

# Searching for sustainability of rural water supply: a snapshot of perspectives of 14 countries across Asia

Type: Long Paper (up to 6,000 words)

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## Abstract/Summary

The World Bank's Water Global Practice in partnership with the Netherlands Development Organisation (SNV), WaterAid and Rural Water Supply Network (RWSN), organized a 2.5-day pan-Asian learning event on sustainability of service delivery in rural water supply. A total of 56 participants from 14 countries in East Asia and Pacific, South Asia and Central Asia participated, including Bangladesh, Cambodia, China, Indonesia, India (3 states, Uttarakhand, Punjab, Assam), Kyrgyzstan, Lao Peoples' Democratic Republic (PDR), Myanmar, Nepal, Pakistan, Papua New Guinea, the Philippines, Timor-Leste and Vietnam. Most participants were representatives of the lead national or state agency responsible for rural water supply in their country. The learning event discussed the importance of a service delivery approach for sustainable rural water supply, appreciating the complementary roles of actors at different levels: service providers, service authorities (local / sub-national governments) as well as national or state institutions, critical for the improvement and expansion of rural water services. Key themes were explored in detail, such as:

- i. service provider management models and post-construction support services
- ii. sustainable financing arrangements
- iii. economic regulation and pro-poor approaches
- iv. monitoring and social accountability

In this article we are sharing the main findings and insights from this event. Sustainability of services is clearly on the radar among Asian countries, and many have seen significant positive developments in recent years, with the large majority having met their Millennium Development Goal (MDG) for water supply. However, progress towards sustainable service delivery is uneven, with some countries performing better than others, and certain themes receiving more attention than others. Positive developments are the higher priority for rural water supply translating into higher budget allocations, an emerging focus on piped services and household connections (though varying greatly across countries), and an increased understanding and focus on institutional aspects important for sustainability. However, common challenges, underpinning the lack of sustainable service provision remain, such as inadequate financing, including low recovery from tariffs, negligence of direct support and major repair costs. Also, limited human resources, recurrent capacity development needs, combined with poor asset management and the absence of technical support systems are undermining sustainability. Finally, the rising challenge of water scarcity and droughts is putting increasing pressure on water supplies in the region, especially for the most vulnerable and poor populations that often still rely on improved sources.

The road to achieve a sustainable service delivery approach is long, complex and very country- and context- specific, for example in the areas of financing, asset management, monitoring, regulation, professionalization and private sector participation. While a great deal of innovation is happening in the region, the results have often not yet been shared and adapted in order to operationalize them into holistic sustainable approaches for different country contexts. The learning event has helped to share innovations and experiences to facilitate joint critical reflection and create new insights for governments and other stakeholders, bringing different parts of the puzzle together. While awareness on the

bottlenecks is high and opportunities for mutual learning abound, more emphasis on practical learning is required going forward. Similar to how stakeholders have successfully facilitated learning on rural sanitation over the past seven years in Asia, regional learning on rural water supply could enhance country activities and help them make faster progress towards sustainable service delivery models for their contexts.

## **1 Introduction**

From 10-12 May 2016, a learning event was held in Bangkok on Sustainable Rural Water Supply Services. The event was organized by the World Bank’s Global Water Practice, WaterAid, SNV and RWSN. A total of 56 people participated from 14 countries in the greater Asia Pacific Region: Bangladesh, Cambodia, China, Indonesia, India (3 states, Uttarakhand, Punjab, Assam), Kyrgyzstan, Lao PDR, Myanmar, Nepal, Pakistan, Papua New Guinea, Philippines, Timor-Leste and Vietnam (plus a delegation from Thailand, the host). The majority of participants were senior government officials from ministries of water supply and sanitation, rural development, and public health; water resources; and national planning and monitoring; or from project management units (PMUs) of World Bank projects in these relevant sector ministries.

This paper summarizes the main thematic findings and lessons that emerged, providing a snapshot of the state of rural water supply across Asia. Due to the broad scope of issues covered at this event a literature review has not been attempted, however, further background resources can be found at World Bank, SNV, WaterAid and RWSN websites (see references). While the majority of countries achieved the MDGs, and half of the countries are at, or near, universal access in rural areas for improved water supply (>90 percent), the new Sustainable Development Goal (SDG) to “Ensure access to water and sanitation for all” casts these achievements in a different light, with targets around universal and equitable access to services, but also addressing quality, water resource management, and cooperation. Rural access to piped water is below 10 percent for the other half of these Asian countries. In the face of increasing water security challenges, governments will need to look beyond increasing access only, towards sustaining and improving service levels and quality.

The aim of the event was to support participants to think about possible solutions for the sustainability of service provision in their countries through sharing of experiences and critical reflections. Moreover, the event aimed to contribute to the 7<sup>th</sup> RWSN forum with knowledge, good practices and lessons learned from Asia.

## **2 Setting the stage**

### **2.1 From Millennium Development Goals to Sustainable Development Goals**

Although the wider Asia region is extremely diverse, there are some overall trends occurring in the region. Asia is the most populous region in the world. It has been characterised in recent decades by high population growth, urbanization, and unprecedented economic growth, coupled with equally unprecedented poverty reduction for the region. As illustrated in Table 1, the overwhelming majority of countries participating in this learning event met the Millennium Development Goal target of halving the number of people without access to an improved water source. Pakistan and Timor Leste made “Good Progress”, while Papua New Guinea (PNG) made “Limited or No Progress” and is ranked as having the fourth lowest rural water coverage worldwide. Overall, progress has been positive for this group of Asian countries, with dramatic increases in access to improved rural water sources both in absolute population terms and proportion of the rural population, as shown in Table 2. Across the 15 countries (including Thailand) an estimated 1.88 billion rural people now have access to an improved water source, up from 1.21 billion in 1990, while those without access to an improved source declined from 0.77 to 0.19 billion. Yet, behind these numbers are major concerns about the quality and safety of water from ‘improved water sources’ and the sustainability of rural water services, in terms of water resources and life cycle financing.

