9 Springs of hope

Alternatives to commercialisation of water resources and services in Asia

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Asia is well endowed with water resources, but monsoon cycles can induce large interseasonal variations in river flows, and there are significant variations across the four subregions (Central, South, Southeast, and East). With some 60% of the world's population, the amount of water per capita also varies, with Central, East, and South Asia typically recording levels lower than the global average. Southeast Asia, on the other hand, has more than twice the world average (WRI 2005).

Hydrological cycles aside, much of the debate about water in Asia today revolves around water treatment and distribution and who provides these services. The Millennium Development Goals (MDGs) provide Asian countries with a quantitative framework for dealing with the challenge of water service provision, with MDG 7 Target 10 calling on nations to halve the proportion of people without sustainable access to safe drinking water and improved sanitation by 2015. Although 10%–14% of Asians still did not have access to safe supplies as of 2006, many parts of the region met and surpassed their targets. In East Asia alone, over 400 million people were reported to have gained access to improved drinking water sources as of 2006 or an increase in coverage by 20% over the 1990 figures (UN 2008).

Aside from the MDGs, the Association of Southeast Asian Nations (Asean) Strategic Plan of Action on the Environment (1994–1998) provided that member states respond to specific recommendations of the United Nations (UN) Agenda 21, requiring that "adequate supplies of water of good quality are maintained for the entire population while preserving the hydrological, biological and chemical functions of ecosystems, adapting human activities within the capacity limits of nature and combating vectors of water-related diseases". The accord further recognised that "innovative technologies, including the improvement of indigenous technologies, are needed to fully utilize limited water resources and to safeguard those resources against pollution" (UN 1993, Section 2, Chapter 18).

In South Asia, part of the effort to ensure water security is embodied in the proposal of the United Nations Environment Programme (UNEP)

and Development Alternatives (DA; a social enterprise whose mission is to create sustainable livelihoods on a large scale by delivering market-based technologies and institutions) for the adoption of the recommendations of the *Human Development Report* of 2006 with emphasis on making water a human right. UNEP and DA further advocate that "governments go beyond vague constitutional principles in enabling legislation to secure the human right to a secure, accessible, and affordable supply of water" (2008, 79).

Although there might have been no intention to dichotomise the prioritisation, the increasing scarcity of water has renewed debates on the inclusiveness of the "water-for-all" agenda. Whereas some water activists have argued for the prioritisation of human basic needs within the water-for-all framework, others have posited that the guarantee should apply to all life forms and to ecosystems themselves. The significance of the water-for-all-life-forms argument is highlighted when juxtaposed with the thrust to commoditise water and/or to privatise water services. As Naqvi points out, "According to World Bank philosophy, religious places, helpless poor, birds and animals – all are consumers" (n.d., 7).

Other recommendations embodied in Agenda 21 were for states to "support water-users groups to optimize local water resources management" and to develop and strengthen "cooperation at all levels...including the decentralization of government services to local authorities, private enterprises and communities" (UN 1993, Section 2, Chapter 18). With many states unable to provide centralised government services, these recommendations allowed communities and village-level associations, as well as local governments, to continue performing their role as water service providers (WSPs) to their respective constituencies, thereby increasing the variety of management models for water service delivery.

Foremost of these models are the centralised water utilities being managed by state or metropolitan water boards and water districts providing services mainly to capital cities, highly urbanised centres, and peri-urban communities. In some areas, water service delivery is being managed by municipal governments or by some other local government unit (e.g. province, city, town, or village). Areas not served by water boards, water districts, or local governments are being covered by water supply enterprises as diverse as village-based water and sanitation associations, water service cooperatives, and homeowners' water associations. Isolated households or neighbourhood clusters mainly depend on stand-alone water sources such as springs, streams, and/or water pumps.

LEVELS OF WATER SERVICES IN ASIA

Although MDG 7 Target 10 calls for the reduction of the proportion of the population without sustainable access to safe water supply, the *Asia Water Watch 2015* report notes that safe water supply has been extremely

difficult to assure. In view of this, the phrase "improved water supply" has been proposed as a substitute after having been adjudged to be "the best measurable standard" to indicate that "water is more accessible, and some measures have been taken to protect the water sources from contamination" (ADB et al., 2006).

Based on this phraseology, *Asia Water Watch 2015* reported that from 1990 to 2002, water supply coverage in the region improved from 82% to 84%, but the increase was not uniform (ADB et al., 2006). East and South Asia reported increases of five and six percentage points, respectively, but coverage declined in Southeast Asia mainly due to the deterioration of existing facilities and service delivery systems coupled with rapid population growth. Although an additional 100 million persons were provided with improved water supply between 1990 and 2002, such increase in coverage was less than the population growth of Southeast Asia during that period (Table 9.1).

Asia Water Watch 2015 predicted that WSPs in Asia would cover a total of 3.7 billion people, or 89% of the projected population of the region by 2015 (ADB et al., 2006). South Asia is predicted to achieve the highest coverage in terms of nominal population (90%), followed by East Asia (87%). Southeast Asia, despite its relatively high level of per capita water availability, is projected to only have 88% of its 2015 population covered by improved water supply. Central Asia, which faces a very low level of per capita water availability, is expected to maintain its 91% coverage mainly because of its relatively low population growth.

By 2006, Asia as a whole surpassed the 2015 MDG target for population with access to improved drinking water source (IDWS), 86% versus the actual 87%. This level of access reflected a tremendous improvement over that of 2004, during which Asia was reporting only 78% of its population with access to IDWS. The 2004 level was even a regression over the 1990 level of 80% access (Table 9.2).

Table 9.1 Profile of population served by improved water supply

Subregion	*Total population served as of 1990 (millions)*	*% Coverage of total population as of 1990*	*Total population served as of 2002 (millions)*	*% Coverage of total population as of 2002*	*Projected total population served by 2015 (millions)*	*% Coverage of projected population by 2015*
Central Asia	34.339	91	37.734	91	42.223	91
East Asia	985.171	81	1 193.722	86	1 476.209	87
South Asia	822.188	79	1 242.036	84	1 699.788	90
Southeast Asia	305.927	76	405.098	75	494.228	88
Asia Total	2 147.625	82	2 878.590	84	3 712.448	89

Source: ADB et al. (2006, 12–13).

Table 9.2 Profile of access to improved drinking water sources in Asia

Subregion	*% of 1990 population with access to IDWS*	*% of 2004 population with access to IDWS*	*% of 2006 population with access to IDWS*	*MDG 7 Target 10 to be attained by 2015 (%)*
Central Asia	86	66	NA	NA
East Asia	83	84	88	84
South Asia	69	80	87	87
Southeast Asia	82	81	86	87
Asia Total	80	78	87	86

Sources: WHO and UNICEF (2004, 24–31), UN (2008, 42).

PUBLIC VERSUS PRIVATE WATER SERVICES

In an effort to map the degree of public versus private sector service delivery in Asia, we conducted a survey of 646 listed water utilities, of which 171 (24%) provided information on the number of service connections and the number of people serviced. This is a large and broadly characteristic sample, we believe, but it should be noted that it is not statistically representative due to data collection limitations, foremost of which was language (see next section). Those included in the list from Central and South Asia were large, centralised utilities. In Central Asia, an average water utility would have 103 000 service connections covering more than 1.2 million people. In South Asia, a utility would have an average of 320 000 service connections serving 3.7 million individuals. Those in East Asia have a little less than 1 million service connections serving an average of 5 million people. The water utilities in the list in Southeast Asia also covered smaller water districts in the Philippines. They have an average of 62 000 service connections providing water to 240 000 people (see Table 9.3).

Most of the utilities listed are public in nature – either as state-sponsored agencies or as municipal corporations. Although our research found only two private water corporations in the Philippines (Manila Water Company, Inc. [MWCI] and Maynilad Water Services, Inc. [MWSI]) and two in Indonesia (PT Pam Lyonnaise Jaya and PT Thames Pam Jaya), online information indicated that some private corporations worked for the development of sources of water supply and for the acquisition of rights or entitlements to the water they were able to produce from their projects. Endowed with legal entitlements for the abstraction of water, these corporations then enter into bulk water supply arrangements with the public sector or non-profit utilities.

