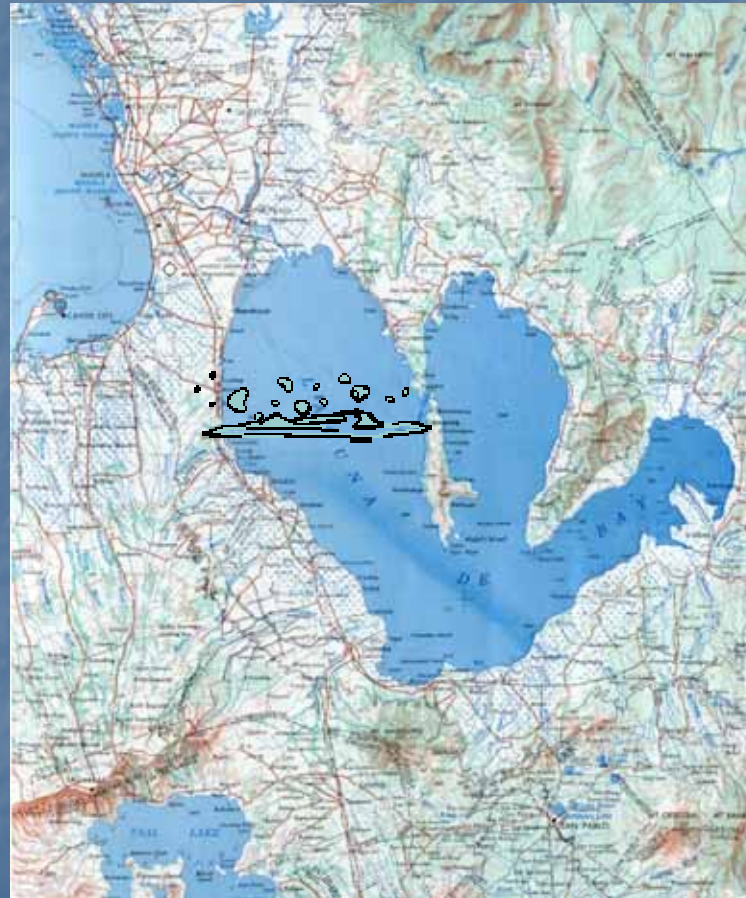


# 2<sup>nd</sup> Thematic Workshop on Water Allocation and Water Rights



# 1<sup>st</sup> issue

- Plans and programs in the region are not anchored on the LLDA Master Plan
- Conflicts / overlaps of plans / programs with other government agencies

# THE LAGUNA DE BAY MASTER PLAN

## OBJECTIVES:

- Establish the attributes and potentials of the lake and its watershed, and formulate strategies and measures for their protection, rehabilitation and enhancement.
- Fill the policy gaps and program measures necessary for Integrated Water Resource Development and Management.

# FLAGSHIP PROGRAMS

Environmental Management



Lake Management



Shoreland Management



Watershed Management

# Resource Management Areas in Laguna de Bay

- Fishpen
- Reclamation
- Protected Area for Water Supply – East Bay
- Open Lake – West and Central

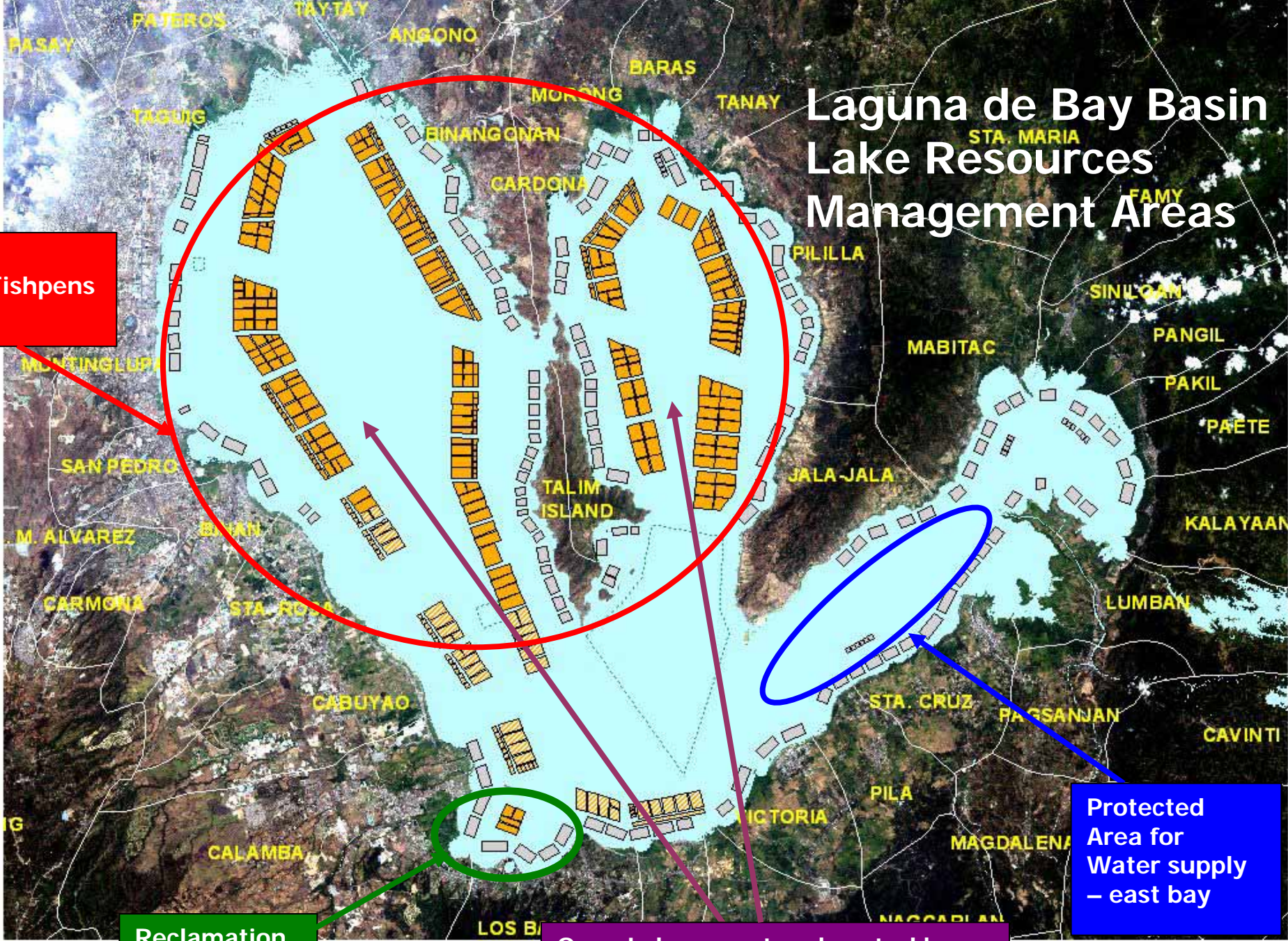
# Laguna de Bay Basin Lake Resources Management Areas