Now the global community is in the Sustainable Development Goal (SDG) period from 2015-2030, and

the SGD target 6.1 (i.e. “by 2030, achieve universal and equitable access to safe and affordable drinking water for all” (UN 2015)) raises the bar of what service levels needs to be achieved and monitored, emphasizing reliable access, proximity to the house, and the safety and affordability of the water supply.

**Table 1: JMP figures for rural water access in 2015 (WHO-UNICEF, 2016)**

Country	Total Improved Rural Water Access 2015 (%)	Rural Piped Access 2015 (%)	Met MDG target?	Proportion of the 2015 population that gained access since 1990 (%)
Bangladesh	87.0	1.1	Met target	41
Cambodia	69.1	7.3	Met target	62
China	93.0	55.4	Met target	40
India	92.6	15.7	Met target	46
Indonesia	79.5	9.4	Met target	39
Kyrgyzstan	86.2	41.8	Met target	32
Lao PDR	69.4	6.0	Met target	
Myanmar	74.4	2.7	Met target	35
Nepal	91.8	18.2	Met target	50
Pakistan	89.9	24.9	Good progress	40
Papua New Guinea	32.8		Limited or no progress	22
Philippines	90.3	30.4	Met target	41
Thailand	98.0	37.0	Met target	24
Timor Leste	60.5	14.3	Good progress	
Vietnam	96.9	10.0	Met target	51
<b>TOTAL</b>	<b>91.0</b>	<b>27.4</b>	<b>Met target</b>	<b>42</b>

**Table 2: JMP figures for rural water access in 1990 and 2015 for countries listed in Table 1**

Year	Total Population (million)	Rural population with improved water access (million)	Total Improved (%)	Rural population with water piped on Premises (million)	Piped on Premises (%)
1990	2,702	1,210	61.1	150	7.4
2015	3,670	1,880	91.0	570	27.4

## 2.2 Raising the Bar from Millennium Development Goals to Sustainable Development Goals

The overall theme of the learning event was how to move from an infrastructure-centric approach to a focus on developing systems that support the sustainability of rural water service provision in support of the Sustainable Development Goals. This means changing the unit of intervention from individual schemes to addressing sustained access to water supply services in an entire administrative area, e.g. district. Sustainability means that a system is in place at the level of the service authority, say the district level, that ensures that all schemes within the district’s jurisdiction are repaired in a timely manner, upgraded or replaced, as a result of functioning systems for support, oversight, financial services, and social accountability.

Adapted from the Triple-S programme (IRC, 2014), the World Bank is currently testing an emerging framework for sustainability in 16 countries that encompasses three geographic scales:

- i) national/sector level (or state level)
- ii) level of service authority, often local government (e.g. district)
- iii) service provider level, where various management models exist

Different country contexts can have multiple levels dictated by their administrative arrangements. The service delivery model will be shaped by important factors in the country’s context and sector governance environment. At service provider level, various **management models** can exist, which do not operate in isolation from the roles and responsibilities allocated to local and national levels. Also, in any given country (or federal state), multiple management models will be in existence and each operate with different support needs. These service provider models can be grouped in following categories (with hybrid options):

- i) community-based management models,
- ii) direct local government provision
- iii) public utility provision
- iv) private sector models along the spectrum of public-private partnerships
- v) supported self supply

Despite the inherent diversity of real world service delivery, key components, or building blocks, are required for the service delivery model to operate sustainably, and thus to deliver sustained water supply services: namely:

- i) **institutional capacities** at all level, including post-construction support services
- ii) **financing** of the sector, including affordability issues and equity
- iii) **asset management**, e.g. arrangements to ensure capital maintenance
- iv) **water resource management**
- v) **monitoring and regulation**

### 3 Insights from the Learning Event

#### 3.1 There is an opportunity to capitalise more on the positive changes

In general, the following **positive changes** were happening in a number of countries:

- i) higher priority for rural water supply is translating in some countries into more funding
- ii) emerging focus on providing piped services and household connections
- iii) increased understanding and focus on institutional aspects: e.g. post-construction support, major repair provisions, and monitoring systems

However, **common challenges**, underpinning the lack of sustainable service provision were:

- i) insufficient financing, especially due to low tariffs
- ii) limited human resources and capacity development needs
- iii) water scarcity and security undermining sustainability
- iv) poor asset management and back-up support systems
- v) challenges with last mile service delivery to vulnerable groups/poor

There are tremendous opportunities to capitalise more on these positive changes within countries and in neighbouring countries and learn proactively from experiences in the region.

Table 3 illustrates further country team reflections on challenges and positive changes over the last three to five years, illustrating the different levels of sector development among the participating countries.