Table 9.3 Water utilities in Asia

Subregion	*Number of water utilities listed*	*Number of utilities with data*	*Average number of connections*	*Average number of people served*
Central Asia	3	3	103 056	1 238 865
East Asia	8	8	961 361	5 052 414
South Asia	13	13	320 590	3 685 044
Southeast Asia	622	147	61 731	243 046
Asia Total	646	171	124 963	799 881

Source: Authors' surveys.

THE SEARCH FOR ALTERNATIVES

Countries covered by the study and limitations in their selection

Our survey of WSPs in Asia initially only covered South and Southeast Asia. Central and East Asia were included later. But because our research capacity is strongest in India and the Philippines, more detailed data sheets on service providers were generated for these countries. We relied mainly on desktop research to gather data on possible "alternatives to privatisation" in Hong Kong, Indonesia, Pakistan, Bangladesh, Thailand, Nepal, and Cambodia. Data obtained through Internet searches were further substantiated in regional validation workshops in Bangkok, Thailand. Research collaborators from the Hong Kong-based Globalisation Monitor provided additional information on China. Language difficulty was one of the biggest constraints in the research; many materials on East, Central, and Southeast Asia are not written in English.

Data collection methods

In addition to Internet reviews, the researchers reviewed relevant secondary literature, consulted with research associates of other research and activist organisations, and conducted face-to-face interviews with management and labour representatives of water utilities, civil society representatives, and community leaders working on water issues.

Desktop data collection was limited by two problems: (i) national/local websites did not always carry English translations and (ii) the use of local terminologies (for governance entities, measurement units, currencies, and community practices) made it difficult to make comparisons across the region. Priority was thus given to English-language websites, many of which were set up by international agencies. Materials from websites were sifted and cross-checked with other references as they rarely provide operational details.

In terms of operations, the prospective alternatives identified in the research varied in scope from village-level systems to initiatives undertaken by state-level water boards and by national-level associations of WSPs. Among WSPs, the alternatives took on a variety of forms: from targeting service provision to the poor to providing service for all.

The following sections outline our findings according to the organisational typologies of "alternatives to privatisation" outlined in Chapter 2 of this volume.

ALTERNATIVES TO PRIVATISATION ACCORDING TO ORGANISATIONAL TYPOLOGIES

Public/non-profit partnerships

Public-non-profit partnerships (PuNPPs) were the most common alternative service delivery mechanism identified in our mapping. It was particularly prevalent in South Asia. PuNPPs are arrangements wherein one or more public sector agency works with one or more civil society or community-based organisation (CBO) to deliver water services (see Table 9.4 for a summary of the different numbers of typologies found, by subregion). This typology is exemplified by the Tamil Nadu Rural Water Sector Programme

Table 9.4 Types of alternatives by organisational typologies

	Type of alternative	*Number of examples found*
East Asia	Public/Non-profit partnership	2
	Single public sector agency	2
South Asia	Public/Non-profit partnership	5
	Non-profit/Non-profit partnership	4
	Single non-profit agency	4
	Single public sector agency	3
Southeast Asia	Public-public partnership	6
	Public/Non-profit partnership	4
	Single public sector agency	2
	Single non-profit agency	1
Asia total	Public/Non-profit partnership	11
	Single public sector agency	7
	Public-public partnership	6
	Single non-profit agency	5
	Non-profit-non-profit partnership	4
Total		33

(TNRWSP) implemented by the Tamil Nadu Water Supply and Drainage Board (TWAD) in India. Under this programme, a partnership was forged between local communities and the water utility for the joint management of water services based on equity, resource management, reduction of water consumption, improvement of reliability, and reduction in operating and maintenance costs.

Another dimension of these partnerships is demonstrated by the Convergence Experiment conducted in the state of Tamil Nadu. The experiment enabled various line departments to coordinate and cooperate with each other to provide irrigation water to the farms of more than 1 million families and showed the viability of PuNPPs in different contexts. Based on the partnership, individual water users, community-based groups, and the water utility organisation as a whole were able to align their perceptions and commitments so that the necessary change efforts could be identified and initiated. According to Nayar et al. (n.d., 26), the change in perspective has led engineers to assume the larger role of "managers of the commons" and gave impetus to the emergence of a vision that articulated the current concerns of local farming communities, as well as future generations.

In urban settings, PuNPPs were exemplified by the cooperation between the Dhaka Water and Sewerage Authority of Bangladesh and a local non-governmental organisation (NGO), the *Dushtha Shashtya Kendra* (DSK), and between the Residents Association of Tinagong Paraiso, a local NGO, and the Bacolod City Water District (BACIWA) of the Philippines. Through such partnerships, communal water points were provided to residents of slum communities, thereby improving access to clean water among informal settlers and urban poor. In the Philippines, the community tap stands were even directly managed and maintained by the Association.

PuNPPs also came in the form of collaboration between village and municipal governments, NGOs, academic institutions, community-based water users, and WSPs. These partnerships took on such tasks as the delineation of watershed boundaries, inventory of biophysical resources and assessment of socio-economic conditions of watersheds and development planning for sustainable water supply. In the Philippines, a project like this was collaboratively implemented by Plan Philippines and the Environmental Legal Assistance Centre, by universities (particularly the Eastern Samar State University and the Visayas State University), and by the village and municipal governments of Salcedo, Eastern Samar. Similarly, local WSPs, NGOs, village and municipal governments, and academic institutions used PuNPPs as a mechanism to implement a multi-agency initiative to estimate the benefits of watershed protection to justify opposition to mining applications within the Sibalom Natural Park of Antique, Philippines. A PuNPP also provided an avenue for local NGOs, communities located along the Ping River of Thailand, Hang Dong farmers, and members of the Hmong Hill Tribe to negotiate an acceptable system of water allocation for household, agricultural, tourism, and industrial uses. The PuNPP between

community members, faculty members of the Bengal Engineering and Science University (BESU), and the NGO Water for People, an affiliate of the American Water Works Association, facilitated the installation of arsenic removal equipment in the well heads of pumps installed in rural villages of West Bengal.

Single public sector agency

The second most reported category of alternative service delivery mechanism was what we have called single public sector agency (SiP) initiatives. This mechanism usually involved a public sector water utility working on its own to continue the delivery of water as a public service or to improve the quality of the service delivery system itself. For example, the Water Supplies Department of the Hong Kong Special Administrative Region Government (HKSARG) continues to provide drinking water as a basic human right, while retaining the water supply system as a public utility. Pressure to reduce public investments in the water system and to minimise its operational costs pushed HKSARG to consider privatising the service. However, the department's good track record in managing water resources and delivery systems and maintaining water quality has earned the support of property owners, taxpayers, and citizens. Moreover, by adopting a "social tariff" structure, the department was able to generate funds from high-usage charges to cross-subsidise low-usage households, which were usually composed of the elderly and low-income families.

Such exemplary management of public waterworks was also demonstrated by the Hydraulic Department of the Municipal Corporation of Greater Mumbai that supplies water to 13 million people at a very low cost. Similarly, the Phnom Penh Water Supply Authority (PPWSA), after Cambodia's 20-year civil war and after the Khmer Rouge destroyed much of the city infrastructure, strengthened management capacity, rehabilitated its decrepit water distribution system, and worked to minimise unregistered or unmetered service connections in slum areas or among informal settlers. And by implementing a system of hydraulic isolation of operation zones and district metering areas, the *Maharashtra Jeevan Pradhikaran* (MJP) in India was able to supply water 24 hours a day, seven days a week to eight (out of 34) wards of the city, without going into a partnership with private entities.

Alternatives undertaken by SiPs also took the form of village-level implementation of decisions and programmes. This was demonstrated by the Indian village Panchayat of Hivre Bazar, which implemented a ban on unlimited grazing and felling of trees, undertook watershed development on forest lands, constructed water harvesting structures, and regulated the utilisation of water that was available to the community. Such community-level decision making was also practised by the village council of Paulba, Ligao City, Albay, Philippines, when it decided to establish and manage a

piped water system using funds from an Asian Development Bank (ADB) loan of the Philippine government, initially intended for the development of irrigation facilities.

Public-public partnerships

Collaboration among public sector agencies has been reported as a significant mechanism in preventing privatisation of water utilities and the commercialisation of water resources and services (Chiong 2008). For example, the public-public partnership (PuP) between the Alliance of Government Workers in the Water Sector (AGWWAS), the Visayas State University, the Public Services International Research Unit (PSIRU), and several water districts facilitated the firming up of positions to oppose privatisation of financially viable water districts in the Philippines. Moreover, the partnership provided an opportunity for representatives of labour and management of Philippine water districts to work together to enhance their capabilities to implement performance benchmarking and to develop a set of benchmarks to be used by their respective water districts. The cooperation of labour and management facilitated the identification of technical, financial, socio-economic, and environmental indicators that considered the viability of the water district (AGWWAS et al.).

