Beyond Ideology: "Public or Private" is Not the Question

Recommendations for Policy Makers for Choosing Institutional Arrangements for Improving Urban Water Provision

Kate Neville
Master's of Environmental Science Candidate
Yale University School of Forestry and Environmental Studies (FES)

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Abstract

Urban water management has specific institutional challenges that must be addressed in order to improve freshwater access in developing countries. This paper uses case studies from the Philippines to address the political and regulatory barriers that hinder improvements to water services. The central aim is to move past the typical public versus private debate that has dominated international discussions about investment and management of water utilities over the last two decades.

The paper describes the scope of the water access problems, examines the need to move past ideology in water management decisions, provides case study examples to illustrate relevant issues, suggests context-specific factors that must be considered, and develops suggestions for policy approaches to reform.

The main conclusions are that decision makers need to consult with a broader spectrum of stakeholders when undertaking water sector reform, better understand the local context and existing water provision systems before enacting new regulations and structures, draw on theories and experiences of institutional organization to find context-appropriate systems for water resources, and increase transparency, accountability, and flexibility in governance.

Section 1: Terms and Abbreviations

ADB	Asian Development Bank
CEP	City Environmental Profile
DENR	Department of Environment and Natural Resources
EIA	Environmental Impact Assessment
FBWC	Fort Bonifacio Water Corporation
IFC	International Finance Corporation
INWD	Ilocos Norte Water District
IWRM	Integrated Water Resource Management
LGU	Local Government Unit
LWUA	Local Water Utilities Authority
Manila Water	The Manila Water Company, Inc.
Maynilad	Maynilad Water Services, Inc.
MDGs	Millennium Development Goals
MWSS	Metropolitan Waterworks and Sewerage System
NGO	Non-Governmental Organization
NRW	Non-revenue water
NWRB	National Water Resources Board
OECD	Organisation for Economic Co-operation and Development
PPP	Public-Private Partnership
PSP	Private Sector Participation
PSR	Public Sector Reform
SIA	Social Impact Assessment
SSIP	Small Scale Independent Provider
UNDP	United Nations Development Program
WD	Water District

Section 2: Introduction

2.1 Scope & Strategy

Water management in urban environments needs improvement: too many people lack access to adequate quantities of safe water, especially in urban poor communities (World Bank, 2006). Governments and international agencies have undertaken some reform efforts for water provision, but these efforts have had mixed success (Wood, 2004). Many of these reforms seem to have been driven in large part by ideology, rather than taking into account context-specific features of the municipality and tailoring a management structure to that specific place. Institutional design has a substantial impact on the success of a project, but the structure itself does not guarantee success or failure. The interplay of social, political, ecological, and economic factors with an institutional structure determines the outcomes of a water provision system.

The literature on water management, governance, and public policy now includes numerous case studies of water sector reform processes, and these are a valuable resource for cities that are contemplating changes to their own systems (see Brocklehurst and Janssens, 2004; Caplan *et al.*, 2001; Fernholz and Morales Fernholz, 2005; Hukka and Katko, 2003). However, they will only be useful if local managers and decision-makers can identify the relevant features of their communities that facilitate the adoption of a given strategy, and know which lessons to look at from the case studies to inform their choices and approaches. Water access troubles have been described by some as problems of governance rather than resource availability (IFAD, 2006), thus tools that facilitate the creation of appropriate, functional water policy are needed.

The focus of this paper is, therefore, how to develop a context-appropriate management structure for urban water provision. The study has been limited to urban and peri-urban areas, which tend to face different challenges than those in rural areas (Robinson, 2003). However, some lessons learned from successful rural water systems are valuable in an urban context (Robinson, 2003), particularly as the distinction between rural and urban becomes blurred (Cohen, 2004).

The chapters in this paper aim to move the discussion of water provision beyond the typical public-private debate and to look at the potential role of different stakeholders in water and sanitation systems. This will contribute to the growing literature on the importance of context specificity in resource management and service provision (Wolff and Palaniappan, 2004; Frans and Soussan, 2003). The paper draws on the experiences of the Philippines to shape recommendations for creating management systems, particularly in light of the varied results of public-private partnerships (PPPs) for water provision in Metro Manila, and sets out next steps for research and policy formulation.

The approach that will be taken has three major sections: the first is a discussion of the

rationale for moving beyond the ideological debates of public versus private sector water provision; the second is an examination of the Philippines' urban water management experiences and lessons learned from public-private partnerships in Manila; and the third proposes strategies for moving towards better water management systems, including recommendations of policy approaches that should be adopted in water sector reform.

2.2 Methodology

The paper utilizes a case-based approach to study the successes and failures of institutions governing water access. The analyses are qualitative; although quantitative analyses can provide valuable insight into the economic trade-offs of policy choices and how these influence political processes, this paper instead focuses on the underlying human behaviors and organizational forms that affect governance. Drawing on academic literature, practitioners' reports, and civil society publications, this paper examines the range of social, political, and economic factors that contribute to the functionality of a water provision system in a given context.

Section 3: Moving Beyond Ideology

3.1 Beyond the Public-Private Debate

Current discussions about water provision become entangled in ideological debates about public and private involvement in water. It is imperative that we stop dichotomizing the sectors, since it hinders our ability to develop more creative solutions to institutional arrangements for water provision (Wolff and Palaniappan, 2004). We must instead engage in more productive discussions of locally appropriate water provision systems. This section first explores the rationale for encouraging diverse solutions to the challenges of improving water access; it discusses the factors that must be considered in institutional design for resource management; and it draws on ecosystem analogies to examine the need for flexible structures and processes.

3.2 Policy-Making Tools and Frameworks: Why A Rule-Book Is Not Possible

This paper outlines the key features that must be identified within a community in order to determine an appropriate water management structure for that area; however, it deliberately stops short of providing an analytic path and final recommendations. While specific policy steps are needed in the management world, this paper focuses primarily on changing the conceptual and strategic approaches of policy makers and multilateral funding institutions. Decision makers must first be convinced that the traditional approaches to water sector reform need to be re-evaluated before they will consider adopting new tools for reform processes. Policy tools can then be introduced to help determine which institutional

arrangements could be viable in a given context; a policy guide is beneficial as it helps allocate responsibilities to the parties best able to assume them, eliminates options that are not feasible in the local context, and reminds decision makers of the range of institutional options that are available. A carefully constructed management framework adds to the chances of achieving a functional system, although it is not sufficient in isolation; a specific structure will not guarantee success, and there are numerous factors in maintaining partnerships and overseeing management processes.

3.21 Robust Institutional Structures

Some of the considerations that emerge in reform processes are how to create a management system that can withstand external shocks, be robust even in the face of corruption or undue political influence, include processes for decision makers to identify the management capacity of service providers' managers before they enter into an agreement for water provision, and be well-regulated.

Acheson (2006) suggests that institutional failure occurs when a group cannot either enforce property rights to prevent open access to resources, or, if property rights exist, when the group cannot agree to rules that govern the rate of resource exploitation. He characterized these problems as collective-action problems, which effective management can solve. In urban water provision, this analytical approach could be understood in the context of providers establishing property rights to raw water sources, contractual rights to service zones, tariff regulations, and wastewater treatment requirements. If governments, citizens, and water providers cannot agree on fair prices for service, that allow for the economic viability of the operator without placing undue burdens on the users, then water resources will not be optimally supplied or demanded. Similarly, if providers cannot attain secure access to resources, then the risk of entering the formalized, regulated market will be too high, and operators may choose to operate illegally. These issues are collective-action problems, as they require social commitments to solve, and have an impact on societal health and well-being.

There is no mathematical formula for success when building institutional structures. While it would be comforting to plug data into a program and have it provide 'the answer' for designing a water management system, such an approach is implausible in the context of dynamic communities. The Organisation for Economic Co-operation and Development (OECD) has developed a policy simulation tool, called FEASIBLE, that allows users to enter context-specific data into a computer program to produce a specific financing structure output for water management systems (OECD, 2003). This model has been useful for planning water and wastewater financing plans in developing and transition economies. However, the model does not address the political and social feasibility of its recommended financial approaches. Consequently, separate analyses need to be carried out to determine whether a

financially viable model is actually the advisable approach for water sector reform in a given city. The types of considerations that are needed for governance and institutional design do not conform easily to a mathematical algorithm. A model for water management systems has many interacting factors, beyond the financial considerations, and thus will require the use of value judgments and a consideration of acceptable trade-offs. Moreover, the process of implementation of an institutional structure is also important to its success, and must be included in any recommended water sector reform process.

