



Analysis of an Integrated Water Resources Management Framework: The Meycauayan-Marilao-Obando River System Water Quality Management Area (MMORS WQMA)

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Introduction



- Water is an important resource and capital in a social-ecological system.
- Water is both a livelihood and a resource source
 - Both implies the provisioning services of a river
- **Conflict:** Water's regulatory function vs. its provisioning function



- Water's regulatory function
 - climate regulation
 - water purification
 - need to preserve river beds
- Water's provisioning function
 - water as source of fish,
 - source of water for fishponds,
 - water as effluent discharge points



Introduction



- Fifty of the 427 rivers in the country are considered “biologically dead” (Gaylican, 2007).
- The polluted waters had an impact to the nation’s health status – with thirty one percent (31%) of illnesses in the country due to poor water quality (Paragas, 2012).



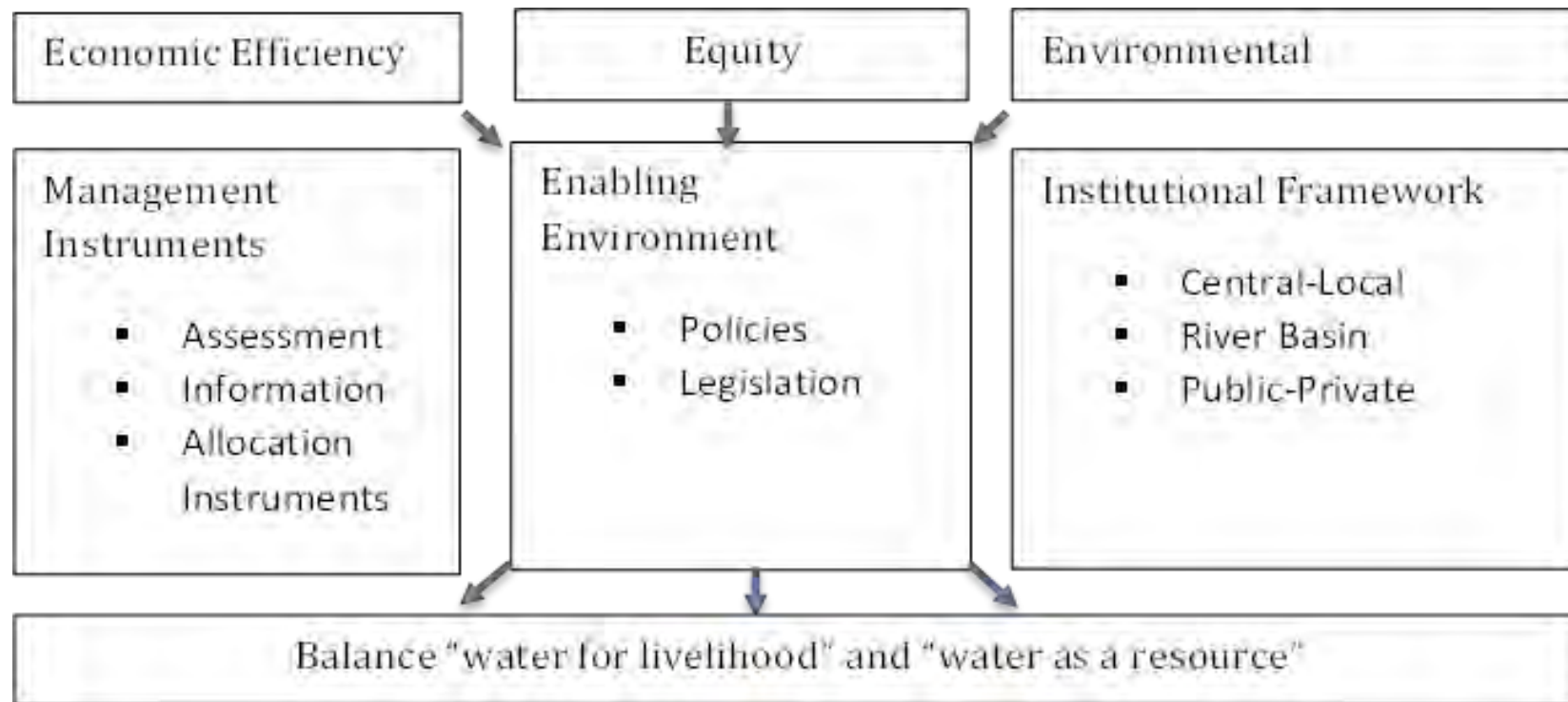
Introduction



- There is a pressing need to properly manage the water resources through time.
- RA No. 9275 “Philippine Clean Water Act” of 2004.
 - Aims to “protect the country’s water bodies from pollution from land based sources (industries, commercial establishments, agriculture and household/community activities)
 - Basis: Integrated Water Resource Management (IWRM) and Sustainable Development frameworks



. The IWRM structure has three pillars – an enabling environment, an institutional framework and management instrument which affects the WQMA management.



IWRM Components (Hassing et al., 2009)

Introduction



- One of the provisions of the law is the creation of the Water Quality Management Area (WQMA).
- How can water governance ensure human rights, environmental justice, and sustainability in a WQMA?
 - In the case of Meycauayan-Marilao-Obando River System, multiple use of water (industrial, agriculture, residential, ecological) is usually conflicting



Objective



- To evaluate the implementation and management of the Meycauayan-Marilao-Obando River System (MMORS) Water Quality Management Area
 - in reference to the Philippine Clean Water Act based on the Integrated Water Resource Management Framework (IWRM)
 - Pillars: Enabling environment, institutional environment and management instruments



Significance



- First attempt of a policy review in the Philippines
 - Input in the management of MMORS WQMA and other WQMA areas
 - Recommendations of policy improvements in the Philippine Clean Water Act and its implementing rules and regulation