In India, the state government of the National Capital Territory of Delhi entered into a PuP with the local government of New Delhi when it planned to implement a tertiary-level treatment of waste water. Under the partnership, the state government would process up to 5 million gallons of urban waste in its sewage treatment plant and make the treated water available to the local government for distribution to non-domestic users. Target users included transport companies that use water for washing buses, institutions that need water for flushing toilets, and construction companies that use large volumes of water for concrete mixing. Under this mechanism, demand for water from the piped water system could be reduced (conversely making more water available to domestic users) and ameliorate the effluent load of the sewage system.

At a community level, officials of the villages of Guadalupe and Patag of Baybay, Leyte, Philippines, negotiated with officials of the Visayas State University for access to what they perceived as excess water use of the university. They observed that the university was releasing water through outlets in its pipelines or was allowing water to overflow from its swimming pool. They wanted to use this water to supplement water supply to poor informal settlers in their respective villages.

Similarly, the village councils of Patag and Gabas formed a PuP and negotiated with the Baybay Water District (BWD) in the Philippines for access to water from a spring, to which BWD holds the water right, as well as for the turnover of water district facilities within the village. Under the

proposed terms of reference, the village governments would manage the water source and the on-site distribution facilities to provide safe drinking water to their constituents. In return, they would undertake watershed conservation and protection of facilities installed by the water district.

Single non-profit agencies

During the mapping exercise, some NGOs – categorised here as single non-profit agencies (SiNPs) – were found to have the capacity to develop non-commercialised water systems. For example, the Sehgal Foundation established water harvesting structures and check dams that allowed pockets of fresh water to form underground in the village of Ghaghas in the Mewat District of Gurgao, Haryana, India. Carried out in conjunction with community education programmes on water conservation, the project proved that integrated water resources management (IWRM) need not be too cost-intensive or too long drawn in terms of time.

For its part, the Yenepoya Medical and Dental College (YMDC) located in the Dakshina Kannada district of Karnataka, India, implemented a rainwater harvesting project on its campus and in its neighbouring communities. Through such interventions, the college administration was able to directly service an additional 2 000 students, while pointing to a water management model that addresses severe water scarcity and reduces the abstraction of groundwater.

As alternatives to commercialised water service delivery organisations, community-based SiNPs demonstrated that they too could implement water system improvement projects. The Self-Employed Women's Association (SEWA), a trade union and community-based movement of poor and self-employed women workers in the state of Gujarat, India, was able to establish, operate and maintain a system that provided safe potable water to its members. Similarly, CBOs in the province of Punjab, Pakistan, participated in the planning and construction of water system projects funded by an ADB loan. Their experience gave them the confidence to take on the greater responsibility of operating and maintaining the distribution pipelines, drains, and oxidation ponds.

Even urban-based organisations of water users, exemplified by the Bagong Silang Community Water Service Cooperative (BSCWSC) of Caloocan City, Philippines, used their consumer-owned utility to secure dependable water supply from third-party bulk providers at reduced transaction costs. This particular cooperative negotiated with financial institutions to generate funds for the establishment of improved water supply and distribution systems. Democratic control, peer-level monitoring, and enforcement of rules, which are inherent characteristics of cooperatives and associations, drastically reduced management cost and eventually relieved the pressure to commercialise the service.

ALTERNATIVES TO COMMERCIALISATION ACCORDING TO POLITICAL CRITERIA

Innovative models of public service delivery

Five types of alternatives to the commercialisation of water services according to political criteria were identified during the mapping exercise (see Chapter 1, this volume, for a description of these categories). The most common type involved alternatives that were found to be new and/or innovative models of water service delivery that were neither private nor "old-style" public (see Table 9.5). Examples of such innovative models were reported in India, particularly the Change Management initiatives of TWAD. Under these initiatives, water supply to 60 million people of Tamil Nadu and the delivery of irrigation water to the farms of more than 1 million families were undertaken in conjunction with the management of attitudinal change, shifts in perspective, and transformation of the institutional culture of water engineers using a process-oriented participatory training methodology based on the traditional practice of *Koodam*, a Tamil word for gathering and social space, and for consensus that implies harmony, diversity, equality, and justice. The transformation of the institutional culture of water engineers and the changes in perspectives and relations between local communities and the water utility facilitated the implementation of the joint management of water resources. As an official-to-official transfer of ideas and experiences, the change in perspective gained during the workshops helped transform the engineers into becoming "managers of the commons".

Another innovative mechanism was implemented in Thailand through the river-basin-wide negotiations between local NGOs, upstream and downstream communities of the Ping River, Hang Dong farmers, and members of the Hmong Hill Tribe to settle competing demands for water for household, agricultural, tourism, and industrial uses. It demonstrated that conflicting claims to water resources based on geographic proximity to the resource, perceived traditional and/or preferential entitlements to the resource, purported economic significance of the activity being supported by the water resource base, and the human right to water could actually be discussed and settled through public negotiations.

Confronted with various threats to their water supplies and distribution systems, communities in India had to devise and implement innovative ways to improve service delivery. Residents of rural villages in West Bengal collaborated with faculty members of the Bengal Engineering and Science University and with the NGO Water for People, in the installation of arsenic removal equipment in the well heads of local water pumps. Despite initial reservations that the highly technical solution would encounter problems during village-level implementation, project reports did not indicate any major difficulty that villagers faced with respect to comprehending the underlying principles of operating the water treatment units.

Table 9.5 Types of alternatives by political criteria

Subregion	*Political criteria*	*Number of examples*
East Asia	Innovative models of public service delivery	3
	Model of public service delivery deemed to be good and thus defended against commercialisation	1
South Asia	Innovative models of public service delivery	8
	Model of public service delivery deemed to be good and thus defended against commercialisation	4
	Model moving towards reinvigorating the delivery of public services	2
	Alternatives towards reclaiming public services	1
	Model of public service delivery that is still being proposed or discussed for implementation	1
Southeast Asia	Innovative models of public service delivery	6
	Model moving towards reinvigorating the delivery of public services	3
	Model of public service delivery that is still being proposed or discussed for implementation	2
	Alternatives towards reclaiming public services	1
	Model of public service delivery deemed to be good and thus defended against commercialisation	1
Total Asia	Innovative models of public service delivery	17
	Model of public service delivery defended against commercialisation	6
	Model moving towards reinvigorating public water services	5
	Model of public service delivery that is still being proposed or discussed for implementation	3
	Alternatives towards reclaiming public services	2

In the Indian village of Ghaghas, where water was inadequate and contained high levels of nitrates and fluorides, the Sehgal Foundation worked with the community to build check dams to raise the water table and to accumulate fresh water underground. In addition to these innovative engineering interventions, the Foundation initiated community education programmes on water conservation in an effort to reduce the rate of groundwater depletion. The two-pronged approach allowed the aquifer to recharge without restricting water availability for essential uses. Improved resource availability eventually reduced the pressure to use tariffs as a regulator of utilisation.

Another innovative mechanism involved the partnership between the *Gram Panchayat* of 185 villages in the districts of East Godavari, Guntur, Krishna, Ranga Reddy, Visakhapatnam, and West Godavari in Andhra Pradesh, India, the community and the Byrraju Foundation. Under this partnership, the *Gram Panchayat* would provide raw water and land and supply power at concessional rates. The community would pay 50% of equipment costs, construct the building, supervise the operation of the treatment plant, and distribute the water. The Byrraju Foundation would select the equipment, bear 50% of equipment costs, provide technical support in the operation of the treatment plant, and test the quality of the water. Through the cost-sharing mechanism, water treatment plants were set up in various locations, thereby improving access to safe drinking water. Without the treatment plants, water supply would continue to be contaminated by coliform, by chlorides, and by other chemical impurities in excess of permissible levels.

In the Philippines, when mining companies applied to mine inside the Sibalom watershed, community-based water users, village and municipal governments, WSPs and NGOs banded together to oppose the approval of the applications. They also invited researchers to conduct studies to estimate the benefits of watershed protection as a means of opposing mining applications within the watershed area. In doing so, the major beneficiaries of the Sibalom watershed were able to gain deeper insights into the non-use and bequeath values of the ecosystem.