Fishpens

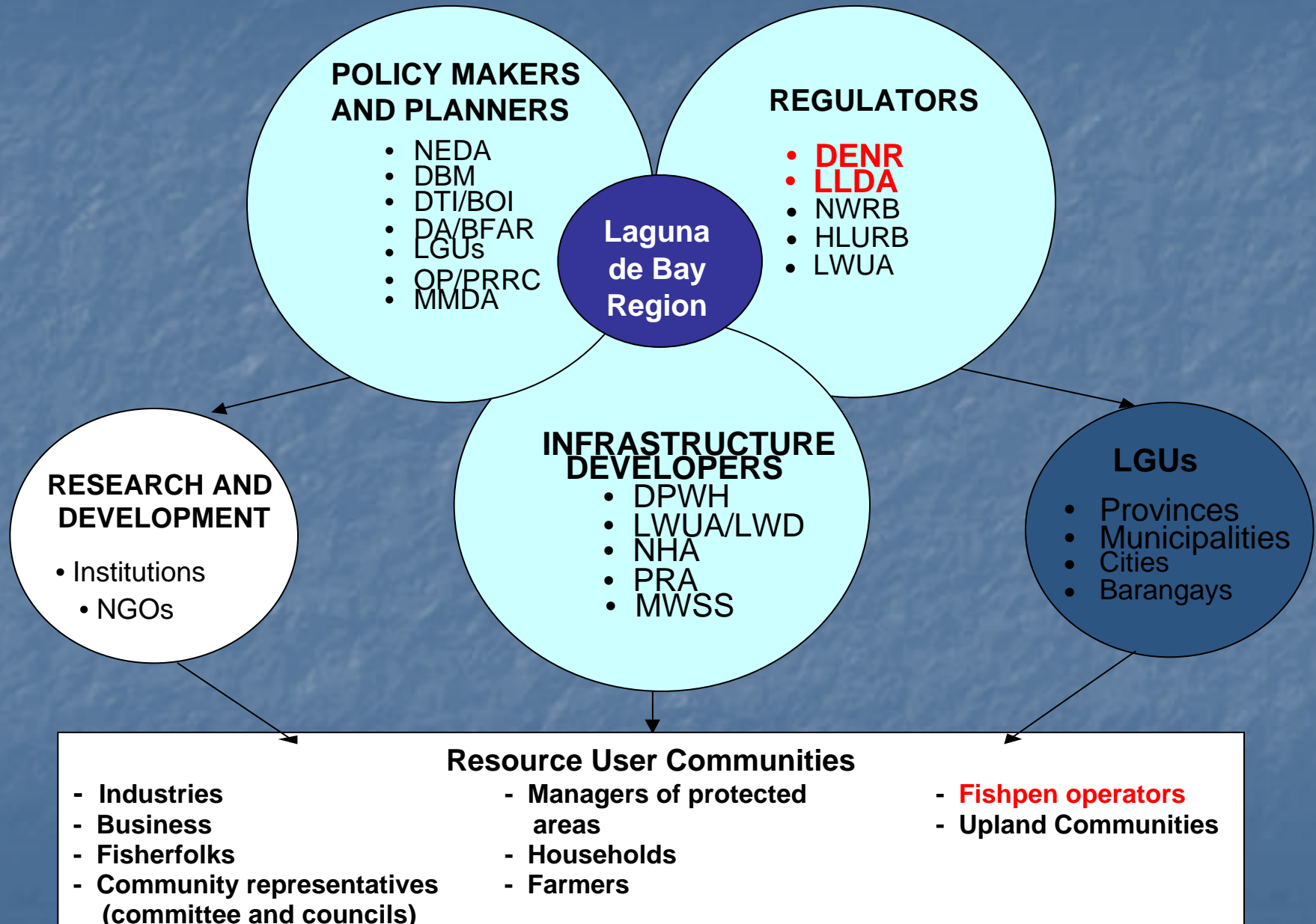
Reclamation

Open Lake – west and central bay

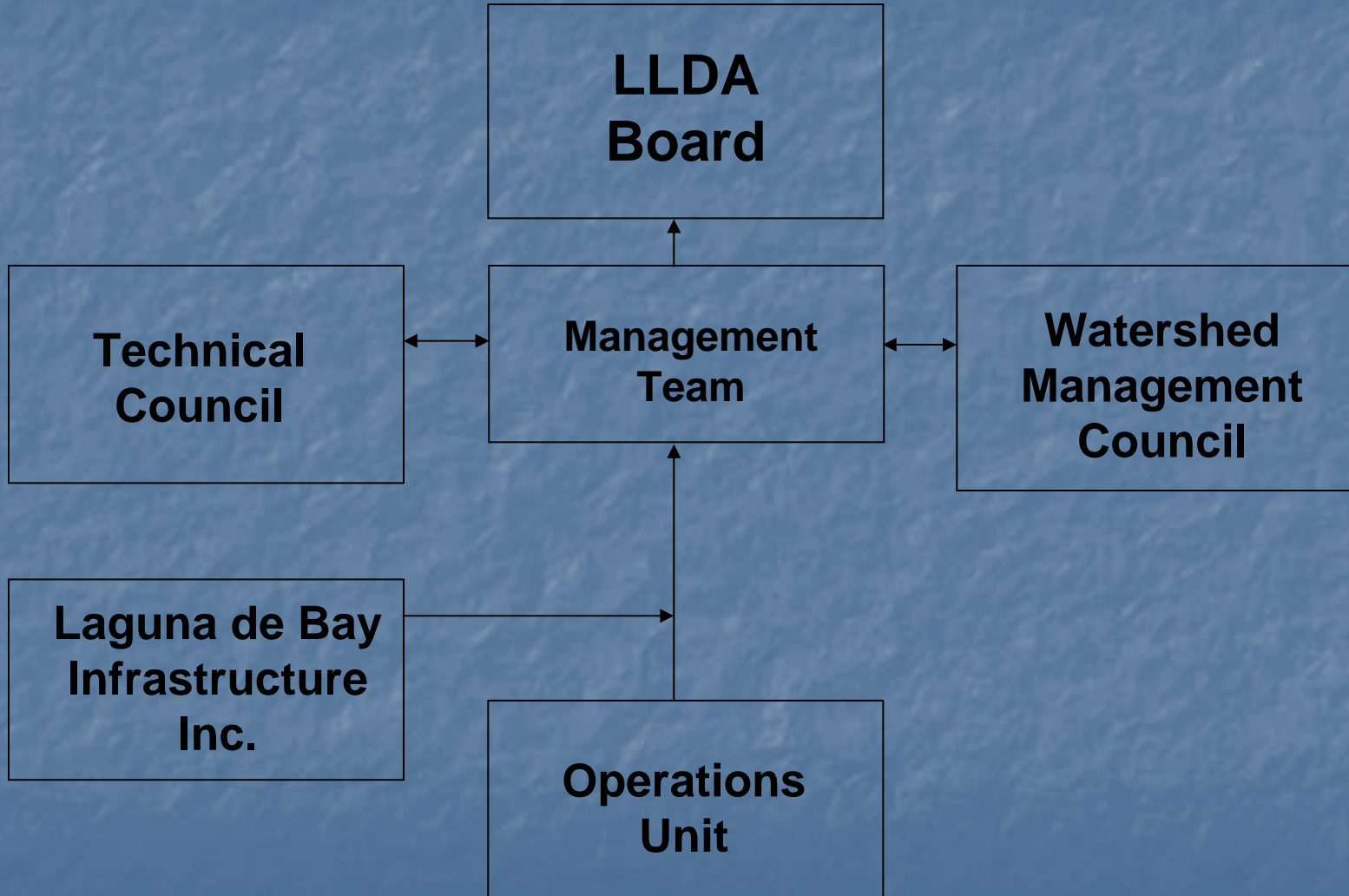
Protected Area for Water supply – east bay



# Stakeholders in Laguna de Bay



# PROPOSED MODEL: INTEGRATED WATER RESOURCES MANAGEMENT AND DEVELOPMENT AUTHORITY







# **Strategic Interventions through The Laguna de Bay Institutional Strengthening and Community Participation (LISCOP) Project**

# LISCOP...

**Goal :** *Environmental Quality Improvement*

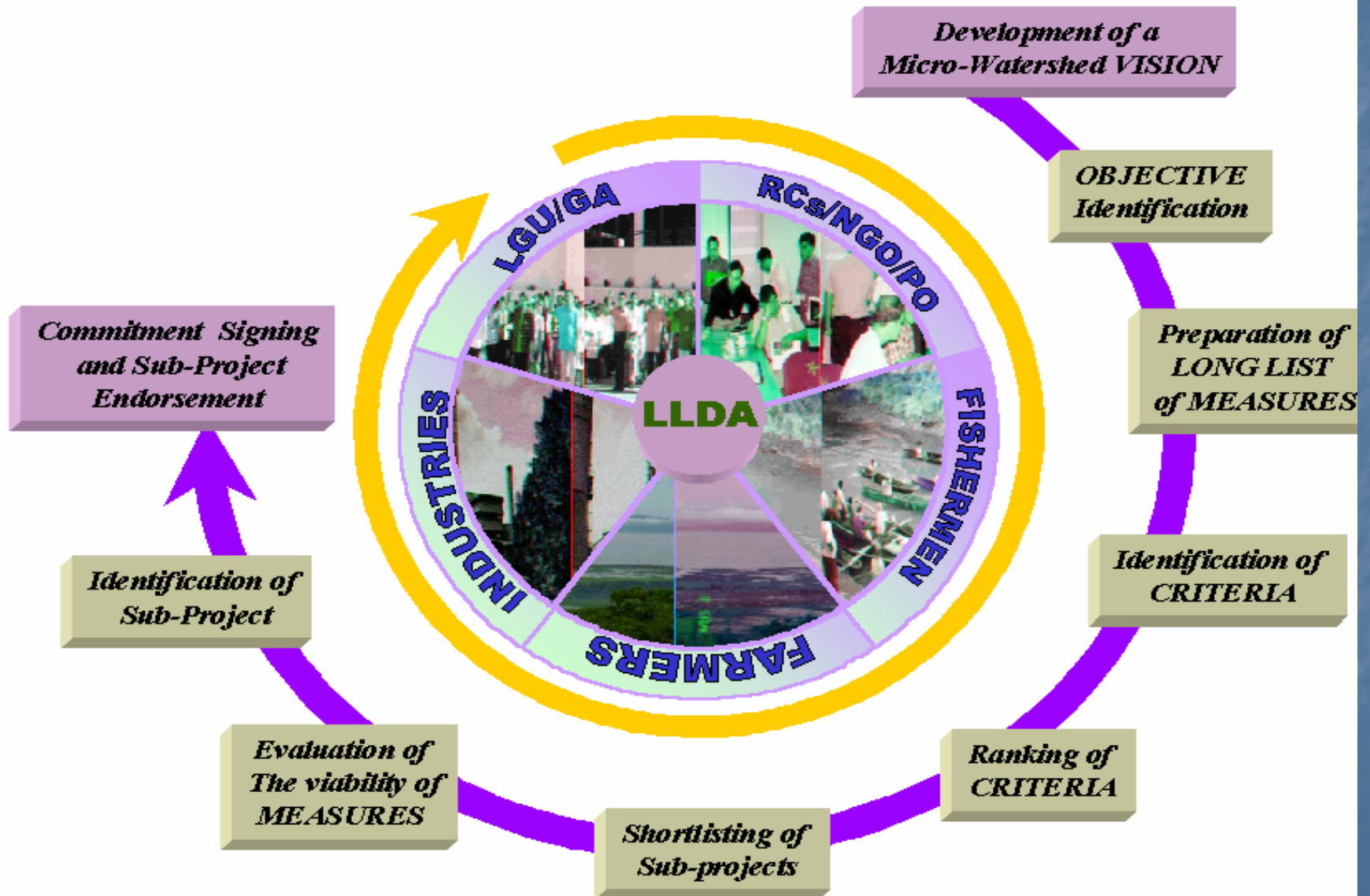
**Objectives:**

- Deepen watershed co-management
- Strengthen institutions and instruments

**Major Components:**

- *Co-Managed Investments for Watershed Development*
- *Strengthening Institutions and Instruments*

