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India's Sanitation for All: How to Make it Happen

Asian Development Bank



INDIA'S SANITATION FOR ALL

How to Make It Happen

Asian Development Bank

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INDIA'S SANITATION FOR ALL How to Make It Happen

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Providing environmentally-safe sanitation to millions of people is a significant challenge, especially in the world's second most populated country. The task is doubly difficult in a country where the introduction of new technologies can challenge people's traditions and beliefs.

This discussion paper examines the current state of sanitation services in India in relation to two goals—Goal 7 of the Millennium Development Goals (MDGs), which calls on countries to halve, by 2015, the proportion of people without improved sanitation facilities (from 1990 levels); and India's more ambitious goal of providing “Sanitation for All” by 2012, established under its Total Sanitation Campaign.



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The sanitation problem is most evident in urban poor and rural communities, and affects women and children in particular

This paper discusses six recommendations that can help key stakeholders address the significant obstacles in providing universal sanitation coverage in India. These recommendations, listed below, are based largely on a recent Asian Development Bank (ADB) study—*Sanitation in India: Progress, Differentials, Correlates, and Challenges*—that looked at trends in access to household sanitation and drainage in India.

- 1) **Successful pro-poor sanitation programs must be scaled up.** Assistance is still not reaching large numbers of the poorest of the poor. Successful models must be replicated and scaled up to serve those who cannot provide for their own needs under existing service delivery systems.
- 2) **Investments must be customized and targeted to those most in need.** With more than 450 million Indians living below the poverty line, only a few of the poor who have inadequate sanitation can be assisted right away. Due to limited resources, programs should target groups or locations lagging behind the furthest.
- 3) **Cost-effective options must be explored.** Appropriate lower-cost solutions offer a safe alternative to a wider range of the population. Higher-cost options can be explored when economic growth permits. Regardless of cost, all systems should address sanitation all the way “from toilet to river.”
- 4) **Proper planning and sequencing must be applied.** Investing in incremental improvements is an approach that one could consider if affordability of sanitation investment is an issue. Careful planning is required to ensure that investments do not become wasteful and redundant.
- 5) **Community-based solutions must be adopted where possible.** An approach known as Community-Led Total Sanitation (CLTS) has been found to be effective in promoting change at the community level. Efforts must address sociocultural attitudes toward sanitation and involve women as agents of change. Another innovation is the socialized community-fund raising, which has met great success among the rural poor.
- 6) **Innovative partnerships must be forged to stimulate investments.** The key is to stimulate investments from as wide a range of sources as possible, including the private sector, nongovernment organizations (NGOs), and consumers themselves. This may require working with a wide range of partners through innovative public-private partnerships.

In making these recommendations, this paper targets designers and implementers of sanitation programs in India, as well as those who make policies that advance the sanitation cause. This may include people within government ministries, state and local governments, and nongovernment organizations. It also includes development agencies like ADB, which have the ability to wield significant influence in the sector.

SANITATION IN INDIA How Bad is It?

The report *Asia Water Watch 2015* projected that India will likely achieve its MDG sanitation target in both urban and rural areas if they continue expanding access at their 1990–2002 rates. By 2015, the percentage of people in urban areas served by improved sanitation¹ is expected to reach 80%, up from 43% in 1990. In rural areas, the projection is 48%, an incredible improvement over the coverage rate of just 1% in 1990.² In real numbers, that means more Indians will have improved their sanitation situation from 1990 to 2015 than the total number of people currently residing in the United States—quite an achievement.



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Untreated sewage and uncollected solid waste block drainage and pollute waterways

However, while India may be “on track” in achieving the MDG sanitation target, it is important not to be complacent. MDG goals simply represent achievable levels if countries commit the resources and power to accomplish them. They do not necessarily represent acceptable levels of service.

This is especially true for India’s sanitation situation. Despite recent progress, access to improved sanitation remains far lower in India compared to many other countries with similar, or even lower, per capita gross domestic product. Bangladesh, Mauritania, Mongolia, Nigeria, Pakistan, and Viet Nam—all with a lower gross domestic product per capita than India³—are just a few of the countries that achieved higher access to improved sanitation in 2006.⁴

An estimated 55% of all Indians, or close to 600 million people, still do not have access to any kind of toilet.⁵ Among those who make up this shocking total, Indians who live in urban slums and rural environments are affected the most.

In rural areas, the scale of the problem is particularly daunting, as 74% of the rural population still defecates in the open.⁶ In these environments, cash income is very low and the idea of building a facility for defecation in or near the house may not seem natural. And where facilities exist, they are often inadequate. The sanitation landscape in India is still littered with 13 million unsanitary bucket latrines, which require scavengers to conduct house-to-house excreta collection. Over 700,000 Indians still make their living this way.⁷

The situation in urban areas is not as critical in terms of scale, but the sanitation problems in crowded environments are typically more serious and immediate. In these areas, the main challenge is to ensure safe environmental sanitation. Even in areas where households have toilets, the contents of bucket-latrines and pits, even of sewers, are often emptied without regard for environmental and health considerations.