While the FEASIBLE model is a valuable tool for providing insight into the financial options for water management, it is not sufficient for informing policy decisions. The interplay between political interests, community hierarchies and relationships, external effects from global financial systems, resource scarcity and fluctuations, and the existing infrastructure and policy settings means that performing a strict calculus is impossible. Multiple institutional arrangements might be possible in a given community, and the success of any given model will depend on the initial structure and the manner in which systems are implemented and managed. Moreover, there may be multiple options for structures that are appropriate for each individual consideration, thus a judgment call will be needed to determine which overall structure can best incorporate the needs and interests of various stakeholders.

3.22 Processes, Structures, and Stability

Project outcomes depend highly on the presence of effective champions, who have been described as individuals who are "*willing to take substantial risk to ensure success*" of projects (Katko, 1994). A series of rules will not lead to success unless strong leadership and advocacy accompany them[1]. It also depends in part on the process itself that is undertaken for reform efforts. The relationships between stakeholders in the negotiation processes, the channels of communication that are built between relevant parties, and the timing and sequencing of the reform steps are important considerations (Wood, 2004). Individuals, processes, and structures all contribute to the outcome of a reform process.

To gain a more sophisticated understanding of institutional design and management, it is worth looking more closely at the distinction between structure and process. Ostrom (1990) suggests that *"in the most general sense, all institutional arrangements can be thought of as games in extensive form."* This approach blurs the line between structure and process, particularly in the context of dynamic environments and changing conditions. It is common to consider structures as stable and predictable; regarding structures as games causes us to reevaluate this perception. Using ecological systems as a model for understanding social systems provides further insight into these distinctions. Frenay (2006) suggests that:

[1] Interview – official associated with the Asian Development Bank (ADB).

> *"In nature, it's ecological process that transforms energy, matter and information into the structures we call living things. Now we seek to mirror that process...into equally vibrant cultural structures. This means turning one of our most basic beliefs on its head. In ecology,* ***structures -- which we're inclined to view as anchors of stability -- are actually malleable, adapting and changing over time****.... Viewing process as more stable than structure is paradoxical...We've worked hard to build a culture on the belief that stable and lasting structures are the guarantee of permanence. In reality it's the other way around." [Emphasis added].*

There has been a shift in biological theory from the assumption that ecosystems will reach a stable, unchanging state, to the recognition that even mature, stable systems are always in flux (Callicott, 2005). The idea of a dynamic equilibrium is useful when looking at social and political systems, as it implies a degree of stability and predictability without requiring stasis in the internal and external factors influencing the system.

Unforeseen events pose challenges to creating robust water management systems, as it is impossible to plan for all contingencies and incorporate adequate safeguards for all potential problems that might be encountered. For example, while currency fluctuations can be planned for to some extent, dramatic currency devaluations are difficult to plan for. Decision makers must therefore recognize the limitations of institutional design, and determine strategies for building flexibility and adaptation into the chosen system. Dovers *et al.* (1996) note that "*uncertainty pervades all of the issues of sustainability*," which is a comment that applies equally to institutional and ecological systems. Ecological theory has a potential role in guiding policy formulation in the context of designing systems that must operate in dynamic environments. There are conflicting needs in water supply systems, including the need for both consistency and flexibility. Redundancy in systems provides a buffer against failures, but it is often seen as an inefficient use of resources; similarly, overlapping jurisdiction can prevent gaps in responsibilities but can also lead to conflict over authority. The balance of these elements is needed for a water management system to be able to cope with changing environmental conditions and resource availability, growing populations and urban land area, and fluctuations in local economic conditions. The key to solving some of these problems is not to have specific rules to regulate all possible contingencies, but rather to have processes in place that facilitate arbitration, negotiation, and revision activities that may be needed. Transparency and open communication between stakeholders are essential components of such a system.

3.23 Implementation

Internal management issues significantly affect the viability of a utility, but are not dependent on pre-existing local conditions; good institutional design cannot compensate for poor execution of plans, thus success depends in part on the monitoring and problem solving

mechanisms that are included in the initial arrangements, not just on the structure itself. Finally, regulatory agencies are critical to the system, regardless of the chosen management structure, ownership, and responsibility. To safeguard the interests of all stakeholders, there needs to be an autonomous and accountable regulatory body that is perceived by all parties to be impartial and just.

Despite the fact that there is no simple calculus for designing a water provision system, it is possible to outline a set of necessary considerations, and to offer suggestions as to which types of structures will be most robust under different sets of conditions. It is valuable to engage in a process of critical analysis of local conditions and characteristics, to determine what players are available to take on different responsibilities, and to pick structures which facilitate communication and adaptability within the specific contexts in which they operate.

3.3 Portrayals of the Public and Private Sectors

After years of focusing on privatization (Hukka and Katko, 2003), the international community has begun a shift towards considering local contexts in water reform. For example, the World Bank's approach to privatization has changed somewhat in recent years. The shift was evident in comments at the 4th World Water Forum that called for a shift away from the public-private debate in water provision[2]. It also can be seen in their financing plans, where they state that "*regardless of whether provision is public, private, or community-based, country policies and programs supported by the Bank must foster the financial viability of service providers operating in the sector*" (World Bank, 2004). However, some recent publications from the World Bank and the Asian Development Bank (ADB) indicate that ideology still guides some of the funding strategies of multilateral lending institutions (World Bank, 2006; ADB, 2003). Moreover, while some non-governmental organizations (NGOs) have shown themselves to be open to collaboration with both public and private partners, there are still NGOs that demonize the private sector and create idealized images of governments or communities (see FDC, 2004).

Dichotomous portrayals of the public and private sector hinder progress in creating innovative solutions for water access. Public-private debates tend to leave out community members, NGOs, and other stakeholders, and promote stereotypes of the sectors. In addition, these arguments treat each sector as homogeneous, thereby ignoring the variation in levels of government and discount the differences between multinational or large-scale private companies and various forms of small-scale, independent providers. Lord *et al*. (1996) caution that community projects have a high level of failure, thus it is important not to romanticize community and small-scale projects; this note of caution should be heeded by

[2] Mr. Jamal Saghir, World Bank, on Sunday, March 19, 2006, at the 4th World Water Forum (WWF4), Mexico City. Session 1 of the Water Supply and Sanitation for All day, on Innovative Financing Mechanisms for Drinking Water and Sanitation: Local Government Alternatives.

proponents of any specific sector. Moreover, Ostrom (1990) argues that "*institutions are rarely either private or public – 'the market' or 'the state,'" and "[defy] classification in a sterile dichotomy*." Decision makers choosing institutional structures for resource management must therefore take into account these variations.

The rationale for privatization often includes the arguments that private sector participation (PSP) will increase access to funding, introduce technical and financial efficiency, and increase transparency (World Bank, 2006). Private companies may have access to different forms of capital than do governments, the profit motive can be valuable for providing incentives for high quality service provision, and there are examples of successful privately operated or owned water systems. However, even in cases where these problems are faced by government, they are not insurmountable challenges. Financial barriers could be overcome if there was adequate support from funding agencies and if the government was willing to prioritize water services in its budget. Moreover, financial difficulties may also be faced by private companies. In terms of efficiency, some governments do run inefficiently, but this is not an innate characteristic of the public sector. There are numerous examples of efficient, effective public utilities, and examples of poorly managed private utilities. On the question of technical capacity, this can be acquired by governments through training staff, hiring experts, or contracting consultants for specific tasks; and simply being private does not necessitate having technical capacity within the organization. Finally, while there may be corruption in governments, this is not a problem that is isolated to the public sector; corrupt practices can exist in the private sector, and private companies are not exempt from political influence and pressure. Moreover, a corrupt government is unlikely to undertake a fair procurement and contracting process for soliciting private sector participation.

It is, therefore, useful to approach water sector reform with a results-based focus, rather than a structural focus. This is a paradigm shift similar to moving from input to output based aid programs and from supply to demand side management.

3.4 Results-Based Approaches: Demand-Side Management and Output-Based Aid

Two frameworks for focusing on results and on service users have recently become widely discussed in development circles. The approaches of demand-side management (DMS) and of output-based aid (OBA) have been examined in multiple sectors, including health care, energy, telecommunications, transportation, and education (Standing, 2004; Halpern and Mumssen, 2006), and appear promising. These financing strategies are useful for the water sector, as they have clear goals but provide options by which those ends can be achieved.