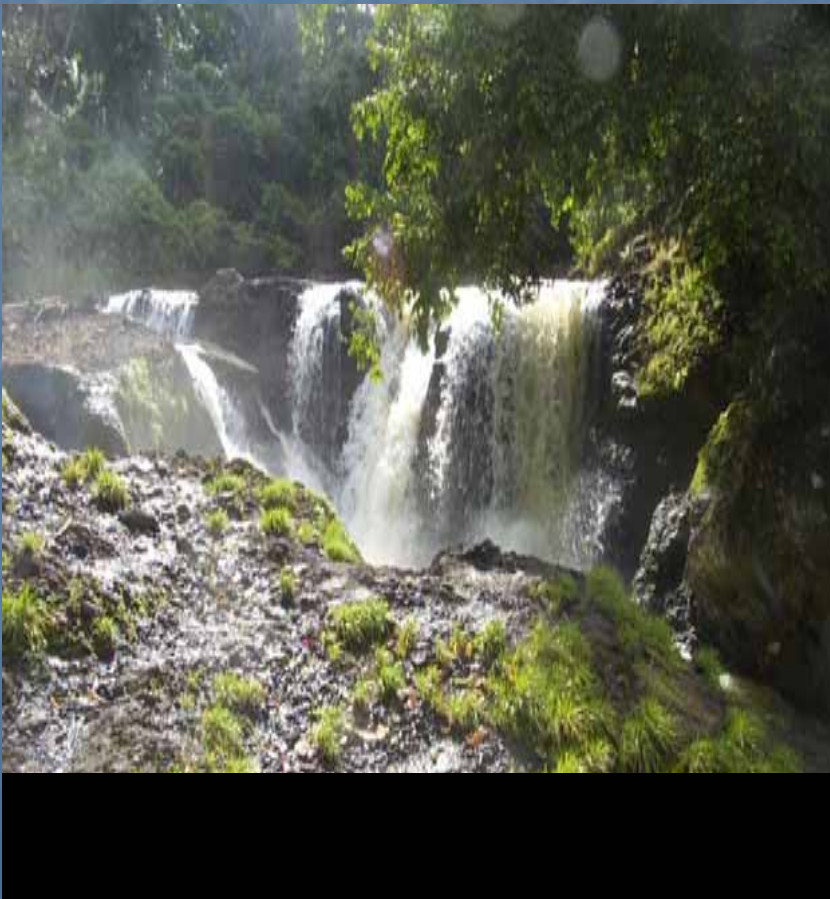
# The LEAP Process



# LISCOP COMPONENT 1

## Co-Managed Investments for Watershed Development

### Laguna de Bay Watershed Environmental Action Planning (LEAP)

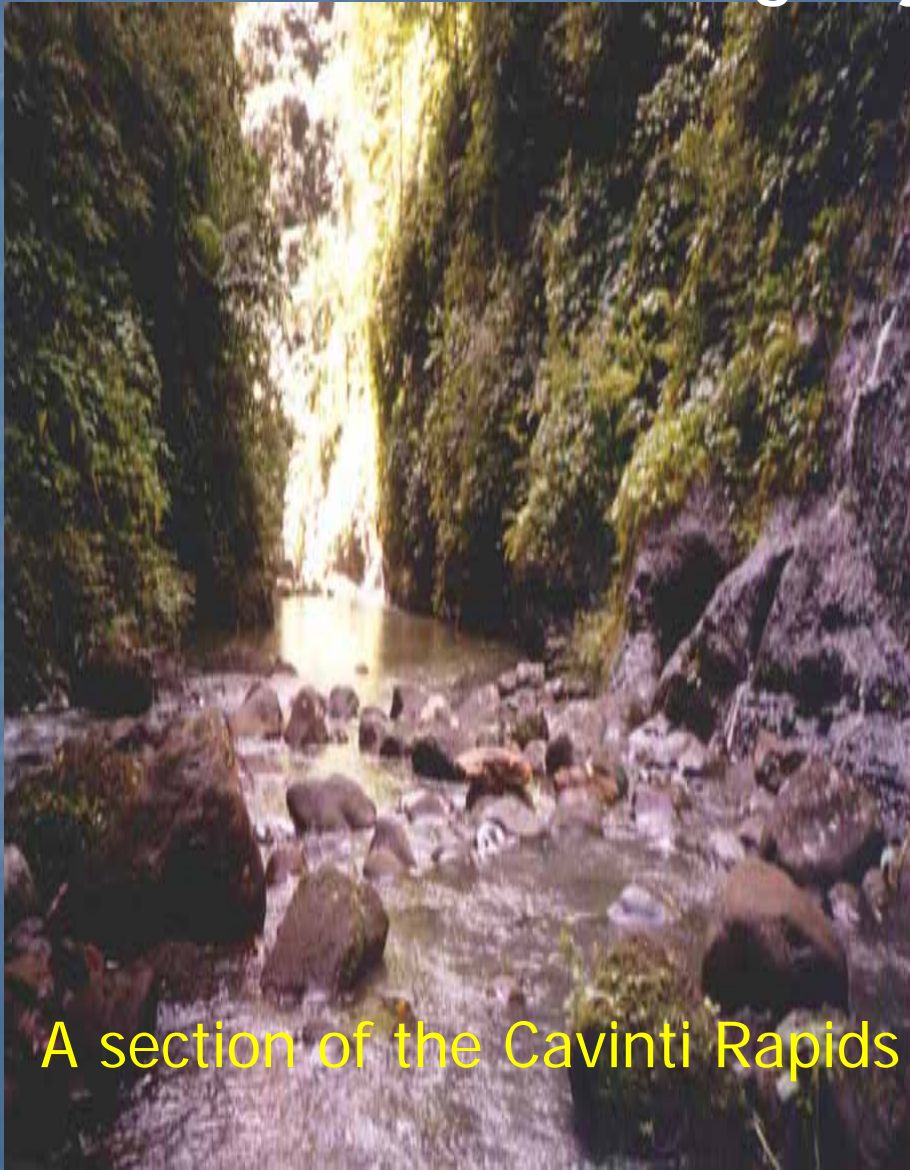


#### Purposes:

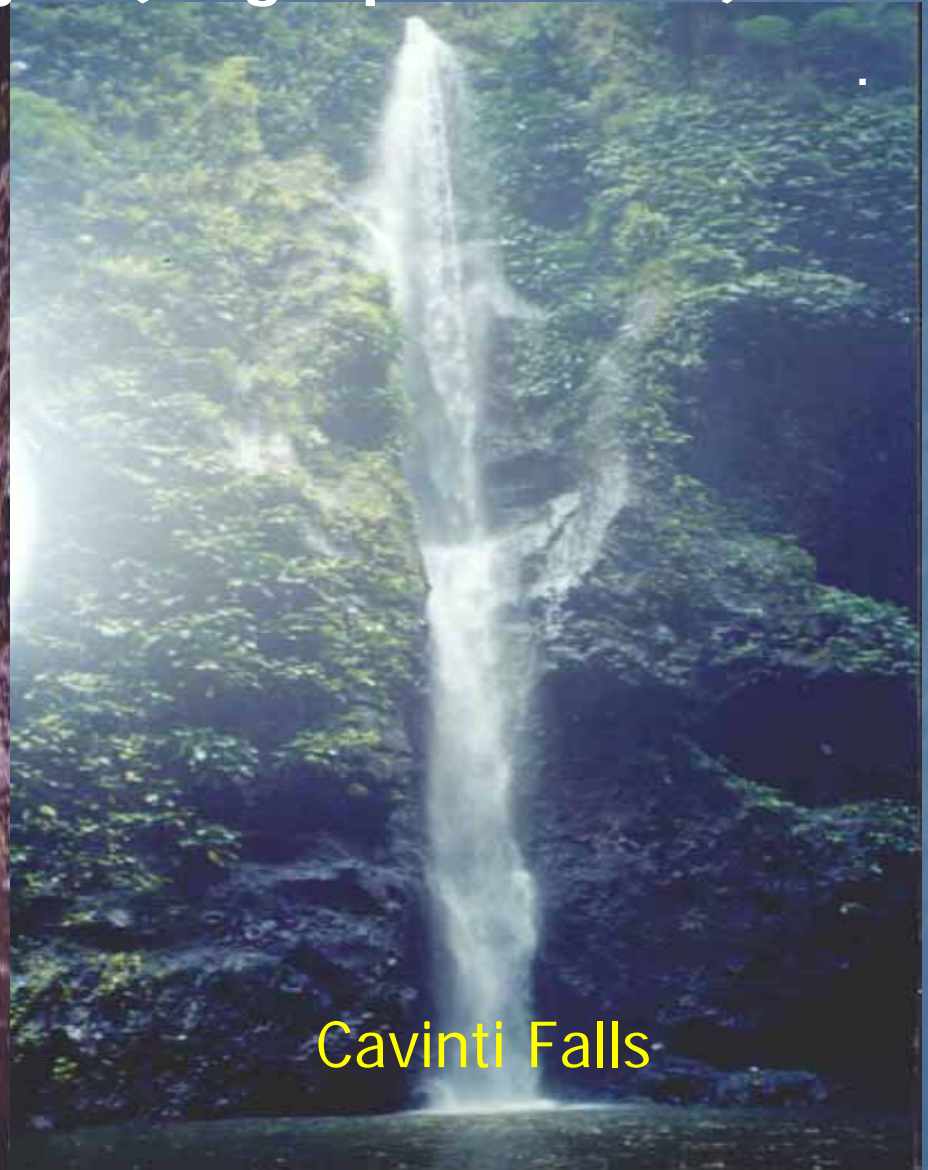
- Collectively identify and prioritize projects for watershed protection and development
- Strengthen capacity for participatory watershed management at sub-basin level

# Cavinti Eco-tourism Sub-Project

...addressing environmental degradation and providing alternative route to Pagsanjan (Magdapio/Cavinti) Falls



A section of the Cavinti Rapids



Cavinti Falls

# TANAY MICROWATERSHED ENHANCEMENT SUBPROJECT



## Twin goals:

- Poverty reduction and
- Rehabilitation of degraded resources in the micro-watershed

## Three key components:

- streambank stabilization,
- ecological enhancement
- pollution management loading.

## ***ROBUST Pipeline of Sub-Projects***

***Approved by the Policy Governing Board-  
Municipal Development Fund Office-DOF:***

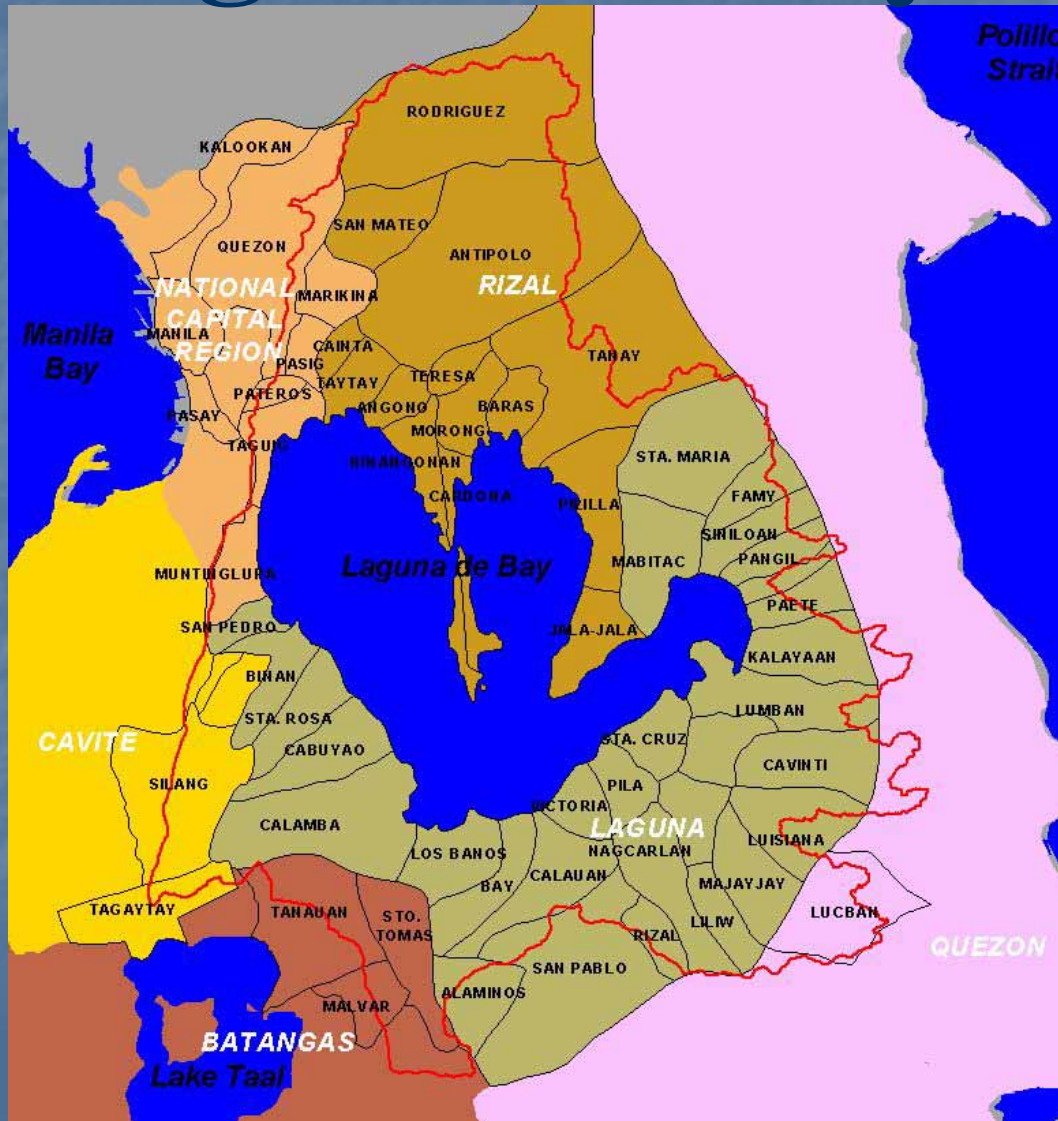
- *Liliw MRF with Composting*
- *Siniloan Watershed Enhancement  
(MRF with composting & Buruwisan Falls  
Eco-Tourism)*
