



# MODEL OF WATER RESOURCE GOVERNANCE IN THE PHILIPPINES

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## ACRONYMS

|        |   |  |
|--------|---|--|
| ACM    | - | Adaptive Collaborative Management                  |
| AFMA   | - | Agriculture and Fisheries Modernization Act        |
| BSWM   | - | Bureau of Solid and Water Management               |
| CIFOR  | - | Center for International Forestry Research         |
| DENR   | - | Department of Environment and Natural Resources    |
| DPWH   | - | Department of Public Works and Highways            |
| EcoGov | - | The Philippine Environmental Governance Project    |
| EMB    | - | Environmental Management Bureau                    |
| GOP    | - | Government of the Philippines                      |
| MWSS   | - | Metropolitan Waterworks and Sewerage System        |
| NGA    | - | National Government Agency                         |
| NGO    | - | Non-Government Organization                        |
| NIA    | - | National Irrigation Administration                 |
| NWRB   | - | National Water Resource Board                      |
| PBG    | - | Private Business Group                             |
| PCSD   | - | Philippine Council for Sustainable Development     |
| PIDS   | - | Philippine Institute for Development Studies       |
| PO     | - | People's Organization                              |
| RAI    | - | Research and Academic Institutions                 |
| RDC    | - | Regional Development Council                       |
| USAID  | - | United States Agency for International Development |



# A MODEL OF WATER RESOURCE GOVERNANCE IN THE PHILIPPINES<sup>1</sup>

Ben S. Malayang III<sup>2</sup>

## 1. INTRODUCTION

### BACKGROUND

The water situation in the Philippines may be best described by an oxymoron: *abundant scarcity*. On the one hand, there is so much water (Table 1), but it is scarce for most Filipinos (Figure 1). On the other, scarcity has become so widespread that it seems happening most everywhere in the country. Irrigation service areas have dropped nationwide (Figure 2).

**Table 1. Water availability in the Philippines by region in mcm/day, (2001).**

| REGION            | RUNOFF* | GROUNDWATER | TOTAL |
|-------------------|---------|-------------|-------|
| Ilocos            | 42      | 7           | 49    |
| Cagayan Valley    | 130     | 28          | 158   |
| Central Luzon     | 52      | 16          | 58    |
| Southern Tagalog  | 139     | 15          | 154   |
| Bicol             | 46      | 9           | 55    |
| Western Visayas   | 33      | 11          | 44    |
| Central Visayas   | 28      | 3           | 31    |
| Eastern Visayas   | 101     | 13          | 114   |
| Northern Mindanao | 74      | 16          | 90    |
| Western Mindanao  | 53      | 5           | 58    |
| Central Mindanao  | 72      | 9           | 81    |
| Southern Mindanao | 63      | 10          | 73    |
| TOTAL             | 833     | 142         | 975   |

\*Dependable runoff occurring 80% of the time

Source: SESAM-CA UPLB 2001 c.f. National Water Resource Board, 2001

### PURPOSE OF THE PAPER

This paper presents a model of water resource governance based on how environment and natural resources are allocated and distributed as public goods, and how their protection, development and utilization are a result of a confluence of decisions and actions by public, private and civil society institutions in the Philippines. The model was earlier developed from out of

<sup>1</sup> Presented at the *Water Policy Forum*, Philippine Institute for Development Studies (PIDS), 28 May 2002, PIDS Room 208, Makati, Philippines. Based on an earlier work with the *Adaptive Collaborative Management (ACM)* Project of the Centre for International Forestry Research (CIFOR) in Bogor, Indonesia, and on current work with the USAID-GOP *Philippine Environmental Governance* Project implemented by the Philippine Department of Environment and Natural Resources (DENR). The paper, however, does not necessarily represent the views of either CIFOR, USAID or DENR.

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Philippine experiences with forest management.<sup>3</sup> It is presented here to explore how it may be also applicable to water.

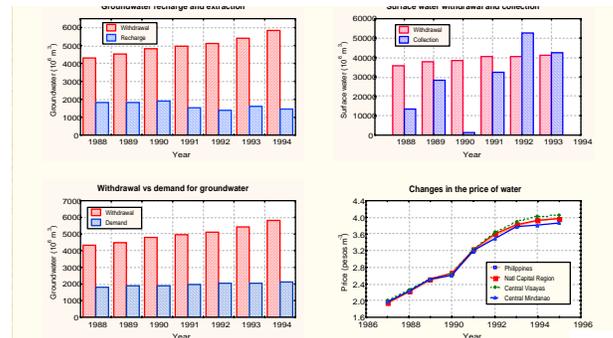


Figure 1. Demand, extraction and prices of water in the Philippines.

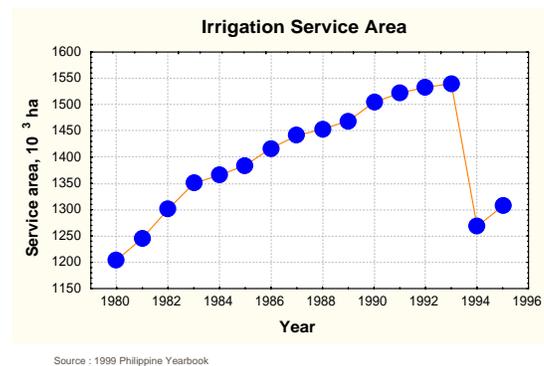


Figure 2. Drop in irrigation service areas in the Philippines.<sup>4</sup>

## ORGANIZATION OF THE PAPER

The paper begins with a brief description of the concept and problematique of water governance. It presents the conceptual perimeters of the model. The model is described & its implications to water governance are discussed. Alternative approaches to governing water are identified based on the model. Conclusions are drawn from how each approach facilitates coordinated decisions and actions by stakeholders of water resources.

<sup>3</sup> The development of the model was done with funding from CIFOR's ACM Project.

<sup>4</sup> The National Irrigation Administration (NIA) had noted that there is a complex of both physical and institutional factors explaining the trend indicated here. These include the changing fee structures on services (Pascua and Fernandez 2002).