Demand side management, which emerged in the energy sector after the oil crisis of the early 1970s (Sioshansi, 1995), refers to focusing on users rather than suppliers for changing resource needs and demands, and for finding solutions to the allocation of scarce resources.

DSM can include creating education programs to reduce water use, implementing community-based monitoring of water theft to keep all water tariffs lower, and designing programs for sanitation and proper waste disposal to address water contamination. Reducing consumption and pollution can minimize the need for the development of new water sources and new treatment plants, which can reduce the overall costs of running a system. This is similar to the benefits that have been realized in the electricity sector, where, in some cases, promoting energy-efficiency proved to be more cost-effective than producing more power (Nadel, 1992). Lowering the levels of unaccounted for or non-revenue water will help a utility achieve cost-recovery and become financially stable. DSM practices may require dedicated policy support for these efforts, particularly during the transition from a supply to demand led management style (Reddy and Parikh, 1997). Involving the users is necessary for successful DSM (Standing, 2004), and also increases community empowerment over water provision, which is valuable for creating robust and effective institutions and processes.

Output-based aid is a general development strategy that can be specifically applied to the water sector. It focuses on establishing targeted subsidies that reward specific outcomes and providing funding for meeting agreed-upon results (GPOBA, 2005; Brook and Petrie, 2001). In the context of water services, one example of OBA is in the form of subsidies associated with a set number of new connections to a water network for poor households. In terms of implementation, these subsidies can be given to the utility or provider, as was done in Chile (Gómez-Lobo, 2001), or can be given directly to specific households. Alternative targets include subsidies in exchange for a specific length of new pipes installed, a certain quality of water, or continuity of service provided. These can be one-time grants for capital costs or can be ongoing, repeated payments. In the power sector, energy in off-grid, remote areas was promoted in the Philippines through a per-unit electricity subsidy given to private generators (Grewal *et al*., 2006). A similar approach could be used for regulated water provision in dispersed or peri-urban areas. The key to OBA is that funding is specifically tied to quantifiable, measurable outcomes, which rewards results and encourages innovative approaches for meeting those goals.

3.5 Summary

Rather than starting with the goal of promoting PSP, or with the goal of building the capacity for a public system, the strategy should be to identify who provides various services within the city, and determine whether they are the appropriate actors for those tasks. By identifying the existing actors, and compiling a list of the potential actors, tasks can be allocated to the players who have the most capability in the given context for undertaking those tasks. If small-scale providers provide a substantial proportion of peri-urban water supply, the approach should perhaps be to support and regulate those providers, to capitalize on their flexibility and mobility while ensuring fair prices and quality standards, rather than

replacing them with centralized piped systems. If community cooperatives are in place, these could be expanded to include some element of control over local water services. If NGOs have established successful environmental programs, these could be coordinated with government efforts for watershed and source protection, and for education initiatives. Once specific actors have been identified for the various tasks, decision makers can then determine what institutional structure (or combination of structures) best fits that distribution of responsibilities. The focus of consultants and external advisors should be on creating tools to help consultants, water managers, and other relevant decision makers allocate tasks in water service provision to the party most capable of assuming those responsibilities.

Section 4: Philippines Case Studies

4.1 Case Study Approach

Experiences of specific cities can be used to illustrate the challenges involved in resource management, and to demonstrate that success and failure in management is not just a function of the public or private nature of ownership and operations. Context-specific features are determining factors for how well an organizational form for water provision works in a city. This section will outline the experiences in several Filipino cities to show the various factors that influence the outcomes of different management strategies, with a particular focus on Manila.

4.2 The Philippines Water Context

The Metropolitan Waterworks and Sewerage System (MWSS) serves the Metro Manila area, through two concessionaires, while Water Districts (WDs) supported by the Local Water Utilities Administration (LWUA), Local Government Units (LGUs), and private operators serve the rest of the country (ADB, 2001). According to an ADB report, as of 2001 88% of urban residents, excluding Metro Manila, 85% of the rural population, and only 44% of the Metro Manila population, had access to safe drinking water (ADB, 2001). One barrier to adequate water provision was the fragmented authority and jurisdiction in the water sector: over 32 agencies are responsible for aspects of water management, leading to institutional overlap and conflict (Lavado, 2001).

The National Water Resources Board (NWRB) is supposed to coordinate and regulate water resource management activities in the country (ADB, 2005), and is the only agency with the authority to issue water permits; however, the NWRB lacks the ability to enforce the regulations (Barba, 2004). It has been suggested that the creation of an apex body with more oversight authority than the NWRB, to coordinate the various agencies and systems, would facilitate improvements in water provision in the country (ADB, 2001). Plans were underway for this type of institution in the late 1990s, but were unsuccessful.

Water districts are autonomous agencies that are responsible for water supply. They are offered some financial and technical support from LWUA, but are expected to be financially viable and self-sustaining (Jamora, 2005). The water rates charged by WDs are regulated and monitored by LWUA (Jamora, 2005).

4.3 The Manila Experience

The water provision situation in Metro Manila in the Philippines provides a good case study for examining some of the elements that must be considered when designing effective water management systems. The situation in Manila has been extensively studied (see Montemayor, 2005; Dumol, 2000; Chavez and Malaluan, 2005; Esguerra, 2003; Rosenthal, 2001), thus there are substantial resources upon which to draw when analyzing this experience; there are lessons that can be learned in terms of institutional design and governance strategies. Although the specific characteristics of Manila might not be relevant for other urban settings, aspects of the experience can be used to build a general understanding of what factors must be considered in policy creation. It is therefore useful to examine this experience in more detail.

In 1997, MWSS, the government water supply agency for Manila, signed two 25-year contracts for water provision in Metro Manila, and parts of the Rizal and Cavite provinces (Memon, 2003). Full divestiture was not seen as a politically viable option, so the government opted for public-private partnership arrangements, in the form of concession agreements (Dumol, 2000). The city was divided into two service zones – the East and the West Zone – in an attempt to introduce indirect competition through regulatory benchmarking, in what would otherwise be a complete monopoly (Dumol, 2000). The contract for the West Zone went to Maynilad Water Services, Inc., a consortium composed of Suez-Ondeo, a subsidiary of the French corporation Lyonnaise des Eaux, and the Filipino company Benpres Holdings, which is owned by the Lopez family. The East Zone contract was awarded to the Manila Water Company, Inc., which initially involved the American Bechtel, the British United Utilities, and the Filipino Ayala Corporation, although Bechtel has since sold its shares and is no longer involved in the company (Chavez and Malaluan, 2005). The multi-corporation arrangements were in part the result of a law in the Philippines requiring that public utilities remain under domestic control, thus at least 60 percent of the water concessionaires must be owned by Filipino companies (Dumol, 2000).

Water for the area comes predominantly from the Angat Dam, and, under a provision in the Concession Agreement, MWSS has retained responsibility for raw water provision to the concessionaires. The concession arrangements stipulate that the raw water benefits accorded to MWSS by the NWRB, specifically with respect to water quantity allocations and the waiver of water fees, are transferred to the concessionaires (MWSS, 1997). MWSS is also

responsible for source development and expansion[3].

There was a strong political push for the initial privatization efforts, particularly in light of the success of energy privatization at the time, and the general neo-liberal trends of the international community (Dumol, 2000). The government lacked the finances to invest in expanding the water system, and private sector was seen as both interested and proficient[4]. Consultancy was provided by the International Finance Corporation (IFC), which is part of the World Bank Group, and by French-funded advisors (Dumol, 2000). Once the contending companies had met minimum technical requirements, the contracts were awarded based on tariffs, with the zones awarded to the companies that offered the lowest bids. The MWSS water tariff at the time was 8.78 pesos per cubic meter; the West Zone Maynilad bid was 4.96 pesos and the East Zone Manila Water bid was 2.32 pesos per cubic meter (Esguerra, 2003).

Despite some problems, Manila Water has generally been successful in providing water in the East Zone of Manila. There have been some concerns with its operations: the company was accused of accruing higher profits as a percentage of assets than is acceptable for a utility providing a public service (FDC, 2006), it has fallen short of its original sanitation service targets, and there have been allegations of unfair (or even illegal) tariff increases and profit levels[5]. However, non-revenue water has been dramatically reduced, service connections and reliability have increased, there have been specific initiatives to provide water to urban poor communities, and the company has won several performance awards. Moreover, water prices have been carefully controlled: the projected current tariff, had water remained under MWSS control, was 27.18 pesos per cubic meter, while the actual price charged by Manila Water in January 2006 was 19.72 pesos[6]. The general consensus is that Manila Water has been beneficial to the East Zone, and provides better service than the public utility would have been able to[7].