Sewerage systems, if they are even available, commonly suffer from poor maintenance, which leads to overflows of raw sewage. Today, with more than 20 Indian cities with populations of more than 1 million people, including Indian megacities, such as Kolkata, Mumbai, and New Delhi, antiquated sewerage systems simply cannot handle the increased load. In New Delhi alone, existing sewers originally built to service a population of only 3 million cannot manage the wastewater produced daily by the city’s present inhabitants, now close to a massive 14 million.⁸

¹ “Improved sanitation facilities” are defined under the MDGs as those that ensure hygienic separation of excreta from human contact. This includes connection to a public sewer, connection to a septic system, pour-flush latrine, simple pit latrine, and ventilated improved pit latrine. Sanitation solutions not considered “improved” include: public or shared latrine, open pit latrine, and bucket latrines.

² ADB, UNDP, UNESCAP, and WHO. 2006. *Asia Water Watch 2015: Are Countries in Asia on Track to Meet Target 10 of the Millennium Development Goals?*. Manila.

³ As measured by purchasing power parity (current international \$).

⁴ World Development Indicators. 2006.

⁵ Bonu, Sekhar and Hun Kim. May 2009. *Sanitation in India: Progress, Differentials, Correlates, and Challenges*. ADB. Based on author’s analysis of the 2005 National Family Health Survey.

⁶ Ibid.

⁷ Dueñas, Christina, April 2008. *Crusading for Human and Environmental Dignity*. www.adb.org/Water/Champions/pathak.asp.

⁸ Tigno, Cesar. April 2008. *Country Water Action: India, Toilet Technology for Human Dignity*. ADB.

Wastewater treatment capacity is also woefully inadequate, as India has neither enough water to flush-out city effluents nor enough money to set up sewage treatment plants. As of 2003, it was estimated that only 30% of India's wastewater was being treated.⁹ Much of the rest—amounting to millions of liters each day—find its way into local rivers and streams. According to the country's Tenth Five-Year Plan, three-fourths of India's surface water resources are polluted, and 80% of the pollution is due to sewage alone.¹⁰

The impacts on human health are significant. Unsafe disposal of human excreta facilitates the transmission of oral-fecal diseases, including diarrhea and a range of intestinal worm infections such as hookworm and roundworm.¹¹ Diarrhea accounts for almost one fifth of all deaths (or nearly 535,000 annually) among Indian children under 5 years.¹² Also, rampant worm infestation and repeated diarrhea episodes result in widespread childhood malnutrition.¹³

Moreover, India is losing billions of dollars each year because of poor sanitation. Illnesses are costly to families, and to the economy as a whole in terms of productivity losses and expenditures on medicines, health care, and funerals.¹⁴ The economic toll is also apparent in terms of water treatment costs, losses in fisheries production and tourism, and welfare impacts, such as reduced school attendance, inconvenience, wasted time, and lack of privacy and security for women. On the other hand, ecologically sustainable sanitation can have significant economic benefits that accrue from recycling nutrients and using biogas as an energy source.¹⁵



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With improved sanitation facilities in place, children do not have to play in dirty areas

⁹ Wallace, Bruce. 2007. Drawing a curtain on old ways – In India, a villager uses his own strategy in a campaign to encourage the use of toilets instead of the great outdoors. *Los Angeles Times*. 6 September 2007. <http://articles.latimes.com/2007/sep/06/world/fg-toilet6?pg=1>.

¹⁰ Nair, Santha Sheela. 2008. SACOSAN and India's Experience. Presented at Third South Asian Conference on Sanitation, 18–21 November 2008 in New Delhi.

¹¹ PEP (Poverty-Environment Partnership). 2005. Linking poverty reduction and water management. PEP. www.unep.org/civil_society/GCSF8/pdfs/pep_linking_pov_red.pdf.

¹² Boschi-Pinto, C., L. Velebit, and K. Shibuya. 2008. Estimating child mortality due to diarrhoea in developing countries. *Bulletin of the World Health Organization*, 86: 710-717. www.who.int/bulletin/volumes/86/9/07-050054/en/index.html.

¹³ Indian Institute of Population Sciences. 2007. *National Family Health Survey, III*. Mumbai.

¹⁴ UN-Water. 2008. *Tackling a global crisis: International Year of Sanitation 2008*. http://esa.un.org/iys/docs/IYS_flagship_web_small.pdf.

¹⁵ ADB, UNDP, UNESCAP, and WHO, op cit.

Making Household Sanitation an Investment Priority

The first valid action for stakeholders must be to put household sanitation on the top of the development agenda in India. This may seem an obvious conclusion, and one can argue that it has already happened, at least on the national level. The Government of India clearly understands the importance of improving sanitation at the household level and has backed up this commitment with increased level of resources.