## 2. CONCEPT AND PROBLEMATIQUE OF WATER GOVERNANCE

### A. CONCEPT

In this paper, *water governance* is viewed broadly as the collection of social controls on human conduct relating to water. The controls constitute the deliberate intentions of a body politic to shape the state and conditions of water resources and its availability and services to humans and to other beings. They are articulated by the decisions and actions of water institutions which are either *formal* like state agencies or local government units (LGUs) or *non-formal regulatory arrangements* like customs and tradition. In this view, water governance encompasses the set of purposive human decisions to bring about actions that are intended to maintain, or alter (if they are unacceptable, e.g., if polluted), the physical and social components of water resources. These are the decisions and actions that determine how water resources are able to produce energy, information and materials for acceptable human ends.<sup>5</sup>

### B. PROBLEMATIQUE

The *problematique* of water governance centers on the legitimacy, public trust and credibility of water institutions (i.e., institutions that include water as among the scope of their mandate). It dwells on how these institutions are able to exercise the controls when operating with other water institutions in society (From EcoGov 2002).

*Legitimacy* refers to the degree that a water institution is accepted by its constituency to be the correct institution to exercise a control. Its constituency recognizes the validity of the institution's authority. *Public trust* is the extent that an institution's constituency has confidence that it works to protect their interests and to promote their welfare, and only them. *Credibility* is the degree that a water institution's constituency has confidence on its ability to execute its mandate (From Malayang 2002).

Water governance issues arise when water institutions have unequal levels of legitimacy, public trust and credibility. When this occurs in any point in the landscape of water governance, public support for the institutions can become uneven so that their ability to execute their mandates will become uneven as well. Their ability to complement each others' decisions and actions would weaken so that the over-all efficiency of water governance could drop.

The model that is presented here elaborates on this concept of water governance but in a way that provides for a theoretical basis for explaining how the issues that comprise its *problematique* affect water policy and management in the Philippines.

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<sup>5</sup> This view of water governance is based on a collection of works on natural resource management (forests, lands, water), among them IGES-SUIGES 2001; Contreras 2001(a)(b); Plopino 2001; Halachmi 1995; Rambo 1983; Blondel 1995; Boserup 1965; Hayami et al. 1976; Anderson et al. 1984; O'Riordan 1971; Kasperson 1969; Cobb & Elder 1972; and Bentley 1967.

### 3. DESCRIPTION OF THE MODEL

#### STRUCTURE

The model is constructed from the following observations on how decisions and actions on water are made in the Philippines:

1. There is a multiplicity of institutions – organizations and regulations – governing water and its uses in the country (Malayang 1999a; Magallona & Malayang 2001).
2. The authority and jurisdiction of water institutions differ in terms of a *hierarchy* of their coverage. Some are national (e.g., NWRB; BSWM; DENR) while others are regional (or sub-national) and local (e.g., MWSS, water districts). Others are global which have acquired legal authority in the Philippines through treaty ratification; they, too, affect water decisions and actions in the country (e.g., Ramsar Convention);
3. The *mandates* of the institutions differ. Some are statutory (prescribed by law, e.g., MWSS, NWRB, BSWM, DENR, water districts) and others are customary (or are creations of tradition or of local social arrangements, e.g., irrigation associations);
4. Water institutions differ as well in terms of the societal sectors that they occupy; i.e., some are state agencies (e.g., NWRB, BSWM, DENR, MWSS) while others are community or civil society groups (i.e., non-state organizations like irrigation associations, farmers' associations, consumer groups, nongovernment organizations [NGOs] and peoples' organizations [POs], private business groups [PBGs] and research and academic institutions [RAIs]). Some of the latter might have legal personality ascribed to it by the state such as farmers' associations given water rights under AFMA, or NGOs and POs given official capacities in the national planning process like through the Philippine Council for Sustainable Development (PCSD).

Thus, the decisions and actions on water resources in the Philippines are in fact a product of the interplay of multiple institutions operating in different hierarchies of authority, and in different societal sectors of decision-making and action taking (see also Brillantes 1998 and Rood 1998). It is multi-level and multisectoral. And because the concerns on water may cover a number of issues over its uses and features, it is multi-thematic as well (i.e., it covers a range of technical, social, economic and political concerns on water). The three – hierarchy, sectors and themes – define a “governance space” where water decisions or actions occur, or which can be located at any given time (e.g., see Figure 3).

