



The Laguna Lake Basin



8th NARBO IWRM Training Programme
MAS Fabric Park, Thulhiriya, Sri Lanka
4 December 2013



Overview of the Presentation:

- a. Facts about the LdB Region
- b. Stakeholders of the Lake
- d. Current issues
- e. Potential Issues
- f. Keys for Success
- g. LLDA's IWRM Approach
- h. LLDA's Enhanced IWRM Spiral Model

Laguna de Bay Region



FACTS and FIGURES:

Lake Surface Area : 900 km² (Largest lake in the Philippines; 4th largest lake in South East Asia)

Watershed Area : 3,820 km²

Average Depth : 2.5 m

Retention Time : 8 months

Shoreline : 284 km*

Biological Resources : fish, mollusks, crustaceans, plankton, macrophytes

Region Population : 15,033,808

Economic Use and Benefits

Fisheries Production : 140,426 metric tons*

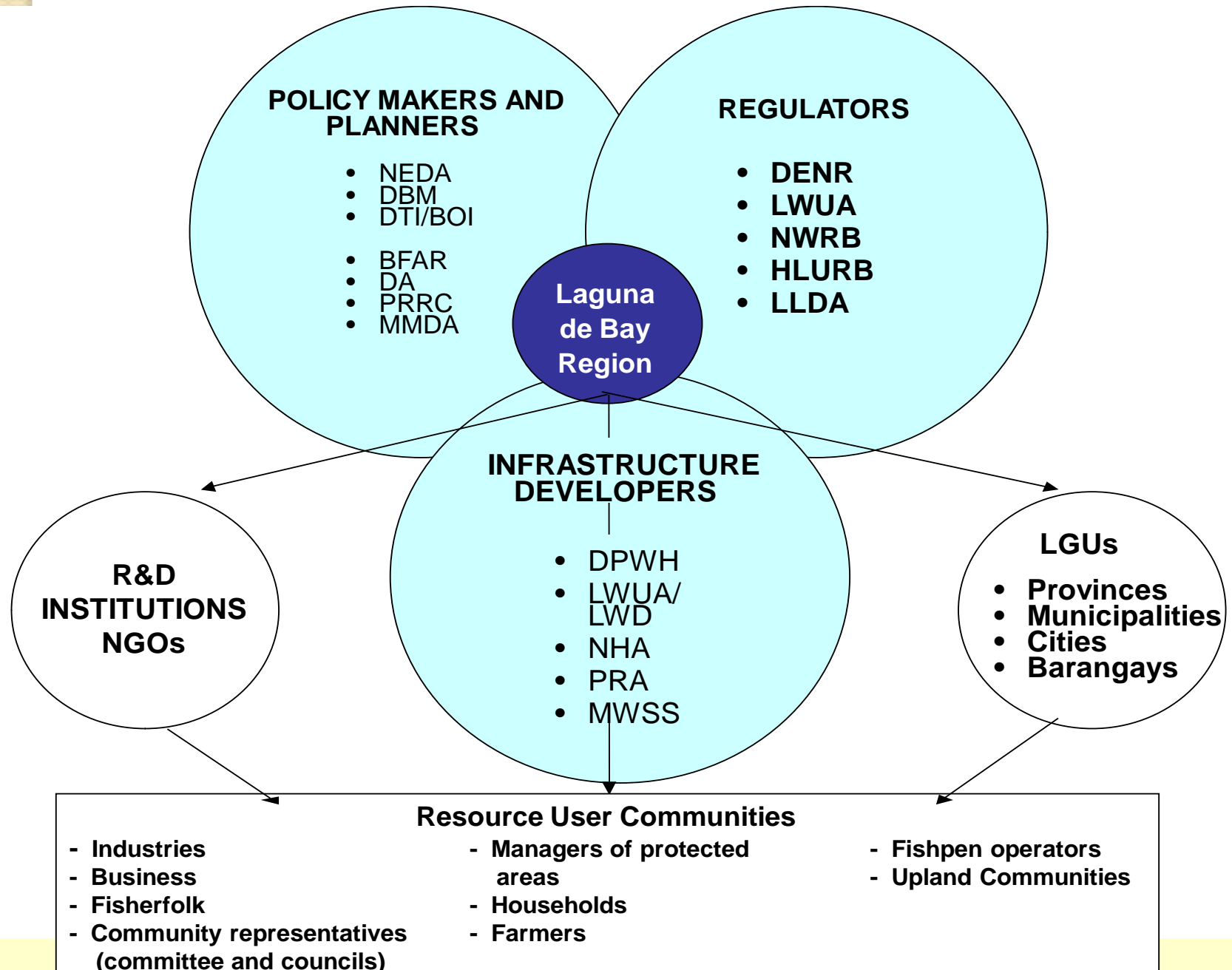
Aquaculture : 57,805 metric tons*
(10% of National production)