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Women in sanitation—building their own toilets

Through its Total Sanitation Campaign (TSC), the Government has sanctioned projects in all of India's rural districts, building about 57 million individual household sanitary latrines (IHHLs).¹⁶ While this achievement still falls short of the estimated 119 million units needed to meet the Government's goal of eradicating open defecation by 2012, investments in rural sanitation continue to increase—from around \$90 million in 2004 to \$280 million in 2008.¹⁷ For urban areas, the Government has also made substantial commitments. In addition to state-allocated funds, the most recent five-year plan allocates 7,816 rupees cr.¹⁸ (\$1.6 billion) for urban sanitation projects.¹⁹

Despite these current efforts, many more billions of dollars of public resources will still need to be deployed effectively in tandem with private resources for comprehensive sanitation systems—all the way “from toilet to river.” Part of the problem is that investment programs still tend to focus solely on constructing conventional collection and treatment systems that do not always benefit the poor. While costly infrastructure projects continue to be approved, lack of resources has long provided a pretext for relative inaction among underserved urban and rural populations in India.

It is time for a change. Project designs must shift away from top-down and supply-driven approaches and support sanitation models that are more demand-driven, people-centered, and community-led. Toilets are an important but often-overlooked component—these must confine feces until they are composted and safe, or enable them to be flushed away into a sewer.²⁰ Moreover, comprehensive efforts should include environmental cleanliness; hand-washing; and garbage and wastewater collection, treatment, and disposal.

To affect this change, relevant stakeholders, especially politicians in state and local governments, must “get their hands dirty” by engaging in sanitation projects and making resources available, particularly for the poor and unserved sectors. The motivation for action is there, as it is clear that improved sanitation is vital for good health and social development, a good economic investment, and improves the environment. However, reaping the benefits of improved sanitation will require decision makers at all levels to shift their way of thinking about sanitation and recognize that universal coverage is affordable and achievable (Table 1).

Table 1: Shift in thinking about sanitation

Old way of thinking	New way of thinking
Sanitation is high cost and unaffordable.	Sanitation is affordable when the right technology is installed, reasonable financing is offered, and a creative mix of providers shares the cost.
The poor have more important needs than sanitation, and they cannot afford it.	Households—even poor ones—are willing to pay for sanitation
Sanitation is not a high priority for governments.	Making sanitation a priority delivers big economic, health, and environmental benefits.
High-cost technology is needed to make sanitation work.	There are already innovative and low-cost—even waterless—technologies that can be used for wastewater management.
Governments and utilities do not have access to finance.	Financial viability can go with public affordability, and full cost recovery is feasible, provided the sanitation services are customer-oriented and worth paying for.

Source: *Dignity, Disease, and Dollars: Asia's Urgent Sanitation Challenge. Why Invest in Sanitation.* ADB.

¹⁶ Bhaskar, T.M. Vijay, Joint Secretary, India Department of Drinking Water Supply. 2009. *Sustaining the Sanitation Revolution: India Country Sanitation Status*. Presented at ADB-DMC Sanitation Dialogue. Manila. 3-5 March.

¹⁷ Nair, op cit.

¹⁸ A *crore*, often abbreviated *cr*, is a unit in the Indian numbering system equal to ten million (10,000,000; 10⁷). It is widely used in Bangladesh, India, Maldives, Nepal, and Pakistan.

¹⁹ Bhaskar, op cit.

²⁰ UN-Water, op cit.

According to a World Bank report, simply meeting the MDG target would require total investments of \$38 billion up to 2017, the end of India's 12th Five-Year Plan. Annually, that would require about \$2.2 billion for urban areas and \$1.65 billion for rural areas.²¹ Recurrent expenditures of the same order of magnitude will also be required.²² And this is just to satisfy the MDG target for "improved sanitation," which can be met by constructing simple pit latrines—a fairly modest target.

²¹ At \$1=Rs42.5. Assumptions are unknown, but the higher estimate for urban areas suggests that the prescribed option for urban areas is more advanced than that for rural areas (e.g., septic tank with a soak pit).

²² Makino, Midori. 2006. India – Water Supply and Sanitation: Bridging the Gap between Infrastructure and Service. World Bank. January. http://siteresources.worldbank.org/INDIAEXTN/Resources/Reports-Publications/366387-140691677823/WorldBank_BG_Urban_20Feb06.pdf.

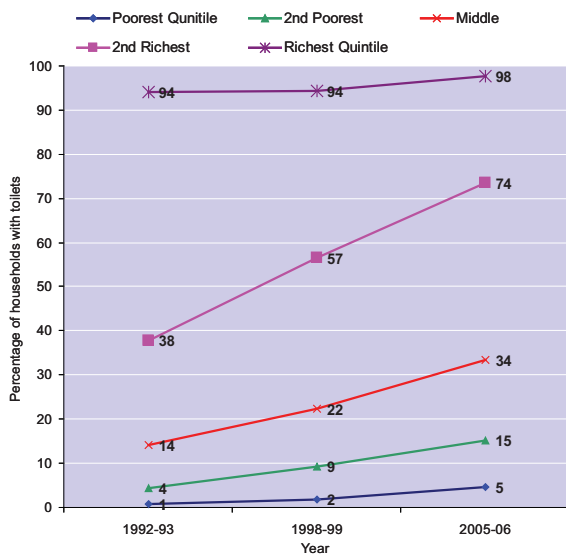


ADB Photo Library

Provision of toilets connected to biogas digesters has helped communities gain access to sanitation and an inexpensive energy source

This section provides a number of recommendations for policy makers and project designers and implementers in approaching India’s considerable sanitation challenges. The focus here is on household sanitation, including the safe disposal of human excreta, as measured by household ownership of a sanitary latrine,²³ and household access to drainage facilities.²⁴

Figure 1: Wealth-based differentials in the progress of households with toilets (%)



Source: National Family Health Surveys of India, 1992–1993, 1998–1999, 2005–2006.

