Rural sanitation in Andhra Pradesh

Some progress on toilets… much less on use

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November 2011

Briefing Note Sanitation

Summary of key points

- Research in Andhra Pradesh shows that fewer than one in four rural families has a household toilet.
- Use of toilets is even lower than possession. The toilet is used by every member of the family only in one rural family in ten. In seven out of ten households open defecation is the norm for the whole family.
- The Nirmal Gram Puraskar (NGP) award system[1] increases the use of toilets in prize-winning villages but does not sustain open-sanitation free status. Only one of 21 NGP villages studied remained open defecation free. In seven NGP villages more than half of families were again defecating in the open.
- The health benefits of sanitation depend on universal use and improved hygiene. Pre-and post-construction promotion and hygiene education need to be better sequenced and coordinated in Andhra Pradesh.
- Non-availability and closure of school toilets is jeopardising the opportunity to educate and protect the next generation.
- Research into village structures shows that the vast majority of Water and Sanitation Committees exist in name only. They need to be re-energised and supported with financial powers and capacity building. Women, who lead the change to toilet use, are often excluded from decision-making.
- The closure of school toilets is unacceptable. The chance to educate and protect the next generation is being jeopardised.

Research was conducted by WASHCost (India) as part of the WASHCost project in four countries to research and understand life-cycle costs in the water, sanitation and hygiene (WASH) sector and relate them to service levels in communities. The aim is to enable decision makers and stakeholders to use life-cycle costing to improve planning, financing and decision making to deliver more sustainable, efficient and equitable WASH services.

1. NGP: Nirmal Gram Puraskar is an award given by the Government of India to a village that achieves open-defecation free status along with better solid and liquid waste management

Sanitation remains a significant development challenge for India

Proud of her toilet, but this family has converted it into a bathroom, so it can no longer be used for its intended purpose.

"Two decades of effort have produced a significant increase in the number of people with toilets... However, in seven out of ten households, open defecation is the norm for the whole family."

"Families that were convinced about toilets were willing to spend substantial amounts to secure a hygienic future for their families"

Sanitation is one of the biggest challenges in India's development, and one of its weakest links because failure has the potential to undermine health and economic progress. Despite a decade of effort by the Government of India and by state authorities, almost three quarters of the rural population still defecate in the open. Some of those who do so have a government subsidised toilet which they keep empty or use for storage.

The effects of poor sanitation are well documented. Unsafe sanitation and poor hygiene are critical factors in the epidemics of diarrhoea which bring death to children under five and blight the lives of millions. The economic losses for India have been estimated at US$ 600 million (Rs. 29 billion) a year (Water Aid 2009). Lack of clean and hygienic toilets in schools is a factor in ending education prematurely for adolescent girls (IRC 2004).

The Government of India and state authorities have worked hard to address these problems. In recent years, the Total Sanitation Campaign (TSC) has become the flagship programme designed to meet the target of the Millennium Development Goal to halve the number of people without access to safe sanitation by 2015. It is one of the largest sanitation programmes in the world, and India has backed this with innovation through the Nirmal Gram Puraskar (NGP) awards, which bring cash benefits to villages that achieve open-defecation free status. Despite these efforts the Government will not be able to meet its commitment to make India open-defecation free by 2012.

Two decades of effort have produced a significant increase in the number of people with toilets. The proportion of the rural population with access to a toilet doubled from 14% in 1990 to 28% in 2006. Access to sanitation across India reached 67% by September 2010 according to official statistics as reported in a study conducted for the Government of India (CMS, 2011).

However, the research shows that only 38% of rural families in Andhra Pradesh have household toilets and a further 3% shared a neighbour's toilet. In seven out of ten households open defecation is the norm for the whole family – men, women and children. Many household and school toilets stand unused, used for storage or abandoned.

The research also found that families that were convinced about toilets were willing to spend substantial amounts to secure a hygienic future for their families, amounts that far exceed what they receive in subsidy.