In contrast, Maynilad has run into continuous trouble, and the majority of the ownership of the utility has reverted to the government[8]. Terms of reference were recently released for a re-bidding of the West Zone concession. Although the company has been successful in adding to its customer base by increasing the number of connected households, it has fallen short of the initial targets for both water and sanitation services, non-revenue water has increased, and it stopped paying concession fees to the government.

In terms of understanding the role of institutional structures, the comparison of the East

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[3] Interview – official associated with MWSS.
[4] Interview – researcher from the University of the Philippines.
[5] Interview – researcher from a local non-governmental organization (NGO).
[6] Interview – official associated with Manila Water.
[7] Interviews – NGO personnel, government agencies, international financial institutions, and officials from both concessionaires.
[8] It must be noted that the ownership of the shares is a contested issue. Many observers claim that the government owns the shares, while officials associated with Maynilad state that the government has proxy control of the shares, and sits on the board of directors, but that the legal ownership of the shares is still in the hands of Benpres and Suez-Ondeo.

and West zones is of particular interest. Given that the private consortia took over operations from the same public utility, operated in the same city, and were regulated by the same authority, it is useful to examine the reasons for the differential outcomes (see Ehrhardt, 2005, for a timeline of the events over the course of the contracts). This will provide insight as to the relative importance of institutional structures, internal management approaches, and external shocks. The outcome of water provision is not solely dependent on the type of structure adopted – a concession agreement was used in both zones, with starkly different results. The contracts and the service areas were not identical, which indicates that both initial contractual details and context-specific factors could have influenced the outcomes of the two companies.

4.31 The Difficulties Faced by Maynilad

The problems faced by Maynilad can be divided into five main categories: management, contract structure, external shocks, financing, and regulatory and political troubles. The categories are closely related, as, for example, the external shocks had different effects on the two concessionaires in part because of the way the contracts were designed, and management problems exacerbated regulatory and political troubles.

4.311 Management

While Manila Water initially focused on internal re-organization, the initial focus of Maynilad was on meeting compliance with the technical requirements of the concession agreement. This meant that there was little attention paid to the transition from a government to corporate approach in management. Maynilad's strategy provoked less initial conflict within the company than Manila Water's approach, but turned out to be less effective over time[9]. Manila Water worked on changing the culture of the utility, and restructuring the organizational format of the company, through devolving responsibility to dispersed service units, and offering greater responsibility and autonomy to these local units[10]. In contrast, Maynilad focused on infrastructure development and ignored internal management issues; this became problematic once the company ran into financial difficulties. The quick transition to private management from a public utility without recognizing the need for internal changes led to conflict between the former MWSS employees and the new management. The government employee mentality, which focused on process and procedure, was different from the business culture of the new utility concessionaire, and there was not enough preparation for the change in approach[11]. Management turnover has compounded the problems faced by Maynilad; the company has had 4 presidents since the contract was

[9] Interview – official associated with Maynilad.
[10] Interview – official associated with Manila Water.
[11] Interview – official associated with Maynilad.

awarded less than 10 years ago, which has resulted in inconsistency in management approaches[12].

Poor decision-making in terms of investment and operations decisions have been cited as factors contributing to Maynilad's struggles. The management decided that engineering and project management should not be core company functions, and outsourced both departments to foreign consultants; this resulted in much higher overall costs, without yielding improved results. Similar errors were made in determining strategies for reducing non-revenue water (NRW). A costly activity of replacing meter verticals was undertaken to reduce NRW; however, the anticipated savings were not realized. This was a miscalculation by management, who assumed that the main problems with NRW were technical, rather than commercial[13].

The company has claimed that the problems they faced were due, in part, to the fact that they based their bid on information provided to them by the government that later turned out to be inaccurate[14]. Information verification and examination should have been addressed prior to the bid, as part of the process of due diligence required by a company. If the companies felt there was not enough time for these activities of due diligence, they should have refrained from bidding. Moreover, supporting documents of the concession agreement specifically state that the claim of mismatching information is not a valid excuse for missing service targets. A guide written by the National Economic Research Associates (NERA) stated that "*[if] service targets are not achieved then "the assets are in a worse state than we thought" or "but we put in place the investment program we said we would" do not amount to a meaningful defence*" (Houston *et al.*, 1997). However, given the time constraints that were faced by the companies in the bidding process (Dumol 2000), it would have been difficult for the companies to demand more time, and would have compromised their positions in the negotiations. In reform processes with competitive bidding, we should not rely on individual companies forfeiting spots in uncertain negotiations, since the benefits gained from a successful bid may be seen as outweighing the risks of time-pressured bids. Instead, we need to require more stringent due diligence by all the involved parties, to prevent unrealistic bids based on incomplete information.

4.312 Contract Structure

The division of service zones between the East and West meant that the two companies were faced with consumer bases that had different demographic characteristics, and different demands for service expansion and improvement. The West Zone had a greater residential (rather than commercial) base, more existing infrastructure, a higher population, and less

[12] Interview – official associated with Maynilad.
[13] Interview – official associated with Maynilad.
[14] Interview – official associated with Maynilad.

dispersed communities. The IFC consultants recommended an uneven debt allocation, based on the argument that the East Zone has less existing infrastructure, and therefore had higher capital expenditure needs. This resulted in a split of the debt of roughly 90% to Maynilad and 10% to Manila Water. This became problematic when Maynilad realized that much of the existing infrastructure needed repairs and replacement, as the system was old and leaky. The problems were intensified by the Asian currency crisis (discussed in the next section).

4.313 External Shocks

The Asian financial crisis resulted in the rapid devaluation of the peso, from PHP26:1USD when the contract was signed in January of 1997 to PHP50:1USD by 2000 (Esguerra, 2003). Since the debt was predominantly in foreign currency, the fall of the peso disproportionately affected Maynilad. The El Niño event that was occurring at the inception of the contract presented another challenge to the company, as it limited the available water. The combination of El Niño and the currency crisis exacerbated Maynilad's internal problems, and proved insurmountable.

In terms of preparing for contingencies, the currency crisis could be considered unforeseen, as the extent of the peso devaluation was well beyond usual currency fluctuations. However, El Niño cannot be considered unforeseen, since it is a cyclical event, and had begun before the contracts were signed; this should therefore have been included in Maynilad's planning processes and risk mitigation strategies.

4.314 Financing

Since the majority of the 800 million peso MWSS debt was dollar-denominated, Maynilad was affected more significantly than Manila Water by the devaluation of the peso in the early stages of the contract. The Asian Financial Crisis effectively doubled Maynilad's debt load, which compromised Maynilad's ability to obtain stable external financing. The company's troubles were exacerbated by the fact that they were unable to secure long-term loans and relied on a series of short-term bridge loans.

4.315 Regulatory and Political Troubles

There have been concerns about corruption and undue political influence in the negotiations that have occurred with Maynilad throughout the life of the contract. These concerns range from speculation to documented actions.

The regulatory agency for the concession agreements was created through the contracts. MWSS was divided into two separate agencies – a corporate and a regulatory office (MWSS, 1997), with the intention of providing some degree of independence to the regulators. However, it has been suggested that the regulatory body is not seen to be binding since it is a function of the concession agreement, rather than an independent agency; such a separate

regulatory board was not established because of a lack of time during the contract negotiations, rather than because an entrenched board was seen as the best system[15].

The contract termination battles and rehabilitation plans of Maynilad were accused of being politically influenced, and the government's reluctance to withdraw the performance bond was seen as having political dimensions. Financial planning was hindered by several negotiations with the government that were rescinded after they were agreed upon, particularly with respect to tariff increases. Internal problems within the regulatory board, including disagreements between regulators, also posed problems in the negotiation processes[16].

4.32 Contrast with Manila Water

The case of Manila Water provides a useful counterpoint to the Maynilad experience in Metro Manila. The comparison must be a cautious one, as the companies operated in different service areas with differing financial contractual details; however, many of the challenges faced by the companies were similar, and they were bound by the same overall contract, overseen by the same regulatory board, and working within the same political environment.