Sub-Basins



- 24 sub-basins
- 5 provinces & 61 cities & municipalities
- Estimated 15 million people within the Lake Region

Stakeholders of Laguna de Bay



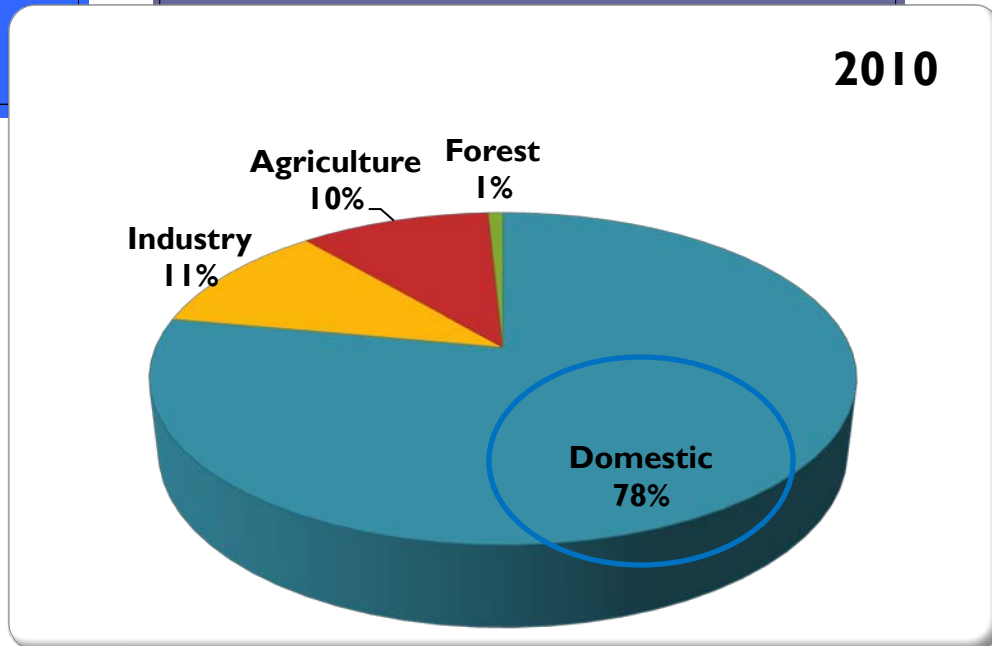
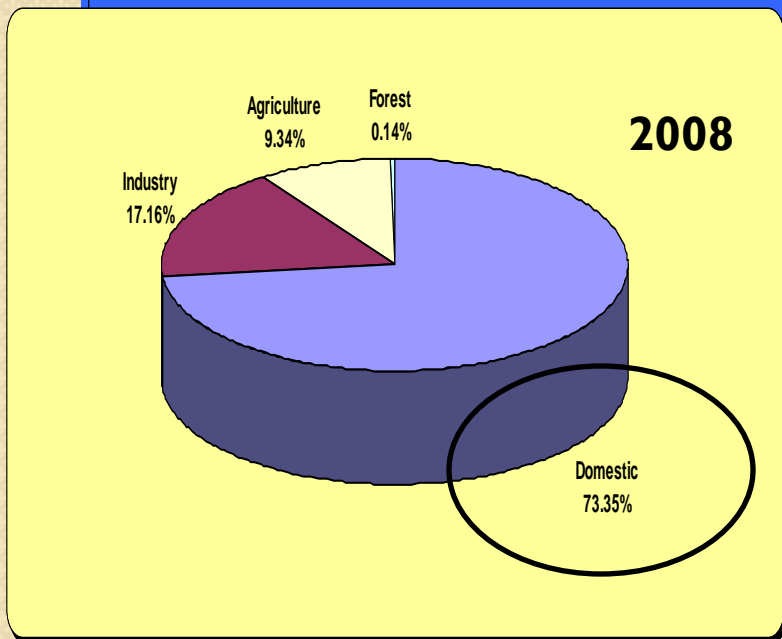
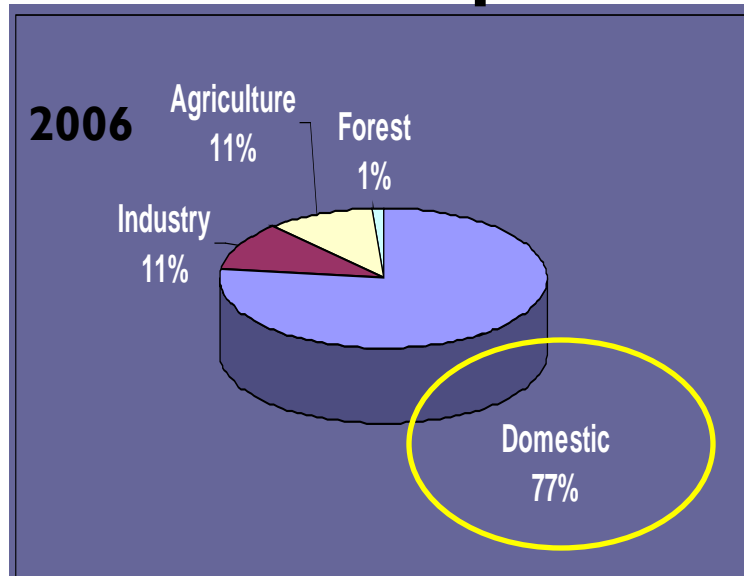
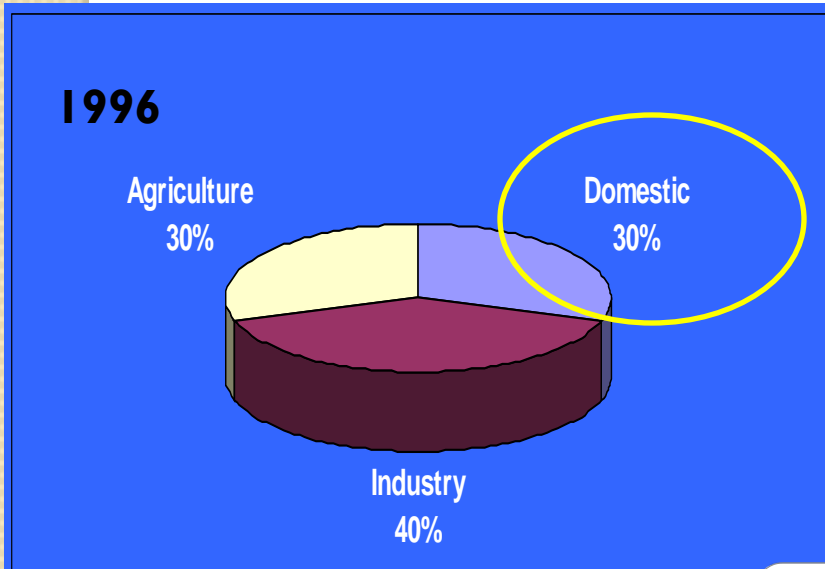
Current priority issues on water resources management in the Laguna de Bay basin:

I. Domestic Waste

(Solid and Liquid Wastes from communities)



Domestic discharges as main source of pollution



II. Deforestation/Denudation of Upland Areas and Siltation

- Unregulated activities in upland areas and watershed
- The most denuded upland areas are Marikina Watershed, Tanay Watershed, and Sta Rosa Watershed
- Shallowing of the lake bottom to an average of 2.5 meters – limiting its waterholding capacity



III. Proliferation of informal settlers in and around the shoreland areas

Increased vulnerability of lakeshore settlements to flood hazards, geohazards as well as health hazards



Major contributor of domestic wastes
With 78% share in pollution load in 2010

Potential issues

- 1. Uncontrolled invasion of informal settlers and uncontrolled reclamation along the easements areas or buffer zone areas (shoreland)*
- 2. Frequent flooding as effect of climate change;*
- 3. Rampant pollution due to domestic waste*

Helpful Keys for Success in resolving the issues in the Laguna de Bay Region

- a) **Community participation** is more productive through coordination with different government agencies and water resource users;
- b) **Awareness and education of stakeholders** build a “common” vision and empower these communities;
- c) **Sustainable funding mechanisms and sharing of financial resources** improve Lake and watershed management and
- d) **Quality and shared scientific data and applications of modelling tools** help in wise decision-making of the management.