- *Majayjay Falls Eco-Tourism Development*
- *Kalayaan Integrated Solid Waste  
Management Sub-Project*
- *Sta Cruz MRF with Composting  
& Slaughterhouse Waste Water  
Treatment Facility*
- *Morong MRF with Composting*
- *Teresa MRF with Composting*

***For approval by Technical  
Review Panel\*:***

- *Alaminos MRF with  
Composting*
- *Nagcarlan MRF with Composting  
& Slaughterhouse Waste Water  
Treatment Facility*
- *Angono MRF with Composting*
- *Cardona MRF with Composting*
- *GMA MRF with Composting*
  
- *Lucban Waterworks and  
Sanitation Sub-Project*

\*Composed of LLDA, DENR, NEDA, DBM, MDFO/BLGF-DOF, DILG, FRBC, NCIP, EMB, PAWB, FMB

# Laguna de Bay Watershed



- Pasig River is the only outlet of the lake
- Some 100 streams drain into the lake
- divided into twenty-four (24) hydrological sub-basins
- watershed area = approx. 3,820 km<sup>2</sup>
- It cradles a region encompassing 6 provinces, 12 cities, 49 municipalities and 2,656 barangays



## 2<sup>rd</sup> issue

- Less opportunity for small fishermen access to area
- Inconsistency in the implementation of Zoning & Management Plan (ZOMAP)
- LGU mandate on the issuance of permits conflicts with regulatory functions of LLDA
- Coverage of water rights is limited to fishery.