The YMDC located in the Dakshina Kannada district of Karnataka used to spend Rs6 million (more than US$130 000) per month to truck its water requirements into its campus. The high level of water use by the school contributed to groundwater depletion and to a general water shortage in the neighbourhood. By digging 1.2-ha ponds on campus, the college was able to collect 30 million litres of rainwater, which was enough to serve some 2 000 students.

Defending the public sector against commercialisation

The second most prevalent reason used to resist commercialisation in the water sector in Asia involved defending good-quality existing public services. A notable example is the Water Services Department of Hong Kong (HKWSD). While contemplating ways to reduce investments and operational costs, the Hong Kong Special Administrative Region Government (HKSARG) considered the following options: (i) contracting out part of the services to private business; (ii) "corporatisation", which is often seen as a transition to privatisation; or (iii) complete privatisation. According to the Government Waterworks Professionals Association, all these suggestions were strongly opposed by Hong Kong civil servants. The majority of the public also did not support the proposal for fear that the changes would lower the quality of water supply and increase fees (2007).

In 2003, HKSARG proposed the use of a public-private partnership (PPP) as the mode of renovation and operation of the potable water treatment in Hong Kong. In 2004, the PPP feasibility study was expanded to cover water distribution, effectively affecting 3 million citizens. The PPP model was seen as a means to reduce investments in water supply services and as a mechanism to enhance control, efficiency, and productivity in the water sector. However, the civil servants in HKWSD strongly opposed the proposal. During the May 2004 meeting of the Panel on Environment, Planning, Lands and Works, the panel members also expressed opposition to the PPP approach. The panel then recommended to HKSARG to revisit the feasibility study and to conduct public consultations regarding the proposal.

Over the past 150 years, HKSARG had the responsibility of providing drinking water to the public as a basic human right, despite severe water shortage and the rapid expansion of the economy. It had shown its capability to invest resources and to introduce new technologies in order to maintain a world-class water supply system that benefits Hong Kong citizens and its economy. HKWSD has been continually introducing innovations to enhance water supply services. Over the years, it has produced a team of trustworthy professionals in the public sector who can provide outstanding water supply service that is comparable to what any private organisation can deliver (Government Waterworks Professionals Association 2007). In the end, the exemplary performance of HKWSD helped convince the general public and HKSARG to forego the PPP proposal.

In India, the water system managed by the Hydraulic Department of the Municipal Corporation of Greater Mumbai (MCGM) proved that a large state sector water utility, despite being seen as unwieldy and unviable, could provide basic water supply to a large and rapidly growing population at very low cost (ADB 2007). The utility adheres to a welfare state model, which started during the colonial times. Despite functional constraints (e.g. more than 1 500 unfilled vacancies in the water department and the rotation of engineers between the various departments of MCGM, leading to the lack of skilled engineers and waterworks and to difficulties in leadership and succession planning), citizen groups together with the waterworks employees' union have conceptualised a public-public management system. The proposed participatory management model would retain operations and management under local public control, help save money, reward employees, and ensure improved water quality. To disseminate the concept, the Mumbai *Paani*, an initiative of concerned citizens and groups, has called public meetings with local residents, MCGM corporators, unionists, and senior citizens in order to start the process of forging PuPs.

MJP in India was also able to deliver good public service when it implemented hydraulic isolation of operation zones and district metering areas. Through the application of such hydraulic interventions, MJP showed its capability to improve water supply delivery (Dahasahashra 2008). The

improvements were facilitated by a mechanism institutionalised by the Kulgaon-Badlapur Municipal Council wherein feedback from the water users (e.g. replacement of non-working meters) provided the impetus for the utility to make the water system more effective.

In the Philippines, the AGWWAS and the Philippine Association of Water Districts separately firmed up their respective positions opposing the official policy to privatise financially viable water districts (Chiong 2007). Both organisations believed that water districts, as public entities, were still the best option in the delivery of water services. Moreover, through a series of trainings aimed at enhancing the capabilities of labour and management, participating water districts started to evolve a set of performance benchmarks for their own use. The information derived from the initial benchmarking exercises provided both labour and management with insights into their respective financial and operational status, which further strengthened their resolve to retain water districts in the public domain.

Attempts to impede the commercialisation of water services also occurred at the village level. For example, the management of a water system improvement project by SEWA allowed the community to maintain control over water service delivery (ADB 2007). Based on personal interviews, the implementation of village-level decisions in Hirve Bazar to regulate the utilisation of available water not only retained control over the allocation of water in public hands but also placed the management of the resource base directly under the community's jurisdiction.

Reinvigorating public water services

There were also instances wherein existing public modes of water service delivery were no longer appropriate for the service area, for reasons such as population growth and increases in the number of informal settlers, depletion of water sources, and deteriorating infrastructure. Even in cases where a water utility was not directly threatened by privatisation or commercialisation, maintaining the status quo could mean serious implications for its performance and could eventually lead to possible calls for the privatisation or commercialisation of its services. Under such circumstances, some utilities embarked on alternatives geared towards reinvigorating and improving the delivery of services of their respective public water systems rather than simply relying on the status quo.

The Dhaka Water and Sewerage Authority, for example, was legally constrained from providing service connections to slum communities because the residents usually did not have tenure to the land they were living on. By entering into cooperative arrangements with the NGO DSK, the water utility was able to establish communal water points, which improved access to clean water among informal settlers and urban poor. Adhering to the status quo could have perpetuated the exclusion of such residents from the service coverage of the water system.

The Phnom Penh Water Supply Authority faced a similar challenge when it inherited a decrepit water distribution system. By strengthening management, it succeeded in rehabilitating the system, allowing it to embark on initiatives to minimise unregistered or unmetered service connection in slum areas. Although the initiative was financed by the ADB, the case illustrated that business as usual is not the only option for the public sector.

In India, in cases in which public agencies vested with the mandate to manage water resources disregarded or neglected to perform their functions, actions initiated by the NGO *Tapas* could provide an alternative model. Land-owning government agencies that neglected to safeguard Delhi's water bodies prompted *Tapas* to file Public Interest Litigations (PILs). These PILs initiated the process to protect Delhi's water resource base, stop the lowering of groundwater levels, establish reservoirs for rainwater storage, and preserve traditional water recharge structures. Through the cases filed in the courts, various government agencies became legally bound to take on the responsibility to revive, rejuvenate, and safeguard 629 water bodies. With the government agencies working on storing rainwater, aquifers were recharged, floods were minimised, and water was made available for domestic use.

The defence of sources of water supply, however, need not reach the courts. This was demonstrated by the actions of village and municipal governments, NGOs, and academic institutions when they embarked on the delineation of the boundary of the watershed in Salcedo, Eastern Samar, Philippines. Through their joint efforts, the village and municipal councils were able to pass appropriate legislation proclaiming the watershed as a protected area. The local legislation equipped the village and the municipal governments with the legal mandate to formulate and implement programmes to ensure sustainable water supply.

Reclaiming public water

In this research we were unable to find cases in which water services that had been privatised were either renationalised or remunicipalised, as has been occurring in other parts of the world (see www.remunicipalisation.org). There was an opportunity to renationalise the MWSI in the Philippines in 2006 when it declared bankruptcy, and its former owners, the Lopez family, signalled their intention to return the private concession back to the state. But despite this intent and campaigns by civil society and public interest groups for renationalisation, the Philippine government maintained its position to have the utility operated by a private corporation. There are also ongoing discussions about the possibility of remunicipalising water services in Jakarta, Indonesia, but these were still at the very early stages of negotiations at the time of writing.

What the mapping exercise did manage to identify were community initiatives geared towards ensuring that water services remain in the public

domain. Such alternatives, although not directly engaged in legally reclaiming public services, established mechanisms for retaining water systems within community control. In the Philippines, this type of alternative was implemented by the Residents Association of Tinagong Paraiso, in cooperation with a local NGO, and BACIWA. By establishing community tap stands, and by having these managed and maintained by the Association, access to safe drinking water reverted to community control instead of being operated by private concessionaries of the water district, who charged high prices for retailing the water to slum residents.

Similarly, the Bagong Silang Community Water Service Cooperative of Caloocan City, Philippines, a utility owned by water users, managed to secure dependable water supply from MWSI, a private, third-party bulk water supplier. Through the cooperative, democratic controls and peer-level monitoring and enforcement of rules in the establishment of improved water supply and distribution systems were ensured.