Maynilad had some early successes, especially in service expansion and pipe repairs, but this success was not lasting. Conversely, Manila Water has managed to attain long-term financial and technical stability. It has achieved greatly improved coverage and water reliability, has reduced non-revenue water, and has implemented numerous pro-poor programs. Financially it has become a viable, robust corporation, and recently has been listed on the Philippines Stock Exchange.

Manila Water's re-organization approach has been highlighted as a case study at the Harvard Business School, and is based on dispersed or decentralized responsibility. The company has a 'flat' structure, involving minimal administration and individually autonomous units for service areas within the contract zone (Beer and Weldon, 2000).

It must be noted that Manila Water benefited from the troubles faced by Maynilad: the contract amendments that Maynilad demanded also applied to Manila Water, which reduced the demands on the company and provided them greater flexibility in deadlines for meeting service targets. It has also been beneficial, as in regulatory benchmarking, the company has been held up against a trouble counterpart, and therefore emerges favorably in the comparisons[17].

4.33 Independent and Subcontracted Water Systems

Although the two concessionaires have jurisdiction over water provision within their

[15] Interview – official associated with MWSS.
[16] Interview – official associated with MWSS.
[17] Interview – official associated with MWSS.

contract service areas, there are some variations with service arrangements within different neighborhoods in Manila. In Manila Water's area, the case of Fort Bonifacio (also known as the Global City), and the company's pro-poor initiatives are worth highlighting for the discussion of context-specific management strategies[18].

A public-private partnership has been established separately from the MWSS concession agreement in Fort Bonifacio, a new development in the East Zone of the city that has been built on a former military base. The development was started in the late 1990s, during the early stages of Manila Water's operations. The company had not yet achieved complete financial stability, and was coping with the economic challenges of the Asian financial crisis, and with the management challenges of the transition from a public to privately run water system. The company did not have the capital to invest in extending the water infrastructure to the new subdivisions, and so agreed to a subcontract arrangement. Manila Water signed a contract with the Fort Bonifacio Water Corporation (FBWC), a private consortium of Veolia Water, the Fort Bonifacio Development Corporation, and the Bases Conversion Development Authority. The agreement stipulated that FBWC was required to purchase all its water supply from Manila Water, and in exchange it would have sole jurisdiction over the Global City. The contract was initially a 25-year arrangement, but was subsequently extended for an additional ten years.

Variation in the nature of service provision also occurs even where Manila Water retains responsibility for local water distribution. In some poor neighborhoods, the company offers the option of having bulk meters installed, rather than individual meters[19]. The bulk meters, which are located on the street, can serve up to 20 households each. The customers are then responsible for individual meters and to-house connections, and a community leader takes charge of collecting the water fees from the block. The benefits of this arrangement are for both the company and the customers. Manila Water has an easier administrative task of dealing with a single representative instead of several households, which makes tariff collection easier. The customers share the cost of a group meter amongst all the households, which reduces the costs that individuals have to bear. For poor households, the $120 water meters can be a barrier to being connected to the water system, so the group meter initiative makes connecting to the system more feasible.

4.34 Summary

The Manila case has been used by some anti-privatization activists to illustrate the failures of privatization in water services (Public Citizen, 2003; Perez-Corral, 2001). However, using the experiences in Manila to draw the conclusion that private participation

[18] Information about the Fort Bonifacio Water Corporation (FBWC) was obtained through personal communication with officials at FBWC.
[19] Interview – official associated with Manila Water.

has no place in water provision is problematic. The previous management under MWSS could equally be used as an example of how the public sector fails at providing adequate water services: this would leave us with the conclusion that neither the public nor private sector can take care of urban water needs. This is not a useful or productive endpoint. Furthermore, claiming that privatization has failed in Manila ignores the success that has been realized in the East Zone by Manila Water. While Manila Water's tenure has not been problem-free, it has made substantial improvements to water access for the residents in its service area. This experience provides examples of both success and failure under the same PPP structure, which suggests that it is not structure alone that determines water system success

The problem seems to not be the institutional structures in theory, but in practice, in terms of how the concession agreement was carried out. It appears that Maynilad's troubles were not because the arrangement was a public-private partnership, nor that the form of PPP was a concession agreement. The contract formulation itself created some problems, notably in its skewed allocation of debt between the two concessionaires, and the external events of the currency crisis and El Niño compounded the problems. Moreover, once problems were encountered, they were not resolved in an effective way, as the regulatory board's authority was undermined, and it lacked the authority to enforce its decisions. However, the key failure was with internal management practices, which crippled the company's ability cope with the challenges of the contract and external shocks.

The government should have protected itself and its citizens from Maynilad's failure: the state should have insisted on the company meeting its contractual obligations, and investors and creditors should have been forced to deal with more of the consequences of their business decisions. Maynilad took a risk on the currency adjustment clauses in the contract and on agreeing to the uneven division of debt; however, they knew the terms of the agreement prior to signing the concession contract, and thus should have to deal with the outcomes.

Although relations with the regulatory board were tested more severely in the case of Maynilad than with Manila Water, the latter's dealings with the regulatory board indicate that the nature of a board subordinate to the contract does not necessarily lead to regulatory failure. Although an independent regulatory board might be able to respond more quickly to challenges facing the contracting parties, the problems with Maynilad were not caused by the regulatory set-up.

The experience with the FBWC indicates that multiple arrangements might be possible within the bounds of a public-private partnership. Innovative public, private, and community management strategies should not be discounted, even when existing institutional water provision systems seem defined and exclusive.

4.4 Urban Experiences Outside Manila

Urban centers outside the National Capital Region encounter some of the same problems faced in Manila, but also have locally varying water management considerations. Issues with water service coverage, water scarcity, and tariff setting have been faced by all the municipalities, but the specific constraints differ by region. Local features that influence the available options and feasible solutions include city size, in terms of population and dispersion, the topography and elevation, the proximity and nature of source water, and the existing arrangements for water provision.

4.41 Tagbilaran[20]

Tagbilaran is located on the island of Bohol in the Visayas region of the Philippines. It is a city of approximately 90 000 people, that relies predominantly on groundwater for water provision. There are two main water suppliers: the city water utility, and a separate joint venture between a private company and the provincial government. There are also numerous small-scale independent water vendors, mainly in the form of refilling stations.

Water extraction from the aquifers is dependent on energy, which is obtained primarily from outside of the city. Leyte, which has a geothermal plant, provides Tagbilaran with electricity via underwater cables. This dependence on an external energy source for water access means that the city is particularly vulnerable to outside variability and shocks; this was seen when Leyte was hit by an earthquake that disrupted its energy transmission.

The groundwater resources that the city relies on are largely unknown, and there are concerns that the city may be in danger of subsidence. Tagbilaran faces significant danger from saltwater intrusion into its freshwater aquifers, and several wells have been closed because of contamination. The government has enlisted researchers to study the groundwater resources of the city and surrounding region, and is also exploring options for alternate water sources, including the Loboc River, but these projects have not yet been completed.

4.42 Baguio[21]

Baguio is a city of roughly 250 000 permanent residents located north of Manila in the Luzon Province of the Philippines. Its population increases during the summer months, as a result of visitors drawn to its cool mountain weather as an escape from the hotter lowlands. The Baguio Water District is main water provider for the city; the city government used to manage the system, but ran into problems and so transferred the responsibility to the water district.

Springs and rivers from the mountainous areas provide some alternate sources of water,

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[20] Information gathered from individuals attending the United Nations Development Programme (UNDP) and UN-Habitat workshop on updating the Tagbilaran City Environmental Profile (CEP); May 23-26, 2006.

[21] Information gathered from interviews with individuals associated with the city council, the Baguio Planning Office, and the Baguio Department of the Environment and Natural Resources.

but the primary water supply for the city is groundwater. Many households in the city still do not have adequate water access from the Water District, and so numerous water filling stations and water vendors fill in the gaps. These small-scale independent providers generally have their own deep wells. In theory, water extraction by the independent providers is regulated by the Water District, but this does not always happen in practice.

Water supply is dependent on a stable power supply, since pumping groundwater to the city's high elevation is energy intensive. There is an issue of water scarcity, but one that should not be necessary in an area with a high seasonal rainfall.

The topography and elevation of the city pose unique challenges to water access in the area. The threat of earthquakes presents problems for laying piped infrastructure, and many pipes in the city are above ground. The high elevation means that energy needs are high for water provision, as the pumping is energy intensive. There are debates between Local Government Unit officials about where the source water should come from, since it currently is drawn from groundwater, but little is known about the extent of the groundwater reserves and the threat of subsidence is a concern for the area. Now, the government is attempting to improve water management, and has just released a sustainable water integrated management and governance plan to deal with some of the problems.