Table 3: Reported challenges and positive changes by country teams

Country	Challenges	Positive change
<b>Bangladesh</b>	<ul style="list-style-type: none"> <li>Lack of institutional capacity to backstop sustainable Operations &amp; Maintenance (O&amp;M)</li> <li>Not well developed private sector</li> </ul>	<ul style="list-style-type: none"> <li>Large-scale water quality monitoring and focus on arsenic management</li> </ul>
<b>Cambodia</b>	<ul style="list-style-type: none"> <li>Sustainability lacking of community service providers</li> </ul>	<ul style="list-style-type: none"> <li>Promotion of piped water systems in rural areas (not just point-source solutions)</li> </ul>
<b>China</b>	<ul style="list-style-type: none"> <li>Asset management, especially for capital maintenance to improve sustainability</li> </ul>	<ul style="list-style-type: none"> <li>Transition to piped water systems</li> </ul>
<b>India</b>	<ul style="list-style-type: none"> <li>Water resources sustainability issues</li> </ul>	<ul style="list-style-type: none"> <li>Recent gains in improved access</li> <li>Focusing on 100% house connections</li> </ul>
<b>Indonesia</b>	<ul style="list-style-type: none"> <li>Human resource capacities required for scale-up</li> <li>Financing, especially on tariffs</li> </ul>	<ul style="list-style-type: none"> <li>Incentive mechanisms for good performance</li> <li>Increased govt. investments</li> </ul>
<b>Kyrgyzstan</b>	<ul style="list-style-type: none"> <li>Local institutional capacities weak</li> <li>Low tariffs and financing gaps</li> </ul>	<ul style="list-style-type: none"> <li>National water supply policy (2013)</li> <li>Water supply development strategy (2016) with targets</li> </ul>
<b>Lao PDR</b>	<ul style="list-style-type: none"> <li>Lack of sustainability of systems</li> <li>Water quality management of point sources</li> </ul>	<ul style="list-style-type: none"> <li>Move towards household connections (not yet reaching remote rural)</li> </ul>
<b>Myanmar</b>	<ul style="list-style-type: none"> <li>Huge financing needs</li> <li>Absorptive capacity of providers</li> <li>Limited human resources</li> <li>No regulation</li> </ul>	<ul style="list-style-type: none"> <li>Better budget allocation process</li> </ul>
<b>Nepal</b>	<ul style="list-style-type: none"> <li>No standardized indicators for monitoring functionality</li> <li>Water quality management</li> </ul>	<ul style="list-style-type: none"> <li>Increased prioritization by govt.</li> <li>Combined water and electricity</li> <li>Monitoring systems for functionality</li> </ul>
<b>Pakistan</b>	<ul style="list-style-type: none"> <li>Finding appropriate management models to guarantee sustainability,</li> <li>Ways to increase private sector involvement</li> </ul>	<ul style="list-style-type: none"> <li>Financial govt. support for major repairs to communities</li> <li>Increased budget allocation</li> <li>Monitoring of services using Information Communications Technology (ICT)</li> <li>Integrated approach for urban and rural by state utility</li> </ul>
<b>Philippines</b>	<ul style="list-style-type: none"> <li>Water resources sustainability and disaster risk</li> </ul>	<ul style="list-style-type: none"> <li>Use of experts to help small utilities improve performance</li> <li>Capacity building and grant programs institutionalized</li> <li>Increased national govt. grants</li> </ul>
<b>Papua New Guinea</b>	<ul style="list-style-type: none"> <li>Identify pathway to accelerate access (rural water sector in early stage)</li> </ul>	<ul style="list-style-type: none"> <li>Greater intra-sectoral collaboration and govt. commitment to rural water</li> </ul>
<b>Timor Leste</b>	<ul style="list-style-type: none"> <li>Financing for rural water</li> <li>No earmarked maintenance budget</li> <li>Water security issues</li> <li>Human capacities</li> </ul>	<ul style="list-style-type: none"> <li>Understanding of importance of O&amp;M for sustainability</li> <li>Post construction support by govt.</li> <li>Use of ICT for monitoring</li> </ul>
<b>Vietnam</b>	<ul style="list-style-type: none"> <li>Water resources sustainability</li> <li>Financial sustainability</li> </ul>	<ul style="list-style-type: none"> <li>Focus on piped water systems</li> </ul>

### 3.2 The Demand Responsive Approach remains the default, although the level of institutional embedding with local government varies

The Demand Responsive Approach (DRA) is widely practised in Asian countries and is considered the default by most countries. However, the quality of implementation and service delivery depends on the local government’s capacity for effective social mobilization, the professional capacity of community service providers, and the extent to which support, both technical and financial, is institutionalized in a decentralized responsibility for rural water supply service delivery at the service authority level. The Indian experience over the last decades shows that even in low-income states with more financial challenges are following a demand responsive approach, using different community-based management models, embedded in a decentralized service delivery approach. The development of clear roles and responsibilities of different government institutions at different administrative levels has supported a high level of sustainability of water service provision. A recent World Bank impact evaluation (Andres. L. et al., forthcoming) calculates that a demand responsive approach, if embedded within decentralized government support, on average performs 25 percent better than top-down implementation approaches on a composite sustainability index. This index included aspects such as: i) availability and reliability of service, ii) household cost of service, iii) household satisfaction, iv) operation and maintenance (including downtime), v) O&M cost recovery levels, and vi) institutional sustainability and gender empowerment. India has smaller and larger multi-village systems and a key lesson from this is to tailor the management models for specific situations, even including rather complex arrangements with bulk-water supply management organizations, combined with village-level distribution services. While management models can vary widely, states that have successfully scaled up sustainable piped services have all put in place strong local governance and support arrangements to the service providers.