In the province of Punjab, Pakistan, CBOs participated in the planning and construction of water facilities under the ADB-financed Rural Water Supply and Sanitation Sector Project. Upon completion, the CBOs assumed the responsibility of operating, maintaining, and managing the water system. Through this, the communities were able to gain control over access to and availability of water supply.

Future alternatives

Some alternative models of public service delivery systems that surfaced during the research were still being proposed or discussed for implementation. One of these involved the treatment of 5 million gallons of waste water to be undertaken by the state government of the National Capital Territory of Delhi, India. Under the scheme, the treated water would be made available for distribution to non-domestic users in New Delhi for washing buses, flushing toilets, or mixing with concrete for construction works. Although the scheme would commercialise the output of the treatment process, it was conceptualised as a way of reducing utilisation of potable water from the piped distribution system. By providing an alternative source of water for non-domestic uses, the state expects to improve the equity in access to potable water among household users.

At the community level, the village councils of Patag and Gabas of Baybay, Philippines, had initiated negotiations with the BWD to allow both communities to source water from a spring, to which the water district holds a water right. Moreover, the village councils proposed that one of the reservoirs, the pipelines, and other facilities found within the village be turned over to the village government for management. In return, the village would undertake watershed conservation in the catchment that serves as a source of water supply and protect the facilities installed by the water district for the production, treatment, and distribution of water to the

municipality of Baybay, Leyte, Philippines. If implemented, such arrangements could point to ways of addressing a major paradox, that of communities inside important source watersheds not being served by the water utility. Moreover, the arrangement could provide detailed mechanisms for strengthening partnerships between village governments and water utilities, especially with respect to watershed management by host communities.

SUCCESSES AND FAILURES OF ALTERNATIVES

Participation

As a major determinant of success, participation could be assessed from dimensions of depth or meaningfulness, scope or sufficiency, and appropriateness of scale. The interplay of these dimensions of participation could be discerned in the democratisation of water management in the Public Sector Reform of the TNRWSP. Implemented by TWAD, the programme worked for the transformation of the attitudes of water users, water engineers, community-based WSPs, and village governments. The democratisation process adopted the practice of *Koodam*, which recreates a traditional cultural and social space wherein members would relate to each other as individuals without distinctions of age, status, or hierarchy, where sharing was transparent, experiential, and self-critical, and where learning was built on values of democracy, consensual decision making, and collective ownership. By institutionalising the traditional practice of *Koodam*, intersectoral and inter-hierarchical participation was assured, resulting in a more responsive programme.

Meaningfulness, sufficiency, and appropriateness of the scale of participation could also be inferred from the dynamics involved in the river-basin-wide negotiations on the allocation of water from the Ping River. Water allocation is a highly contested issue and makes the thorough involvement of various water user groups necessary to reach a settlement that can be acceptable to all parties concerned. By allowing claimants to come together and discuss their respective requirements vis-à-vis the availability of water, various water groups were able to agree on certain quantitative allocations or entitlements to the water resource. Another important dimension was the possibility of coming together to discuss and renegotiate possible changes in the terms and conditions of the agreed-upon allocations.

Meaningful and sufficient participation was also provided by community residents and local government officials when they embarked on a management and development planning process for the watersheds of Salcedo, Eastern Samar, Philippines. Active community participation in the delineation of watershed boundaries provided a common physical framework for making competing land uses compatible for purposes of creating reliable sources of domestic water supply. Similarly, by participating in the conduct

of resource inventories, community members were able to identify livelihood options that matched the resource endowments of the watersheds.

Other success indicators – e.g. the empowerment of marginalised and vulnerable groups, and the fair selection of members that reflect the diversity of a population – were highlighted by community groups that directly managed and controlled village-level water systems. For example, SEWA in Gujarat, India, took on the task of maintaining the system that provided them with safe potable water by digging water canals, laying down pipelines, and chlorinating the water supply. For their part, the Residents Association of Tinagong Paraiso in the Philippines negotiated with BACIWA the installation of community tap stands and assumed direct management and maintenance of the water service.

Another form of direct action was implemented in the village of Hivre Bazar in Maharashtra, India. Faced by persistent water scarcity punctuated by drought during certain years, the village assembly decided to pursue a two-pronged approach to water resource management. The first action was to ban destructive practices such as unfettered grazing, felling of trees, cultivation of crops that require a lot of water, and digging of bore wells. The second involved the construction of earthen or stone bunds and check dams as rainwater harvesting structures, the adoption of drip irrigation methods to conserve water, and use of cow dung as fertiliser to maintain water quality. Participation in activities requiring community action came in the form of labour contribution by the residents.

Equity

Fairness in access to, and availability of, water for all is a major determinant of the success of an alternative. In Hong Kong, the principle of equity came as a built-in feature of providing safe drinking water to citizens as a basic human right. Equity also served as a decision criterion in the formulation and adoption of a "social tariff". As a tool for enhancing equitable access, the tariff structure mandated the collection of high-usage charges with the revenues used to cross-subsidise low-usage households. As an economic regulatory mechanism, the tariff put in place a water conservation incentive mechanism, which facilitated the availability of water to users regardless of levels of consumption.

In northern Thailand, the issue of equitable access and availability was confronted head-on by the Ping River Basin Committee when it brought water users together to seek a common ground for sharing and protecting the Ping River. Through discussions and negotiations, the competing demands for water from the river were placed within a context of equitable resource allocation. Although some participants in the negotiations had reservations regarding the agreed-upon quantitative allocations, there seemed to be no major adverse criticism of the framework that was adhered to during the negotiations.

Equitable access and availability were apparently in the minds of residents of the villages of Pangasugan, Patag, and Guadalupe in Baybay, Leyte, Philippines, when they experienced inadequate water supply. The village officials initiated negotiations with the Visayas State University to gain access to what they perceived as excess water usage by the university. The village officials argued that allocating the excess volume for use by residents would make access more equitable and the utilisation of the water less wasteful.

Efficiency

In most of Asia, the performance of water utilities is typically assessed on technical and financial efficiency of their respective operations. In the Philippines, for example, Board Resolution No. 4 (Series of 1994) of the National Economic Development Authority (NEDA) mandated the Local Water Utilities Administration (LWUA), a national water agency tasked to financially regulate water districts, to implement only financially viable projects. This gave the impression that (i) commercially viable service areas should be turned over to private corporations and (ii) LWUA should keep its hands off projects that were not financially viable. Considering that LWUA is a quasi-lending institution for water utilities, the policy provided an "interesting" platform for reducing subsidies to the poor, while increasing subsidies to the private sector through concessional loans and sovereign guarantees to water financing (Dargantes and Dargantes 2007).

In counterpoint, the Capability Building Programme on Performance Benchmarking of Philippine Water Districts provided an opportunity for management and labour to jointly look at the technical and financial indicators of their respective utilities in an effort to find ways to improve the efficiency of water service delivery. Although labour was initially reluctant to participate in the programme, the opportunity enabled labour representatives to develop a greater appreciation of the implications of financial indicators on their operational efficiency vis-à-vis the privatisation of their respective water districts. As a form of feedback, the efficiency indicators further provided labour and management not only with common points of reference for performance improvement but also with sound decision points to support their separate positions to oppose the privatisation of their water districts.

To address conditions of inadequate and irregular water supply, and of increasing demand among residents of Bagong Silang, Caloocan City, Philippines, residents organised a water system that consumers owned. The cooperative was able to demonstrate its capability to attain financial efficiency by securing water supply from third-party bulk suppliers at reduced transaction costs. Apparently, it was also able to convince sources of capital that it was financially viable by obtaining a loan to cover the costs of establishing distribution lines.

Among large utilities, financial efficiency has been seen to go hand-in-hand with technical efficiency. In Cambodia, for example, PPWSA achieved financial viability, such that it could forego its planned tariff increase, by rehabilitating its distribution system and minimising illegal connections. MJP in India was also able to achieve financial efficiency, recovering up to 99% of expenditures, through the introduction of hydraulic isolation of operation zones and district metering areas. The technical interventions facilitated the achievement of water resource efficiency as water users shifted availment strategies from household-level storage to non-storage due to improved pressure and balanced distribution. Coupled with improvements in meter reading, billing, and revenue collection, MJP attained high levels of efficiency in terms of water resources allocation and use, operational performance, and financial management.

