

Dignity, Disease, and Dollars

Asia's Urgent Sanitation Challenge

The Asian Development Bank (ADB) advocates that sanitation should be an urgent priority for governments in Asia. Our call to action—"Dignity, Disease, and Dollars"—has been chosen deliberately to focus attention on three areas where stakeholders need to see results: Better facilities for individuals so they can regain their dignity, disease prevention and healthy environmental outcomes for the wider community, and financial viability of sanitation services for provider governments and utilities in tandem with affordability for households. In our view, achieving these results is feasible. We invite other agencies—public and private—to partner with us in helping governments, utilities, and communities make sanitation a priority and accelerate actions that will achieve targeted results.



Current results are mixed

Many countries in Asia are unlikely to meet the sanitation target of Millennium Development Goal 7:

“halving by 2015 the proportion of people without sustainable access to safe drinking water and improved sanitation.” According to the joint agency publication “Asia Water Watch 2015,” the “off-track” countries for rural sanitation are Kazakhstan, Uzbekistan, Afghanistan, Nepal, Viet Nam, and five Pacific island countries.² For urban sanitation, “off-track” countries are the People’s Republic of China (PRC), Armenia, Kazakhstan, Uzbekistan, Bangladesh, Nepal, Indonesia, and five Pacific island countries.³ Considering that “improved sanitation” basically means “access to latrines” (a fairly modest target), we should not become complacent about sanitation in those countries that are “on track” and push

for even more hygienic, environmentally sound and dignified technologies wherever possible.

Big countries, such as PRC, are making substantial commitments (see box).

India is, as well, with its own \$11 billion urban renewal program that addresses urban sanitation in more than 63 cities. Still, current investment levels are running substantially behind what is needed to reach the sanitation MDG target. Conservative estimates indicate that the annual investment ought to be between \$4 to \$8 billion dollars.⁴

Factors holding back sanitation are widely understood;⁵ it is action that is needed. Any given country may be confronting barriers relating to political will, social conditions, institutional and organizational arrangements,

The PRC Government plans to spend one trillion yuan (equivalent to US\$125 billion) by 2010 to build wastewater treatment plants and upgrade water distribution systems. As many as 278 cities lack proper treatment facilities.

Source: People’s Daily Online, August 2006.

¹A discussion note that accompanied a presentation by the Asian Development Bank at the Stockholm World Water Week, 12–18 August 2007.

²Kiribati, Marshall Islands, Federated States of Micronesia, Palau, Papua New Guinea.

³Marshall Islands, Federated States of Micronesia, Niue, Papua New Guinea, Samoa.

⁴Figures based on average per capita costs applied to unserved population estimates and using different time periods.

⁵See page 5 for discussion of barriers and issues.

technical factors, and resources that are hampering sanitation progress. Circumstances, though, vary from country to country. If it were a simple problem, there would already be adequate sanitation for the 2 billion plus people in Asia who do not have it now. Nevertheless, there are solutions to these sanitation barriers and ADB's proposed actions contribute to those solutions. Our actions are part of a rolling plan that envisages advancing sanitation in partnership with like-minded agencies able to complement our reach, skills, and resources.