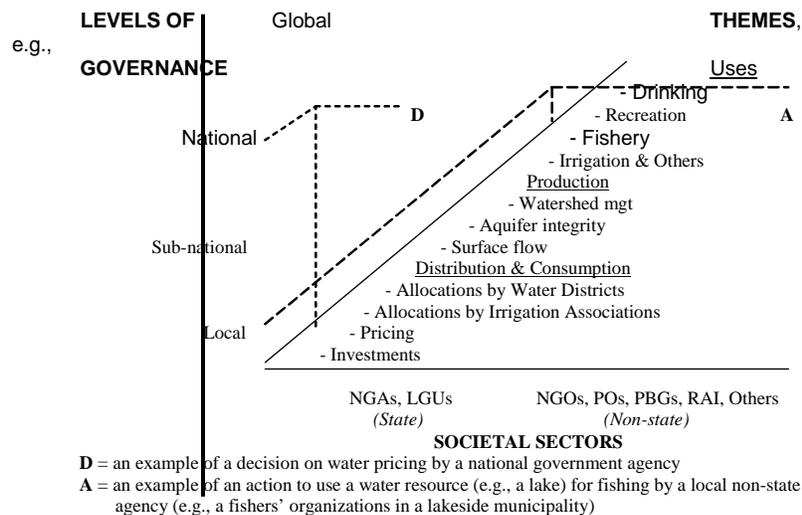
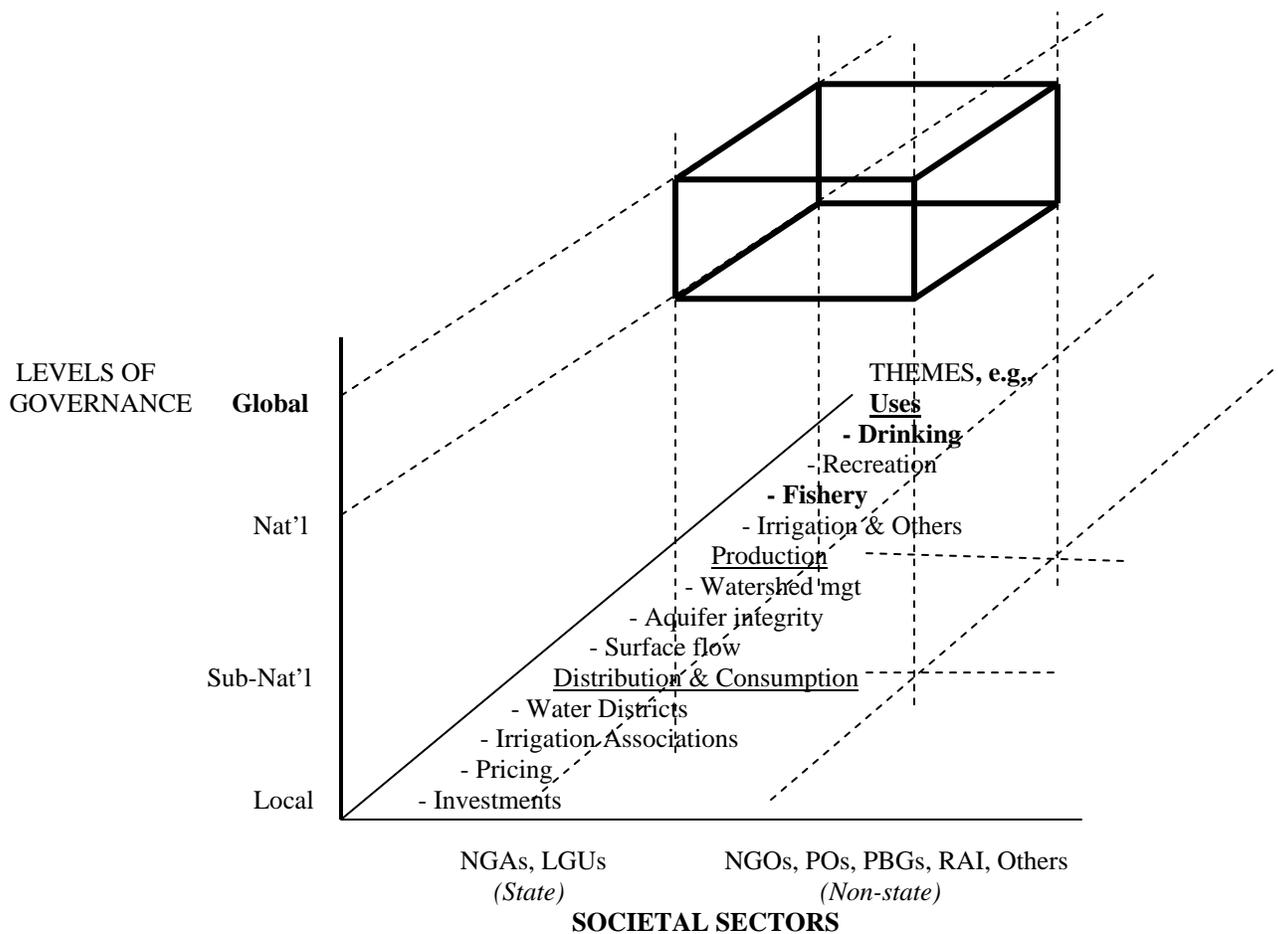


Figure 3. Three dimensions of water governance in the Philippines (adopted from Magallona & Malayang 2001).

But water decisions and actions are not events that occur by themselves. As with other resources (e.g., forests, lands), they are often the product of a complex of competition and collaboration among institutions and their stake holding constituencies in different hierarchies of governance (e.g., see Contreras 2001c; Buck et al. 2001; Coxhead & Buenavista 2001; Ellison 1998; Pertierra 1995; Grindle & Thomas 1991; Clarke 1998).

The institutions and constituencies will either compete or collaborate to address one or more concerns about water. And while they might institute collaborative mechanisms to accommodate their different interests over their different concerns (as they often do), they will nonetheless seek to have their interests upheld eventually (e.g., see Buck et al. 2001; Contreras 2001c; Coxhead & Buenavista 2001; Ostrom 1999; Grainger et al. 1998; Grainger & Malayang 1998; Barbiers 1998; Clarke 1998; Bardham 1993; Grindle & Thomas 1991). Thus, water decisions and actions are actually shaped by the dynamics of institutional competition and collaboration occurring within an *area* (not a point) in the governance space (Contreras 2001c; Malayang 1998b; Grindle & Thomas 1991; Cobb & Elder 1972) (Figure 4).



**Figure 4. Decisions or actions occurring in an area in the three dimensional space of water governance in the Philippines (in this case illustrating a decision or action made by government agencies and NGOs at global and national levels over the production, distribution and consumption of water).**

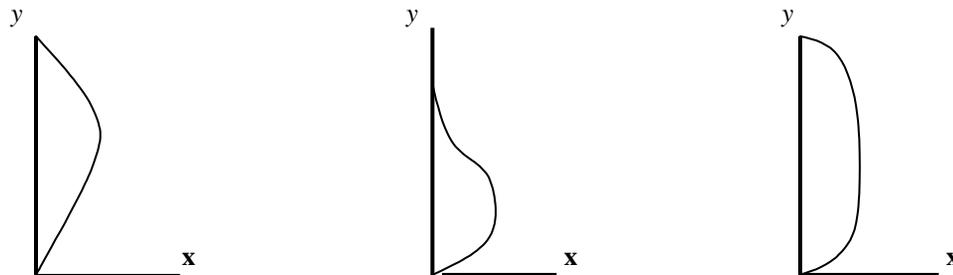
## DYNAMICS

Presumably, cooperation and competition are substrated by an institution's power to influence a water decision or action. This power is 2-dimensional. First, it has *range* (i.e., the extent that an institution can exert its influence on water decisions and actions across hierarchies, sectors and themes). Second, it has *intensity* (the degree to which an institution's influence compares with those of others across hierarchies, sectors and themes). This suggests two cases on how power shapes water decisions and actions:

- **Case 1** (Relating to the power of an institution). Across the axis on *levels of governance* in Figure 4, the range of the power of a water institution can be in all or only some levels and it can be more intense in some levels than in other levels (Figure 5a). It may range across all or only some sectors across the axis on *sectors* and may be more intense over particular sectors than over others (Figure 5b). It may also extend over all or only some water concerns across the axis of *themes* and it may be more intense than the power of other institutions over some concerns (e.g., over irrigation or on controlling surface flow) than on others (e.g., over distributing fishing rights or pollution control; Figure 5c).
- **Case 2** (Relating to the placement and concentrations of power). Water institutions operating in certain *levels of governance* may have more or less power to influence water decisions and actions than those operating in other levels (Figure 5a). Or the institutions in either the public or private *sectors* might have more or less power than the other (Figure 5b). Or certain *themes* dominate, or are less than, other concerns on their power to influence decisions and actions (Figure 5c).

The first case focuses on the water institution itself and on the reach of its power. The second is about where power accumulates. In both instances, it is power that is relevant.

Where  $x$  is the intensity of an institution's power to influence water decisions and actions;  $y$  is level of governance [local (down) to global (up)]:



**Scenario A**

- Cases:
1. The institution's power extends across all levels of governance but more over national than over either global or local levels.
  - or
  2. National institutions have more power to influence water decisions & actions than water institutions in other levels of governance.

**Scenario B**

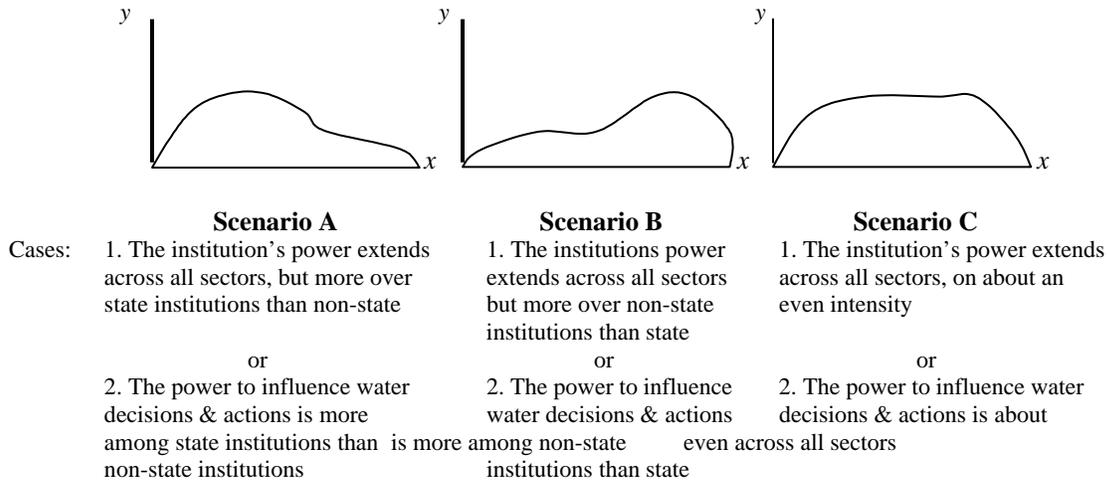
1. The institution's power extends to only national to local, but more over the latter than on the other
- or
2. Institutions in lower levels of governance exert more power over water decisions & actions than those in other levels.

**Scenario C**

1. The institution's power extends across all levels on about an even intensity
- or
2. Institutions in all levels of governance have even power over water decisions/actions

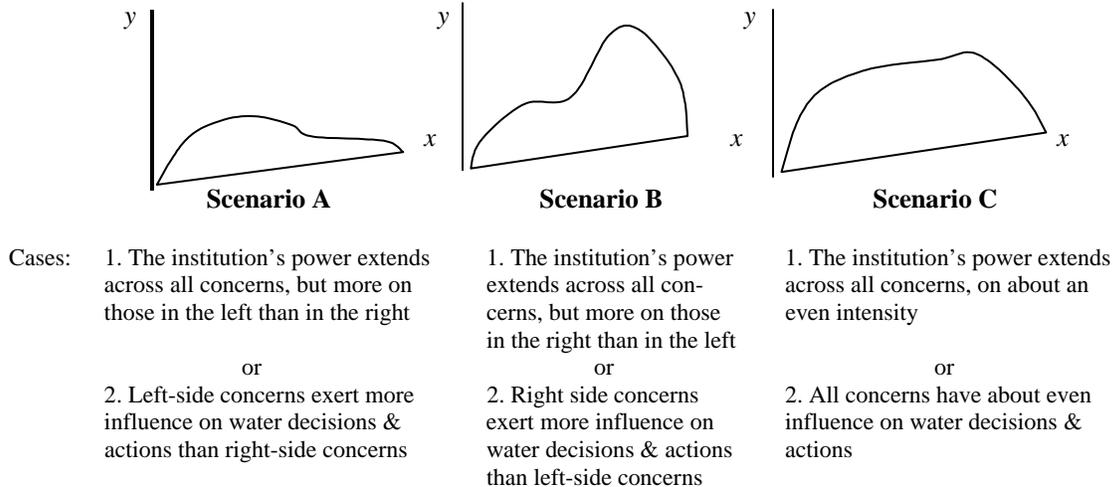
**Figure 5a. Possible configurations of the distribution and intensity of an institution's power to influence water decisions and actions across levels of water governance.**

Where  $x$  are sectors that generate water decisions and actions [state left; non-state right];  $y$  is intensity of a water institution's power to influence water decisions and actions:



**Figure 5b. Possible configurations of the distribution and intensity of a water institution's power to influence water decisions and actions across sectors.**

Where  $x$  are thematic concerns of water decisions and actions (e.g., production or distribution) and  $y$  is the intensity of a water institution's power to influence the decisions and actions:

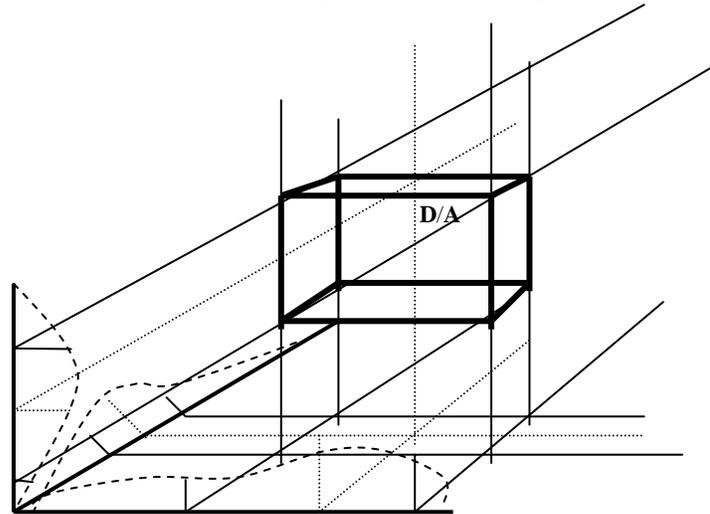


**Figure 5c. Possible configurations of the distribution and intensity of a water institution's power to influence water decisions and actions across different thematic concerns on water.**

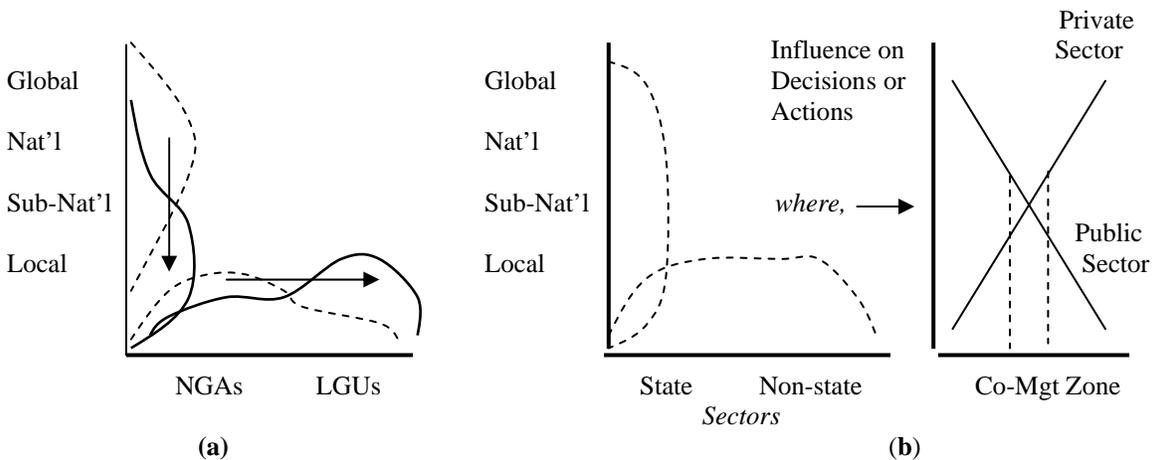
Each axis in Figure 4, therefore, may be assumed to be a distribution with corresponding limits of significance. Consequently, the intersections of transects of their upper and lower limits will form a solid that circumscribes the boundaries within which a water decision or action moves, presumably toward the intersection of transects of their maximas (i.e., toward where the most intense influences coincide; Figure 6). If a maxima in one-axis shifts (with or without a shift in limits), the decision or action may shift as well. That is, when: (a) either the reach of a water institution's power declines in some levels (Case 1), or the concentration of power shifts from one level (say, national) to another (say, local) (Case 2; e.g., when devolution occurs, see Figure 7a); or

(b) either the power of certain water institutions operating in a level of governance increases with respect to other institutions in the same or other levels (Case 1), or the combination of sectors

and institutions exerting the dominant influence on water decisions or actions expands to then include other sectors or institutions (Case 2; e.g., when co-management occurs, see Figure 7b).



**Figure 6. A solid formed by the intersection of transects of significance limits from three axes of governance showing the position of a decision (D) or action (A) as defined by the intersection of sample transects of maximal points in each axis.**



**Devolution:** Given a range of themes, the power to influence water decisions & actions shifts from national to local, and from national state institutions (i.e., National Government Agencies [NGAs]) to local state institutions (i.e., LGUs) (Local Government Code 1992).

**Co-Management:** Given a range of themes, water decisions & actions are shaped at all levels by both state & non-state institutions at about similar degrees of influence on the decision or action (Malayang 1999a, 1998b).

**Figure 7. A graphical representation of the concepts of devolution (a) and co-management (b).**

The decisions and actions coinciding in the intersection of the maximas may be assumed to represent the confluence of the interests of the most influential water institutions. To the extent that the decisions and actions tend to set the parameters on (a) how water is to be defined as a resource, (b) how it is to be availed of, and (c) how it is to be used, they would constitute policy, at that time. When the confluence of interests of the powerful institutions change (i.e., the maximas shift to form another intersect), the policy will change correspondingly.

Thus, it may be held that the solid shown earlier in Figure 6 circumscribes a “policy space” where a policy **P** might move on a vector defined by the extent to which the institutional powers bearing an influence on **P** shift across sectors, levels, and themes. Or, given an axis  $v$  ( $v$  = sectors, levels of governance, and themes), where  $M_v$ ,  $D_v$ ,  $r_v$  and  $l_v$  are the maxima point, length of distribution, and right and left significance limits of the distribution of power in the axis,

$$\partial P / \partial \hat{a} = f(\partial M_v / \partial D_v), r_v \leq D_v < l_v \text{ for all } v's$$

It follows that if the policy space is large, **P** will tend to be more robust – or is less likely to change – because, presumably, it embodies a wide array of institutional powers and concerns that converge on the policy. It would have a wider power base and is anchored on a wide range of concerns about the resource which, together, would combine to tend to keep it in its existing formulation. In contrast, if the space is small, **P** is apt to be weak in that other institutions outside those now confluencing on **P** might muster a collective power that overwhelms those that agree on **P**. They may then advance an alternative array of concerns, decisions and actions that could differ from **P**.