A. Successful pro-poor sanitation programs must be scaled up

As clearly shown over the past decade in India, increased investment is only part of the challenge—it does not guarantee that the poorest will be reached. With a handful of sanitation projects successfully implemented for India’s urban and rural poor, the challenge now is to scale up models to a level where they make a real and lasting impact at the national level.

Despite the significant efforts of the government and many NGOs to target them over the past two decades, poor households are still lagging far behind. The ADB study shows that sanitation services for the lowest income group improved the least between 1992–93 and 2005–06. Instead, much of the advances have been enjoyed by the middle and upper-middle classes (Figure 1). Thus, governments and the international community must now fully focus their attention on those sections of society that cannot provide for their own needs under existing service delivery systems.

²³ Based on data from past three National Family Health Surveys: April 1992–September 1993 (NFHS-1), November 1998–December 1999 (NFHS-2), and November 2005–August 2006 (NFHS-3).

²⁴ Based on data from 60th round of the National Sample Survey (January–June 2004), which sampled 73,868 households containing 385,055 individuals.

B. Investments must be customized and targeted to those most in need

According to new World Bank estimates, some 456 million Indians (or about 42% of the population) still live below the international poverty line of \$1.25 per day.²⁵ Realistically, not all of the poor can be assisted by India's target of 2012. Thus, decision makers must prioritize investments and make public policies and expenditures more efficient to target those most in need.

Empirically-driven research is vital in this effort. Socioeconomic background characteristics (e.g., residence, caste, education status, religion) affect access to household sanitation and drainage, either by influencing differentials in public policy (e.g., state of residence, urban/rural residence) or by shaping the cultural attitudes towards using public or household facilities.

The ADB study revealed that certain areas and population groups in India have greater resistance to adopting household sanitation facilities than others. The results, summarized below, can help designers of sanitation programs target certain population groups, gain insights on how sociocultural factors may be hindering progress, and customize interventions by taking these factors into consideration.

- State-level differentials.** States that have low coverage for both household sanitation and drainage tend to be the relatively poorer states clustered in central and eastern India, including Andhra Pradesh, Chhattisgarh, Jharkland, Mhadya Pradesh, Orissa, and West Bengal. Other states with relatively low levels of sanitation and drainage service include Himachal Pradesh, Gujarat, and Rajasthan in the northwest; and Tamil Nadu in the south.²⁶ Conversely, many of the states with the highest coverage of toilets and drainage are located in the northeast.²⁷ These states are also relatively poor, which suggests that a low level of economic development does not necessarily present an insurmountable barrier to address sanitation challenges.
- Religion-based differentials.** Religion-based differentials are also significant. Hindu households have the lowest percentage of households with a toilet (41%), followed by Muslim households (60%). Christian and Sikh households fare much better, at 70% and 74% respectively. It is also worth noting that, of the ten poor performing states listed above, eight of them have Hindu populations exceeding 88% of their total populations. Hindus account for 80.5% of the total population in India.²⁸
- Caste-based differentials.** Scheduled castes (SCs) and scheduled tribes (STs), which include some of the most disadvantaged groups in India,²⁹ both suffer from poor household sanitation and drainage. ST households have the lowest ownership of toilets—only 18% in 2005–06. Moreover, only 23% of ST households have access to any form of drainage. This is likely due to a high degree of inequality in access to basic drainage facilities associated with dispersed hamlets and remote rural and forest areas. SC households fare slightly better, with access at 32% for toilets and 46% for drainage.

²⁵ Chen, Shaohua, and Martin Ravallion. 2008. *The Developing World is Poorer Than We Thought, But No Less Successful in the Fight Against Poverty*. World Bank. Policy Research Working Paper 4703. Washington, D.C. August.

²⁶ In all of these states, less than 60% of households have access to a toilet facility and less than 50% have access to some form of drainage.

²⁷ In all of these states, at least 85% of households have access to a toilet facility and at least 65% have access to some form of drainage.

²⁸ Census of India, 2001.

²⁹ SCs and STs are population groupings that are explicitly recognized by the Constitution of India, and otherwise known as untouchables. SCs/STs together comprise over 24% of India's population, with SCs at over 16% and STs over 8%, as per the 2001 census.

