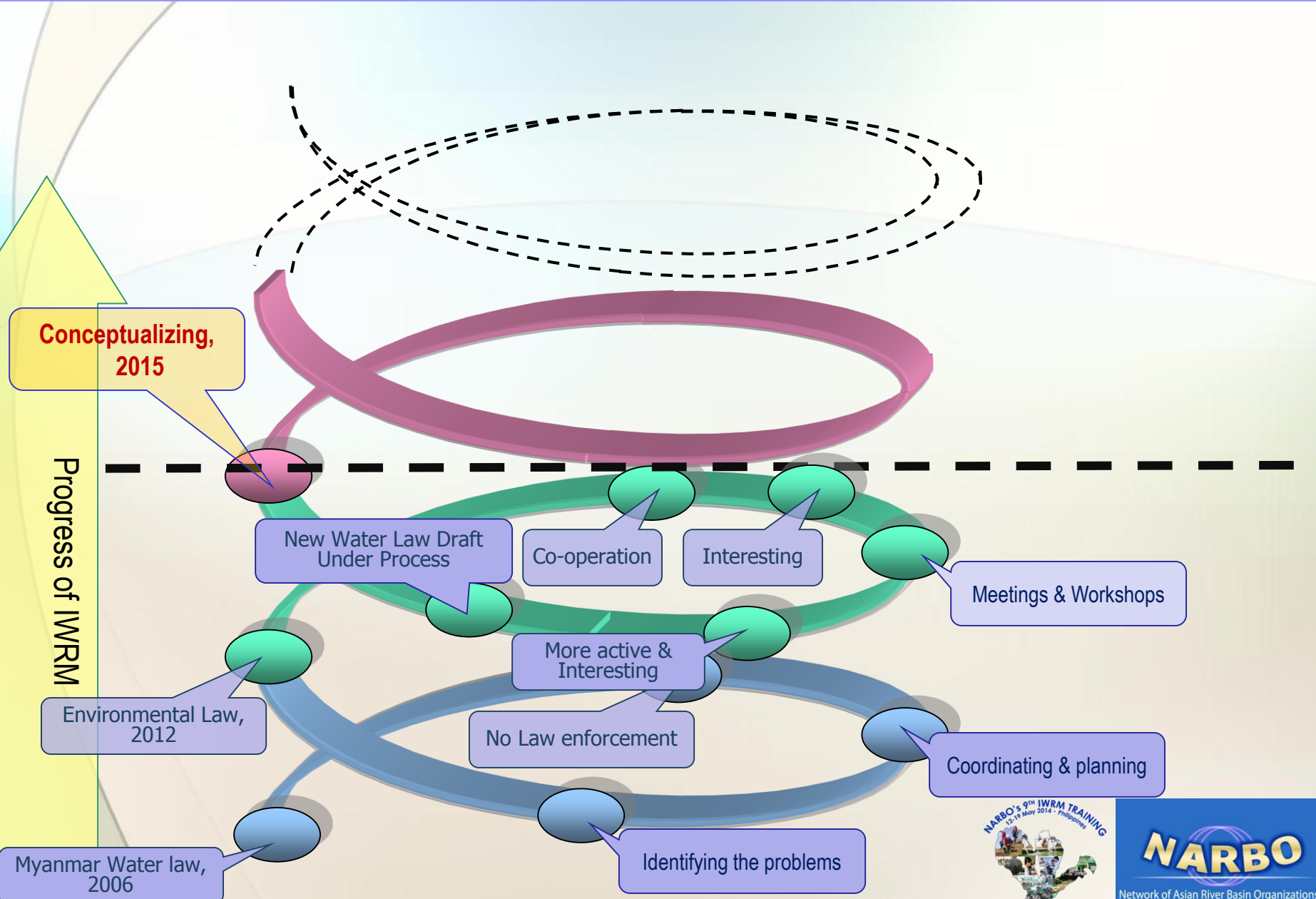
Solution of Issues (Contd.)

Trans-sectoral approach:

- ❖ Effective Institutional Framework
- ❖ Water Resources Ministry
- ❖ Myanmar Water Partnership (includes most of the sectors above)



IWRM spiral for Ayeyarwady River Basin



**THANK YOU VERY MUCH
FOR YOUR ATTENTION!**