4.43 Laoag and the Ilocos Norte Water District[22]

The Ilocos Norte Water District (INWD) has a large service area, covering several municipalities in the northern portion of the Luzon Province of the Philippines. Its service area includes the city of Laoag, with a population in the range of 95 000 people. The INWD has been unable to achieve a high percentage of coverage for the city of Laoag. One of the main constraints faced by the INWD is a lack of funding. There are currently negotiations with a private bank to secure new financing, but this has not yet been approved. In theory, the water refilling stations that are the freshwater source for many households are supposed to have water permits that ensure that they get their water directly from the INWD, but this rule is not always enforced. The city faces scarcity problems in the summer months, as their water sources are springs and shallow wells.

4.44 Summary

The case studies show the variation between urban centers. While the types of barriers to water access may be similar, from funding troubles to source water contamination and scarcity, the specific details of these problems will influence what management strategies are available for the region.

Limited or unknown quantities of groundwater for freshwater supplies will affect the level of independence that can be allocated to small-scale water providers and individual

[22] Information gathered from interviews with individuals in the INWD.

households for water access. Centralized water systems with buried infrastructure may not be feasible in areas with uneven topography or in places that face frequent natural disasters such as earthquakes; consequently, these regions might have more options for multiple service providers that depend on above-ground pipes or mobile water provision systems that require less initial capital expenditure. Cities that have existing public-private partnerships for water provision may be constrained in their ability to enact water sector reforms, as the agreements might limit the changes that the government is entitled to make; however, changes to the system should not be discounted without considering what options might be possible within the confines of the contracts.

Context-specific features affect what types of water sector reform will be possible, and which are likely to be successful. The specific conditions of a specific city must therefore be considered when designing a water provision system.

Section 5: Water Sector Reform Strategies

5.1 Context-Specific Reform

In a community with an under-performing water system, the key features that influence appropriate water service choices must be identified, and situational analyses need to be undertaken prior to choosing a reform strategy.

In the process of designing water delivery systems, the features of the local context that must be considered include technical feasibility of the system and source water characteristics, community size, political will, financial and operational resources, regulatory structures, and community involvement. These will be discussed in this section, along with an examination of governance and the alternate systems available for water provision.

5.2 Considerations for Designing Water and Sanitation Services

We now have the benefit of a large body of literature on numerous cases across the developing world of water sector reform processes (see Furukawa, 2005; Jubilee South, 2005; Hall and Lobina, 2006; Caplan *et al*., 2001; Frans and Soussan, 2003; Andrews and Yniguez, 2004; WSP, 2002). The lessons learned by countries and municipalities that have undertaken public sector and public utility reform, that have entered into public-private partnerships, that have initiated community and NGO partnerships, and that have fully divested their water utilities to the private sector can help inform the choices made by decision makers who are contemplating changes to their own systems.

In cases where current water provision is inadequate, and changes to the management or operations structure are being considered, it is valuable to assess the components of the existing system or systems, and it is also useful to conduct pre-policy implementation analyses. These a priori predictions of the possible outcomes of different strategies will help

policy makers prevent problems from occurring. Such analyses are used widely in construction projects, such as dams, in the form of environmental and social impact assessments (EIAs and SIAs). Modified versions of these EIAs and SIAs could be applied to policy interventions and strategies in the water sector, to determine the potential effects of various institutional options for water management. The impacts on water resources, on different demographic sections of the city's population, especially the urban poor, on the local and regional economy, and on the labor sector can all be included in these types of analyses. This paper will not create a comprehensive environmental and social impact assessment process, since these techniques and approached have been thoroughly developed (World Bank, 1997), including for the water and sanitation sector; however, it will suggest that these impact assessments be expanded to include a component of institutional analysis and comparison.

5.21 Technical Feasibility of the System and Quality and Location of Source Water

The options for a water provision system are constrained by the physical attributes of the city in question. Geographic and geological characteristics of the landscape limit the available options for piped systems and for the scale of provision that is feasible. In some places it is possible to rely on small-scale options, but in other places it may be necessary to use bulk water capture and distribution. This is not only a question of economies of scale, but also of technical feasibility[23].

The location and nature of the source water influences the type of service that can be provided, and the costs of providing that water. The use of surface water from lakes and rivers compared with reliance on groundwater changes the types of water extraction facilities that are required, and the quality of water at the source dictates the treatment facilities that are needed. To illustrate the impacts of these considerations, it is useful to compare cities in the Philippines, particularly Tagbilaran, Baguio, and Metro Manila. The cities are not directly comparable, since the latter two cities are substantially smaller than Metro Manila; however, the cases highlight the different concerns that arise based on the type of water supplies available. As noted in Section 4, Tagbilaran and Baguio rely primarily on groundwater supplies, and the extent of water resources available to both Tagbilaran and Baguio are largely unknown. This uncertainty poses serious problems for city planning and water management. In contrast, Metro Manila's main water source is the Angat Dam, north of the city, which is fed by the Umiray River. Although some communities and households in Manila have deep wells, it is even less feasible for a city the size of Manila to rely predominantly on groundwater than for Tagbilaran and Baguio, given the magnitude of the city's water demands. The use of surface water provides an advantage, as it is easier to estimate the quantity of water resources available; however, in these areas it limits the

[23] Interview – officials associated with MWSS.

options for small-scale provision or household-level water autonomy.

5.22 Community Size

The appropriate scale of systems will differ substantially depending on the size of the community. Since this discussion is limited to cities, populations are generally large and densely packed enough to warrant the consideration of centralized networks (although there may be other factors that negate the scale benefits of a central network in all areas of the city), but the structure of a centralized system may differ depending on the size of the city. It is sometimes thought that community management systems are not applicable to mega-cities, since these networks tend to break down once the population becomes too large; however, by considering a large urban area as a series of neighborhoods, it is possible to see how community systems might still be viable (Robinson, 2003). By creating small community networks across the city, and using a central authority to coordinate the systems at a city level, it could be possible to take include user ownership and participation even in large metropolises. In rural water supply projects, smaller projects tended to realize greater success in terms of sustainability and effectiveness (Robinson, 2004); this might also prove true even in the context of large urban settings. Systems of smaller scale independent networks can be adopted under private management as well. In the case of private centralized utilities, the experiences in Manila and Paris show that in large cities it is possible to divide the service area into multiple zones, that can be operated by separate operators; moreover, the presence of multiple small-scale independent providers of water indicate that in some areas it may be possible for several water provision systems to overlap. This indicates that although community size must be considered, even large cities do not necessarily need to be served by a single centralized utility, and there may be several functional systems that could be utilized in a municipality. However, to return to the issue of technical feasibility, it must be determined how easily bulk water transport and treatment can be reconciled with multiple smaller systems.

5.23 Political Will

The importance of political will cannot be overstated in political reform processes, including water sector reform. Champions are needed to challenge the status quo, to fight vested interests, and to provide encouragement when problems are encountered (Asmal, 2002). Brown *et al*. (2005) suggest that political support is needed for specific tasks including allocating and redirecting funding, sustaining organizational momentum for change, and promoting community awareness and empowerment. Moreover, political will is needed to change entrenched systems within governments. It is critical for politicians to take steps to ensure that political decision-making is transparent and open, in order to minimize corruption and increase trust in the public sector (Castalia, 2004). Governance integrity and stability

influences the success of infrastructure projects, particularly in terms of service quality and access (Castalia, 2004).

It must be cautioned that political will is not a sufficient condition for success in the water sector. Caplan *et al*. (2001) address the mixed role of political will, as they recognize that political champions are required for project support, but that the centrality of these players can become problematic, and that electoral cycles and political timing can be a challenge for reform processes. Furthermore, political backing of a specific institutional structure does not guarantee success: the government of Fidel Ramos was strongly in favor of privatization of the water utility, and took clear political and legal action to ensure that private sector participation could be solicited for the city. These steps included passing specific water legislation supporting the exploration of private sector options for water management, and offering encouragement to the appointees of MWSS who were engaged in the privatization process (Dumol, 2000). The failures of Maynilad in spite of political support suggest a second element to the political dimension of water management: the presence of political support must be balanced with the minimization of political interference.

