



Towards a Sustainable Systems Approach in Governing Water Environment in the Philippines

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Outline

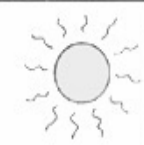
- Objectives
- Introduction
 - Systems Approaches
 - Water Governance
- Phil. Water Environment Situation and Issues
 - Water Policy Status
 - The Water Governance Model
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Objectives

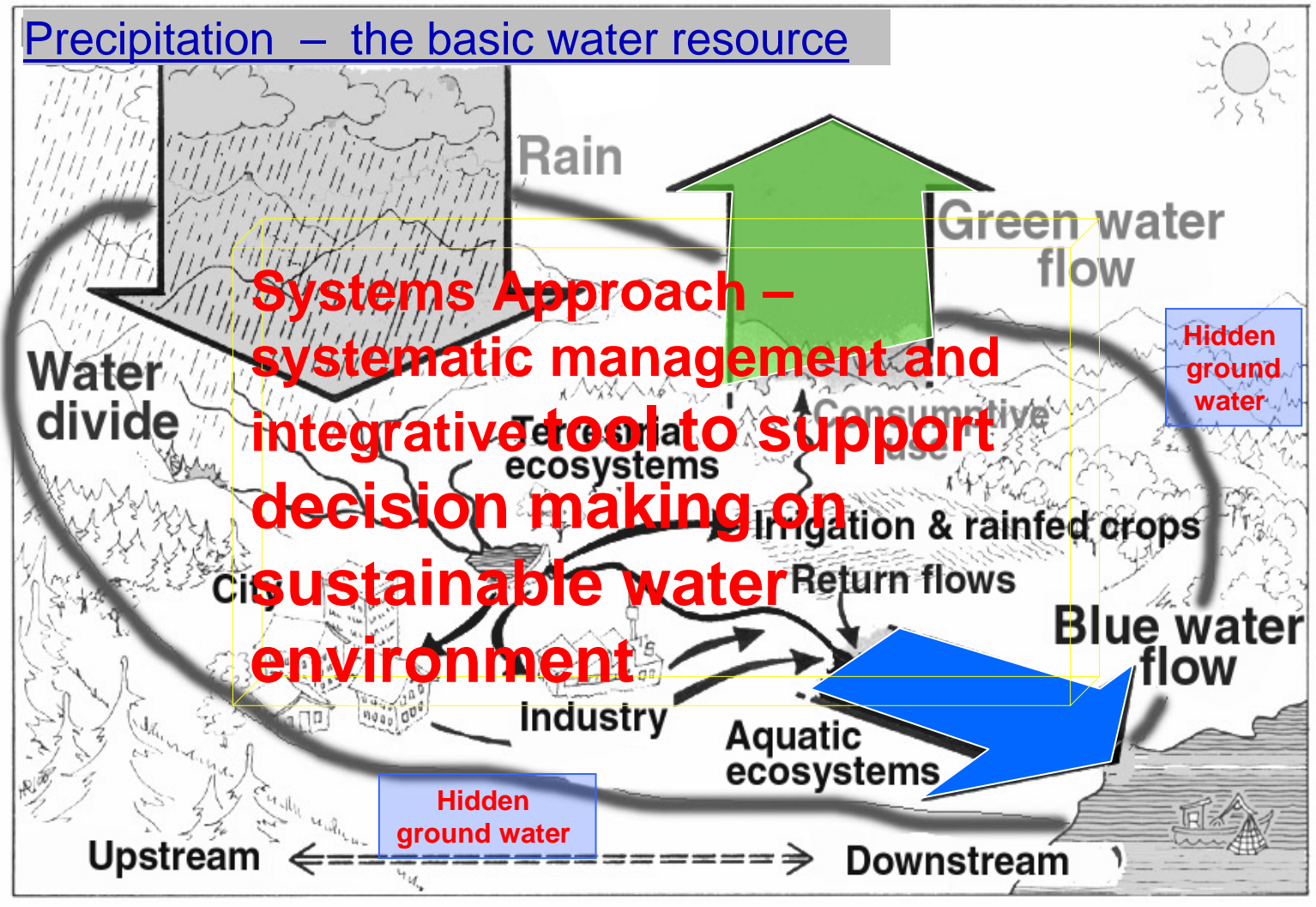
- To conduct a critical *state-of-the-art* review of the policy agenda *cum* theoretical model of governing water environment in the Philippines.
 - Systems approaches in water environment;
 - Phil. water resources status; and
 - Phil. water governance model;
 - Structure and some policy implications

Precipitation – the basic water resource



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Systems Approach – systematic management and integrative tool to support decision making on sustainable water environment

With drainage/river basin perspective - the precipitation over the area represents the proper water resource, part of which is consumed in plant production and evaporation from moist surfaces (green water flow)

Surplus goes to recharge aquifers and rivers (blue water flow), available for societal use and aquatic ecosystems.

