POLICY RESEARCH ON WATER ENVIRONMENTAL MANAGEMENT AND COLLABORATION FRAMEWORK BETWEEN POLICY MAKERS AND RESEARCHERS IN THE PHILIPPINES

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Presentation Outline:

- Freshwater resources in the Philippines
- The Department of Environment and Natural Resources: vision and core functions
- Major Issues on Water Environmental Management in the Philippines
- Causes of Pollution of water resources-surface water
- The Philippine Environmental Management Framework
- Major institutions involved in water governance in the Philippines
- Policy review and approval process
- Evolution of laws and policies on water environment
- Priority Policy Oriented Research Needs
- Policy –Oriented Research on Water Environmental Management
- Current and expected role of experts and researchers in policy making Process
FRESH WATER RESOURCES OF THE COUNTRY

- 421 PRINCIPAL RIVER BASINS (DRAINAGE AREA > 40 SQ. KM.)
- 18 MAJOR RIVER BASINS (DRAINAGE AREA > 1,400 SQ. KM.)
- 72 LAKES
- EXTENSIVE GROUNDWATER AQUIFERS (50,000 SQ. KM.)
BACKGROUND:

- **TOTAL POPULATION:** 100 Million
  (As of October, 2014 estimated)
- **TOTAL LAND AREA:** 300,000 km²
- **TOTAL NUMBER OF ISLANDS:** 7,107
- **CLIMATE:** Tropical Humid
- **ANNUAL AVE. RAINFALL:** 2,400 mm
- **ESTIMATED ANNUAL SURFACE AND GROUNDWATER WATER AVAILABILITY:** 146 billion cubic meters
The Department of Environment and Natural Resources: Vision and Core Functions

Vision: A nation enjoying and sustaining its natural resources and clean and healthy environment

Core Functions:

• Formulate and implement policies, guidelines, rules and regulations relating to environmental management and pollution prevention and control.

• Formulate, implement and supervise the government's policies, plans and programs pertaining to the management, conservation, development, use and replenishment of the country's natural resources and ecological diversity.

• Promulgate and implement rules and regulations governing the exploration, development, extraction, disposition, and use of the forests, lands, minerals, wildlife, and other natural resources.
Major Issues on Water Environmental Management in the Philippines

- Pollution of water bodies from point sources and non-point sources
- Governance issue
  - Weak law enforcement
  - Institutional fragmentation (Overlapping functions of various government agencies mandated on water management)
Pollution of water resources-surface water (rivers, lakes, inland water) and groundwater are mainly due to:

- Inadequate sewerage and sanitation facilities
- Inadequate solid wastes management facilities
- Improper Agricultural Practices
- Inadequate Industrial/commercial waste disposal facilities
- Deforestation
- Land Development
General Sources of Pollution of Water Bodies in the Philippines

<table>
<thead>
<tr>
<th>Sources</th>
<th>Percentage Share</th>
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<tbody>
<tr>
<td>Domestic Wastewater</td>
<td>33%</td>
</tr>
<tr>
<td>Agricultural Wastewater</td>
<td>29%</td>
</tr>
<tr>
<td>Industrial Wastewater</td>
<td>27%</td>
</tr>
<tr>
<td>Non-Point Sources</td>
<td>11%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>
Percentage Distribution of Pollution Sources Affecting Major Surface Water of Metro Manila (Pasig River and Laguna Lake)
The Philippine Environmental Management Framework: Guiding Principles (Also serves as basis for policy research framework on water environment)

- **Precautionary Principle**
  - Evidence of damage
  - Needs immediate action

- **Polluters Pay principle**
  - Payment for the wastewater discharge
  - Strict monitoring

- **Users Pay Principle**
  - Payment for using water resources
  - Preferential rights and tariff system
The guiding principles are founded on good environmental governance through effective legal and institutional Framework.
Major institutions involved in water governance in the Philippines

NEDA – National Economic and Development Authority
DPWH –Department of Public Works and Highways
NWRB- National Water Resources Board
NIA- National Irrigation Authority
LWUA-Local Water Utilities Administration

DENR-Department of Environment and Natural Resources
PNOC- Philippine National
NPC- National Power Corporation
DOH-Department of Health
DILG- Department of Interior and Local Government
MWSS- Metropolitan Waterworks and Sewerage System
Laws and Policies

- Sanitation Code of the Philippines (1975), Presidential Decree (P.D.) 856 of 1975

- Water code of the Philippines (1976), Presidential Decree 1067

- Environmental Impact Statement System (1978), Presidential Decree (P.D.) 1586

- Environmental code (1997)

Evolution of Water Quality Policies and Legislation in the Philippines

- Water code of the Philippines (1976)
- Sanitation Code (1975)
- Environmental Impact Statement (1978)
- Environmental Code (1997)
Evolution of Water Quality Policies and Legislation in the Philippines

Next Action:
- Water Code of the Philippines (1976)
- Environmental Code (1997)
- Sanitation code (1975)

Way Forward (2015-2016)
- Policy review and amendment of Water Code of the Philippines (1976)
- Policy review of the Philippine Clean Water Act of 2004
## Classification of Inland Water Bodies