Efficiency in making water resources available to users could also be inferred from the retention of the Hong Kong WSD under public control. Despite pressures to reduce investments and operational costs for water supply, prudent financial management enabled the utility to continue to generate public funding for it to bring the supply and distribution system to near-perfect levels, while maintaining excellent water quality. With a high level of support from the citizenry, the WSD was able to maintain adequate levels of public investments for the maintenance of its facilities and the continuous upgrading of its workforce.

Quality

The viability of an alternative can be directly ascertained by the quality or safety of the water provided and by the overall standards of service that a water system is expected to adhere to. The former was demonstrated by the villagers of West Bengal, in partnership with faculty members of BESU, and support from the NGO Water for People, who installed arsenic removal equipment in well heads, leading to the elimination of threats to people's health. The latter was also shown in Badlapur city wherein the implementation by the MJP of hydraulic isolation of operation zones and district metering areas resulted in continuous water supply to eight wards of the city, while maintaining water quality at safe drinking levels.

In the Philippines, the water systems in Bagong Silang and Tinagong Paraiso showed that dependable water supply and distribution could be viably provided by consumer-owned and controlled utilities. In Bagong Silang, democratic control of the cooperative allowed the consumers to give direct operational feedback, which facilitated improvements in allocation and distribution. For the Tinagong Paraiso residents, having a direct hand in operations and maintenance ensured that water quality was up to standard and that availability was responsive to the needs of the consumers.

For members of SEWA, taking over the management of the water service ensured not only potability but also availability. By undertaking

chlorination, water quality improved tremendously in comparison to the water that used to be collected from the earthen reservoirs. By taking direct responsibility over pipeline maintenance and/or repairs, including distribution and allocation, the association improved the availability of water. Improvement in the quality of service, moreover, gave women in particular more time to devote to their means of livelihood.

Accountability

Policy makers at various levels of bureaucracy, as well as managers of water utilities, usually establish lines of communication or define relationships with water users. Major determinants of the success or failure of such lines of communication or relationships would be the trustworthiness of the source of explanation or justification, the understandability of the message, and the verifiability and veracity of the facts and information being provided. Considering that the vigour of accountability mechanisms would depend, to a large extent, on the enforceability of rules, the more direct the pressure that water users would have on policy makers and/or on the management of water utilities in obtaining satisfactory answers, explanations or justifications for policies, programmes, and projects, the broader the scope and the higher the quality of accountability would be.

In the Tamil Nadu experiment, accountability of TWAD reached deep down into the level of the communities. With the water engineers themselves becoming part of the line of communication, the trustworthiness of the source could then be directly assessed by the water users. Through the *Koodam*, the understandability of the programme was enhanced, especially given that information used for decisions could be openly discussed, verified, and validated.

Training on performance benchmarking in the Philippines, on the other hand, strengthened the accountability mechanism between management and labour through the sharing of verifiable operational data and information. Although the benchmarks were to be used in reviewing the financial, technical, social, and environmental indicators to improve water services, the process provided the opportunity for management to explain the basis for policy decisions and for labour to justify performance levels. With the institutionalisation of labour-management cooperation, such accountability mechanisms could then be formally operationalised within participating utilities.

In Nepal, accountability in the management of the Panchakanya irrigation water distribution system was transferred by the national government to the Water Users' Associations at the community level. Although the transfer gave the water users greater operational control, it also allowed the national government to shift part of the accountability for the water distribution system to the users themselves. Thus, the mechanism was able to simulate direct accountability for community-level management, but it became a structure to reduce transparency for the national government.

Transparency

Through clear accountability mechanisms, information pertaining to decisions and performance levels could also be made readily available to the public. In the Panchakanya case, greater transparency could have been achieved by the devolution of management – but only up to the operational level. Transparency pertaining to the decisions on system design as well as the financial transactions could have been reduced by the transfer of responsibility.

For the Tamil Nadu experiment, detailed discussions on costs and tariffs enhanced the awareness of consumers regarding the need for water conservation and different rationales for setting water fees. Diligent maintenance of records on pumping hours, water supply hours, and electricity meter readings, and linking these aspects to the water supply costs served to spread awareness regarding water tariffs.

Transparency could likewise be deduced from the operations of the BSCWSC. As a community-based, water-user-owned utility, the operational performance of the cooperative could readily be assessed by its members. The mandated reportorial mechanisms, on the other hand, would allow members to seek explanations for policy decisions or for financial transactions. Through activities such as continuing education, as well as mandatory periodic reporting on the state of operations, information pertaining to policy decisions, operational mandates, organisational structures, and financial status became available not only to the water user-cum-owner but also to the general public.

The context of the Capability Building Programme on Performance Benchmarking of Philippine Water Districts was that management and workers of water utilities had signified their commitment to the same goal: to deliver high-quality and efficient public services. By the very nature of labour-management cooperation, managers and workers need to exercise transparency as they identify and look for the key features to ensure better water service delivery services to consumers. Through this joint effort, management would be able not only to provide the logical and theoretical bases for policies but also to get feedback on the operational implications of its decisions. Labour, on the other hand, would be able to share experience-based and practical operational details to make policies work.

Workplace

The Capability Building Programme on Performance Benchmarking allowed management of some PWDs to understand the roles of rank-and-file workers in the improvement of water systems. As persons close to the production process, workers would possess knowledge from a workplace level on the types of services that work and on what services need to be improved or created.

On the part of labour, the programme gave workers a better appreciation of the importance of adhering to the prescribed number of work hours

and of observing occupational health and safety regulations. The exercise, likewise, enabled workers to relate employees' compensation, work leaves and social insurance to the technical and financial performance of their respective water districts. It even provided initial insights into the implications of compliance or non-compliance to core labour standards on forced labour, child labour, discrimination and equal remuneration, freedom of association, right to collective bargaining, and of providing continuous staff development.

Sustainability

The ability of a utility to continue to operate in view of its current and future financial position depends, to a large extent, on its sources of funds for maintenance and operating expenses and capital outlays. Sources, which range from full state support to full cost-recovery mechanisms, could also, over time and depending on political and economic conditions, increase or decrease their respective contributions to the financial requirements of utilities.

As governments contend with increasing financial costs for the delivery of a wide range of basic social services, utilities, in turn, have to face the possibility of reduced state spending for the sector. For example, in Cambodia, as the state struggled to rebuild a war-torn nation, the PPWSA endeavoured to instal water meters for all connections, set up an inspection team, revise and improve its consumer files, embark on a programme to educate the public on the importance of paying water bills, and increase the water tariff to cover the costs, which the state could no longer provide for. To avoid a huge jump in water tariffs, a three-step increase over a seven-year period was contemplated. As collections improved and revenues fully covered costs and as non-revenue water dropped from 72% in 1993 to 6% in 2006, the third increase was eventually scrapped. Although such management interventions manifested numerous aspects of commercialisation, prudent revenue generation measures aimed at raising funds to improve, or at least maintain, levels of operational performance – as opposed to profit maximisation – could help at a strategic level in the retention of public control over the utility.

In Hong Kong, on the other hand, the Asian financial crisis brought pressure upon the government to reduce investments and cut back on expenditures for water supply. The impeccable performance of the WSD in providing water services to support the transformation of Hong Kong into a world-class metropolis gave it the leverage to continue operating as a public utility and to continually access government subsidies, through land rates, as a source of funds to cover more than half of its costs. This demonstrated that operational efficiency could provide a utility ample political capital to remain in the public domain.

The relationship between operational and technical efficiency and financial sustainability was also demonstrated by the adoption of appropriate

technology options such as timely maintenance activities in Tamil Nadu. These technological interventions helped reduce potentially expensive repairs and replacements of parts, regulated hours of pumping, and maintained both quality and quantity of water. By reducing operations and maintenance expenditures while improving revenue generation, financial sustainability of the system was enhanced.

The Capability Building Programme on Performance Benchmarking was designed to enhance the appreciation of managers and workers not only of technical and financial efficiency parameters but also of the sustainability of social (e.g. adherence to core labour standards and improvement of customer relations) and environmental aspects (including watershed protection, integrated water resources management, and sanitation). By promoting closer collaboration among public institutions based on equality and mutual benefit, the exchange of strategic and practical information, especially pertaining to practices in well-performing water utilities, through peer-to-peer learning, strengthened social cohesion among workers and among participating water district managers.