Introduction

➤ Systems Approaches on Water Environment

- Sustainability is a new challenge for humanity that attracts a new paradigm for governance;
- The sustainability challenge is to adapt governance so that the human enterprise operates within an ecological and water resource constraint that lies within the carrying capacity of supporting ecosystems

Introduction

- Systems Approaches on Agricultural Development (SAAD)
 - integrates voluminous database, complex issues, and analytical modeling methods such as artificial intelligence, decision analysis, optimization, modeling, etc. to support decision making (Aldeman, 1991; Lansigan *et al.*, 2000).

Introduction

- **Systems Approaches on Water Environment**
 - Some promising signs of a new approach to governance for sustainability are emerging through the Phil. Water Governance stakeholders– (e.g. involves devolution of responsibility into the community at a regional level);
 - Moving towards sustainability will require a paradigm shift not just within government and other policy circles but also within the community as a holistic view;

Introduction

➤ Water Governance (*National Water Resources Board*)

Water governance refers to political, social, economic and administrative systems in place to regulate the development and management of water resources and ensure provisions of water services in line with standards related to quality, quantity and affordability.

To improve governance, the government should take the lead in ensuing sustainable water management with the active participation of stakeholders. Good governance requires an institution where committed leadership and improved constituency exist.

Introduction

Water governance addresses: (watergovernance.org)

1. Principles such as equity and efficiency in water resource and services allocation and distribution, water administration based on river basin, the need for integrated water management approaches and the need to balance water use between socio-economic activities and ecosystems.
2. The formulation, establishment and implementation of water policies, legislation and institutions.
3. Clarification of the roles of government, civil society and the private sectors and their responsibilities regarding ownership, management and administration of water resources and services

Phils. Water Environment Situation and Issues

- The Philippines has more than 7000 islands and covering a total area of 300,000 km².
- Annual rainfall: 2373 mm
- 421 rivers; 59 natural lakes and more than 100,000 ha of freshwater swamps.
- The groundwater resources are estimated at 180 km³.
- The total internal water resources would therefore amount to 479 km³/year.

Phils. Water Environment Situation and Issues

- Has water storage potential sites for 438 major dams and 423 smaller dams.
- The total water withdrawal was estimated on the basis of the water rights issued by the National Water Resources Board (NWRB) to 55,422 million m³ in 1995, of which 88% is for agricultural purposes;
- The water situation in the Philippines may be best described as an abundant scarcity (Malayang,2003)

Phils. Water Environment Situation and Issues

- Outputs of forum on water resource management in May 2002, revealed three major themes:
 1. there is an alarming water crises;
 2. the water crisis, which is caused by a conjuncture of natural and anthropogenic events and rooted on destructive land-use practices, is aggravated by a flawed governance system characterized by a soft state (wherein laws are formulated in imprecise terms); and
 3. while there is a need to strengthen national laws in order to address the water crisis, the need to empower local government units (LGUs) and communities is clearly recognized (PIDS, 2002).

Legal framework for water governance in the Phils.

1. 1987 Constitution which mandates that all water resources belong to the State;
2. Presidential Decree (PD) 1067 in 1976 or The Water Code of the Philippines;
3. Republic Act (RA) 8041 in 1995 or The Water Crisis Act; and
4. Executive Order No. 364 in 1996, which created the Presidential Task Force on Water Resources Development and Management.
5. Clean Water Act in 2004

Water Governance Model

- It is viewed broadly as the collection of social controls on human conduct relating to water;
- The control constitute the intension of a body politic to shape the state and conditions of water resources;
- Decisions and Actions on water resources are product of the interplay of multiple institutions under: (1) hierarchy; (2) sectors; and (3) themes which defines the “governance space”.