# AQUACULTURE STRUCTURES IN 1984



## Fierce competition over access to the lake fishery resources



# Illegal Fishing Practices



Sakag



Fish catch



Suro



Pukot

## **and ... IMPLEMENTATION OF LAGUNA DE BAY Zoning and Management Plan (ZOMAP)**

**Supreme Court Decision:**

**G.R. Nos. 120865 -71**

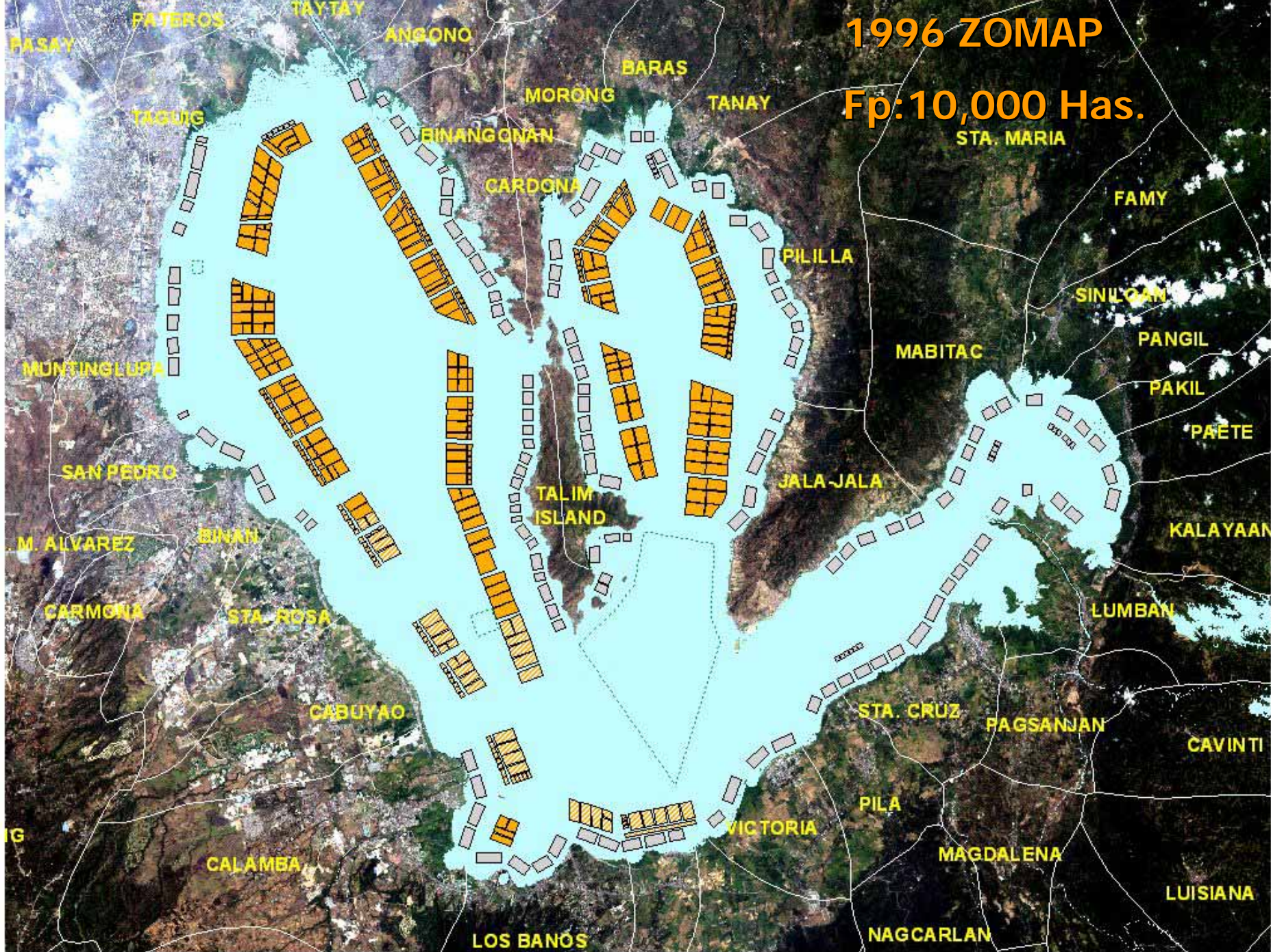
**Dec 8, 1995**

**LLDA petitioner vs LGU –  
The provisions of RA  
7160 (LG code) do not  
necessarily repeal the  
laws creating the LLDA  
and granting the latter  
the water rights  
authority over Laguna  
de Bay and Lake Region.**

- **Most feasible management system for equitable allocation of the lake's fishery resources**
- **Prescribe the area allocation and defines the fishpen/cage layout, fish sanctuaries and open fishing, navigational access channels**
- **Provides the criteria, guidelines and procedures for proper allocation of aquaculture structures**

# 1996 ZOMAP

Fp: 10,000 Has.