#### Box 1 : Key lessons and recommendations based on lessons from India

- **Decentralized service delivery and community management** requires continuous support to district and village level institutions through government back-up support to districts and villages and professional technical and non-technical support to service providers
- **Ensure sustainable funding for ongoing capacity building and training programs:** Up to 40% of state rural water program budgets is allocated to capacity development, so that such programs can be periodically provided at state, district, village levels
- **Maintaining community financing for Operation & Maintenance (O&M)** is critical, and has been achieved in some systems through targeting 100 percent metered house connections and professionalizing service providers
- **Rural water supplies cannot be considered in isolation from other water users,** and service providers because of the links to overall water security (both quantity and quality)
- **Public-Private Partnership (PPP) models** can lead to accountable and more efficient services – although more testing and rigorous evaluation is needed for the different models
- **Vested interests / the political economy** need to be addressed to scale up programs: putting in place management information systems, including procurement management and grievance redressal systems are important steps to improve accountability
- **Community solid and liquid waste management is critical to include when moving to higher level services,** especially in the context of densely populated neighborhoods.

Detailed lessons are documented in World Bank (2012). Review of World Bank Support to the Rural Water Supply and Sanitation Sector in India (1991 - 2011)

### 3.3 Professionalisation of service providers and post-construction support services are key to sustainability

Post-construction support for rural water service providers can take different forms and requires varying levels of government intervention or oversight, depending on the prevailing management model. The

participants broke into groups based on five models:

1. Community based organizations (CBO) – managing piped systems
2. Community based organizations (CBO) – managing non-piped systems (point source)
3. Self-supply (individual and small groups)
4. Privately managed water services
5. Regional public utilities taking on rural water provision

The group discussions led to a number of a key issues and shared perceptions, highlighted in Box 2:

**Box 2 : Key issues on post-construction services**

- Whatever management model is prevailing, post-construction support services are required in all cases to small-scale service providers, whether private or community-based.
- Most countries have no well-resourced national post-construction support system in place; especially CBOs for non-piped systems are “left to their own devices”
- CBO-managed piped systems mostly receive erratic support from local or provincial governments, depending on availability of staff and funds at different tiers of government; models with federated associations, like in Indonesia (and also in several countries in Latin America) are emerging, but sustainable financing and technical capacity remains a bottleneck
- Market-based approaches, accreditation of local consultants and delivery of capacity development services against a (partial) fee as tools to support professionalizing of services are emerging in the region, although cost recovery is not yet achieved for such programs and public funds are needed for further scale-up
- Only regional utilities/parastatal agencies will have the in-house financial and technical capacity to deal with all issues themselves, yet they also need access to professional development and new innovations
- Regional government/parastatal agencies are often expected to be providing post-construction support to smaller schemes in their territories, which has proved challenging due to limitations in resources and a tendency to focus on the larger schemes
- Regional utility and private sector models are in the highest need of regulation, especially around tariffs; oversight is equally important for CBO-based piped systems, although this is typically done at local government level
- Supported self-supply can be considered as a solution for very remote areas or in transitional situations when government investment cannot keep up with the need. Self-supply happens anyway, hence it is important that public resources are allocated to support functions. This can include regulation, quality standards and promotion of safe forms of self-supply
- Generally participants felt that post construction services should be paid out of public funds (domestic funds or external from development partners), and not through tariffs (contributions by service providers)
- However, in case of private sector models or more sophisticated small utilities/CBOs, contributions from service providers (raised through tariffs) could help to increase the financial sustainability of post construction services (and in some countries is practiced)

Some examples were discussed in more detail such as from The Philippines, Cambodia, and Indonesia, for which lessons have been documented by the World Bank (2015, 2016a, 2016b)

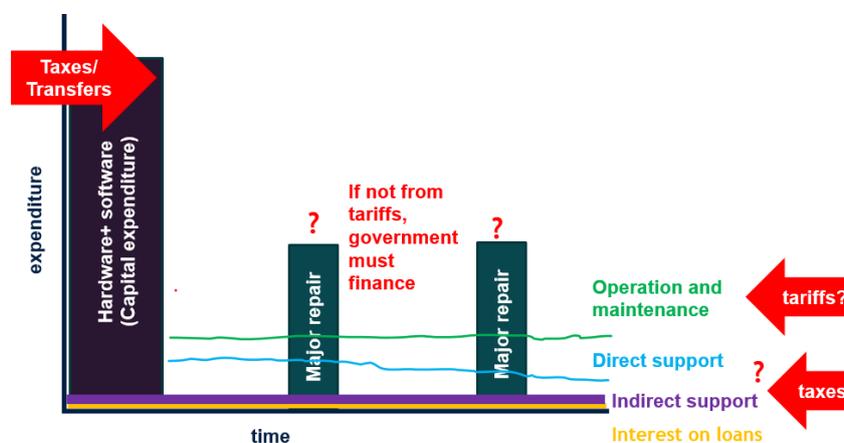
**3.4 Sustainable financing is not yet a reality for most participating countries**

Funding and financing for rural water supply happens at different levels: scheme level, sub-national level and national sector level. Figure 1 illustrates the different elements of water service costs over the lifetime

of a rural water service and the challenge of finding a sustainable funding arrangements for all cost elements from the three major sources of funds: tariffs (user contributions), taxes (domestic budget allocations at various levels) and transfers (external donor contribution in form of grants or credits to the sector). Participants agreed that many of them operate in an environment where important elements under-funded or not funded at all.