(Source: Malayang, 2003)

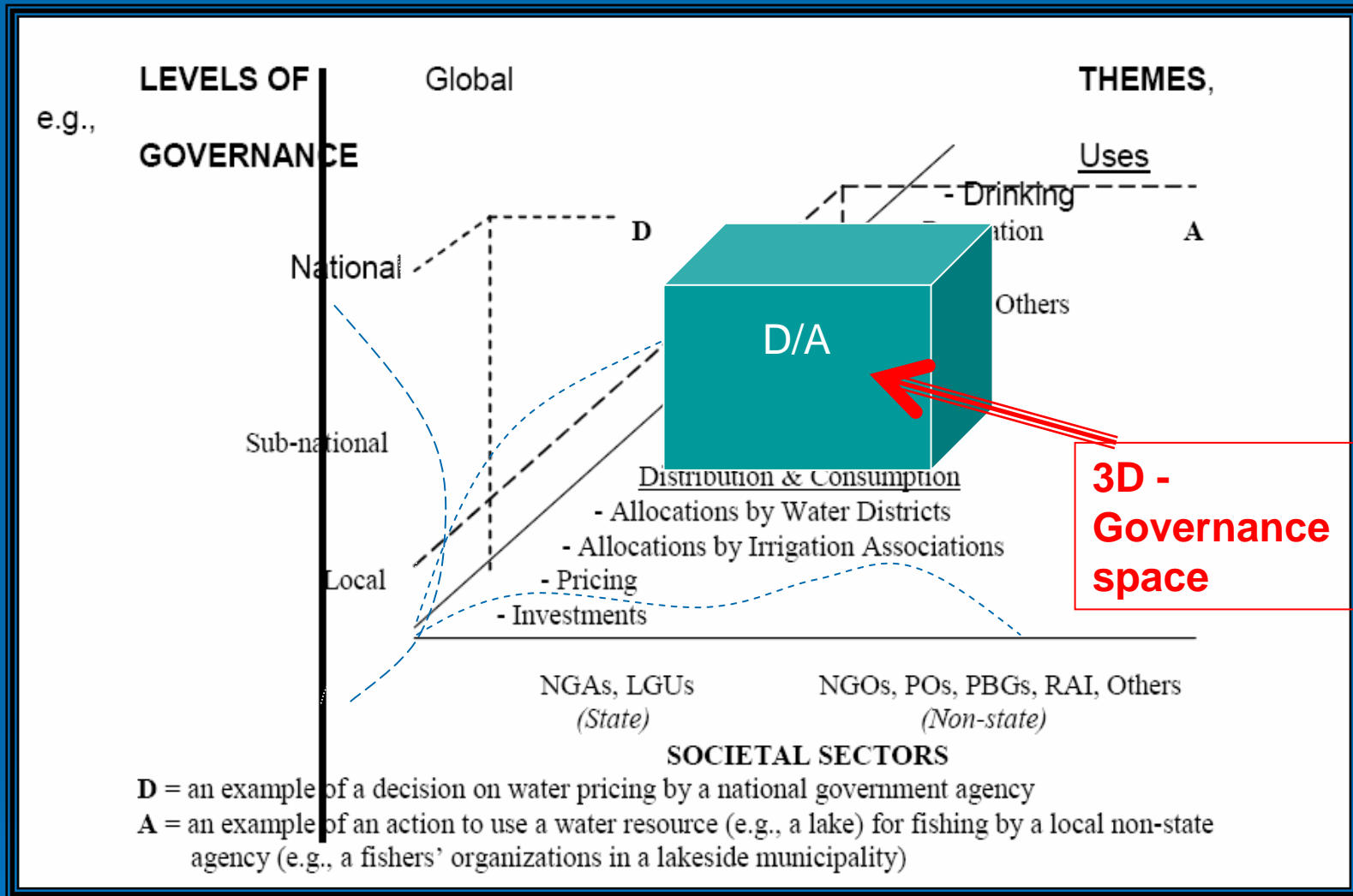


Fig. 1. Water governance model in the Philippines.
(Adapted from Malayang, 2003; Magallona and Malayang, 2001)

The model is constructed from the following observations:

1. There is a multiplicity of institutions – organizations and regulations – governing water and its uses in the country;
2. The authority and jurisdiction of water institutions differ in terms of a *hierarchy* of their coverage.

(Source: Malayang, 2003; PIDS, 2002)



The model is constructed from the following observations: (cont'n)

3. The mandates of the institutions differ. Some are statutory (prescribed by law, and others are customary (or are creations of tradition or of local social arrangements, e.g., irrigation associations); and
4. Water institutions differ as well in terms of the societal sectors that they occupy; i.e., some are state agencies, while others are community or civil society groups (i.e., non-state organizations like irrigation associations, farmers' associations, consumer groups, NGOs and peoples' organizations (POs), private business groups (PBGs) and research and academic institutions (RAIs).

(Source: Malayang, 2003; PIDS, 2002).

Issues in water governance

- (1) failure to implement the laws –‘soft state’ of governance system;
- (2) the absence of institutional mechanisms to operationalize integrated watershed approach;
- (3) the lack of appreciation of water as an economic good; and
- (4) the lack of mechanisms that will integrate water and watershed plans and programs of various agencies.