- Education-based differentials.** Education-based differentials in households lacking toilets are large and continue to persist over the last decade. Households whose heads of household are illiterate have the least access to toilets—77% in 2005–06. Unlike wealth- and caste-based differentials, progress in access to toilets by various household education categories appears uniform over the last decade.

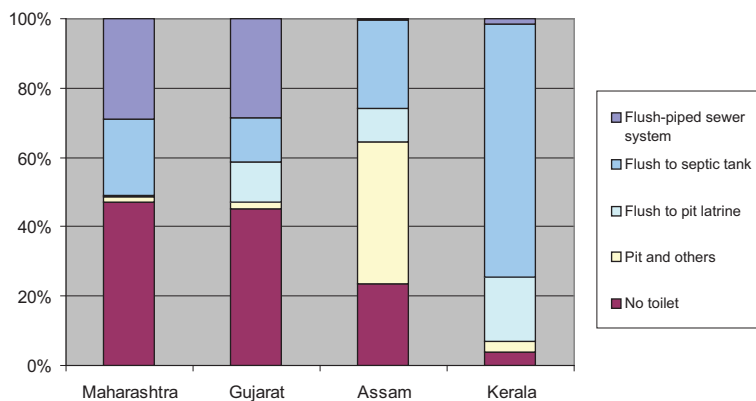
These results might suggest certain directions for sanitation programs. For instance, in prioritizing investments, programs might consider targeting those states that are lagging the furthest behind, such as Chattisgarh and Orissa. To be successful, it is also clear from the results that programs must take into account cultural factors and high levels of illiteracy.

C. Cost-effective options must be explored, guided by proper planning

The ADB study also revealed that those states that have implemented affordable and sustainable sanitation options have higher rates of coverage for household sanitation and drainage.

Figure 2 compares Assam and Kerala states with Maharashtra and Gujarat, two of the richest states in India (in terms of gross domestic product per capita). In both Maharashtra and Gujarat, nearly 30% of the households have access to a flush toilet with a piped sewer system, but both states also have a high percentage of the population with no toilets. Conversely, both Assam and Kerala use lower-cost solutions, such as pit latrines, to achieve much higher rates of coverage. Thus, by adopting low-cost solutions Assam and Kerala managed to increase toilet coverage despite economic hurdles.

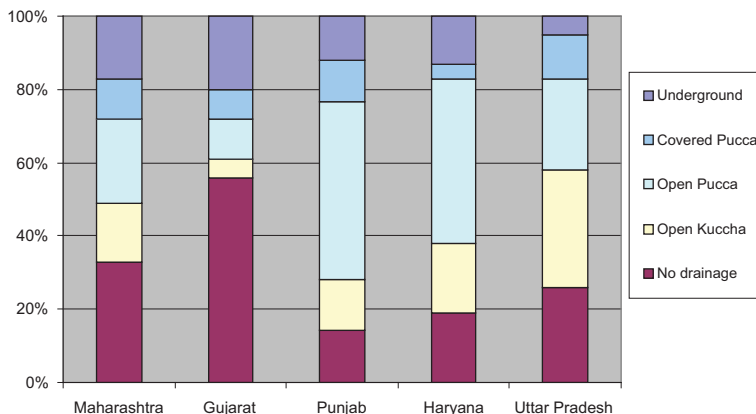
Figure 2: Access to different types of toilets (2005–06)



Source: National Family Health Surveys of India, 2005–2006.

Figure 3 offers another comparison involving Maharashtra and Gujarat. These two states lead India in the percentage of households served by underground drainage systems. And yet, these states also leave a much higher percentage of their populations without any form of drainage compared to those states that have pursued less advanced (but cheaper) options, such as open *puccas* (channels with concrete lining drainage systems). In the three other states listed—Haryana, Punjab, and Uttar Pradesh—more than 70% of the households are served by some form of drainage system.

Figure 3: Access to different types of drainage (2004)



Source: National Sample Survey of India, 60th Round (January to June 2004). National Sample Survey Organization in India. Note: Open *kuccha*=mud drainage with no concrete lining; *pucca*=channels with concrete lining drainage systems.

These findings suggest that sanitation programs in India should consider pursuing

appropriate lower-cost solutions that cater to a wide range of the population within current fiscal constraints. In the worst slums, even technologically scaled-down approaches, like cheaper forms of sewerage, can be too expensive and impractical.³⁰

Given that most communities have limited resources, the conventional wisdom is that a phased-development approach is ideal. The further one goes up the “sanitation ladder,” the greater the benefits for people and the environment. As economic growth permits, communities can then gradually improve the quality of sanitation services with higher-cost options.

To accomplish this, local governments must change their current mindset. Many still view sanitation investments as too costly and not sustainable or replicable. Worse, some still believe that substandard interventions are all that is possible.³¹ In urban areas, local governments may also disregard squatter settlements, which absorb much of India’s growing urban population. They are often omitted from demographic statistics and town plans. As a result, slum communities do not have tenant rights and are “not allowed” to invest in proper sanitary facilities, even if they have motivation and capacity.³²

The first step is to provide basic sanitation—or toilets. As mentioned earlier, these must ensure hygienic separation of excreta from human contact, which means feces must be confined until they are composted and safe. Regardless of the toilet technology selected, these systems must also address sanitation all the way “from toilet to river,” meaning that pathogens and pollutants cannot be allowed to enter nearby water sources, including aquifers.