- Contributes to the literatures that advance the integration of an “ecocentric” epistemology of social work, as discipline and a professional practice (Hawkins, 2010)



Significance



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Study area



Location map of MMORS (David, 2011)

- a medium of cultural interaction and identity
- 52 km long, Class C river system (DENR DAO #34) - untreated municipal wastewaters and industrial wastes (BSI, 2008; Mendoza et al., 2012)

issue of small-scale fishers and downstream areas receiving pollution from more affluent industrial upstream areas

Methodology



PRE-IMPLEMENTATION

- Document review
- Coordination with gatekeepers regarding the study
- Approval of a resolution to endorse the project was secured from the WQMA Governing Board (GB)
- Design of instruments
- Pre-test

IMPLEMENTATION

- Focus Group Discussion
- Key Informant Interview
- Survey*
- * RESPONDENTS: WQMA GB members (level of awareness and level of implementation)

POST –IMPLEMENTATION

Descriptive statistics
Thematic analysis

Results and Discussion



IWRM Pillar: Enabling environment in MMORS to integrate all efforts of rehabilitation

- National policies are in place to balance the interests of the various stakeholders involved in water governance of a WQMA or a wetland
- Provision of National Water Quality Management Fund (NWQMF) and an Area Water Quality Management Fund (AWQMF)



Results and Discussion



Approval of the policy regarding the access and utilization of the NWQMF and AWQMF funds by the Congress is pending

How to secure funds:

1. From international development agencies and donor – funds course through WQMA GB member organizations' specific projects
2. From the members' respective departments or from the LGU budget – at times tedious to access
3. Loans



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Results and Discussion



- Since the creation of MMORS WQMA, 12 resolutions were enacted.
- Focus: organizational structure of the WQMA GB
 - key actors on implementation of the 10-year Action Plan
 - formation of the multi-sectoral group,
 - adoption of the VMG, logo of the MMORS WQMA, and
 - creation of an interim Technical Secretariat

Themes of the MMORS WQMA Board Resolutions (2010-present)

Themes of LGU environmental policies in relation to MMO WQMA



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Themes	Marilao	Sta. Maria	San Jose Del Monte	Valenzuela	Caloocan	Meycauayan
Organizational structure	1		1	1		
Local chief executive authority to approve project, secure funds and/or release funds for projects	1	1	1			6
Environmental code and framework		1	1			
Actual projects including penalties			3	2	1	4
TOTAL	2	2	6	3	1	10