While funds are generally available (although not always sufficient) for initial capital expenditure, (through taxes/transfers and sometimes user contributions), and for operational O&M costs (through tariffs), other life cycle cost are not systematically budgetted for:

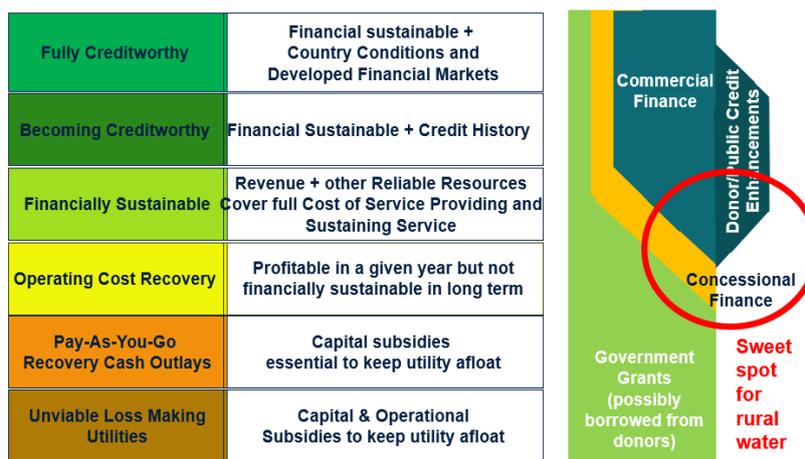
- i) major repairs/capital maintenance
- ii) direct support costs, such as for post-construction support, recurrent capacity building and other technical and commercial support services to water service providers, and
- iii) indirect support to service authorities and overall sector functions such as monitoring and asset management. The participants discussed various case studies that provide promising practices to move towards life-cycle costing, such as Pakistan’s Punjab, where a sub-national maintenance fund has been developed to ensure major repairs are covered (World Bank, 2016c).



**Figure 1: Generalised life cycle costs of rural water services and source funds**

Conditions and development trajectories for moving rural water supply operators (small scale private sector and well-established CBOs) towards financially sustainable operations, and ultimately access repayable finance, such as loans from local banks. Given the unattractiveness of the rural market and the risks associated with such lending, access to finance often only can become a reality if some sort of concessional finance is offered and other credit enhancement instruments (like risk guarantees) are made available to banks, preferably combined with grants/incentives for water providers.

Experiences in Indonesia have shown that ability to access financing could be an incentive for rural water supply operators to further professionalize (World Bank, 2016b). Recent lessons from Cambodia illustrate that private operators can successfully access local commercial finance for expansion and even for new investment sites, when the overall regulatory and support environment is improved, technical assistance is provided, and banks are supported to better tailor loan products to the water supply business (World Bank, 2016a).



**Figure 2: Ladder to achieve sustainable financing for rural water**

At sector level, the World Bank has supported the government of the The Philippines in developing a proposed sector-level Unified Financing Framework. While not yet adopted by the government, this framework, through a proposed fund disbursement agency, helps to allocate targeted grants and mobilize loans and private equity to relevant water sector providers, including small-scale private players in the rural market, and local governments.

Box 3 provides an overview of the emerging issues and participants shared views around rural water financing.

**Box 3 : Sustainable financing is not yet a reality in most participating countries**

- Importance of moving to full life-cycle costing: With the conventional financing model, where taxes and transfers are used for initial Capital Expenditure (CAPEX) and tariffs tend to cover just operational O&M, other life cycle costs (e.g. major repairs, direct support) that are essential for sustainability are ignored
- Transition to increased revenues from tariffs is seen as an important way to improve the sustainability of financing streams for full life-cycle costing
- A move towards performance-based financing of service providers is preferred as a way to break the cycle of fixing and rehabilitating failing and badly managed schemes
- Bringing in repayable finance where possible will accelerate progress towards the SDGs for certain segments of the rural water sector; creating opportunities to insert commercial finance and private equity will be increasingly important; using public funds to leverage private financing will be the next frontier of financing; it will be important to work with banks on understanding the rural water sector.
- More innovation is needed, including testing of regional examples in financing for rural water supply; there are a number of interesting initiatives going on in the region, which could be shared more pro-actively (Pakistan, Indonesia, Philippines, Cambodia)

**3.5 Tailored regulation and pro-poor policies are essential for realizing the equity mandate of the SDGs**

Economic regulation, the setting of tariffs and fees for delivery of certain service levels, needs to balance and protect the interests of service providers, as well as viability of the service providers. The Philippines presents a good case of cutting-edge developments of regulating many, fragmented service providers, over 20,000 across the nation. The majority are small utilities, meaning less than 3,000

connections/households served, while 80 percent of the 4,700 piped water supply providers are still unregulated. Fragmentation not only exists on the service provider end, but also on the regulatory side, with multiple agencies involved, having distinct (and sometimes conflicting) mandates.

The Philippine’s National Water Resources Board (NWRB) is responsible for regulating private and community-based providers (associations), and has recently adopted a “light-handed” form of regulation. This means tailoring the approach and regulatory requirements to the type and capacities of small operators (and the risk of monopolistic behaviour, thus more attention is given to utilities posing greater risks of overcharging). Requirements are adjusted based on capacities of service providers to make it easier for them to comply with regulations (see also Fernandez-Millan, 2015).