Whereas the pursuit of financial viability would usually take in some aspects of commercialised operations, the sustainability of social engagement would depend, to a large extent, on the level of publicness of participation in decision making and operations of a utility. In the Philippines, for example, the residents of Tinagong Paraiso, having successfully petitioned their landowner to grant them property rights, then raised and borrowed money and convinced the BACIWA to instal a piped connection, which they collectively owned and managed as a community. The BSCWSC enhanced its financial viability by reducing transaction costs when it secured dependable water supply from third-party bulk water suppliers or when it borrowed capital to build a water distribution system. The cooperative also minimised management costs and enforced subscription rules through democratic controls and peer monitoring, thereby mitigating the impact of water tariffs. In Gujarat, India, SEWA formed a village committee to address the acute water shortage and the absence of livelihood options. Members met regularly to decide on water management issues and supervise the work that had to be done. Through their direct management of the water system, SEWA not only ensured operational sustainability but also set in place a mechanism for enhancing financial viability.

Environmental sustainability was another major concern in the overall effort of ensuring water for all. Most of the cases included in the mapping exercise implemented variations of two major strategies. The first involved the protection of watersheds as a source of water supply. Activities under this strategy could be as direct as the planting of thousands of saplings in identified watershed areas similar to what was done in Tamil Nadu and Hivre Bazar in Maharashtra. Other initiatives to ensure watershed sustainability included the conducting of consultative planning workshops to identify local conditions affecting the watershed, and the formulation of municipal- and village-level watershed management development action plans such as those undertaken

in Salcedo, Eastern Samar, Philippines. Activities also took the form of agroforestry development and watershed rehabilitation and protection.

Another strategy involved setting up physical structures to capture, store, and preserve water. Examples included the construction of rainwater harvesting structures like those managed by the village Panchayat of Hirve Bazar, establishment of check dams by the Sehgal Foundation, which led to rising water tables in the Mewat region of Haryana, and the digging of ponds by the YMDC to catch run-off in the campus.

A prominent example that would straddle both strategies would be the rejuvenation of water bodies. Through PILs filed to safeguard essential water recharge structures, which were dying due to administrative apathy, the Delhi High Court directed different government authorities to protect and beautify all natural water bodies so that people or civic agencies would not encroach upon them. The Court ordered 629 water bodies rejuvenated in an effort to sustain its water resource base. As planned, the National Capital Territory of Delhi would develop green cover along the rejuvenated water bodies to maintain ecological balance.

Solidarity

With PuPs as the guiding framework for the implementation of the Capability Building Programme on Performance Benchmarking, labour, management, regulatory agencies such as the National Water Regulation Board (NWRB), international organisations like the PSIRU, and the Transnational Institute, and academia cooperated not only in defending Philippine water districts as public utilities but also in improving their service delivery performance. Civil society organisations like Focus on the Global South and Jubilee South Asia Pacific Movement for Debt and Development supported the workers in evolving a set of performance benchmarks and in developing PuPs among water districts and other water stakeholders.

For the Tamil Nadu experiment, the water engineers manifested their solidarity with the villagers through regular participation in meetings, interacting with them, and making a special effort to increase awareness among women and household members beyond the call of official duty. This solidarity also extended to workers in other government line agencies providing water services to the communities. At the national level, the Change Management Group (CMG) received manifestations of solidarity from the federal government and other state governments of India. Internationally, water utilities in Egypt and some countries of South America have already signified their interest in collaborating with TWAD in the introduction of change management practices in their respective jurisdictions.

Public ethos

For more than 150 years, Hong Kong demonstrated that a publicly operated water supply system could be successful in providing the water required by

a rapidly changing city. By increasing the availability of water resources, by bringing the supply system to near-perfect operational efficiency, and by maintaining excellent water quality, the citizens of Hong Kong were convinced that the services should remain publicly operated. With such confidence, civil servants in the WSD, members of the Panel on Environment, Planning, Lands and Works under the Hong Kong Legislative Council, and the water users themselves strongly objected to the proposal to privatise the water system.

The Capability Building Programme on Performance Benchmarking, on the other hand, led to a realisation among water districts managers and workers of the lack of merit of the official policy of turning over to the private sector those utilities that were financially viable. Through a better understanding of the implications of technical and financial indicators, both management and labour were able to put into a better context their respective resolutions opposing the privatisation of their utilities. They then expressed their collective opinion that water districts should remain publicly operated water systems.

Transferability

A major methodological exercise to test, even on an *ex ante* basis, the "transferability" of an alternative to another location involves matching local resource endowments, knowledge, and skills possessed by management and labour and levels and direction of political support with the water service requirements of the utilities. Taking the Tamil Nadu water management democratisation experiment as an example, the adoption of the concept by the federal government of India, and, reportedly, by UNICEF at the national level, would indicate a higher degree of convergence of resource endowments, knowledge, skills levels and political support, mainly due to similarities in existing local conditions and of institutional arrangements at the state and district levels. This resulted in the formation of the National Level Change Management Forum to pioneer reforms in other state utilities. The *Koodam*, a major component of the experiment, would also be compatible with the general socio-cultural conditions of India. Internationally, there had been expressions of interest from water utilities of other countries to collaborate with the CMG of the TWAD. In the adaptation of the experiment, however, the cultural dimension of the *Koodam* would need to be adequately assessed to determine compatibility with local practices.

LESSONS LEARNED

A vote for public

The findings of this mapping exercise highlight several issues. First, while there is no perfect alternative, an enabling institutional and policy environment – at appropriate levels – is important for an alternative to develop and flourish. Second, articulating and building alternatives are collective

processes, most successful when inclusive, gender just, transparent, and participatory. The alternatives mapped out in this chapter emphasise that partnerships between people and communities who have suffered from lack of access to water and sanitation, and water agencies, whether state-level or municipal, that believe in democratic functioning, can ensure safe, equitable and adequate water service provision and sustainable water resource management. This is universal, regardless of the type of alternatives. Finally, what underpins these alternatives are principles of "good water governance", which include: (i) water justice – ensuring that all communities have equal and equitable access to safe, affordable, and sustainable water for drinking, fishing, recreational, and cultural uses. At the heart of the issue is the concept of democracy and democratisation, of ensuring that everyone, especially the poor and marginalised, have a say on how they want their water governed; (ii) water is part of the commons and a human right – water is life, a gift of nature, and its nurturing remains the responsibility of everyone for the survival of the planet in the present and for the future. This nurturing is rooted in the respect of all living cultures, values, and traditions that sustain the global water commons; and (iii) these rights can be allocated, framed, protected, and realised in an equitable and sustainable way, as long as those who are historically marginalised and poor are part of the process.

Decentralisation trends in water service delivery

In the Philippines, the Neda Board Resolution No. 4 (Series of 1994) ruled that local government units (LGUs) were allowed to implement all levels of water supply projects consistent with the decentralisation and devolution process. This ruling gave the impression that commercially non-viable water projects were the responsibility of the LGUs. Data for 2005, however, revealed that 43% of the 1 639 WSPs listed in the Philippines were operated by LGUs. Another 30% were managed by users or communities (Dargantes and Dargantes 2007). These figures indicate that a large majority of the WSPs were operationally decentralised and geographically dispersed. These utilities might not be operating at optimum technical and financial efficiency, but they would definitely have addressed some pressing need for water among populations not served by water districts.

Importance of finance in infrastructure

The generation of funds to finance the construction of water infrastructure is one of the challenges in realising the development of water systems. Typically, financial support would be provided by the state or international organisations. Among the cases included in this mapping exercise, most of the large-scale central utilities remain state funded. Considering, however, that governments were usually not in a financial position to adequately address the capital requirements of water supply systems, they then turned to

multilateral international financial institutions (IFIs) and to private sources of funds for their requirements. As borrowing for water infrastructure would involve large amounts, the tendency was to acquire loans from IFIs.

In other instances, governments would consolidate the funding requirements of smaller systems in order to obtain lending from IFIs. Although such arrangements would give a semblance of fund adequacy to cover the capitalisation needs of utilities, the consolidation process could lead to the formulation and confirmation of loan conditionalities, which might not be part of project plans submitted by the concerned utility or WSP. Fortunately, the alternatives included in this research were generally given flexibility by the IFIs to implement their respective projects.