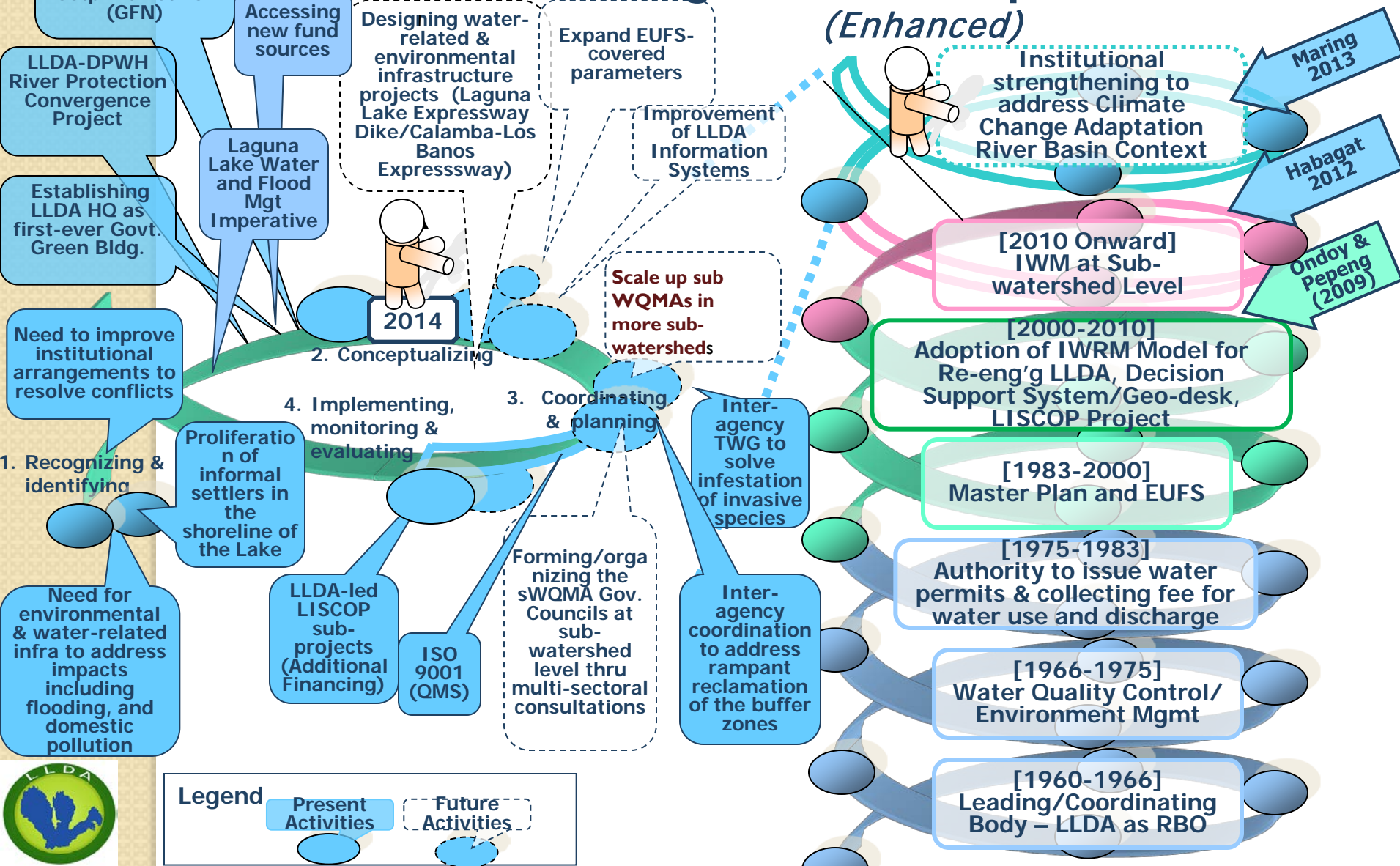
LLDA's Strategies to implement IWRM

1. *Watershed-based: 24 micro-watersheds serve as the basic units for planning & implementing environmental improvement programs complementing strong IEC; Organization of Sub-WQMA in each microwatershed*
2. *Integrated and participatory approach thru:*
 - a. Proposed genuine action of NG in the relocation of informal settlers
 - b. Increase awareness and develop sense of urgency among stakeholders re: climate variability and risk of climate change and solid waste management
 - c. Strengthened coordination among NGAs, LGUs and Civil Society Org. and Academe on Climate Change Risk Management and Disaster Preparedness/Mitigation
3. *Transcends/Surpass political, economic and social interests of various stakeholders--- focus on environmental protection*
4. *Supported by science-based natural resources and environmental management programs built upon LLDA's extensive water quality monitoring data and decision support system (DSS)*

IWRM Progress in the Laguna de Bay Basin

Using the IWRM Spiral Model

(Enhanced)



Thank You! (Salamat!)

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