Results and Discussion



Implementation of IWRM in other countries

- empowering local collaborative initiatives
- could be challenging if it is 'not accompanied by the devolution of power, training and budget' (Agyenim and Gupta, 2011)
- Consideration: sustainability of projects and programs



Results and Discussion



IWRM Pillar: Institutional framework as a nexus of integration among stakeholders

- WQMA Governing Board:
 - national, regional and local agencies
 - private sector
 - government-owned and control corporation (GOCC)
 - Academe
- Specific roles and shared responsibilities, rights and duties between the primary stakeholders



Results and Discussion



IWRM Pillar: Institutional framework as a nexus of integration among stakeholders

- The structure of MMORS WQMA GB facilitates co-management
 - a decentralized approach to decision-making
 - involves the local users in the decision-making process as equals with the nation-state'(The Worldbank, 1999 as cited in Carlsson and Berkes, 2004)



Results and Discussion



IWRM Pillar: Institutional framework

- Concerns in the implementation:
 - prolonged period of decision-making
 - decreasing number of representatives from members of the GB
 - weak implementation of policies and lack of external assessment
- For the WQMA Board:
 - MMO WQMA management – rated as “3”, translated as inadequate, but minor improvements will make it adequate



Results and Discussion



*IWRM Pillar: Management instruments to strengthen **WQMA GB's** communication framework and program*

- MMORS WQMA GB's 10-year action plan
- Water Quality Modeling
- Survey tool for water quality management plan
- MMORS WQMA GB Training needs
- Information systems framework
 - no regular feedbacks on the progress reports and river quality monitoring results
 - perception: “there are no sustained efforts regarding river rehabilitation”



Results and Discussion



IWRM Pillar: Management instruments

- The MMO WQMA GB aims to strengthen its communication framework and program
 - who will communicate?
 - how often will the communication will be?
 - what media will be used in this communication?
- Aims to create a formal mechanism that will consolidate and systematize multiple reports required by different agencies



Results and Discussion



IWRM Pillar: Management instruments

- For the fish farmers: policy reforms (regulatory mechanisms) that will focus on socio-ecological management practices and market mechanisms need to be crafted



Conclusion and Recommendation



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- Water pollution makes the population more vulnerable to poverty by reducing the viability of their livelihood (fishing), increasing vulnerability (flooding), among others in MMORS
 - Based on previous studies, pollutants from domestic and industries were present even if there are existing and appropriate policies.



Conclusion and Recommendation



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- Water pollution makes the population more vulnerable to poverty...
- Recommendations:
 - To prioritize and advocate for the final approval of the NWQMF and AWQMF guidelines at the Congress.
 - Formulation of ordinances that will prioritize integrative water resource management activities, projects and/or programs.



Conclusion and Recommendation



- Disparities in the functions and the actual implementation on both the WQMA GB and LGUs are present.
- **Recommendations:**
- Proper rehabilitation and management of MMORS WQMA needs a strengthened central-local integration.
 - The groups need to be more involved and active in their respective functions to ensure the success of MMO WQMA.
 - Capacity- building



Conclusion and Recommendation



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- Recommendations:
- Systematic review of WQMA GB 10-year action plan, with an external reviewer.
 - Development of a financial and annual plan with short term targets
- These strategies may help
 - identify accountability and
 - points of collaboration to avoid fragmentation among the institutions and organization (Agyenim and Gupta, 2011, Elazegue 2004, Paragas 2012)



Conclusion and Recommendation



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- The lack of regular feedback regarding the result of the water quality monitoring data and other science-based information limits the planning and policy development process of the LGUs within MMO WQMA.
- **Recommendation:**
- discuss and plan approaches on how to consolidate and systematize multiple reports required by different agencies



Conclusion



- Water issues are also human rights and justice issues, and affects social welfare of the community
- Thus, there is a need to integrate the human-nature interaction (capacitation of stakeholders and policy reforms)





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Padayon, Pilipinas!