Sanitation cannot go on being India's dirty secret, nor should it be treated as the poor relation of or ancillary to water services. Tackling this challenge needs to be given a higher priority and a budget to match by the Government.

The life-cycle costs approach

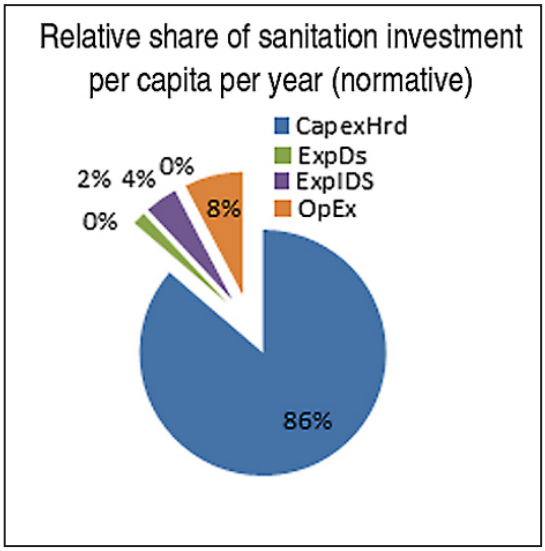


Figure 1: Relative share of sanitation investment per capita per year. 86% of all spending is on the capital costs of hardware. No expenditure has been recorded on CapExSft (planning and design) or CapManEx (large scale repairs and renewal).

The life-cycle costs approach (LCCA) promotes a way of analysing the costs of WASH services that takes into account past, present and future needs, covering every aspect of providing a service. When life-cycle costs are funded, services are expected to become more resilient and sustainable. By contrast, the current budgeting system focuses on capital engineering, with limited attention to maintenance or community support.

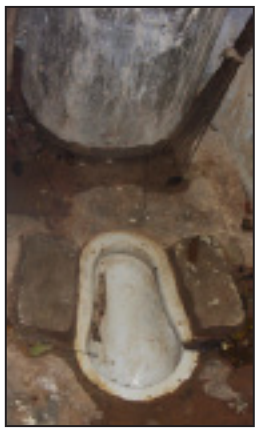
The capital cost of sanitation (CapEx) has hardware and software components. CapExHrd includes the infrastructure costs of the construction of individual sanitary latrines (ISLs), school and communal toilets, drainage systems and waste disposal systems. CapExSft (planning and design), is largely missing in Andhra Pradesh.

In the research villages, government capital expenditure on infrastructure ranged from US$ 7.4–24.7 (Rs. 358-1195) per capita with an average of US$ 16.2 (Rs. 784). On top of this, households receiving subsidy spent about US$ 13 (Rs. 629) while those not receiving subsidy spent about US$ 34 (Rs. 1646) per capita – 45%-68% of the total costs. This indicates that better off families (not receiving subsidy) spend far more than Government on toilets. However, the research found a wide range of costs between zones and villages.

Individual household latrines require day-to-day maintenance, and a supply of soap for handwashing (OpEx), and families spend about US$ 1.4 per capita each year on this. Direct support costs (ExDS) include the costs of promoting toilets and hygiene in communities, providing support to Village Water and Sanitation Committees and monitoring (by district or sub district staff). These are low at US$ 0.01 per capita per year. Indirect support costs (ExIDS) cover the costs of setting policy at a higher level and developing regulations for safe use, etc. These are estimated at US$ 0.03 per capita per year. The final component of the life-cycle costs (LCC) is the cost of capital (CoC), which includes interest on loans. As households meet a large share of the cost, many take out loans which are likely to have high rates of interest.

There has been a huge increase in the number of toilets built since 2001 but it is not clear how long they will last. Households are responsible for their upkeep and replacement, and for emptying the pit. The research found no indication that households were aware of the need to save against these occasional but significant capital maintenance costs (CapManEx), while sanitation budget allocations at State level do not provide for depreciation, capital maintenance or operation and maintenance. The current model fails to institutionalise capital maintenance and seems unlikely to result in sustainable services.