This is where sanitation becomes particularly challenging, as affordability and environmental cleanliness are often at odds. The simplest option—a pit latrine—must be moved or emptied regularly, which is a difficult prospect in crowded areas. Pour-flush latrines require that an ample water supply is readily available, as well as properly-constructed septic tanks, drainage to carry away the wastewater, and services for eventually dealing with the collection of sludge and transfer to a septage treatment facility. These requirements greatly add to front-end and ongoing costs.

Given these challenges at the lower end of the ladder, this paper suggests that sanitation programs that target the poor in India should consider jumping a number of rungs directly to composting toilets, which use microorganisms to break down the waste into organic compost or manure. There are many advantages of going this route, including reuse of the compost as a soil conditioner, reduced use of chemical fertilizers, reduced pollution of groundwater, and lack of dependence on water. However, skilled labor is required for the construction and the front-end costs tend to be more expensive than other options down the ladder.

Public facilities can also be part of a hygienic and affordable solution to India’s sanitation problems, despite the fact that the MDG sanitation target does not count shared facilities as an improvement and the widely held perception that public facilities cannot provide a safe sanitation option for poor communities. The key is ensuring proper management and cleanliness of these facilities (see Box 1).

³⁰ UN-Water, op cit.

³¹ Dueñas, Christina. 2005. *Water Champion: Joe Madiath - Championing 100% Sanitation Coverage in Rural Communities in India*. November. www.adb.org/Water/Champions/madiath.asp.

³² Nair, op cit.



M. Ebarvia

There are technologies, such as engineered reed beds and duckweed ponds, that provide low-cost wastewater treatment and reuse solutions

Regardless of the technology selected, making sanitation improvements in any community requires careful planning and concerted investment efforts between households and governments. Lacking proper coordination, some investments can become very wasteful and redundant. For instance, the disposal of contaminated wastewater in densely populated areas is both expensive and technically challenging, while the prospects for charging for this service are limited. Thus, if water services are introduced in an area without a proper drainage and sewerage system, there will be no way to take away the volumes of dirtied water.

For up-and-coming communities, it may be possible to leapfrog lower-cost options by connecting toilets to a sewerage or a combined sewer-drainage system with wastewater treatment facilities. In those cases, user fees for capital plus operations and maintenance costs must be built into the project cost and approval process so that the wealthy pay for services that cannot be provided universally otherwise.

The choice of on-site wastewater treatment systems versus off-site systems must consider population densities and investment capacities.³³ Reuse of treated wastewater (e.g., water supply for flushing toilets, watering plants/gardens, and irrigation) should also be considered.

Finally, stakeholders must remember that the supply of latrines and toilets by themselves will not improve health. All members of the community must regularly use them and also wash their hands after use to break the fecal–oral cycle in the spread of disease.

³³ Bonu, Sekhar and Hun Kim. 2009. op cit.

D. Community-based solutions are the most effective

The study results also suggest that India's sanitation problems lie not just on the lack of facilities or funding, but on cultural attitudes and behavior towards hygiene. In the areas where open defecation is the norm, such as in many large Hindi states, people must make a radical shift in their cultural practice of disposing human waste and learn to take charge of their water supply and sanitation needs, without waiting for the government to provide everything.

In many poor slums and rural villages, it is difficult to convince people to stop open defecation and try using indoor facilities, along with other hygienic practices (e.g., washing of hands, safe preparation of food). A combination of factors traps them into this practice, including tradition, lack of awareness about the importance of sanitation, and misconceptions about the costs involved.³⁴ In addition, communities must learn that technologies, even simple ones, are not the monopoly of engineers and technocrats, before they have the confidence to use and manage their sanitation problems.³⁵

For policymakers and program implementers, experience has shown that information, education, and communication (IEC) campaigns involving communities and grassroots organizations can accelerate the process of change and hasten the adoption of sanitary practices. These efforts must include addressing sociocultural attitudes toward owning a household toilet. In many cases, this will require educating SCs and STs, many of whom are illiterate, about the need to use latrines and the importance of hygiene.

In this effort, it is important to understand that much of the demand for latrines comes from women, as they are the worst sufferers due to non-availability of these facilities. Women have, by far, the most important influence in determining household hygiene practices and in forming habits of their children.³⁶ Thus, the social marketing of many sanitation programs often start with making house-to-house contact to educate and motivate women in target communities. Messages that appeal to the need for privacy and the social stigma of open defecation have been shown to work.³⁷

Some of the more successful efforts focus on empowering people to analyze their own environment, instead of prescribing the right latrine models or telling people up front that their behavior is unhygienic. This grassroots approach of CLTS helps residents recognize that they need sanitation facilities; that they should mobilize themselves to build their own toilets; and that everyone in the village needs to contribute to make the effort successful, including planning, implementation, and monitoring.³⁸

One innovation is socialized community fund-raising, which has been implemented with great success by Gram Vikas, an NGO that works with the rural poor to improve sanitation (see Box 2). Through its Rural Health and Environment Program (RHEP), the NGO has helped more than 200 rural villages in Orissa acquire good quality toilets and bathrooms, coupled with at least

³⁴ Dueñas, Christina. 2009. *Country Water Action: India - Changing the Sanitation Landscape*. February. www.adb.org/Water/Actions/IND/Sanitation-Landscape.asp.