A national survey was carried out to inform future policy on regulation, in order to bring more service providers under the regulatory regime, and provide assistance where needed most critically. NWRB’s role under the new regulation framework is to:

- i) categorize utilities,
- ii) rationalize the tariff setting, and
- iii) publish benchmarking results. The long-term perspective is to integrate all regulatory functions among various agencies under one economic regulator for the entire sector (see also <http://listahangtubig.cloudapp.net/>).

Experiences from Nepal and Kyrgyzstan with pro-poor measures and policies were presented and used as a basis for reflection by country teams. While Kyrgyzstan does not have pro-poor measures officially reflected in policy guidelines, a common practice is that national programs include post-construction campaigns to provide partial subsidies to connect vulnerable groups from municipal/district budgets, or arrangements for beneficiary household to participate as unskilled labour under community contracting arrangements, to account for the required household contribution. Nepal has a defined service standard that includes criteria on accessibility by all vulnerable groups as well as criteria for poor families. A new policy on accessibility has been introduced with “one household, one connection”, regardless of caste, income, or disability.

A number of common challenges as well as strategies and practices applied in various countries on regulation and pro-poor measures were identified (see Table 4).

**Table 4 : Challenges and best practices for regulation and pro-poor policy across Asia**

Challenges	Successful practices or strategies
<ul style="list-style-type: none"> <li>• Sector fragmentation and number of providers</li> <li>• Formalizing fragmented small service providers</li> <li>• Bringing small providers (CBOs) voluntary under regulation</li> <li>• Moving from standpipes to ensuring poor households have access to metered connections</li> <li>• Standards for service level and water quality regulation</li> <li>• Absence of regulator (self-regulation model) and lack of resources for regulation</li> <li>• Lack of information to determine tariffs</li> <li>• Absence of a national poor identification system</li> <li>• No tariff setting method and policy that fits rural water providers</li> <li>• Unstable rural incomes for regular tariff payments</li> </ul>	<ul style="list-style-type: none"> <li>• Create habit of tariff payment through pro-poor tariff structure for the poor</li> <li>• Facilitate self-identification of the poor with clear criteria to receive connection subsidies</li> <li>• Use of concessional finance and grants to reduce tariffs and connection fees</li> <li>• Legal framework and establish a regulatory entity that tailors to rural providers</li> <li>• Provide incentives for better performance</li> <li>• Use social protection targeting systems to reach poorest</li> <li>• Legal framework/act on regulation and service standards</li> <li>• Survey to register service providers/ CBOs</li> <li>• Couple regulation with capacity building program to improve compliance</li> <li>• Introduce complaint monitoring/customer feedback</li> </ul>

On water quality monitoring and regulation, the Thai government shared their recent developments.

While Thailand successfully promoted rainwater and reached near universal improved access decades ago, the recent trend has been a switch to bottled water, provided through private companies, as a result of customer preferences. Bottled water is now the primary source of drinking water for almost 30 percent of Thailand’s population (bottled water also includes vending machines of purified water at reasonable cost).

Using the 2010 water quality legislation for tap water, the Ministry of Public Health runs a certification program for safe drinking water, in collaboration with metropolitan, provincial and local water utilities. Resulting from Thailand’s decentralization process, 58 percent of the people are served by local governments, 17 percent has no formal water supply i.e. uses self-supply, 16 percent are served by provincial water utilities, and 9 percent by metropolitan water utilities.

However, safe water certification in rural areas has been lagging behind and only 60 out of 5000 local government systems have been certified. Water safety plans are being implemented, under the leadership of local government. Water quality surveys for bottled water show that around a quarter of samples are sub-standard, and the Ministry of Public Health is expanding its surveillance program for water quality, implemented by provincial health staff (full lab analysis) and also by health volunteers who sample for residual chlorine and the absence/presence of coliform bacteria as an indicator of fecal contamination.

Outreach and capacity building programs for rural water scheme caretakers are also being rolled out in Thailand. Future efforts are directed to the expansion of the drinking water quality standards to include all water sources, not just tap water from piped networks. Also, the Ministry of Local Government, through its local authorities, is pro-actively addressing recent droughts through a so-called “Water Bank” policies, that develop larger storage reservoirs in rural areas where piped services are not available.

**Box 4 : Tailored regulation and pro-poor policies are essential for the equity mandate of SDGs**

- Regulatory mandates for rural service providers needs to be established if still absent (self-regulation), including the necessary legal framework
- In a situation with many fragmented service providers, a first step in regulation is to carry out a survey and register different types of service providers (where and who are they? What type of service do they provide?)
- Adopting regulations tailored to capacities of service providers is an efficient approach
- A complementary capacity-building program for service providers is essential to bring them under a formal regulatory umbrella
- Incentives for good performance will help stimulate regulatory compliance (service levels and water quality)
- Reaching poorer segments requires pro-poor payment structures, to stimulate a habit of regular payments (tariffs/fees)
- Rural water investment plans are to be developed so that concessional finance and grants can be targeted for lagging areas, to support connections for poor households, and reducing tariffs where needed
- Institutionalizing pro-poor measures in national guidelines is important, aligning with national poverty targeting systems, or with clear criteria for community self-identification (plus related training to do so)
- The expansion of water quality surveillance and certification programs to rural areas needs to be resourced, complemented with local voluntary cadres using simpler surveillance practices (for a few parameters); water quality standards may need differentiation/adaptation for rural contexts

### 3.6 Country-wide monitoring systems and social accountability mechanisms are in a work in progress

Through the use of various cases presented to the group, participants were able to understand the processes behind successful government-led monitoring initiatives and were exposed to successes and challenges of rural water monitoring across the region. Social accountability mechanisms that support two-way communication between customers and service providers to create more accountable rural services were introduced, using the accountability framework from the 2004 World Development Report (World Bank, 2003). Table 5 illustrates brief summaries of the case studies used.