Households need to keep a supply of soap for handwashing.



Wasted resources. From the top toilets abandoned, used as a store for fuel, for building equipment and simply unmaintained.

Toilets – a private space and a public health shield

Sanitation is an intimate private practice with a public health impact. There is a strong personal interest in having a private, safe and convenient place to defecate. There is also a public sector responsibility to protect the environment and public health. The health benefits of sanitation and hygiene justify public investment, but are poor motivators for people adopting toilet use (Cross 2006). Washing hands with soap achieves the greatest reduction in water related diseases. Sanitation is effective only if practised by everyone and if toilets are adequately maintained. An increased volume of water near the home also has a benefit. UNICEF estimates that each $1 spent on sanitation saves $9 in health benefits (ibid).

A household responsibility

Toilets are regarded as a household responsibility in India, but there is a subsidy for capital costs to families below the poverty line (BPL). Between 2005 and 2007, almost a million individual household toilets were built with a subsidy in Andhra Pradesh. However, poor families must still find considerable sums as the subsidy alone is not enough. This may lead them to money lenders and unsustainable debt.

The 2700 rupee (US$ 56) subsidy represents 90% of the Government's norm for the cost of toilets – Rs. 3000 (US$ 62). But this estimate is unrealistic. WASHCost research data shows households spending much higher sums themselves ranging from Rs. 3500 to Rs. 30,000 (US$ 72-620) per toilet including labour[2]. The lowest cost toilets have the minimum facilities of pit, slab with a pan and asbestos sheet roofing. Costlier toilets have cement roofs, ceramic pans, tiled floors and overhead tanks for a water supply. Families that can afford to do so seem ready to invest in toilets (and bathrooms) as assets and improvements to their homes. WASHCost research shows that households constructing the toilets without subsidy spend three times more on capital costs when compared to the households receiving subsidy. This is true even in the case of operation and maintenance (OpEx) costs. These findings are supported by other research. In NGP villages across 12 states the mean cost of a toilet was Rs. 7030 (US$ 145) and households paid more than 60% (CMS 2011).

Subsidy is sometimes in the form of equipment of basic quality leading to constructions perceived by households as inferior. Many of these toilets are not being used. WASHCost research teams observed half-built, poorly built and abandoned toilets used for storage or animals. The NGP study (CMS 2011) found a similar level of deficiencies. Only 26% of households in these exemplar villages were considered to possess a "functional" latrine.

The Government should consider options for the best use of public money, including the possibility of low interest or no interest loans to replace subsidies, recognising that a good quality and easy to maintain toilet costs more than US$ 100.

2. Note that these are the costs per toilet - figures given on Page 3 were costs per capita.

A rising budget — but a declining share of India's prosperity

The Total Sanitation Campaign has made a difference. Between 2002-03 and 2008-09, the annual budget allocation for the WASH sector increased in real terms by two thirds (67%) to US$ 3,393 million (Rs. 164 billion). However, this represents a large fall in the share that the WASH sector receives of a rising national budget. The WASH share of GDP fell by more than half and only 4% of the WASH budget goes into sanitation and hygiene. Sanitation and hygiene are seen as the responsibility of households rather than the government.

Unused toilets in schools – a poor lesson for the children

Nowhere is the neglect of information, education and communication (IEC) more obvious than in the failure to engage the young.

Between 2006 and 2009 more than 52,000 school toilet blocks were built in Andhra Pradesh. Yet when WASHCost researchers asked to see the school toilets in 29 study villages only three were being properly used. Most were kept locked.

One headteacher said that they had no funds to provide Ayahs (helpers) to clean and maintain the toilets and parents "started fighting with us" when the school gave the responsibility to the children. "Locking the toilets was the best option as we are busy with our academic duties" (Snehalatha and Anitha 2010).

The RWSS is responsible for building school toilets which are then handed over to the schools, under the Department of Education. There is no coordination between the departments for training and support.