³⁵ Dueñas, Christina. 2005, op cit.

³⁶ Jha, Dr. PK, op cit.

³⁷ ADB. 2006. *Planning Urban Sanitation & Wastewater Management Improvements. Appendix 3: Some Global Case Studies*. May. www.adb.org/Water/tools/Planning-US-WSS.asp.

³⁸ Tigno, Cezar. 2009. *Country Water Action: Bangladesh - Breaking a Dirty Old Habit*. January. www.adb.org/Water/Actions/Ban/Breaking-Dirty-Habit.asp.

three taps per household and 24-hour water supply. Most of these villages are tribal and dalit, really the poorest of the poor, which makes their success all the more incredible.³⁹

E. Innovative partnerships must be forged to stimulate investments

To help realize higher levels of service coverage and quality, sanitation programs must stimulate investments from as wide a range of sources as possible, including consumers themselves and the private sector. Successful public-private partnership (PPP) models can help overcome the limitations of local governments, which are under tremendous pressures in view of rapid urbanization and fast-growing slum and low-income populations.

In the sanitation sector, partnership arrangements between the public and private agencies, with the involvement of community networks, such as NGOs and CBOs, have proven to be successful.⁴⁰ In India, these private sector partners will mostly be local, since transnationals will not be interested in much beyond a few major cities.

Several Indian NGOs have actually crossed over to become formal private operators while retaining their NGO character. For instance, in 1999, the Pune Municipal Corporation (PMC) implemented a citywide sanitation program for 500,000 people. Only NGOs were allowed to bid for the project to ensure that the community participated in the construction, design, and maintenance of block toilets. PMC remained a facilitator, and communities handled the major decisions. The project, implemented within budget and on schedule, was successfully replicated in Mumbai.⁴¹

Perhaps the best example of an Indian NGO taking on a private sector role is offered by Sulabh International. The NGO enters into interventions and activities in collaboration with municipalities and other public agencies and earns profits in the process. It reinvests its profits only into the company, not in the market, and subsidizes the exceedingly poor communities that cannot afford to pay for their toilets.⁴²

Box 1: Sulabh International's Pay-and-Use Approach

Sulabh plays the role of a catalyst and a partner between the official agencies and the users for the construction, operation, and maintenance of public sanitation facilities. As part of this arrangement, the cost of construction is met by the local body, while Sulabh agrees to a maintenance guarantee of not less than 30 years.

The NGO makes this arrangement financially viable through user's charges—it charges 1 rupee per use of toilet or bath and the use of urinals is free (vulnerable and poor people, such as physically handicapped, aged, and street children, are allowed to use the services for free). Sulabh has found that cleanliness is the single biggest factor influencing the extent of service coverage. Thus, its management practices include round-the-clock management by caretakers and sweepers and continuous availability of power, water, and soap powder.

Sulabh does not depend on external agencies for finances, relying instead on internal resources. For those toilet complexes that are not self-sustaining (usually those located in slums and less developed areas), the maintenance costs are cross-subsidized from the income generated from toilet complexes in busy and developed areas. If there is leftover money, they spend it on sanitation-related activities and on welfare programs, such as children's education and training of women scavengers.

Box 2: Socialized Community Fund-Raising in Orissa

Over the years, the NGO Gram Vikas has pioneered mechanisms that ensure building sustainability in water and sanitation, centered on the Indian state of Orissa. Socialized community fund-raising is one of their hallmark strategies. Except for the initial social costs, the community shoulders all the expenses. Villages cofinance projects through a "corpus fund" of 1,000 rupees, which the community must raise. This corpus is actually an acid test to see if people can set their differences apart and work together.

A family's contribution to the corpus fund is determined by their economic capacity, with the poor giving lesser contributions. The fund is put in an interest-earning deposit and the interest is used for operations and management, and for extending support to new families in the village. Through the funds, the NGO has been able to leverage additional resources. Gram Vikas has also started using it as collateral to source more funds from financing institutions, and have used them to start village industries so that there is no unemployed person in the village.

Source: V. Srinivas Chary, A. Narender, K. Rajeswara Rao. 2003. *Serving the Poor with Sanitation: The Sulabh Approach*. 3rd World Water Forum, Osaka, 19 March 2003. PPCPP Session.

³⁹ ADB. 2006. *Bringing Water Supply and Sanitation Services to Tribal Villages in Orissa the Gram Vikas Way*. April. www.adb.org/water/actions/IND/gram-vikas.asp.