To the extent then that water policy provides the basis for managing water (here defined as the complex of measures to make water available and useful to human communities), water resource management is fundamentally a construction of the ecology of power of water institutions.

#### **4. ILLUSTRATING THE MODEL: THE CASE OF THE PAMPANGA RIVER**

The Pampanga River is a major surface water resource for both Pampanga and Bulacan provinces in Central Luzon. It supports small-scale freshwater fishery and industrial and domestic water needs in Pampanga. In Bulacan downriver, it supports mainly domestic uses, small-scale catch fishery and large aquaculture fisheries toward Hagonoy. It is also used for irrigation in both provinces.

The river’s flow is irregular. Flooding can be severe at certain times of the year during typhoons and monsoons. It has from moderate to high loads of silt and its watersheds have low forest cover. Except in its upper reaches, it is polluted and is classified C open water body by the government (DENR-EMB 1996).

Decisions on its use and what to do with it will need to somehow address how it is used in both Pampanga and Bulacan. Some of its uses in the two provinces might need to be controlled, and some expanded. But in addition, measures like flood control, siltation control and pollution control would be needed to expand the river’s usefulness to local communities and to its users.

But these decisions and actions, which are local in nature, shall need to be consistent with how the Regional Development Council (RDC), the regional office of the National Water Regulatory Board, and other LGUs and state agencies in the region, have decided on how the river shall used for the region’s over-all welfare. To the extent that these bodies act as the sub-national decision and action centers in the hierarchy of water decision making or action taking in the Philippines, the decisions and actions in Pampanga and Bulacan shall have to be coordinated with, or subordinated to, the decisions and actions of the regional bodies. In turn, the decisions and actions of the regional bodies need to be coordinated with, or subordinated to, the decisions and actions of national, and even global, bodies regulating water resources in the country. For instance, the measures to be done on the river shall need to be within the parameters and water management set by the National Water Regulatory Board, the DENR and the DPWH. If the measures are not consistent with their stipulations and regulations, they could be illegal. And

being a wetland, the measures shall need to be also consistent with the provisions of the Ramsar Convention. This is an international environmental agreement ratified by the Philippines and so is part of the legal framework on freshwater management in the country. These illustrate how decision making and action taking on an otherwise local water resource like the Pampanga river, is actually a multilevel process, extending from local to global.

Too, the same decisions and actions involve not only state institutions but non-state sectors as well. At the local level, both LGUs, industries, private aquaculture investors, small-scale individual fishers and riparian communities, constantly make decisions or take actions that affect the river's life. At the regional and national levels, the decisions and actions of the RDC, regional state agencies, LGUs, NWRB, DENR and the DPWH, routinely take into account (albeit in different degrees) public pressures from industry and civil society on how water resources must be protected and utilized. At the global level, the Ramsar Convention involved civil society and industries in crafting its provisions. Thus, the decisions and actions on Pampanga River involve different sectors operating across the local to global hierarchy of water governance. It is multisectoral.

Finally, it is multithematic. If the Pampanga River were to be rehabilitated or improved, a number of concerns need to be addressed together. Among them, flood control, pollution control, sedimentation control, watershed improvement, strengthening regulations and enforcement to control unwanted human behavior towards the river, and other concerns that may involve a host of engineering, environmental, social and economic measures that need to be all done. The concerns are numerous and wide-ranging, but they all need to be addressed if the river were to be rehabilitated fully.

Today, the policy on Pampanga River is mixed and is therefore unclear over-all. The more powerful institutional influences on its use and management tend to be the LGUs in the two provinces of Pampanga and Bulacan and the national offices of the NWRB, DENR and DPWH.<sup>6</sup> The first two have clear intentions on what to do with the river to expand their existing *local* uses of it. The latter three have equally clear intentions on the river but more with respect to the wider *regional* and *national* interests on it. Neither LGUs nor national agencies have clear dominance over the other in terms of the power to enforce their intentions over the other. There is a virtual impasse on what decisions and actions should dominate and comprise the policy on the river. This situation is likely to continue until one or the other institution overwhelms the others. If the impasse is broken, then the present non-clarity of the policy may shift to a situation in which the policy is likely that which the dominant institution will prefer. This illustrates how water policies are shaped by the dynamics of power of water institutions.

## 5. IMPLICATIONS TO WATER GOVERNANCE

The model suggests three propositions about water governance in the Philippines:

1. *Water governance is a complex of institutional dynamics of power.* The power to influence water decisions and actions lie at the heart of water governance. It is the flux of power that creates the dynamics and direction of water governance.

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<sup>6</sup> Somehow, in Central Luzon, the RDC and other regional bodies including the regional offices of the NWRB, DENR and DPWH, have, by themselves, low influence on what to do with the Pampanga river. They are either restricted by mandate or by the absence of a capacity to take action (e.g., RDC), or they are highly dependent on what their national offices decide for them to do.

2. *Water policy and management are products of the confluence of interests of water institutions that have the most power to influence the decisions and actions over what to do with certain concerns on water.* The location, flow and thematic coverage of the concentration of power among water institutions determine the course and content of water policy and management. The larger the proportion of the influential institutions agreeing to a policy and on a management scheme, to the total number of institutions comprising the institutional landscape of water governance, both the policy and the management scheme are likely to be stable and robust. The over-all efficiency of the water governance complex will likely improve if the parity of water institutions to be able to influence water policy and management is high and wide across governance levels, sectors and concerns.
  
3. *Different combinations of powerful water institutions will likely bring about different water policies and water resource management schemes.* Each water institution may represent a different combination of stakes and concerns on water. When some of them converge on a common interest or agreement on water, the convergence will likely involve a specific range of concerns or preferences on what to do with it. The concerns and preferences will likely change if the combination of the institutions that have an influence on them will change.

If the model is correct, it follows that it is the power of water institutions that will likely determine their ability to influence the shape, direction and content of water policy and management in the Philippines. Their capacities to concede or to advance their interests in the processes of institutional collaboration and competition to shape policy, will depend on how much power they have in relation to others.