The use of toilets should be a basic part of education in Anganwadis (child care centres) and schools. If children are denied access to clean toilets, along with hand washing facilities and hygiene education, then basic education is incomplete. These failures threaten to derail the total sanitation programme.

School toilets - built with public money but inaccessible to the children.

"Locking the toilets was the best option as we are busy with our academic duties"
Headteacher

Figure 2: Service ladder for sanitation

Service level	ISL Access	ISL use	Reliability	Environmental protection
Improved	More than one toilet (to meet needs of larger families)	All the family members use the toilet& infant faeces is disposed of in the toilet	Rs 1000+ spent on O&M (US$ 20.7)	Drains and dumps are well maintained. In addition solid and liquid waste is re used
Basic	One Individual sanitary latrine (ISL)	All the members of family use the toilet	Rs 500+ spent on O&M (US$ 10.33)	Drains are well maintained. Dumps used for solid disposal
Limited/ Sub-standard	Shared	Some family members use the toilet	Rs. 1-500 spent on O&M (US$ 0.02 – 10.33)	Drains exist but are poorly designed and maintained. Dumping area for solid waste exists but is not used
No service	No ISL	The whole family practises open defecation	Households did not spend anything on O&M	No solid or liquid waste management

The level of service is what counts

The quality of a bus service is not judged by the number of buses parked in the depot, especially if passengers are left stranded at the bus stop. It is equally illogical to measure success in sanitation by the number of toilets that have been constructed, regardless of use.

In place of this, a service delivery approach focuses on whether people actually access and use toilets. The WASHCost Project devised a service level ladder to monitor the actual levels of service received. Criteria for assessing service levels are:

- Accessibility: Does the household have a toilet? Do they have to share?
- Use: Is the toilet used by every member of the family, some or none? Are the faeces of infants disposed in the toilet?
- Reliability: To assess the reliability a proxy indicator of how much money spent on maintaining toilets was used.
- Environmental protection: – Is faecal matter polluting groundwater? How are solid and liquid waste managed?

Analysis reveals that only 38% of families had a toilet (basic access) and 59% had no service (meaning they had no toilet within the house / in the compound). A further 3% had limited access meaning that they shared a toilet.

Level of toilet usage is very low

The usage figures are still worse. Only in one in eight households (12%) did all family members use the toilet (basic service), in one in five (22%) some family members used the toilet (limited service) and two thirds (66%) had "no service" – which means that the whole family practices open defecation.