⁴⁰ V. Srinivas Chary, A. Narender, K. Rajeswara Rao. 2003. *Serving the Poor with Sanitation: The Sulabh Approach*. 3rd World Water Forum, Osaka, 19 March. PPCPP Session.

⁴¹ ADB. 2007. *Dignity, Disease, and Dollars: Asia's Urgent Sanitation Challenge*. www.adb.org/water/operations/sanitation/pdf/dignity-disease-dollars.pdf.

⁴² Dueñas, Christina. 2003. *Water Champion: Almud Weitz - Breaking Barriers in Serving the Urban Poor*. July. www.adb.org/water/champions/weitz.asp.

Among its many innovations, Sulabh has adopted a pay-and-use approach to maintain some 7,500 community complexes it has constructed to cater to the poor and low-income sections (see Box 1). In so doing, Sulabh International has proven that poor slum communities are willing to pay for improved water and sanitation services and that such operations can be financially viable.

To ensure greater service coverage while incorporating social reforms, there is a need to promote similar organizations and PPP arrangements that involve a collaboration of governments, local bodies, NGOs, communities, and international agencies. It is also important that promoters of social reforms gain the trust of the people and cultivate their partnership.

In this effort, sanitation programs should consider increasing their advocacy and training for water utility providers and regulators on incorporating pro-poor elements in future contracts and regulation. The commitment of political leaders and the cooperation of public agencies is a key factor in formulating, implementing, and sustaining such partnerships.

They can also continue urging governments to either fix the procurement and regulatory frameworks before entering into contracts or, at the least, make sure that the baseline assessment of services is as accurate as possible. That way, parties can avoid unrealistic expectations and the need to scale down and revise targets immediately thereafter, which creates an atmosphere of continuing mistrust rather than cooperation or partnership.⁴³

⁴³ Dueñas, Christina. 2003. op cit.



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Pay-and-use toilets: User fees have to be collected to ensure cleanliness and maintenance of the facilities



ADB Photo Library

Substantial financial commitments for sanitation projects in both rural and urban communities have been made by the Government of India as part of its Total Sanitation Campaign

This discussion paper has provided a number of recommendations to help future sanitation programs forge a new path to provide sanitation for India's urban and rural poor. It has shown that these programs must involve more than just constructing new facilities for a given number of people. They must also include efforts to build momentum behind sanitation and hygienic behavior by mobilizing consumer demand in different settings.

Sanitation programs must also use a menu of different approaches, such as financing at the household level and a range of affordable sanitation options for potential consumers. This may require working with a range of new partners, including public health officials, grassroots organizations, and private sector, something that should not be seen as a deterrent.

For ADB, helping India meet this challenge comes at the right time. Recognizing that poverty will never be alleviated without realizing the huge health and economic benefits of improved sanitation, ADB has stepped up its efforts to catalyze investments in the sector.

Already, the share of sanitation projects in ADB's water lending portfolio has doubled, from an average of 4.5% in 2003–2007 to 8% in 2008–2010. ADB also recently committed 20% of its Water Financing Partnership Facility (WFPF)⁴⁴ to sanitation investments, taking on the more comprehensive “from toilet to river” approach, which highlights not just household sanitation but wastewater treatment and environmental sanitation as well.

⁴⁴ The aim of the Water Financing Partnership Facility (WFPF) is to access additional financial and knowledge resources from development partners to support the implementation of ADB's Water Financing Program which seeks to double ADB's investments in the water sector.

Along with greatly increased funding and technical support commitments, ADB is also beginning to shift toward a more demand-driven approach to sanitation that is consistent with the sanitation movement in India.

The way forward is clear—to provide people, including the poor, with increased choices over what investments to make, how they are organized and paid for, and how services are run and maintained once access to facilities is improved. Only then will India achieve “sanitation for all.”



ADB Photo Library

Communication, education, and working with the community as partner are key aspects to stimulate demand for sanitation

India's Sanitation for All: How to Make It Happen

Providing environmentally safe sanitation to millions of people is a significant challenge. The task is doubly difficult in a country where the introduction of new technologies can challenge people's traditions and beliefs.

This report examines the current state of sanitation services in India and offers six recommendations that can help key stakeholders work toward universal sanitation coverage in India: scaling up pro-poor sanitation programs, customizing investments, exploring cost-effective options, applying proper planning and sequencing, adopting community-based solutions, and forging innovative partnerships.

About the Asian Development Bank

ADB's vision is an Asia and Pacific region free of poverty. Its mission is to help its developing member countries substantially reduce poverty and improve the quality of life of their people. Despite the region's many successes, it remains home to two-thirds of the world's poor: 1.8 billion people who live on less than \$2 a day, with 903 million struggling on less than \$1.25 a day. ADB is committed to reducing poverty through inclusive economic growth, environmentally sustainable growth, and regional integration.

Based in Manila, ADB is owned by 67 members, including 48 from the region. Its main instruments for helping its developing member countries are policy dialogue, loans, equity investments, guarantees, grants, and technical assistance.

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