And so, to the extent that the legitimacy, public trust and credibility will determine the degree to which water institutions can muster public support for their decisions and actions – and, hence, acquire power – the three (legitimacy, public trust and credibility) offer the handles with which to influence water policy and management in the country.

- Where certain institutions that are presently in the margins of power are deemed to best benefit society by being more involved in shaping water policy and management, then efforts may be expended to improve their legitimacy, public trust and credibility as institutions to be making water decisions or taking actions on water.
  
- (Corollary to this, if an institution is not now exerting an influence on water policy and management when, to many, they should, it must be because their legitimacy, public trust and confidence as institutions to be involved in water decisions and actions are presently low.)
  
- Where certain institutions that are presently in the centers of power are deemed to best benefit society by being less dominant in shaping water policy and management, then the levels of legitimacy, public trust and credibility of other institutions may need to be raised to match those of the dominant ones. So doing, the influence on water policy and management will be widened and not dominated by a few.

(Corollary to this, if there are only a few institutions now dominating water policy and management, it must be because the others that should be involved are suffering from a lack of legitimacy, public trust and credibility as institutions to be involved with water.)

- If water policy and management were to be made more stable and robust, then efforts may be expended to elevate the levels of legitimacy, public trust and credibility of as many water institutions there are operating across the hierarchy, sectors and themes of decision making

and action taking on water, to widen the confluence of interests and agreements over water decisions and actions.

(Corollary to this, if water policy and management were not now stable nor robust, it may be because there are no institutions in the country that have a clear ascendancy in legitimacy, public trust and credibility as institutions to make decisions or take actions on the nation's water resources.)

If correct, the model suggests that wide sectoral collaboration among water institutions in will likely create a stable and robust water policy and management environment in the Philippines. Power, however, would be the critical element on how the institutions can collaborate and agree over the decisions and actions that will constitute policy. And the keys to power – or to the ability of institutions to influence the content of water policy and management – would be their legitimacy, public trust and credibility.

The same three – legitimacy, public trust and credibility – would be the keys to strengthening water governance in the country.

## **6. ADDRESSING LEGITIMACY, PUBLIC TRUST AND CREDIBILITY**

### **A. LEGITIMACY AND TRANSPARENCY**

To address legitimacy, the core concern is to elevate the degree that the public is made fully aware of what water institutions are doing. Assuming that they are in fact doing their best to the best of what their limited resources can allow, the one sure way of convincing the public that this is the case would be to keep it continuously informed of their efforts. It follows that *transparency of public service* would be a significant measure to be pursued toward this direction.

While mandate would be a prerequisite to legitimacy, public confidence on the water institution that it is in fact acting on its constituency's interest is still crucial. It may even be the final arbiter for how much legitimacy the institution can command from its constituency.

Transparency occurs when the constituencies of an institution are ensured of timely, accurate and full information on what it is doing for them. And they have a regular and real opportunity to correct or register their support or opposition to what the institution does. Transparency creates the knowledge that, in turn, creates public confidence on the legitimacy of the institution.

### **B. PUBLIC TRUST AND ACCOUNTABILITY**

To address public trust, the core concern is to elevate public confidence on water institutions that when doing their mandates they seek only to serve the public interest. They will not use water measures as cover for graft and corruption or to realign public rents and assets for the benefit of only a preferred few. Consequently, strengthening the *accountability* of water institutions would be a key measure to be pursued toward improving public trust.

Public trust would require that the constituency of a water institution have full confidence that when undertaking its mandate, it is entirely dedicated to promoting their welfare. It deploys its resources efficiently and judiciously, and only for the purpose of achieving its mandate. It can readily explain how it uses its resources toward achieving its mandate. It has a well-functioning command & control system with clear lines and centers of authority and responsibility. It has as well a well-functioning check-and-balance mechanism with which the decisions and actions of

any of its responsibility centers are constantly subject to oversight and correction. It has a clear procedure for due diligence and a system of standards and rules of conduct for its staff. It has a functioning system of rewards and sanctions for good and bad performance. It is certainly not corrupt, which it deems a direct opposition to public trust.

### **C. CREDIBILITY AND PARTICIPATORY DECISION MAKING**

To address credibility, the core concern is to ensure that the decisions and actions of a water institution are technically and methods-wise solid and robust. They reflect a wide range of *collective wisdom* that emanates from the deliberations of a larger public than only its staff or officials.<sup>7</sup>

Credibility involves high public confidence that a water institution can effectively execute its mandate. When it does its job, the job will be done well. This is best ensured if there is a wide range of stakeholder participation in the processes when institutions make decisions or undertake actions. All stakeholders are represented and efforts are routinely being undertaken to involve traditionally marginalized water users: e.g., women, indigenous people, the elderly, the youth, the poor, farmers, fishers, others. Participatory decision making and participatory action ensures a water institution's credibility in the long run.

Transparency is about a water institution's *mandate*. Accountability is about *efficiency* with which a water institution executes its mandate for the public good. Participation is about the *effectiveness* of the institution to achieve its mandate. All three are the basis for how much a public might have confidence on a water institution so that they may want to support its decisions and actions. They are ultimately the basis for how much power an institution is able to muster to influence water policy and management.

## **7. SUMMARY AND RECOMMENDATIONS**

### **A. ON POWERS AND COLLABORATION AMONG WATER INSTITUTIONS.**

The model suggests that water governance in the Philippines is a complex of powers of water institutions that concentrate and flow across different levels, sectors and concerns over water. It is a creation of an "ecology of power" which, in turn, constructs water policy and management systems.

The powers of water institutions – mainly emanating from out of their legitimacy, public trust and credibility – are the consequences of their transparency, level of accountability and breadth of participatory decision and action taking on water.