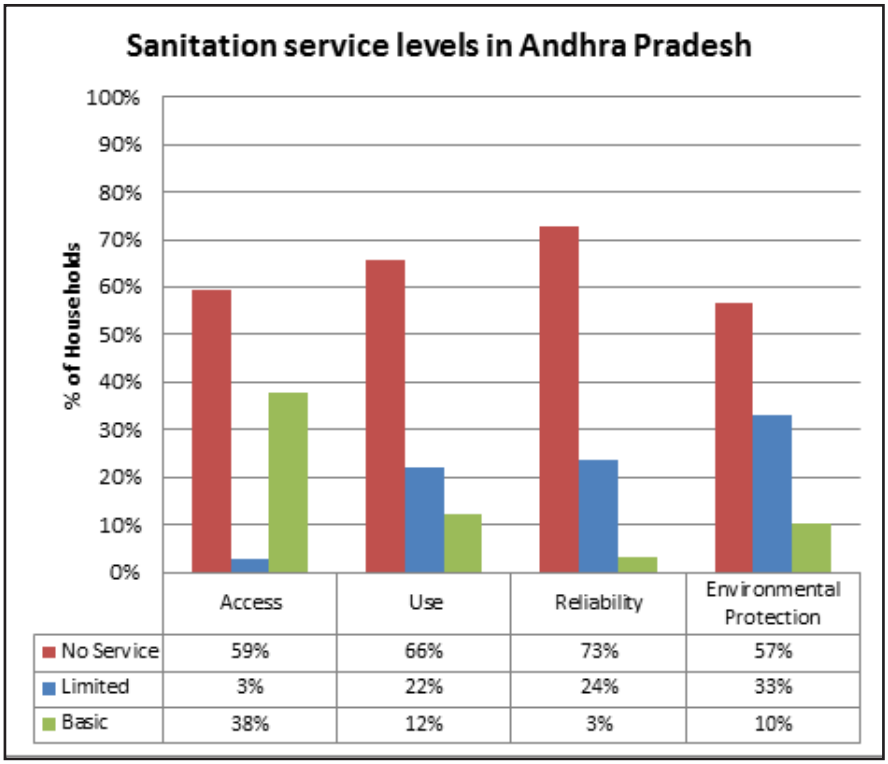


Figure 3: Sanitation service levels in Andhra Pradesh. The majority of families have 'no service' or 'limited service'

In most villages there is no service for emptying latrines or sewer lines. When the pit fills up, the fear is that households revert to open defecation.

Some households are put off from getting a toilet, because they fear it will become a source of smells, flies and pollution.

There are few data on reliability – especially because many toilets have been built recently. A proxy indicator has been used of money spent for maintaining toilets on a day to day basis. Almost three quarters (73%) of households were not spending anything on maintenance. To some extent this may reflect the low usage of toilets.

Most villages have a limited or no service for solid and liquid waste disposal and the research shows that only 10 per cent of households were able to dispose of their solid and liquid waste without potential pollution to the environment.

The overall picture of sanitation is therefore one where the effort put into encouraging and facilitating the construction of toilets is to some extent supported by the NGP programme to reward villages that become open defecation free and deal with solid waste. However, the fact that so many villages and families slip back from toilet use – a finding not only of the Andhra Pradesh research but also of research in 12 other states (CMS, 2011) – indicates that there is a huge task still on promoting and sustaining toilet use and allied hygiene, including hand washing and environmentally protective ways of disposing of solid and liquid waste. The implication is that more needs to be spent at State and Gram Panchayat level on direct support for communities, and there is a need for clarity on the need for households to meet cleaning and maintenance costs. A state policy is required on pit emptying, a cost which will be beyond many households, and state support for poorer families needs to be directed in such a way as to promote good quality toilets and sustained use.

‘Open-defecation free’ rewards create a success story with a sting in its tail

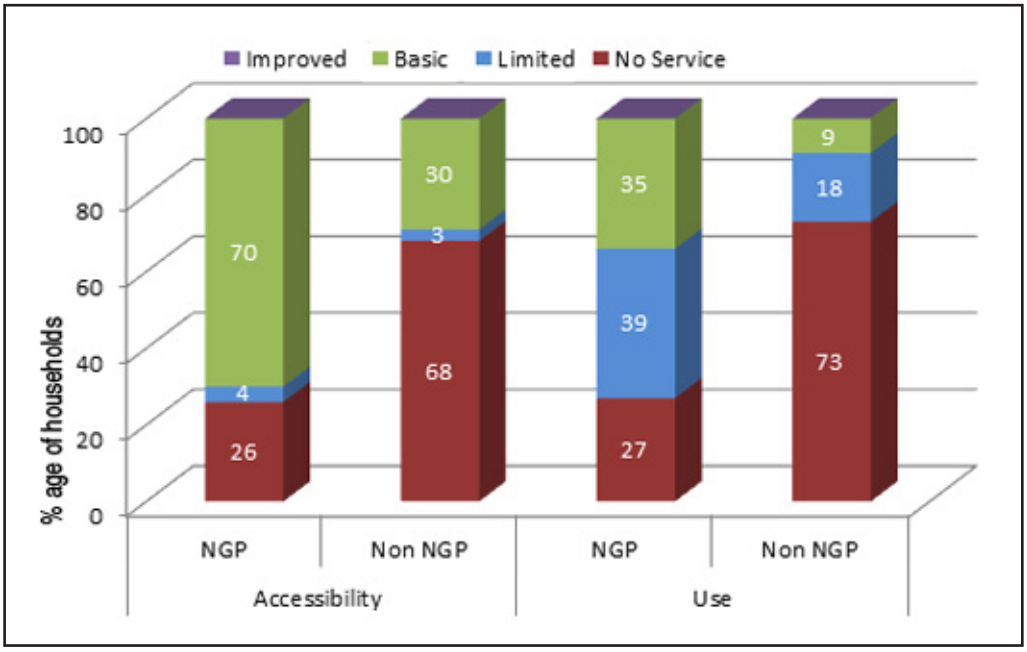


Figure 4: Differential access and use of toilets in NGP and non-NGP villages in Andhra Pradesh