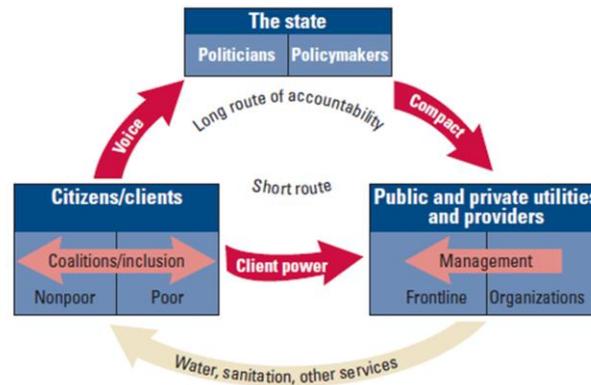


Figure 3: Accountability relationships for water service delivery

From World Bank (2003)

#### Table 5 Monitoring and social accountability case studies

<b><i>Nepal- use of social accountability tools</i></b>
<p>Three selected social accountability tools for rural water supply services in Nepal were used for the whole project cycle, with a focus on institutionalizing social accountability mechanism in the post-construction stage.</p> <p><i>How do accountability mechanisms and feedback loops work?</i></p> <p>At the implementation (planning, design, construction) stage, feedback loops are used for addressing immediate issues so that projects can be implemented to a high quality and mitigate conflict or issues later on. Importantly, feedback loops help to prevent problems before they occur. At the operation/post construction phase, feedback loops can be differentiated into two levels. At the water supply scheme level, the findings from social accountability exercises can be used to help formulate improvement action plans for better provision of water supply service by a community-based operator. At the service authority (district) level, the results can be built into the district-wide functionality strategies and annual improvement plans. A significant challenge in feedback loop is how to make the recommendations, commitments, action plans binding for the respective stakeholders.</p> <p><i>How to ensure usage of data?</i></p> <p>A big challenge is that a lot of data is generated but not always used. Some recommendations on how to stimulate data usage are:</p> <ul style="list-style-type: none"> <li>• Staff of responsible authorities should be evaluated against outcomes of the use of social accountability tools e.g. not the activity to hold a social audit or public hearing but rather by what is done with the actions and commitments resulting from these exercises)</li> </ul>

- District and village level WASH Coordination Committees can be strengthened to use monitoring/social accountability data for improving rural water supply services (as they already do so for sanitation)

#### *Challenges in social accountability*

Institutionalizing social accountability is a challenge because it requires good facilitation and a feedback loop to be effective. Thus this bears a cost, needs capacity building, and an institutional home. In Nepal, the recommendation has been to integrate social accountability as a function in the agency responsible for providing post construct support to the service providers (water user committees). The agency can conduct sample-based social accountability exercises in selected schemes each year through the Federation of Water Users Nepal (who are trained in the tools).

#### ***SIASAR – Monitoring Rural Water Supply and Sanitation in Latin America***

SIASAR is a rural water supply and sanitation monitoring system developed from 2011 onwards, which is now in use in 8 countries in Latin America.

(see [http://www.siasar.org/pdf/publicaciones/SIASAR\\_WBG\\_Water.pdf?nom=Reglamento&ext=pdf](http://www.siasar.org/pdf/publicaciones/SIASAR_WBG_Water.pdf?nom=Reglamento&ext=pdf))

A regional agreement coupled with the strong country ownership has fostered the support from donors and stakeholders. This is critical because each country is responsible for data collection and updating. Software is free and open source and is being translated into English this year for wider usage globally. This generated interest among many of the event participants and discussions about whether a similar system could have application in Asia, or parts of Asia.

#### ***India: Uttarakhand Management Information System (MIS)***

The Management Information System (MIS) in the state of Uttarakhand in India is used during all phases of project implementation and post-construction. Its use is an integrated activity within rural water service delivery programs (<http://swajal.edehradun.com>). The system captures quantitative information in a transparent manner and qualitative information is periodically evaluated by a third party. The system allows for a timely analysis and data aggregation to track progress, process quality and sustainability of services for different users, such as village committees, as well as district and state level. Impacts of the system have been:

- Reducing time and efforts for generating information required at various levels.
- Enhancing capacity of user community where community members are able to monitor the progress, quality and timely completion of the schemes.
- Improving the number of documents maintained at the community level
- Improving transparency and accountability
- Declining problems at community level due to available information, related to i) all aspects including design, implementation, O&M, procurement of local and non-local materials, and ii) tracking of works and installment of payments released to the local governments/communities
- Identifying and addressing lagging schemes for special capacity building programs / trainings

For the MIS to work sustainably and effectively, it has been critical that,

- i) the systems captures service delivery indicators,
- ii) is used sector-wide (not project-based),
- iii) budgets have been allocated for its use,
- iv) in-house expertise of host and local support capacities are adequate,
- v) more than one/off capacity building is delivered,
- vi) performance-based incentives are linked to MIS reporting; and
- vii) regular independent reviews carried out.