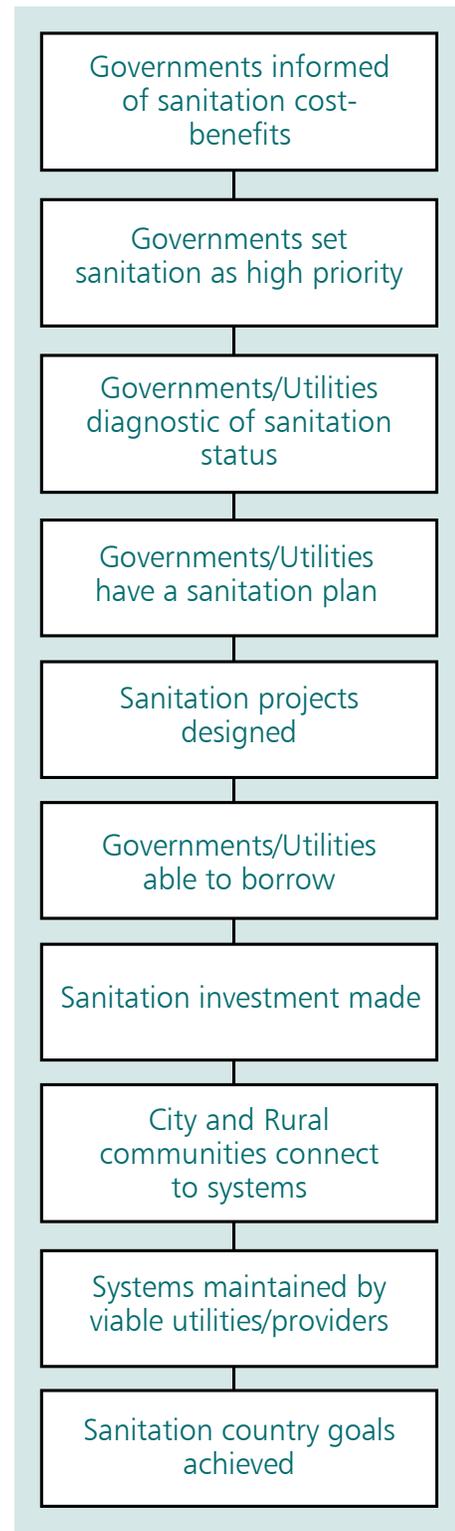
Business Unusual: Designing a New Approach for Asia

ADB has set a targeted outcome of providing 200 million people with sustainable access to improved sanitation

between 2006-2010. Setting this target provides a clear signal to our client governments, our internal organization, and partners of how serious we take the sanitation challenge. It also shows our commitment to support the Hashimoto Action Plan, crafted by the United Nations Secretary-General's Advisory Board on Water and Sanitation, which has nominated 2008 as the "International Year of Sanitation."

This outcome-based measure focuses only on hygienic sanitation for individuals and households but we define sanitation more broadly to cover **environmental sanitation**—the collection, treatment, disposal, and recycling of household, commercial, and industrial wastewater. Sanitation also encompasses changing attitudes and behavior, specifically hygiene habits, developing solutions (including financing), and creating a demand for sanitation as a means for making sanitation systems effective. Drainage too must be included because of its unintended use for wastewater and sewage disposal, which has led to fouling up waterways.

Our agenda for action is tied to a results chain—a "Chain of Change"—that starts from making sanitation investments demand-driven and ends with achieving sanitation goals. Here is how we plan to contribute to this Chain of Change:



- Demonstrate to governments (national and local) and utilities that **sanitation is an excellent investment**, yielding benefits that well exceed costs. Demonstrations will come in the form of pilot projects, knowledge products, or face-to-face exchange on best practice on key issues,

such as low cost technology and cost-based tariffs. This is a first step in getting politicians and other decisionmakers to make sanitation a top priority.

- **Prioritize sanitation in our dialogue with governments** as part of ADB's Country Partnership Strategy process when we mutually agree on priorities and financing of development projects. In doing so, we show how our range of newer financing products can be tailored for their specific sanitation needs.
- Help **local governments** diagnose their current sanitation status and the performance of their public utilities as an essential step in priority setting and in effective provincial town and urban city planning. This also helps in choosing financing options and addressing affordability.
- Contribute to the financing of **city and utility sanitation plans**, which include processes for coordinating and implementing national policy and standards enforcement, and also contain targets for sanitation service quality and coverage, such as 100% adequate sanitation in schools and community facilities or geographic zone, within an agreed timeframe.
- In conjunction with local governments and their utilities, **design sanitation projects that benefit from the views of women** (whose opinions and specialized needs have been overlooked in the past), **capitalize on newer and lower cost technologies**, align with community needs and affordability and deliver localized and decentralized solutions zone by zone within cities. ADB will also insist that ADB funding for water projects must also deal with sanitation and wastewater.
- Offer **financing options and products**, such as (i) providing long-term financing with credit enhancements solutions to address the mismatch between the financing plan and the long-term asset life; (ii) identifying sources of funds for an environmental fund and (iii) introducing our newer products, such as subsovereign