The problems of political interests emerged even in the initial contract negotiations – political expediency and pressure forced the concession agreements to be pushed through quickly, which limited the time available to the bidders to conduct due diligence, removed the option of creating an independent regulatory board, and reduced the time available for all parties to fully examine and understand the contract agreement. The political importance of low water prices caused contracts to be awarded based on tariff reduction; this removed the possibility of creating reserve funds to buffer external shocks, and made consequent price adjustments difficult. Political dealings have undermined the regulatory body's ability to deal with the rehabilitation plans for Maynilad, and influenced the process of extracting the performance bond when Maynilad terminated its concession fee payments.

It must also be noted that there can be success in water management even in areas that face political instability and conflict. Political will aids the process, but steps towards improving water access can be made even in areas without strong governance (Frans and Soussan, 2003).

5.24 Financial Resources

Financial constraints are one the biggest challenges facing the water sector (Van Hofwegen, 2006). The potential structures for water management must take into consideration how to secure funding, and which parties have the capacity to mobilize financial resources for operations, maintenance, and expansion of water systems. The relative roles of public and private stakeholders will depend in part on the economic context of the region and the capacities of the different sectors to responsibly manage their financial resources; public and private access to funding will also vary as a result of the support of

international financial or multilateral institutions. Access to tools for risk mitigation also influence investment capacity, and determine how feasible it is for the sector to manage and operate a water system.

5.25 Regulatory Systems

Regulation has been identified as a critical component of a well-functioning water provision system. It has been suggested that, regardless of the ownership and management of the system, regulation must be independent and have clear authority to impose penalties for non-compliance. If regulation is not independent, or if it serves only an advisory role, it will be unable to deal with problems as they arise. However, this claim could be contested, since there is mixed evidence about the success of independent and non-independent regulatory agencies.

A lack of regulatory independence does not always distort regulatory outcomes: in a study of telecommunications in the UK, it was found that increasing the independence of the regulatory agency from the government had little effect on regulatory outcomes when the utilities were privatized (Edwards and Waverman, 2004). However, a study by Figueiredo and Edwards (2004) indicated that regulatory outcomes in the American telecommunications sector were affected by the elected or appointed nature of the regulatory boards, and although there was only weak evidence of bias in favor of state-owned utilities (over private utilities) when regulatory decision-making was controlled by governments, it was found that regulatory independence diminished these biases (Bauer, 2005).

It appears that a regulatory board subordinate to a contract might be less effective in countries that have higher levels of corruption, greater levels of entrenched hierarchies of power, or political interest in business ventures, as seems to have been the case in Manila[24]; however, as was seen in Buenos Aires, an independent regulatory agency does not always prevent contractual problems and conflicts over regulatory decisions (Loftus and McDonald, 2001).

5.26 Community Voice and Participation

The role of the community in water management is essential for success. Community involvement was listed as one of the factors of success in water management projects in small towns, and costs were minimized in areas where the community was supportive (Robinson, 2003). Ackerman (2004) provides several illustrative cases where public participation has led to greater accountability and transparency in governance and public administration. Robinson (2004) confirmed the importance of "*informed choice and demand-responsiveness*" in establishing functional water provision projects, and IFAD (2006) notes that "*[t]he capacity*

[24] Interviews – NGO personnel, government agencies, international financial institutions, and officials from both concessionaires.

of individuals, communities and NGOs must be developed so they can take on the responsibilities associated with reforms."

Communities must be recognized as heterogeneous entities, with multiple sectors, interests, and skills. Different strategies will be needed in different areas (Robinson, 2004), even within a single city, and the appropriate forms of public participation will depend on the characteristics of the local groups. The process of high level decision making must be altered: it is important not only to disseminate information and listen to comments, but also to actively involve community members in the decision making process. The ADB recognizes the importance of communities, and notes that "*participation will be the cornerstone of ADB's country water sector strategies; institutional arrangements for participation, particularly at the community level, will be strengthened*" (p.23; ADB, 2003). The idea of public participation should not be seen as limited to the format of a public forum: it is advisable to have the affected stakeholders involved in the initial planning stages, not just in responding to decisions that have already been made. Assumptions about community needs and desires, particularly of the poor, can lead to inappropriate technology and structures being imposed on communities. This can be seen in debates about tariff structures, where some poor communities express a high willingness-to-pay for water services, but governments remain unwilling to raise tariffs to sustainable levels[25]. The priorities for the individual communities must be determined through direct consultation; some areas might prefer communal pumps and cooperative systems, while others might opt for individual household connections and direct billing from the company.

Ostrom (1990) notes that some resource systems have been successfully managed for many years through community operated and managed institutions. Communities must not be treated as passive recipients of resources, and centralized control of resource systems is not the only option for sustainable management (Ostrom, 1990). In many cases, it is possible to capitalize on existing community structures: in the Philippines, for example, cities are divided into barangays, which are neighborhood-level political units that have elected leaders (barangay captains) and clear authority within the area. Neighborhood associations, block leaders, and functional cooperatives may also exist in some communities; building on these existing channels of political organization and participation can facilitate capacity building initiatives. Participatory processes tend to be more effective when they build on existing structures and social capital (Ackerman, 2004).

However, it is important to involve community members in multiple ways, as working solely with community leaders may not provide a complete understanding of the local needs

[25] High tariffs might not be the best solution for increasing service in poor neighborhoods, as the issue of affordability must be considered. High tariff levels should not be dismissed out-of-hand, since poor households are often willing to pay high prices for reliable, safe water, and in fact already tend to pay high prices for water from informal providers – see Whittington *et al.* (1991); however, common assumptions about appropriate water fees might not reflect the true willingness and ability of the community in question to pay for services (Lopaying, 2004).

and power dynamics. In some cases, community leaders do fairly represent their constituents; however, in some cases there may be unequal power dynamics within the community. The issue of who controls neighborhood associations must be examined, particularly in areas that have problems with gangs, exploitative slum landlords, unequal gender roles, and mixed levels of poverty and power[26]. Ackerman (2004) cautions that decentralization and devolution of power only work effectively if there is still centralized coordination and supervision of political processes. Decision makers and civil society organizations must also be careful not to idealize communities, as community-run systems are not necessarily successful or problem-free (Lord *et al.*, 1996).

A policy tool for communities will be a set of references, notes, and training documents and guidelines, intended to provide information and advice to communities and agencies working directly with communities, to expand their capacity to choose locally-appropriate water management strategies. The importance of community participation in and ownership of the decision making process has been widely recognized; in order to facilitate this local engagement, it is important that community members understand the management options that are available and recognize the constraints.

One important element in community participation is to ensure that there is a process for communication and discussion within the community. Communities are heterogeneous entities, and there may be diverse aims and goals amongst its members. The internal mechanisms may already be in existence, such as via locally elected leaders of neighborhood associations or cooperatives; however, these channels of authority may exclude sectors of the community (especially along economic or gender lines). Agencies working with these communities must be aware of local power dynamics that influence the processes.

Tools aimed at the political decision makers and at external agents to move policy beyond ideological debates must be paired with specific tools directed to communities, to help facilitate their participation in the policy process. Combining the top-down and bottom-up approaches ensures that both sectors are actively engaged in finding channels of communication. It will assist communities in becoming educated about the range of available institutional structures and the terminology used to describe them; it will also remind high-level authorities to explore all available options, and to consult all relevant stakeholders.

5.3 Unbundling the Water Sector

It has been suggested that, as in the electricity sector (Joskow, 1997), water provision could be divided into separate tasks (World Bank, 2006). This would allow for different parties to be involved in the aspects of the sector most appropriate for their capacities and interests. In practice, division of responsibility is complex, and the process must be carefully planned and coordinated. The Philippines provide an example of divided responsibilities that

[26] Interviews – official associated with Manila Water; consultant.

lead to management problems: multiple agencies are responsible for some element of water management in the country, and roles are often overlapping or vaguely defined (Lavado, 2001). This leads to problems for urban water management, as local governments have the task of providing safe water to their communities, but do not always have access to all the relevant information, nor the authority to control their water systems. The lack of a central body with clear jurisdiction and coordinating authority hinders the process of harmonizing responsibilities and decision-making capacities. Thus, division of water systems must be undertaken with a clear plan and as a comprehensive activity, to prevent conflict over authority and to ensure that gaps are not left in the system.

The type of coordination and the process for dividing responsibility amongst actors will vary depending on the existing division of authority in a specific region; there can be no set rules for this process, since the existing political structures vary from place to place. However, the tasks for urban water supply tend to be similar across regions, thus a list of potential roles within a divided system can be outlined.