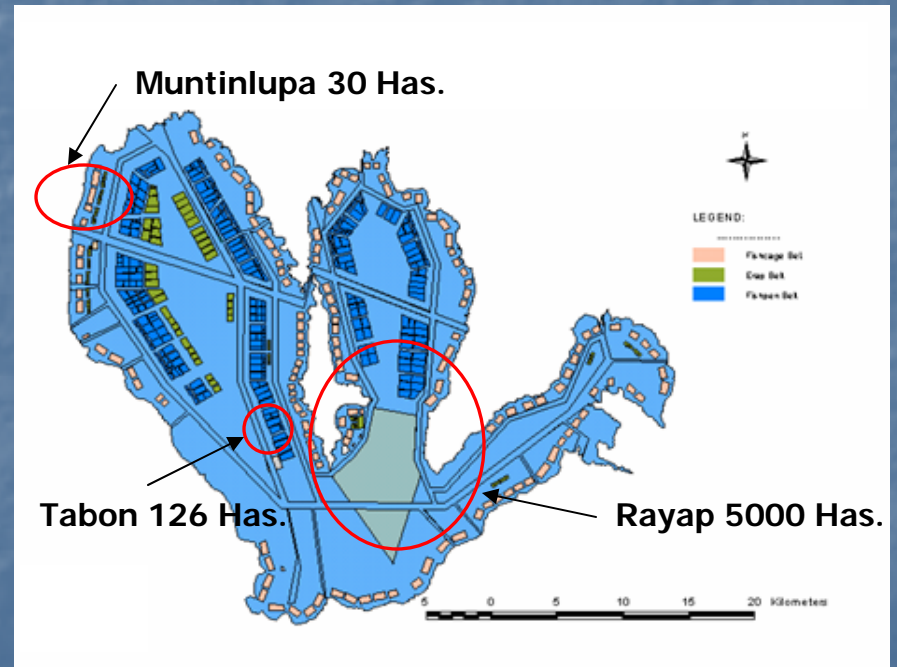




•Lake Seeding

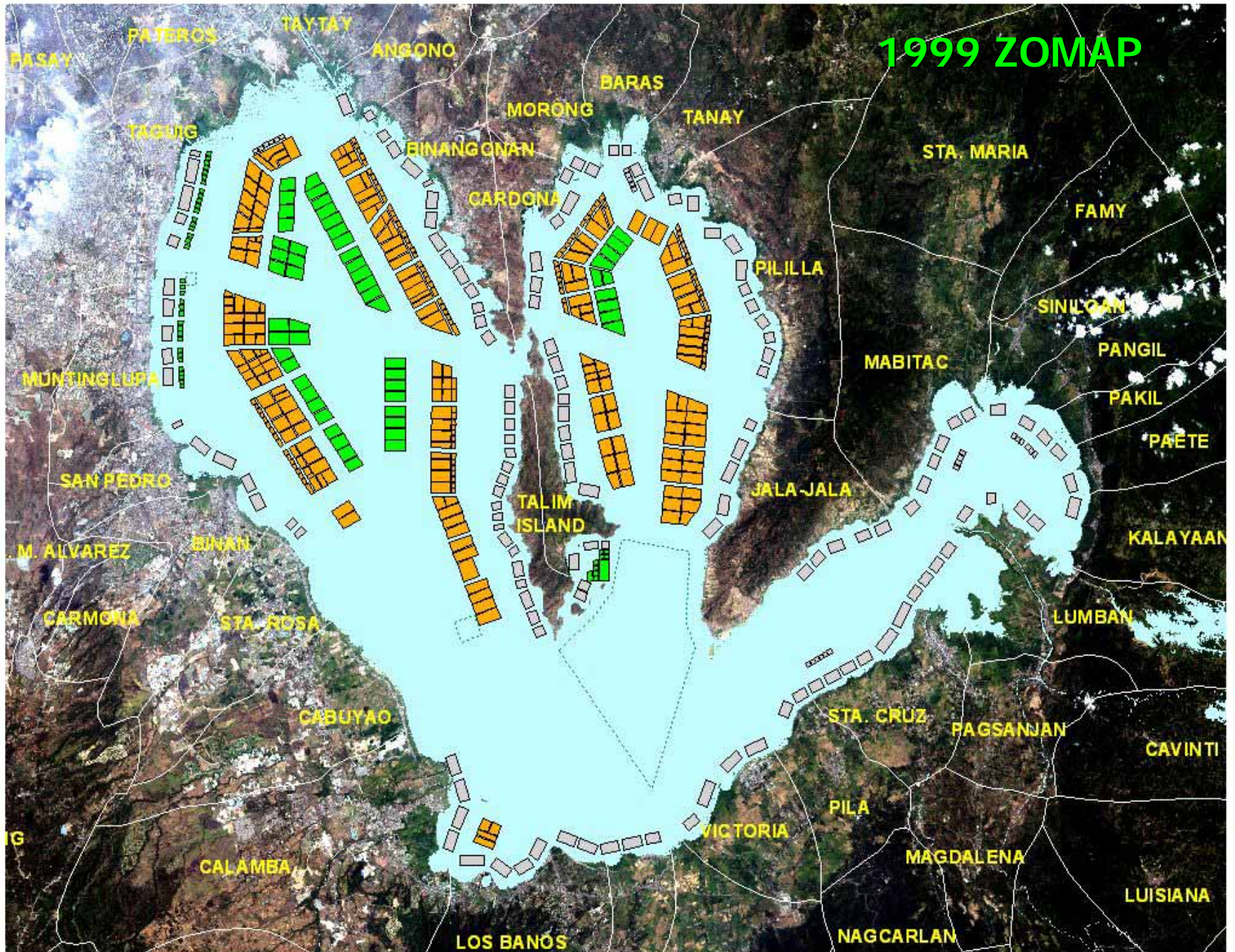


•Community mobilization (Bantay Lawa) vs. illegal fishing



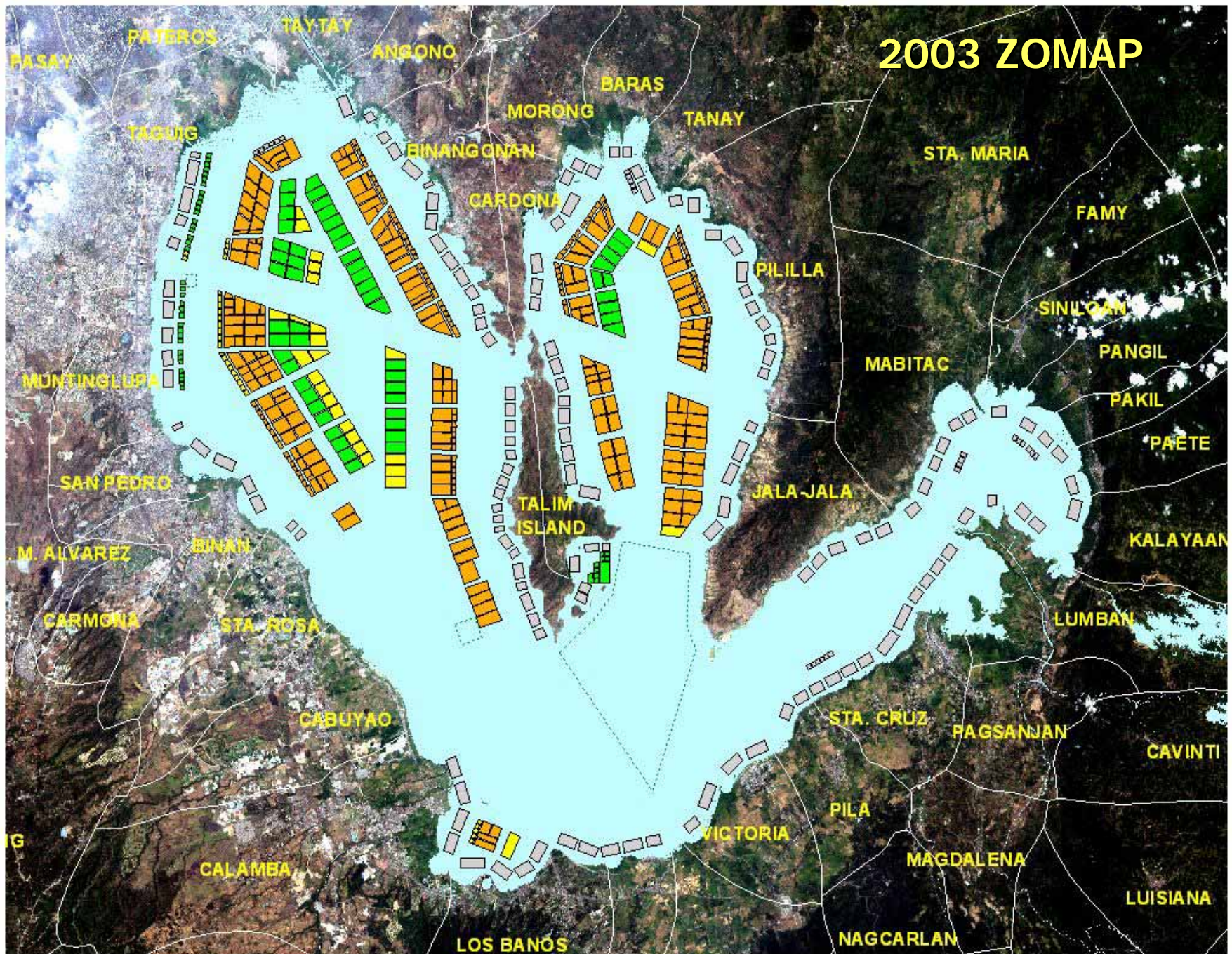
•Establishment of Fish Sanctuaries

# 1999 ZOMAP

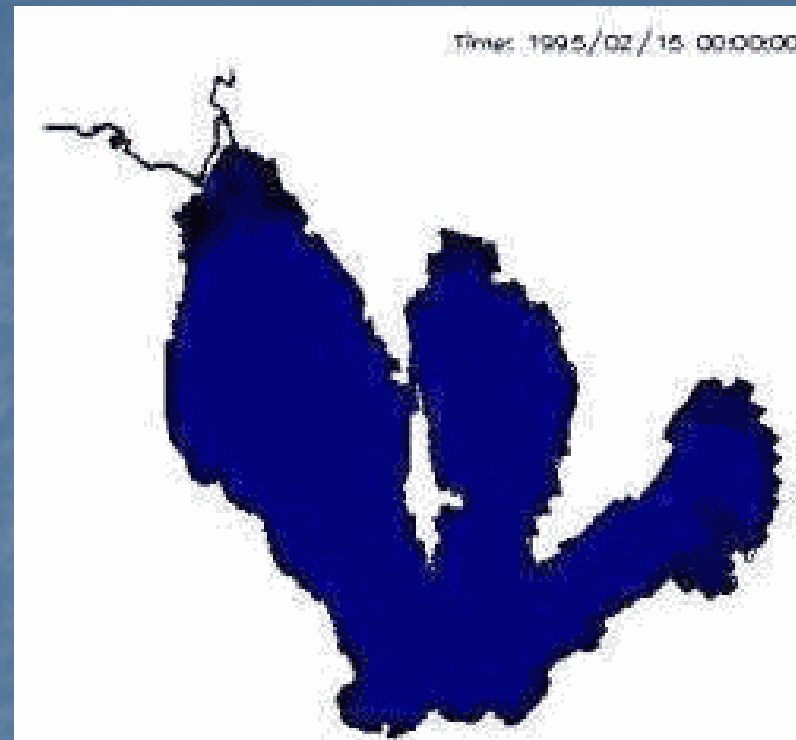




# 2003 ZOMAP

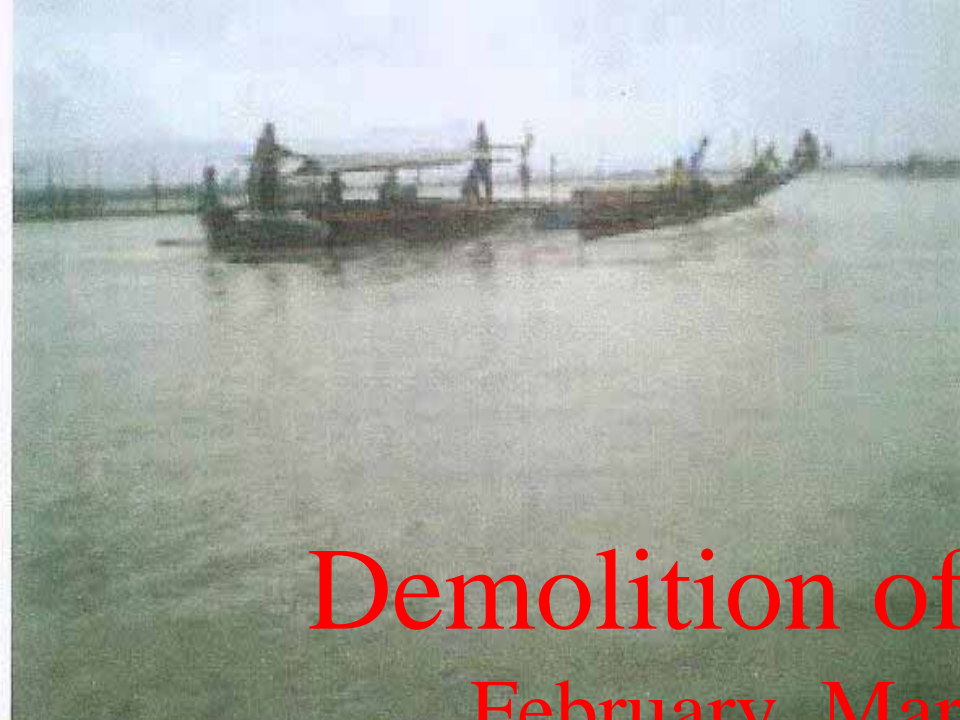


# Salinity Intrusion



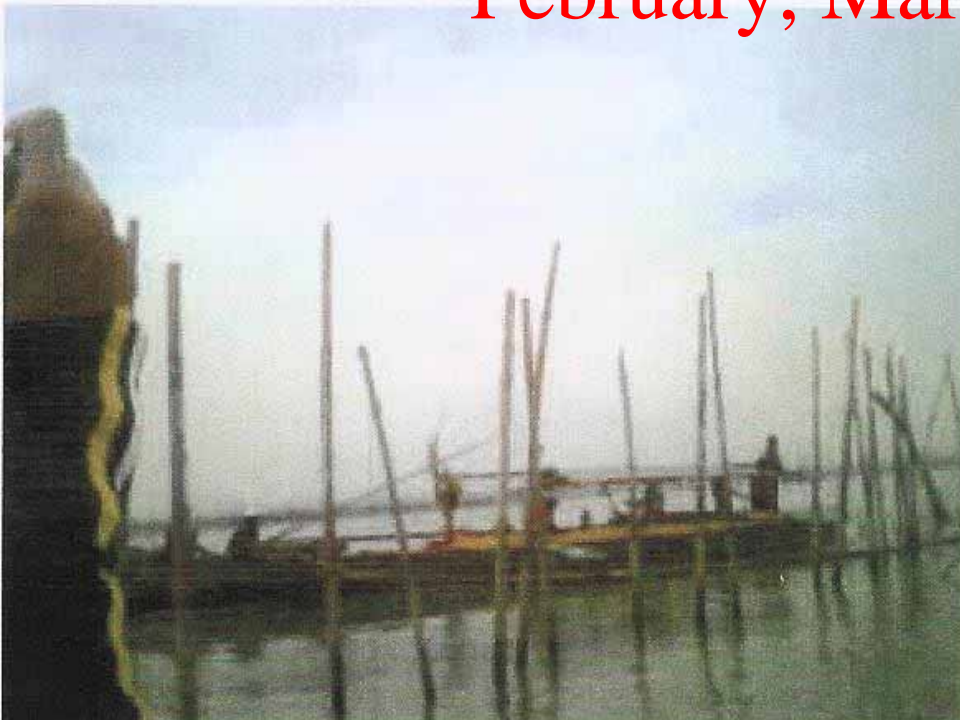
## Legend:





# Demolition of Illegal Fishpens

February, March and April 2006



# LISCOP COMPONENT 2

## Strengthening Institutions and Instruments

effect the re-engineering of the LLDA and the strengthening of its role as apex body for integrated water resources management of the Laguna de Bay Region

### Strengthening LLDA's Capacity

- Improving regulatory tools and market based instruments
- Strengthening policy and Support
- Strengthening IEC Program
- Developing trunk infrastructure strategy

### Capacity Building of Stakeholders in the watershed

- Lake Environmental Action Planning
- Social Marketing
- Promotion of community participation & sub-project
- IEC

# Improving regulatory tools and market based instruments

## Raw Water Pricing

**Exec Order 927 – Sec 2. Water Rights**

**LLDA has the exclusive jurisdiction to issue permit for the use of all surface water for any projects or activities in or affecting the region including navigation, construction, and operation of fishpens, fish enclosures, fish corrals an the like.**

# Categories on the use of water

## **CONSUMPTIVE:**

- Irrigation water
- Domestic water supply (including commercial and industrial uses)

## **NON-CONSUMPTIVE:**

- Industrial cooling water
- Hydroelectric power
- Transportation
- Fisheries
- Recreation

# Tradable Water Use Rights

- Adopting the tradable water use rights in not feasible at the moment because there is no scarcity of water resources
- Insufficient buyer and seller to make the market competitive

# **Inventory of Users of Surface Waters and Pricing Study**

- **List of users of lake waters including the tributaries - existing and potential;**
- **Volume of water demand - current and future demand;**