and local currency borrowing, and the multitranche financing facility that can accommodate the financial constraints of local governments or utilities.

- Support the design and development of **microfinance solutions for improved sanitation at the household level**. This support is complemented by advocacy on lowering upfront payments and, where appropriate, use of targeted subsidies.
- Encourage **public utilities to develop their capacities by participating in the improvement programs of utility networks**—such as the South East Asian Water Utility Network (SEAWUN), the South Asia network (SAWUN), and an upcoming Central Asia network.

ADB's capacity to deliver on these commitments needs to be enhanced through



networking partnerships, access by staff to expertise, and additional grant funding. We plan to:

- **Liaise with and support networks** such as those for cities, regions, special interests, such as health, children and education, the media and others who can complement our capacity to (i) promote sanitation; (ii) reach out to decision makers; (iii) work at the community level; and (iv) replicate good practices among their members.
- **Partner with expert organizations** such as UNICEF, UN Habitat, Netherlands Water Partnership, Water Supply & Sanitation Collaborative Council, and others in advancing sanitation through formalized mutual work programs and knowledge exchange. This extends to pilot and demonstration activities, access to newer technology results, and better project designs.
- Make available more **grant funds to help NGOs** carry out their work programs concerned with advocacy and hygiene education at the individual, village, or other community levels.

- Establish a **pool of experts in sanitation** infrastructure, operations, tariff setting, and regulation to augment the ADB skills base. These will be called upon to advise on (i) how to gain a coordinated focus on sanitation across stakeholder ministries, (ii) setting appropriate sanitation standards, (iii) choosing the most appropriate technologies for keeping projects cost effective, affordable, and acceptable by stakeholders, and (iv) assisting with the implementation of onsite sanitation solutions for rural areas and a combination of onsite and offsite sanitation solutions (localized and decentralized) for urban and peri-urban areas.
- **Dedicate \$20 million in additional grant resources from our new Water Financing Partnership Facility** to provide support to national and local governments, utilities, and NGO/CSOs to complement their sanitation programs. This \$20 million is in addition to the millions that ADB annually commits in technical assistance grants to water projects for awareness, education, reform, capacity development, and project design.
- **We already have \$2.2 billion worth of sanitation and wastewater projects and aim to more than double it over the period 2006-2010.** To reach our targeted outcome of improved sanitation for 200 million people, we anticipate that lending and technical support activity will increase significantly once governments give priority to sanitation on their development agenda.
- **Our call to action, “Dignity, Disease, and Dollars,” has been chosen deliberately to focus attention on three needed sanitation results for stakeholders**—better facilities for the individuals so they can regain their dignity, disease prevention and healthy environmental outcomes for the wider community, as well as financial viability of sanitation services for provider governments and utilities in tandem with affordability for households. In our view, achieving these results is feasible.

WHY OUR CHOICE OF ACTIONS?

A number of core issues have shaped the action agenda we plan to implement. They are:

1. **Sanitation is considered high cost and unaffordable**
2. **Sanitation is not a high enough priority for governments**
3. **The tendency is to prefer high cost technology**
4. **Government and utilities do not have access to finance**

These core issues are discussed more fully below.