In many ways the Nirmal Gram Puraskar awards have been a success in terms of access. In the WASHCost research sample of 21 NGP villages (out of 107 total villages) 76% of villagers had access to toilets – more than double the proportion of non-NGP villagers. Usage levels are 14% percentile points higher in NGP villages. However, NGP villages make up a small proportion of the whole and these villages do not represent the mainstream. In some communities a top down campaign by the Gram Panchayath results in poorly constructed toilets and no commitment. While tough measures have their place, public shaming, fines, locking people in toilets and stopping pensions does not represent a winning strategy.

“Open defecation has not disappeared from NGP villages … In a third of NGP families, some members defecate outside while in almost half, the whole family has returned to open defecation ”

It is little wonder that many NGP villages demonstrate ‘slippage’ where old habits reappear or indeed never went away. WASHCost research data shows that open defecation has not disappeared from NGP villages. Only one of a total of 21 NGP villages had maintained 100% toilet use. In a third of NGP families some members defecate outside, while in almost half, the whole family has returned to open defecation.

In the CMS study (CMS, 2011) that looked at 664 villages across 12 states, half of those questioned said there was an element of compulsion in their reason for building a toilet. The award is also supposed to cover solid waste management so that the village has a clean environment. But blocked drains and polluting rubbish pits mean that total sanitation is still some way off. At its best the NGP award can be a powerful social tool for change. However, payments could be phased to reward those who sustain 100% use while award money could be used for hygiene awareness and to sustain good practices after construction.

What makes people opt for toilets?

Dignity for women and children, concern for the elderly, the need for safety at night and protection from the weather are all drivers for sanitation. Many girls are not willing to get married, unless the husband's household has a hygienic toilet in place, and many parents felt the same.

Households were asked, during household surveys, what had motivated them to construct a toilet. Some of the common drivers can be summarised as:

- Convenience during wet seasons and at night
- Privacy
- Dignity and security of women and girls
- Needs of elderly people
- Improved social status

Changing centuries of practice requires large-scale community support. WASHCost carried out a review of transparency, accountability and participation in the study villages. Of 107 villages, of which 21 had the NGP award, fewer than one in ten were seen by residents to have a functioning water and sanitation committee. Levels of involvement are low or poorly perceived and rarely reach beyond the Gram Panchayath. Women could lead the way on toilet use, but are being sidelined, often excluded from discussion and decision making. Yet when they are given a chance to involve themselves, the WASHCost research showed that water, sanitation and hygiene are at the top of women's agendas (Fanaian and Chandrudu, 2011).

"Women could lead the way on toilet use, but are being sidelined, often excluded from discussion and decision making"

There is too little support for communities and what does exist is not sequenced. Successful sanitation campaigns need to motivate people to use toilets, train latrine builders, and offer further support on toilet use and hygiene after construction. That rarely happened in villages surveyed by WASHCost. Three quarters of the groups surveyed believed that no training had taken place.

There is a huge selling job to do in persuading people that using toilets and practising good hygiene will improve and even transform their lives, and this should be a priority policy, if the Millennium Goals are to be reached.

In Venkatapuram village in Andhra Pradesh Suresh (pictured) built a toilet at home to save his mother, Rangamma, (also pictured) from having to go outside. Since it was built, it has been emptied once at a cost of 3,600 rupees (US$ 74). Rangamma is delighted to have a toilet at home and very proud of her son for building it.

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