- **Proposed Scarcity Rent corresponding to the price of lake waters;**
- **Degree of complementation and competition of the use vis-à-vis the scarcity rent collected;**
- **Result of social survey insofar as the willingness and/or capability to pay of the users.**



Year	Population (LDBR Region)	Domestic (MCM/)	Irrigation (MCM)	Industrial (MCM)	Power Gen (MCM)	Total (MCM)
2000	11,985,708	143.6	32.7	2,448.0	2,975.0	5,599.3
2005	13,191,623	167.9	32.7	2,521.4	3,123.8	5,845.7
2010	14,485,074	193.8	32.7	2,597.1	3,279.9	6,103.5
2015	15,843,941	221.6	32.7	2,675.0	3,443.9	6,373.2
2020	17,255,913	251.1	32.7	2,755.2	3,616.1	6,655.1
2025	18,706,877	281.7	32.7	2,837.9	3,796.9	6,949.2
2030	20,180,439	313.1	32.7	2,923.0	3,986.8	7,255.6

Projected demand for raw water, by sector, LDBR, 2000-2030.

# LLDA Policy Alternatives in Raw Water Pricing

1. Administrative pricing
2. Resource charge scheme
3. Economic pricing

# Tradable Water User Rights

- In Laguna de Bay, there is no scarcity of water resource
- Buyers and sellers are insufficient to make the market competitive
- The present situation are not enough to make the concept work.

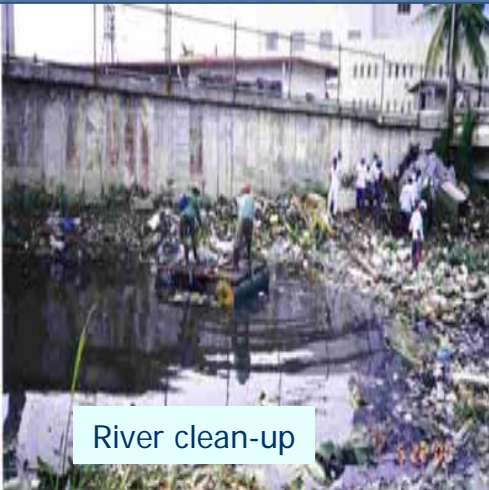
# Future direction.....



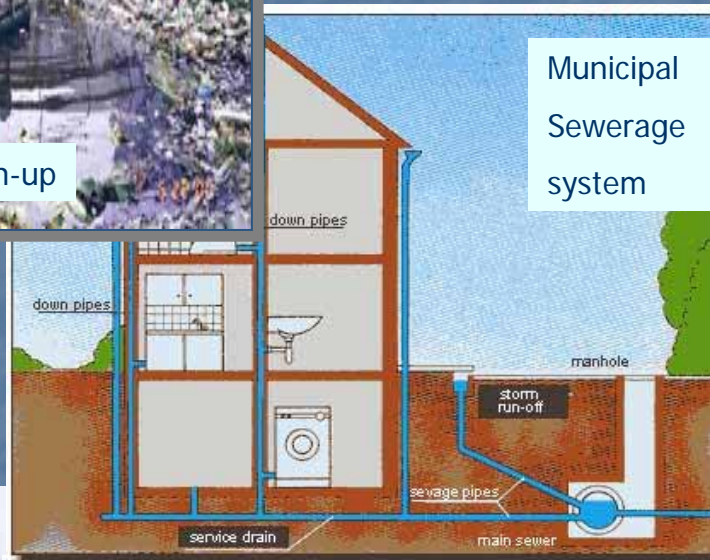
- Provision of trust funds generated for the rehabilitation of the lake and its watershed
- Strengthen community initiatives on recycling, proper waste disposal, and improvement of sewerage with the help of LGUs.



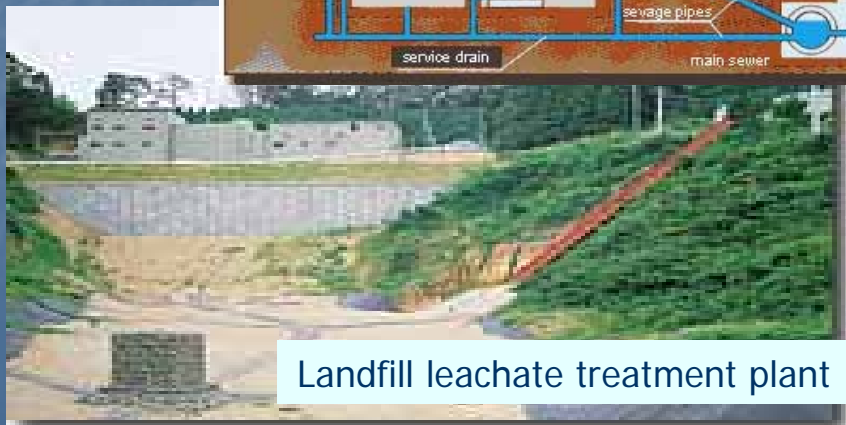
# Lake Rehabilitation Trust Fund



River clean-up



- for solid waste removal from water systems
- for building sewerage systems in municipalities
- for River Rehabilitation Program
- for information, education and communication campaigns for recycling, river rehabilitation, proper disposal, and other environmental programs



Landfill leachate treatment plant

# Recycling Initiatives Trust Fund



- to establish recycling centers
- to finance recycling businesses
- to finance trading and marketing products from recycled materials
- as 'green payment' for businesses that have creative waste disposal processes/recycling programs