Issue 1

Sanitation is considered high cost and unaffordable

Concerns about dollars and cost recovery as a barrier to taking sanitation action are misplaced. Adequate sanitation has been proven to be affordable for households, financially viable as a utility service, and will more than pay back the governments'

investments. On the other hand, there are significant costs of doing nothing about sanitation. These include higher health costs, greater water treatment costs, massive and increasing environmental clean up costs, and even loss of tourism income. We need to ensure that governments and utilities better understand the realities of sanitation costs and benefits.

Poor households face significant upfront and recurrent costs for adequate sanitation. Costs include the initial, one-time expense of connecting

Illustrative Up Front Costs

| | |
|-----------------------|------------|
| Household Income* | \$ 1500 |
| Bathroom and fittings | \$ 240–370 |
| Septic system | \$ 104 |
| Total | \$ 344–474 |
| Percent of Income | 23–32% |

*annual income for low-income earner
Source: ADB 2007 estimates for Philippines.

to a sewerage system or the installation of a septic tank, as well as the initial costs of basic, sanitary hardware equipment. On top of these costs are the ongoing charges for an offsite or onsite sanitation service. As a rule of thumb, 5% of household income (monetary) is typically the maximum a utility service can charge and still be affordable.

In PRC, the government made checking the affordability of wastewater tariffs an essential component in its national guidelines for urban wastewater tariffs. In four cities, a test of affordability levels for full cost-based tariffs revealed rates that were well below the 5% ceiling for household income. Nevertheless, some families will still not be able to afford the initial costs and possibly the recurrent charges too.

Affordability

For the average income households, the combined water and wastewater bill ranged from 1.5% to 2.9%. For the low income households, the range was from 2.2% to 3.6% of household income.

Source: ADB Technical Assistance 3749 for the People's Republic of China—Volume I, Main Report, "National Guidelines in Urban Wastewater Tariffs," page 20.





Concerned over connection affordability, households are justified in thinking that they should not have to pay all costs upfront. Since the household sanitation and connection service assets they are being asked to invest in should last for a number of years, it makes sense to spread the costs over a number of years too. This cost spreading benefit is available to more affluent families because they can access finance for those upfront costs. Poorer families ought to be able to access a similar cost spreading facility.

Governments who are serious about improving their sanitation coverage must be serious about spreading upfront charges over time and using targeted subsidies. While it is often the upfront costs that prevent low income families from acquiring sanitation systems, others cannot afford the recurrent charges. In this case, as with water, targeted subsidies are justifiable because of the communal benefit from a safer and cleaner environment. These benefits are diminished, if not lost altogether, when even a few individuals have no sanitation. ADB's Water for All policy recognizes the need for targeted subsidies.

Governments may think sanitation and wastewater are costly operations but this need not be the case. Misconceptions about investment and costs are partly due to adopting unsuitable service solutions, compounded by ignorance of the financial costs of not stopping the human and industrial waste from destroying the environment. The World Health Organization (WHO) quotes a payback of between \$3 and \$36 dollars for every dollar invested in sanitation. Poor sanitation results in high health costs, huge downstream costs to remedy contamination of the environment, loss of tourism income, and productivity.

Lack of public demand, not knowing the full consequences of poor sanitation, and problems in investing and running systems, besides perceptions of high costs, contribute to government reluctance to treat hygienic and environmental sanitation as a priority.

Sanitation is a matter of personal dignity for individuals, especially women. There is a clear need for adequate sanitation facilities but public demand for sanitation has not been

Issue 2

Sanitation is not a priority of Government

Most Common Reasons Households Do Not Prioritize Sanitation

- They believe their lives will be made easier with better access to other services and infrastructure, such as water supply, roads and electricity.
- They do not believe sanitation is affordable
- Men, as traditional heads of households, do not value sanitation as highly as women and children.

Source: These top reasons reoccur throughout the literature by WHO, IRI, and WASH.

articulated as well as the demand for water. Naturally, individuals are not waiting for solutions to what is a daily human need. Sanitation at a personal level is an everyday affair, using any available means, irrespective of its adverse effect on individuals or the community. More needs to be done to transform household needs into a political demand.