In certain instances, the state might even promulgate policies to constrain its own agencies from exercising flexibility options. For example, in the Philippines, LWUA – a specialised lending institution created to promote, develop, and finance local water utilities with powers to prescribe standards and regulations, provide technical assistance and personnel training, monitor and evaluate water standards, and effect system integration, annexation and de-annexation – had been mandated to finance only creditworthy and semi-creditworthy water districts. Those deemed to be not creditworthy were expected to seek financing from other sources.

This situation brings in another dimension of the relationship between borrower-state and international financial institutions. IFIs might impose loan conditionalities, but the borrower could opt not to conform to the impositions. This has been the case of the Tamil Nadu democratisation experiment, which was financed through a World Bank loan. Of course, there would be limits as to what conditionalities to reject. And these limits would serve as the starting point for the search for alternative sources of financing or for the redesign of projects or project components to make them amenable to combinations of funding modalities.

In the village of Tian-xin, China, for example, the construction of water reservoirs both for irrigation and domestic uses was expected to be a state responsibility. But in order for the village to be able to provide water free of charge to 2 000 people, the village head introduced counterpart funding as an alternative way to finance the project. By generating half of the amount required for the construction of a reservoir largely from contributions of migrant workers and successful businessmen in Tian-xin, Guangdong Province, the head of the village and the local community found it easier to ask for supplementary funding for the project than to depend entirely on the government for resources.

Lessons for/from the private sector

Private corporations and other forms of enterprises (including privatised water utilities) have realised that for them to remain socially relevant (or, as some claim, to soothe their social conscience), they should not only engage in responsible business behaviour but also voluntarily or consciously accede

to humanitarian norms and standards. Such practice, usually referred to as part of corporate social responsibility (CSR), encompasses divergent elements of respect for human rights, implementation of environmental laws, rules, and regulations, adherence to accepted labour standards and consumer safeguards, and provision of aid to disadvantaged sectors or relief to victims of disasters.

In the Philippines and China, CSR projects provided examples of how water service delivery could be undertaken without embarking on a path of privatisation. The *Tubig Para sa Barangay* (TPSB) or Water for the Poor Programme, a CSR project of the MWCI private corporation that took over the erstwhile public operations of the Manila Waterworks and Sewerage Services, used funds from the World Bank to subsidise the cost of connection fees of customers living in low-income communities or communities with poor water service and of informal settlers.

A variant of the CSR alternative was likewise being applied to the villages in the Guangdong province. Reportedly, the state had officially encouraged for-profit companies to manage infrastructure in the villages of their choice. Whereas the company was responsible for the cost of the water system infrastructure, the village would take over the management of the system once the construction phase was finished. Apparently, this could also be classified as a state-sponsored or state-mandated CSR initiative.

Considering that such practices were carried out by for-profit corporations or by non-profit agencies that were using funds derived from corporate profits, the dimension of publicness of these options has to be closely examined. Under the TPSB programme, the involvement of the communities lent a certain degree of publicness to the service delivery mechanism. Moreover, the cross-subsidy to cover the cost of connection fees gave a non-commercialisation flavour to the programme. Under the state-mandated CSR programme in China, the partnership between profit companies and the community as a non-profit recipient of corporate funds and community-based implementer gave the water project an aura of publicness. As a free-of-charge service, the project could perhaps be characterised as a non-(or lesser-) commercialised operation.

Role of bureaucrats in enhancing accountability

Good governance of water resources and services, an important component of poverty reduction efforts, would require two major characteristics of the government entities responsible for water management: namely, accountability and competence. Policy makers, regulators, and utility managers should establish a system of communication with water users in order to arrive at a common understanding of the goals, policies, programmes, and activities of the utility. The communication process should primarily serve as an avenue wherein management decisions or indecisions would be articulated, explained, and justified. Moreover, it should promote change based on the water users' feedback regarding essential measures for improving service delivery.

A major determinant of success or failure of the communication system would be the credibility of the source of information. Credibility, as a reflection of the value given by the audience, could be gained by the source of the information through different ways such as being able to accomplish tasks efficiently and being honest and fair. Whereas honesty and fairness would basically be personal attributes of members of the bureaucracy, competence could be directly addressed by relevant staff development programmes.

WAYS FORWARD

Research on alternatives

The next steps for research on alternatives to commercialisation of water resources and services in Asia should include more detailed and thorough characterisation of possible options to determine the relationship between organisational typologies and the determinants of success/failure. Case studies should look at the context by which certain political criteria would eventually become determinants of success/failure. During this mapping exercise the process of coming up with operational definitions of alternatives, organisational typologies, political criteria, and determinants of success/failure was mainly hampered by the inadequacy of available secondary information. Future research should endeavour to collate, integrate, and analyse various data sets from different primary sources to characterise alternatives using techniques that would allow the simultaneous analysis of environmental attributes together with socio-economic variables. This process could create a core group of researchers and practitioners who could promote inter- and multidisciplinary work and data sharing for water resources and services development.

The systematic collection of data on alternatives, organisational typologies, political criteria, and the determinants of success/failure would be useful to sector planners, local governments, and regulators, as the information would highlight the constraints of alternatives and help set realistic operational targets for improvement. More importantly, studies could dig up actual operational experiences of WSPs that could be shared within the sector for possible scaling up or for application under specific socio-economic conditions and policy environments. Additionally, case studies should provide an initial glimpse at the practicability of generating and analysing time-series or multi-year data on the alternatives.

Advocacy for alternatives

Advocating for alternatives can be done in various arenas and through different mechanisms. One way forward is through institutional and policy reforms – including legislative reform. With an enabling environment, alternatives to commercialisation of water resources and services can thrive. Policy and institutional reforms become even more relevant when combined

with on-the-ground problem solving. As exemplified above, pushing for reforms includes creating platforms, spaces, and processes in which various stakeholders, including water activists and water justice movements, can come together to promote and advance alternatives.

Advocacy for alternatives in the water sector should also include case studies that can be used as course content for diploma and/or graduate programmes specialising in water resources and services management. This would allow students to gain actual experience, acquire factual evidence and eventually enhance the level of appreciation of the alternatives being implemented. Students could then identify factors of success or failure and determine ways to improve the alternatives to make these useful to WSPs and other stakeholders working in the water sector.

Likewise, identified alternatives could be discussed during development planning for the water and sanitation sectors being undertaken by local governments, civil society organisations, and community-based WSPs. This would provide a mechanism whereby stakeholders could identify, review, and/or define/redefine their respective roles, functions, and organisational processes and could agree on institutional arrangements. The discussion could also incorporate non-formal education and capability-building opportunities on community-based water resources and services management and participatory and democratic governance in the water and sanitation sector for community organisations, NGOs, local governments, and regional and inter-regional committees. Furthermore, it would encourage the participation of community organisations and NGOs and the incorporation of IWRM approaches in the local and regional development processes.

Another way of advancing advocacy for alternatives is via civil society organisations in donor countries. These organisations can enlighten their respective governments, including international aid agencies, of the impacts of funded projects on local communities and populations from the perspective of water consumers. This mechanism would provide excellent opportunities for local utilities and communities to show existing water resources and services management practices that conform to local conditions.

Lastly, Asian utilities and water sector advocates should encourage more study visits among and between water consumers, WSPs, NGO workers, and members of academia to strengthen mechanisms for multifaceted analyses of alternatives. The resulting discourses could serve as a counterbalance to the predominance of neoliberal frameworks without necessarily rejecting them in a knee-jerk fashion and hopefully introducing alternative perspectives into the sector.

Advancing the practice of alternatives

Some governments have been examining alternative ways of providing water but may be holding back due to what they see as potential drawbacks. For example, alternative water systems could generate additional costs, particularly when these were not integrated in the initial plans for

service provision and building construction. Water being more than just an infrastructure project needing huge investments, financing, and technology would require alternative modes of governance that respond to changing physical conditions as well as socio-economic realities and policy environments. Increasing the capability of water sector managers and workers to address the significant factors that could influence success or failure would be an important component of the overall effort to advance water governance. Enacting legislation to address unfavourable socio-economic conditions and iniquitous policies could eventually expand service coverage and improve service delivery.

Another aspect of water governance that needs to be vigorously pursued would involve the management of transboundary water. As water flows across state boundaries, its management would then require new forms of interstate water governance mechanisms. Considering that water divides might not conform to politico-administrative boundaries, there might be a need for new forms of delineations requiring a new set of transnational policies and management arrangements. In effect, the governance of transboundary water could redefine regional affiliations and necessitate alternative forms of regionalism to address the inadequacy of state frameworks.

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