# Municipal Waste Water Treatment Counterpart Trust Fund



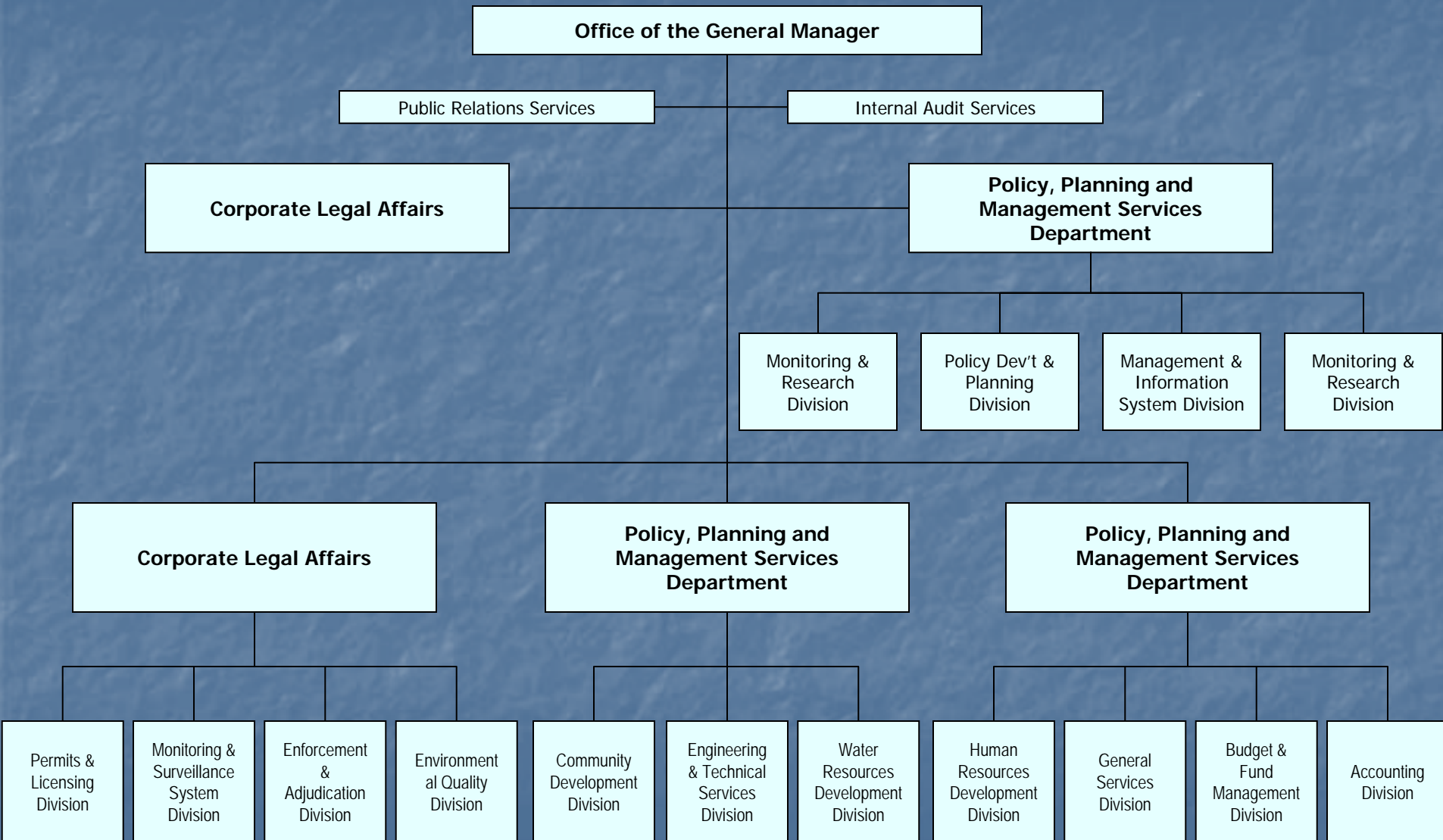
- for LGU initiatives to build, repair, rehabilitate, or replace waste water treatment facilities
- for LLDA initiatives to build waste water treatment facilities
- Emergency funding to purchase chemicals for waste water treatment

# Endnotes

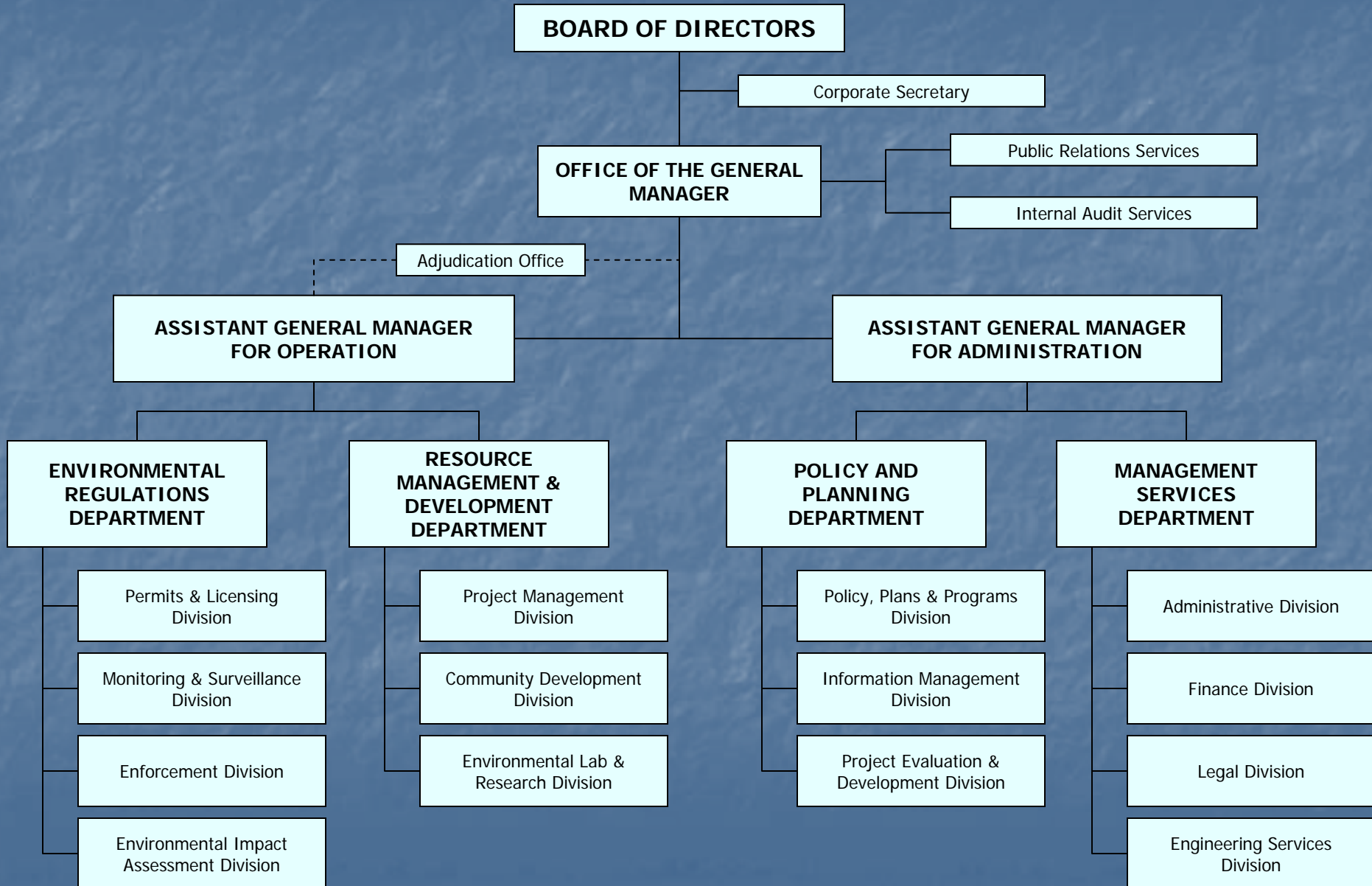
- Sustainable lake basin management (under IWRM framework) depends a great deal on sustainable financing
- All stakeholders using lake basin resources should contribute to management of such resources
- Administrative expenses, O&M costs should be complemented by infrastructure investments
- Water user fees and wastewater charges can provide stable financial base for water resources management



# PROPOSED ORGANIZATIONAL STRUCTURE UNDER IWRM AND DEVELOPMENT MODEL



# Original LLDA-Recommended Organizational Structure LAGUNA LAKE DEVELOPMENT AUTHORITY



# Conclusion and Recommendations

- The current LLDA management interventions contribute to the environmental quality improvement of the LdBR.
- LGUs and the private sector should be encouraged to invest in environmental improvement.
- Domestic pollution which is the greatest contributor in terms of organic loading should be immediately addressed by implementing the EUF for households.
- The necessary infrastructure components to address domestic and other non-point sources of pollution, among others, should be established.

***Thank You  
& Good Day.***

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