Communities have not openly expressed a demand for sanitation services. Research indicates that demand is not pushed by men, who tend not to think of sanitation as a priority. And although women are most affected by lack of facilities and do give it a very high priority, they are not empowered to articulate their needs. In addition, demand is stifled by a lack of hygiene knowledge (and the dangers of unhygienic practices) and concerns over unaffordable services. Consequently, politicians are not under pressure to act.

The real horror of not having adequate sanitation is the risk and costs of an outbreak of typhoid and cholera. Costs then fall not only on the health ministries and hospitals, but also impact households and the country as a whole, with damage to exports, production, and tourism. One documented instance of this in South America figured the cholera outbreak cost \$232⁶ million—an amount that

would have been much better spent on prevention than cure.

In 2007, Nepal had a cholera outbreak, with Kathmandu reporting 223 cases of cholera and over 80 persons dying of diarrhea related illness in June alone. According to the Nepal Health Department “the problem became worse this year due to severe water pollution.”

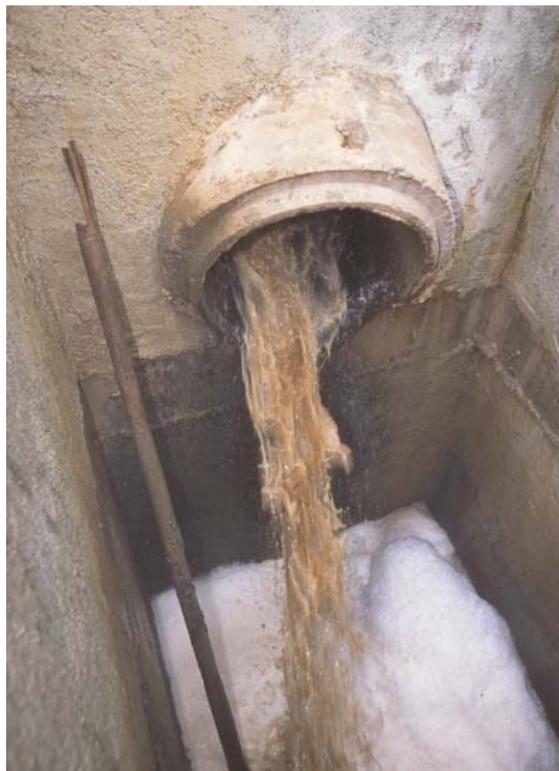
Source: Center for Excellence in Disaster Management and Humanitarian Assistance website (<http://pdmin.coe-dmha.org>).

Not setting sanitation as a priority also has a direct effect on tourism. Tourism is a key sector that Asian countries cultivate because of the economic benefits, employment opportunities, and foreign exchange earnings. A number of studies about tourists’ intentions, however, show that they avoid destinations they fear do not have the facilities and expose them to health risks that they are not willing to take.

Lost Tourism Revenue Due to Perceptions of Poor Sanitation

India—\$283 million annually
Nepal—\$5.7 million annually

Source: WSP: Water and Sanitation Program. “The Case for Water and Sanitation.” November 2004.



⁶ Water and Sanitation in the World’s Cities, UN Habitat, page 92.

Failure to act on sanitation and wastewater eventually becomes very evident when the problem results in a smelly, foul, turbid river that despoils the city and surrounding areas. Clean up costs are significant, and that is the situation facing many countries in Asia, particularly India and PRC. For example, Shanghai took steps to clean up their Suzhou Creek, a river running through the city (see box) and the bill topped \$1 billion. Officials have acknowledged that clean up costs were many times what would have been needed to prevent the pollution in the first place.

Suzhou Saved by (Costly) Clean up

The Suzhou Creek running through Shanghai served as a convenient ‘sewer’ for the city for many years. Shanghai’s government embarked on the huge task—and expense—of cleaning Suzhou Creek through an ADB-financed project. The most difficult task proved to be reducing and managing sewage dumped daily into the river and its adjoining canals. As part of the task, Shanghai enforced the shutting down or relocating polluting factories that could not treat their own waste.