#### ***Timor-Leste SMS-based Monitoring System***

SIBS is a Tetun acronym meaning Sistema Informasaun Bee no Sanementu (Information System for

Water and Sanitation). Data is collected on 11 indicators by 88 government WASH facilitators on three monthly cycles.

The data is reported back to national level government from sub-districts level via mobile phone text message (SMS). Where WASH facilitators encounter problems with SMS or their phones are damaged or lost, the WASH facilitator can revert back to paper-based data collection. The data is used for planning and resource allocation at national level, and thus far only to a limited extent by district technical staff.

Challenges identified:

- Remote places are rarely visited due to challenging conditions such as poor roads
- Data collection is not incentivized in any way
- Limited training has been provided to WASH facilitators in use of the data
- There is no O&M response associated with the data collection; this is a disincentive for those collecting the data as they cannot offer anything to the community
- At district level staff have limited capacity to use computers to view and use the data

Going forward, more attention will be paid to i) the enforcement of the data collection processes, ii) training and capacity building of all levels of government in use of SIBS data to inform decisions, iii) incentives for WASH facilitators to collect data from challenging areas e.g. travelling allowances, iv) upgrading of phones.

The case studies and subsequent discussions clearly illustrated that country-wide comprehensive monitoring systems and the at-scale use of social accountability mechanisms requires much more attention across the pan-Asian region, building on good regional and global examples. The key findings, emerging lessons and recommendations are included in Box 5.

**Box 5: Country-wide monitoring systems and social accountability mechanisms are work in progress**

- At least half of the participating countries have no nation-wide functioning and regularly updated rural water services monitoring systems in place (partial systems may be in place)
- Monitoring systems need to capture service delivery, not just presence of infrastructure, and – if possible - also include water quality parameters;
- It is of critical importance to develop monitoring systems as country-owned sector-wide initiatives to avoid the proliferation of project-based, or NGO-based reporting systems
- Service provider budget allocations need to be secured, as well as building local capacities for continued system maintenance
- Adaptation of ICT tools to local capacities and available financial resources is essential for sustaining systems
- Data usage is not happening automatically: focused efforts and assistance is needed to help stakeholders use data for policy decisions, planning and resource allocation
- Promising experiences in Asia can be found closing feedback loops through social accountability mechanisms in rural water (social audits, community scorecards, public hearing, grievance redressal/complaints monitoring); however, most experiences are small-scale and are not institutionalized

#### 4 Conclusions and recommendations

Many participating countries have seen significant positive developments in recent years, with the large majority having met their Millennium Development Goal for water supply. Among those are a higher priority for rural water supply translating into higher budget allocations, an emerging focus on piped services and household connections (though varying greatly across countries), and an increased understanding and focus on institutional aspects important for sustainability. However, common challenges to sustainable service provision remain, including inadequate financing, low recovery from tariffs, and neglecting direct support and major repair costs. Limited human resources and recurrent capacity development needs, combined with poor asset management and the absence of technical support systems are also undermining sustainability. Finally, the rising challenge of water scarcity and drought is putting increasing pressure on freshwater supplies in the region.

The learning event generated a rich set of lessons about the status of rural water services across the greater Asian region, summarized as follows:

- For rural services to be sustained, the complementary roles of actors at different levels need to be strengthened: service providers, service authorities (local / sub-national governments) as well as national institutions
- While different management models for service provision will co-exist, key functions for service delivery need to be put in place: i) institutionalized capacities, ii) sustainable financing, iii) monitoring and regulation, iv) asset management, and v) water resource management
- Professionalizing service providers and continuous post-construction services are key to sustainability
- Sustainable financing is far from a reality in most participating countries, and capital maintenance and direct and indirect support remain largely underfunded
- Tailored regulation and pro-poor policies for rural water are essential for the equity mandate of the SDGs and to elevate service levels
- Comprehensive country-wide monitoring systems and at-scale social accountability mechanisms are work in progress

The event was judged to be successful by the participants and the foundation has been laid for further networking and sharing across Asia, as well as exchanges with other continents. Follow-up activities, such as webinars through RWSN, country-exchanges, and in-country technical assistance, will be designed to respond to priorities identified by government representatives, namely: i) decentralization of rural water supply, ii) professionalization of CBOs and technical support systems, iii) monitoring systems, including water quality surveillance, iv) public private partnership models for rural water services, v) tariff setting practices and policies to achieve higher levels of cost recovery, and vi) solutions to adapt to climate change.

The learning event has helped to share innovations and experiences to facilitate joint critical reflection and create new insights for governments to bring different parts of the puzzle together to support sustainable water service delivery. While awareness on the bottlenecks is high and opportunities for mutual learning abound, more emphasis on practical learning is required going forward. Similar to how development partners and iNGOs have successfully facilitated learning on rural sanitation over the past seven years in Asia, regional learning on rural water supply could enhance country activities and help them make faster progress towards sustainable service delivery models for their contexts.

#### **Acknowledgements**

*This event was financed and led by The World Bank in collaboration with SNV, WaterAid Australia, RWSN, and all the participating governments. The final event report and presentations are available for download at: <http://www.rural-water-supply.net/en/resources/details/758>*

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## Futher resources on rural water supply in Asia:

<http://wsp.org/>

<http://rural-water-supply.net/en/region-and-countries/south-eastern-asia>

<http://rural-water-supply.net/en/region-and-countries/southern-asia>

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