Source: PIDS, 2002)

Implications

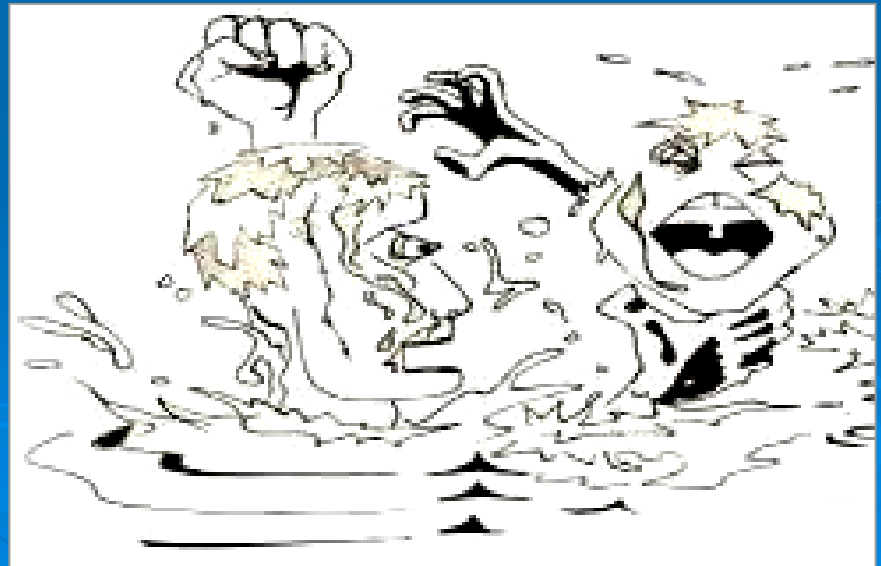
- The water governance model suggests that water policy, management, and governance in the Philippines will likely become more effective and efficient if they were to be the product of multi-sectoral participation in shaping the decisions and actions on a wide array of water concerns.
- Participation is to be anchored on public transparency and accountability to engender higher levels of legitimacy, public trust and credibility of water institutions, and thus of water governance itself (Malayang, 2003; PIDS, 2002).

Implications

- Those who own and manage water definitely have power over those who are deprived of this resource. But if governments fail to redistribute wealth and power by protecting local communities and vital water resources from the invasion of greedy corporations, who can the people rely upon but them.
- Stronger democratic movements at different levels that will demand and successfully obtain greater accountability from both governments and private corporations are therefore needed.

Implications

- And at the end of the day, when so many people are dying from lack of access to safe drinking water and sanitation, the struggle for water has to be transformed into a struggle for a fundamental human right and for being an economic good
(Malayang, 2003; PIDS, 2002).



Concluding Remarks

- Transparency, accountability, and participation are the keys to strengthening water governance in the Philippines;
- Paradigm shift of research agenda is needed on water resource indicators, quality, productivity, as well as blue, green water and environmental flows;
 - virtual water and associated nutrient flows, risk assessment on the water systems discourse to integrate natural science and social science into system approaches for a sustainable science on water environment.

Thank You

IGES-WEPA

UoT-AIT

VISION: *“By the year 2025, water resources in the Philippines are used efficiently, allocated equitably and managed in a sustainable way.”*

NWRB
Master Water Plan

Question No. 1 --Some problems of stakeholder

1. **Lack of technical capability of implementing agencies (LGUs, etc.) - to educate and train, including community awareness building, adult training and formal education, so as to provide sufficient numbers of competent human resources to develop and apply enabling systems**

Question No. 1 --Some problems of stakeholder

2. **Lack of basic water data and information flow** - *Necessity to improve coordination and systematic basic water data collection systems for efficient and effective flow of information*

Question No. 2

- Power is presented in this model as being a construction of a water institution's public legitimacy, trust and credibility.
- Water institutions gain power when they have widespread public confidence on (a) their mandates to address or be concerned with water resources, (b) their ability to promote public rather than individual or elite interests on water, and (c) their technical and organizational capabilities to address water issues and problems.

Question No. 2

- Thus, water policies are creations of power; the water institutions that have the more power will dominate water policies. In turn, water policies will tend to be more stable and precise if they are composed of water decisions and actions adapted by a wide array of institutions.
- Furthermore, there will be a lesser chance of any water institution moving to a dominant position of being able to control decisions and actions over water. Based on other studies, this model posits that legitimacy, trust and credibility are perhaps dependent on how water institutions conduct themselves.