Source: ADB Water for All website (<http://www.adb.org/water/actions/PRC/Suzhou-Creek.asp>).

Difficult experiences with implementing sanitation also contribute to giving it lower priority.

Despite some governments already having policies and standards, most of the time standards are very idealistic that they become unrealistic. This makes implementation impossible due to technical, institutional, or financial constraints that reinforce the perception of sanitation being difficult. Most agencies do not have the resources and sometimes the skills to monitor and enforce these standards. Projects are not identified because they are not committing sufficient resources nor is government providing signals to the public and industry that it is serious about

its commitment to adequate sanitation and wastewater.

Enforcement of standards is an important signal of government interest in environmental sanitation.

Industries need to consider waste treatment as part of their costs of doing business and be obliged to pay for the cost of treatment or pre-treatment if connected to a central system. With a participatory approach, access to finance, and an agreed grace period before enforcement, industries can be obliged to conform to government standards without impairing their competitive status, as demonstrated in the case of Thailand (see box). If standards have not been set, then establishing and enforcing them has to become a first priority to mitigate the impact of industrial pollution.

In 1992, the Thailand government legislated for the prevention of water pollution. The laws primarily limit industrial water contamination:

- Enhancement and Conservation of National Environment Quality Act (NEQA) of 1992
- Factories Act of 1992
- Navigation in Thai Waterways Act (Volume 14) as amended in 1992
- Public Health Act of 1992
- Cleanliness and Tidiness of the Country Act of 1992

The government continues to invest in wastewater treatment plants.

Source: Wikipedia website (http://en.wikipedia.org/wiki/Environmental_issues_in_ThailandWikipedia).





Issue 3

Reliance on traditional high cost technology

Choice of appropriate systems and technologies are a major factor affecting the affordability and viability of utility services. Affordability and environmental compatibility of various systems are crucially important, yet often not considered. Governments and

their utilities should favor technological solutions that evolve from onsite to offsite sanitation based on the level of local gross domestic product (as a representative index for measuring affordability), local skills available to operate and maintain the system, and the environment's capacity for self cleaning.⁷

There are better and lower cost technologies available but traditional centralized solutions are often pursued blindly even though they are unaffordable.

There has been a tendency in the past to regard conventional, high cost standards for sewerage as the only feasible solution to excreta removal, particularly in urban areas. This may not be affordable in many developing countries and a wider range of options can be considered.

Source: The Sanitation Connection website (<http://www.sanicon.net/themes/intro.php3?theme=6>).

All too often however, decisions about the design and location of water and sanitary facilities are made without the involvement of users—especially female users.

Source: World Health Organization. "The Sanitation Challenge," 2004.

To make technology choices known, ADB recently produced the "Smarter Sanitation" toolkit, and it contains the SANEX⁸ decisionmaking software to help users identify the appropriate technology.

⁷ Self-cleaning refers to the capacity of the environment to absorb a certain amount of pollutants without damage as approved by Environmental Authorities, for example the discharge of an agreed level of nitrogen into a waterway.

⁸ SANEX is a software that provides the user with the facility to insert various sanitation planning parameters which it uses to provide a set of technical options. The software was developed by an independent party and is made available at no charge.



When water supply projects are designed, sanitation and wastewater should be included, otherwise sanitation tends to get deferred and overlooked. In initiating water project designs, ADB's practice is to consider sanitation and wastewater at the same time and ensure that solutions are based on stakeholder consultations so that appropriate technology options are considered.

San Fernando City in the Philippines is piloting Ecosan toilets, which do not require using clean water. The method is accepted as a viable sanitation option under the Philippines' Clean Water Act.