<table>
<thead>
<tr>
<th>Classification</th>
<th>Best Usage</th>
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<tbody>
<tr>
<td>Class AA</td>
<td>Waters intended as public water supply requiring only disinfection to meet the Philippine National Standard for Safe Drinking Water (PNSDW)</td>
</tr>
<tr>
<td>Class A</td>
<td>Waters suitable as water supply requiring conventional treatment to meet the PNSDW</td>
</tr>
<tr>
<td>Class B</td>
<td>Waters intended for primary contact recreation (e.g. bathing, swimming, skin diving, etc.)</td>
</tr>
<tr>
<td>Class C</td>
<td>Waters for fishery, recreation/boating, and supply for manufacturing processes after treatment</td>
</tr>
<tr>
<td>Class D</td>
<td>Waters intended for agriculture, irrigation, livestock watering, etc.</td>
</tr>
</tbody>
</table>
Policy Agenda/Plans Identification/Priorities

Drafting of Policy Proposals/Bills/Executive Order/DAO

Consultation with Stakeholders/Public Hearings

Submission/Deliberation of Final Draft Policy is Congress/Senate as House/Senate Bills

Review/approval of House/Senate Bills into a Law (if disapproved/vetoed by OP)

Preparation of IRR

Implementation (with Funding)

Policy Review and approval Flow-Process

Legend:
OP - Office of the President
DENR - Department of Environment and Natural Resources
DPWH - Department of Public Works and Highways
DOE - Department of Energy
DA - Department of Agriculture
NEDA - National Economic and Development Authority
IRR - Implementing Rules and Regulations
DAO - Department Administrative Order
Policy –Oriented Research on Water Environmental Management in the Philippines

• Aim to analyse and evaluate laws, regulations and other policy mechanisms concerning water environmental issues and water environmental management sustainability. These issues may focus water pollution and water environmental governance concerns.
Priority Policy Oriented Research Needs
• Policy studies to Support Public Policy on Water Pollution Control and Mitigation

- Policy research on the development of mechanisms for the production and deployment of cost-effective domestic wastewater treatment facilities especially in urban areas, with defined appropriate incentive system.

- Efficient mechanism to monitor the operation of industrial and commercial wastewater treatment facilities especially Small and Medium Enterprises (SMIs) under the existing law and regulations.
• As an input to public policy on water environmental management decision tools:

  ➢ Development of mathematical/statistical models to forecast and estimate nutrient/organic pollution loadings (spatial and temporal) from pollution sources to river systems and to develop/implement mitigation measures

  ➢ Mathematical models to estimate siltation and sediment flows in inland freshwater resources and to develop mitigation measures

  ➢ Mathematical models to estimate pollution of groundwater aquifers and to develop mitigation measures
• Policy Research to Support Public Policy on Water Environmental Governance and Institutional Development

- Review and Assessment of the implementation of the Clean Water Act (Republic Act of 2004) including the identification of law enforcement gaps and weaknesses, funding mechanism inadequacies, CSO participation and governance issue for possible amendment of the policy to be more relevant and effective.

- Development/Assessment of mechanism on the use of market-based instrument or valuation system such as payment of disposal of untreated wastewater into the water systems/water bodies (Polluters Pay Principle)

- Development of Public Policy strategies on the enhancement of private sector investment into water environmental management through a mechanism that may encourage Public-Private Partnership or any appropriate investment variants.
➢ Development and implementation of efficient monitoring system for the compliance of the Industries and SMIs on wastewater management

➢ Assessment of the strategies and procedures in the management Water Quality Management Areas (WQA MA) in critical watersheds in line with Clean Water Act of 2004,

➢ Assessment of capacity development strategies and advocacy plans and programs and recommend approaches to intensify awareness and involvement of the Civil Society Groups, Stakeholders and government agencies in the control and prevention of water pollution.

➢ Evaluation and critical /sensitivity analysis of the existing water environment monitoring system in rivers and other water bodies, and creation and mobilization of a multi-sectoral monitoring team.
Development of mechanisms to operationalize an ecosystems approach in managing water environment.
Current Role of Experts and Researchers in Policy making Process in the Philippines

- Conduct Studies /researches for the development of a more relevant laws/policies, strategies and mechanisms for a more effective and rationale water environmental management and governance
- Review and assessment of the existing laws relating to water environmental management, and recommend new strategies and management approaches
- Development of numerical models and database management systems for water environmental monitoring and as decision tools
- Support government in the education campaign and awareness on water environmental issues
Republic of the Philippines
Department of Environment and Natural Resources

Expected Research topic Related with Water Environment Expected to Researchers

Topic focused on:

• Review and assessment of the existing Clean Water Act

• Development of an appropriate mechanism and design of low cost domestic wastewater treatment facilities, including tariff system/market based valuation system, connection system and monitoring.

• Development and operation of suitable pollution loading estimation models in rivers and lakes as decision tool

• Design and assessment of capacity development plans and programs and recommend/pilot testing of re-designed strategies
Republic of the Philippines
Department of Environment and Natural Resources

Expected Role of Experts and Researchers in Policy Making Process

• Collaborate with policy makers and provide expert opinion on the weaknesses and gaps on the current water environmental policies supported by science-based research studies

• Continuously conduct relevant policy research and inform the government on their findings to encourage review and amendment of the existing laws, rules and regulations

• Provide expert contribution in the identification of the government policy research agenda
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Expected Role of Experts and Researchers in Policy Making Process

• Serves as partner by the government policy makers in the promotion of responsive and acceptable and good water quality to provide efficient access to clean water and availability to all.

• Critical to good environmental governance through participation to water environmental or water quality monitoring and information and education campaign
Thank you