If an institution is less able to influence policy and management than it is otherwise desired or expected to, it may be because it has low levels of legitimacy, public trust and credibility. If the three were improved, they offer the levers with which to elevate the institution's capacity to influence water policy and management. Or if an institution's influence is high and it becomes necessary to allow for a wider social and institutional base for policy and management, the

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<sup>7</sup> Technical competence and "water wisdom" must be clearly distinguished. The first is a function of science and technology or of sound knowledge of water. The second is from actual experience with water and its uses in different communities and social, political, economic and environmental settings. Water institutions may have a large concentration of technical competence, but water wisdom is almost always procured only by deriving it from the sense of a larger public or constituency than are represented in the internal staffing of the institutions. In this sense, one measure to pursue to address credibility is to widen the *participation* to the decision making or action taking processes of water institutions.

transparency, accountability and participatory processes of other institutions may be improved to allow them to gain as much power as the first.

The model stresses that *adaptive collaboration* among water institutions may be a potent mechanism for shaping water policy and management. That is, their ability to allow for each others' differences in capabilities, capacities and water concerns in the interest of achieving a consensus on water decisions and actions, may strengthen policy making and water management systems. But adaptive collaboration must occur widely to provide for a solid substrate for water governance. Adaptive collaboration among water institutions leads to effective water governance.

## **B. ON ALTERNATIVE CONFIGURATIONS OF WATER GOVERNANCE SYSTEMS.**

The model suggests four alternative loci of water governance in the Philippines. These are centers of water decisions and actions from which will possibly emanate national water policy and management systems:

1. National-Government. Water policy and management are as set by the state. The scope of policy and management are national and are produced primarily as a decision of the government. Participation by other sectors and water institutions are as prescribed by pertinent national laws. Statutes are the basis of water policy and management. Oppositions are adjudicated by prosecution, litigation or legal mechanisms for expressing dissent like through the media.
2. National-Nongovernmental. Water policy and management are as determined by powerful non-state water institutions. The scope of policy and management is national and produced mainly as a decision of non-state stakeholders of water resources. Participation by other water sectors and institutions are as allowed by commonly-recognized social arrangements, including the statutory rights of other stakeholders to water like farmers' irrigation associations. National demand and stakes on the resource are the basis of policy. Oppositions are adjudicated by negotiations among stakeholders or, when these fail, by prosecution, litigation and legally-allowed mechanisms for expressing opposition (again, like through the media).
3. Local-Government. Water policy and management are the decisions and actions of local governments on water resources within their jurisdictions. The scope of policy (where here policy is viewed as the operational guidelines to govern water utilization) is local and is primarily the decision of local government units. Participation by other water sectors and institutions are as allowed by local governments, mainly through legally prescribed procedures of participation. The interests and influence of local water users are the basis of the policy. Oppositions are adjudicated by negotiations and by legal procedures of prosecution and litigation. Legally-allowed mechanisms of dissent (like media) can be useful to compel negotiations and changes in water policy and management.
4. Local-Non-Government. Water policy and management are the products of how local users actually regulate the use water. The scope of water policy and management is limited to a community of users and only to the extent that they are able to enforce them (mainly through customary mechanisms of compulsion). Participation by other water sectors and institutions is as allowed or accommodated by the users. The use and dependence of the local users of a water resource are the basis of the policy and its management. Oppositions are adjudicated mainly through negotiations, even if sometimes, when negotiations fail, legal mechanisms may be resorted to by opposing stakeholders. Public pressures such as those through media may have little effect on the policy or management system.

Table 2 summarizes the features of these four loci of water governance.

**Table 2. Summary features of four alternative loci of water governance in the Philippines.**

| <b>Loci of Water Governance</b> | <b>Producer of Water Policy</b>                    | <b>Scope of the Policy</b> | <b>Participation Opportunities</b>       | <b>Basis of Policy</b>                          | <b>Resolution of Oppositions</b>              |
|---------------------------------|--|----------------------------|--|---|---|
| National-Government             | <i>National Government Water Agencies</i>          | <i>National</i>            | <i>As prescribed by law</i>              | <i>Statutes</i>                                 | <i>Mainly thru prosecution and litigation</i> |
| National-Nongovernmental        | <i>National Nongovernmental Water Institutions</i> | <i>National</i>            | <i>As allowed by social arrangements</i> | <i>National demand &amp; stakes on water</i>    | <i>Negotiations &amp; litigation</i>          |
| Local-Government                | <i>LGUs</i>  | <i>Local</i>               | <i>As prescribed by law</i>              | <i>Interests &amp; influence of local users</i> | <i>Negotiations &amp; litigations</i>         |
| Local-Nongovernmental           | <i>Local Water Users</i>                           | <i>Local</i>               | <i>As allowed by social arrangements</i> | <i>Local dependence on &amp; use of water</i>   | <i>Mainly thru negotiations</i>               |

Each locus offers distinct strengths and weaknesses as options for generating water policy and management schemes. The national-government option tends to be strong for its legal basis and because of the coercive capabilities of the state to enforce government decisions. But it can be weak where its presence is low (i.e., in the more remote countryside) or where the reach of the bureaucracy is limited (i.e., in autonomous areas). It can be weak as well where its legitimacy is challenged by active dissent.

The national-nongovernment option would be strong when its constituency is wide. It can command high moral and political legitimacy which facilitates commitment to its decisions and actions. However, its weakness lies on its being highly dependent on consensus among its parties; when the compatibility of stakes among the parties break down, the consensus, and hence their decisions and actions, would be weakened.

The two options on local governance both offer potential strengths in that the decisions and actions they engender are anchored on local practices. These give them high policy and management legitimacy which tends to give the two a good consensual anchor, and hence a higher level of robustness. The government option has the added strength of the backing of law while the nongovernment option has the added strength of a clearly defined constituency. However, the government option is highly tied to how government in general is viewed by local constituencies as being legitimate articulators of local interests; where this is low, this option is weak. The nongovernment option becomes weak when local water practices are not compatible with statutory prescriptions.

The model suggests, however, that the strengths of each option is enhanced and their weaknesses controlled if all four centers of water governance are able to produce a consensus on water policy and management. Water policy and management are likely to become more robust if their formulations are produced by compatible decisions and actions of all four centers of governance. They are weakened whenever one or more center is unable to concur with (more so oppose) the decisions and actions of the others.

If correct, the 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 multisectoral 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.

Transparency, accountability and participation are keys to strengthening water governance in the Philippines.

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