Source: Workshop on Sanitation and Wastewater Management, ADB 2005, Ecological Sanitation in the Philippines.

Providing piped water first is not a precondition to doing something about sanitation. There are waterless sanitation solutions that may be appropriate. The key is to be aware of the various technologies available and their suitability.

Governments and/or their utilities may face difficulties in accessing long-term, low cost financing as

a means for investing in the long-life assets required for sanitation and wastewater services. This seems traceable to their incapacity to recoup costs, as even water with its higher priority will often have tariffs set below full cost recovery.

Utilities must challenge governments to face up to the fact that they are contributing to the incapacity of water utilities to deliver or expand services, particularly by preventing them from recouping the full costs of the services they provide in their pricing. Aside from this kind of direct political interference, utilities often are reluctant to charge more because they fear the public will not pay. Politicians and utility managers seem to think that financial viability is not compatible with public affordability. This simply is not true. Full cost recovery is feasible. Asian examples include the Maldives (see box) and PRC, where wastewater guidelines mandate utilities to move to full cost recovery, including a rate of return on assets.

Full Costing in Malé, Maldives

In the Maldives, a joint venture company owned 70% by the government provides potable water supply and sewage disposal through a sewerage system.

The joint venture company, Malé Water and Sewerage Company (MWSC), is effective, achieves full cost recovery and is sustainable given the willingness and ability of Malé residents to pay.

Source: Maldives Water and Sanitation Authority—Five Year Activity Plan - 2006.

Certainly the public will not want to pay for inadequate services. Therefore, the first step in achieving financial viability of utilities is to deliver



better services by developing a customer-oriented service and performance targets with a selection of a few indicators. In this way, the utility company is accountable for the level of service provided. The next step is to achieve efficiencies and implement appropriate technologies so that “full cost” does not lead to high tariffs as a way to recoup excessive costs. Both steps are the responsibility of utility management and the regulator.

Utilities seeking to improve performance as a means of gaining access to funding should participate in benchmarking and twinning programs associated with regional utility networks, such as SEAWUN and SAWUN.⁹ Performance benefits from participation, together with tariff reform and soundly based business plans, will ensure that utilities have easier access to finance. Financial packages are available, or can

be made available, to provide longer-term financing. In addition to financing from other entities, ADB’s own lending, credit enhancement and private sector financial services address the needs of utilities. Furthermore, sanitation and wastewater are beginning to attract private sector investment, which indicates this essential service is perceived as a financially viable opportunity, whether their ownership is private or public.

Households are not the only customers of utilities. Commercial and industrial businesses often make up more than 50% of wastewater volumes and are the major contributors to pollutant loads. These businesses should be expected to pay the full costs of sanitation and wastewater services on a polluter pays principle. Consequently, industrial and commercial customers should not adversely affect the financial viability of utilities provided enforcement is robust.

⁹ South East Asian Water Utilities Network, and South Asian Water Utilities Network.

Partnering for Sanitation

Given the multifaceted nature of sanitation barriers and solutions, ADB needs to partner with other agencies and civil society to help the many stakeholders and decisionmakers in a comprehensive and coordinated way. We need partners to:

- help communities to crystallize public demand through awareness, hygiene, and education programs;
- advise on newer sanitation technology so that solutions are appropriate to community needs, local circumstances, and affordability;
- assist cities and rural towns in conducting sanitation diagnostic audits and sanitation planning;
- provide sanitation costing and economic assessments that form part of tariff setting for such services;

- assess the capacity development needs of local government and utilities, design suitable responses, and help with their implementation;
- contribute further grant funds to apply to pilot and demonstration activities, capacity development, and project design and implementation; and
- access funds, technology, assets, and good management practices from the private sector for public sector utilities.

Our proposed actions mentioned in this document are only the beginning. We expect our action agenda to evolve further as we increasingly engage with governments, utilities, communities, and development partners towards the goal of “Sanitation for all.”