In general, the government needs to maintain a coordinating capacity, particularly since it is ultimately the responsibility of the state to ensure that its citizens have access to basic resources, and to safeguard the health and welfare of the public. It is therefore important for national governments to maintain an active role in overseeing the local processes of water management. Regional governments may not have authority over an entire watershed, as political and ecological boundaries do not always correspond, thus it is beneficial to have a coordinating body whose jurisdiction extends throughout the entire basin. The public sector at some level must retain responsibility for policy and legislative frameworks, as water management is subordinate to the larger governance structures of an area. Governments must also deal with issues of equity and poverty, thus have ultimate responsibility for water provision. Since the consequences of poor water management, in the form of externalities such as environmental degradation of water sources and health problems resulting from waterborne diseases, the government has a vested interest in ensuring adequate services are provided to all sectors of society. Finally, governments need to be responsible for regulation, although the regulatory body is most effective when it has autonomy from political processes.

Communities must be involved in some capacity in water management and provision. The type of involvement that is appropriate and beneficial will differ depending on the characteristics of the community, but regardless of the form of participation, it is critical that users adopt a sense of ownership and responsibility for their water resources. Individuals must be involved in decision-making, either directly or through known and accountable representatives. There must be a clear understanding of how to seek recourse if problems arise, and mechanisms for ensuring appropriate behaviour by both water consumers and providers. Some communities will function best under a cooperative structure. With water provision this might entail joint metering, group payments, communal pumps, or locally

constructed household connections. This arrangement might be appropriate in poor communities, as it allows neighborhood groups to pool resources, and potentially lower costs through taking on greater autonomy for repairs and maintenance. Some communities, in contrast, may not want to take responsibility for creating or maintaining their own systems, and would rather pay fully for external service providers. These users must still be involved in the system, although the form of their involvement might be more remote; community watchdog groups or consumer interest groups might be most suitable for these users. As the importance of demand-side management (rather than supply-driven management) increases, there must be a greater focus on education and information for water users. The role of household-level conservation activities in water management must be highlighted, and issues of scarcity and cost-recovery must be understood by consumers. Regardless of the management structure that provides water, the users must bear the costs of their water use, although provisions must be made for cases in which the urban poor cannot afford the costs of water[27].

The structure of an unbundled water sector might not fit neatly into the existing categories we have given to water management systems. Partnerships amongst public, private, and community players will be needed, but the traditional public-private partnership format might not be flexible enough to incorporate roles for all the relevant stakeholders. Ostrom recognized that institutional arrangements rarely conform to clear categories, but rather "*frequently are intermeshed and depend on one another, rather than existing in isolated worlds*" (Ostrom, 1990, p.15). Innovation must therefore accompany water sector reform, to determine institutional structures that allow for the necessary division of responsibilities and hybrid nature of management. Concession agreements, as have been used in Metro Manila, would need to be adjusted to explicitly recognize the role of community cooperatives, small-scale independent providers, and NGOs in different parts of the city. The legal framework of the agreements would need to be altered to incorporate clear rights and responsibilities for these actors. Changes to contracts are not impossible, and have already occurred in the Manila concessions in light of the currency crisis. Thus it may not necessary to wait for old contracts to expire and new ones to be formed – existing arrangements that are performing inadequately could be changed while they are in progress.

Moreover, as has been demonstrated, the structure itself is not the determining factor for success. It is important to pick an appropriate structure, and good planning is a critical part of management; however, the set-up is only the first step in good water provision. It seems that one of the problems faced in Manila was that it was assumed that once the contract was in place, any areas that were unclear or problems that emerged could be easily solved, and were negotiable and manageable within the context of the contract. It has been decided that

[27] See Hardoy and Schusterman (2000) for a discussion of strategies for water provision in low-income and informal communities, including the use of subsidies.

concession agreements were the best option for the city, and once key individuals were in support of that idea, it was assumed that everything else would sort itself out. This resulted in oversights and rushed processes during the contract design and bidding process that led to significant problems when the concessions were underway. Even if concessions are the best option for Manila (which may be true), there must be greater transparency and better avenues for public involvement, both during the procurement process and once the new management takes over. There need to be built-in mechanisms for monitoring management and operations processes, to catch problems before they become insurmountable. For an autonomous utility, a regulator must have legal authority and independence, and must be perceived as having real power. For community-managed systems, there must be self-appointed or external monitors that are agreed upon by and are accountable to that community. In an unbundled system, there must be monitoring and evaluation processes for each part of the system, from source protection to payment and collections. As with management, this segmented monitoring must be carefully coordinated, and joint commitments of various stakeholders are essential.

5.4 Robust Institutional Structures: Planning for a Dynamic System

Given the complexity of the urban political, social, and ecological environments, it is recognized that a single formula for water provision cannot be devised. The question therefore becomes how to devise a management structure that is resilient in the face of change, that is transparent but also flexible, and that has built-in mechanisms for monitoring and evaluation and revision. These elements will be necessary regardless of the specific context of the city, although the appropriate solutions will vary.

Transparency, information sharing, public knowledge, and community involvement all contribute to increasing the chances that a water provision system (centralized or not) will function well. The consumers are dependent on water services, and bear the burden of the costs of water provision, thus they have a vested interest in receiving high quality service and securing reasonable prices. There is a problem with centralized utilities that the relative scale of a consumer's interest and power is marginal compared to that of the utility – the impact of a price increase for an individual user is negligible compared to the revenues that will be collectively generated by that increase – so there is value to collective action on the part of the users[28]. Consumer groups might be the answer to this problem of scale, and it may be logistically easier and less costly for utilities to interact with a representative organization rather than individual customers[29]. Since consumers also tend to be voters, there should be space for community involvement in regulation and policy through democratic channels. However, this will only be the case if the government is actually open and accountable; corruption will undermine this avenue of public feedback.

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[28] Interview – researcher from a local NGO.
[29] Interview – official associated with MWSS.

The more power that is given to a dispersed public, the easier it is to circumvent corrupt governments and create a stable water provision system even in the context of corruption or political instability[30]. If public sector reform is not a feasible option, and there is no political will for accountability, the best structures for water management will be where authority is highly decentralized, and local communities have direct access to the management systems. Greater community participation reduces the opportunities for corruption, and removes water management from the broader political arena. Even centralized systems of supply can have devolved elements of responsibility: the operational structure of Manila Water provides a model for decentralized management within a centralized utility. The company operates the West Zone as a series of smaller service area units, with management teams assigned to each section.

5.5 Governance and Management Considerations

An autonomous utility, regardless of its public or private status, must ensure that it charges tariffs that support its operations and management, and that incorporate financing support for resource protection. Even in decentralized systems, independent providers must be financially viable to be sustainable suppliers of water. Water's status as a scarce resource must be recognized, and pricing might be an effective mechanism for conveying this message to the public. It is therefore important that service operators do not put undue emphasis on low tariffs for water.

The 'government culture' that leads to accusations of inefficiency in the public sector needs to be changed, regardless of ownership and management. With the right incentives and leadership efficiency can be achieved by the public sector, but this process requires clear political commitment to achieving change. Utilities need to be removed from political maneuvering. While this should, in theory, be easier for a private company, that is not always the case, nor is it impossible within the confines of the public sector.

5.6 Summary

Building a policy tool that provides a specific context-appropriate institutional framework seems to be a tall order, and is perhaps not feasible. However, a process can nonetheless be developed that allows local decision makers to make more informed, locally appropriate decisions. This will involve the recognition that value judgments are an integral part of all policy making processes, and thus the focus of advisors and external agencies should be to provide mechanisms to promote transparency in decision-making, to build community capacity for participation in policy formulation, and to encourage flexible and open governance processes.

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[30] Interviews: consultant, researcher from a local NGO.

Section 6: Conclusions

6.1 Further Research and Policy Development

Recent work to record and publicize experiences with and best practices in water management projects (APEIS, 2006; Public Citizen, 2003; Caplan *et al*., 2001; Zerah, 2000) indicate that there is international interest in information-sharing. These efforts to document both the positive and negative lessons learned should be supported and expanded.

Decision makers at multiple levels need to be given tools to help them consider all available options. This is true for multilateral donors and consultants, national governments, local mayors and water managers, as well as local community leaders and non-governmental organizations. These various stakeholders should have access to tools and resources that help them undertake the policy assessment process. This includes determining the current water management and community contexts, and forecasting the potential outcomes of different options. It also involves making the sector-specific terminology understandable to the stakeholders, and building on the existing capacities of the various actors.

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