

BASIC SANITATION IN RURAL INDIA: ROADMAP FOR SWACHH BHARAT

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In developing countries, neither the Government, the local authorities, nor the beneficiaries can bear the total capital expenditure, and operation and maintenance costs of a sewerage system. Moreover, it requires skilled persons and good management for the long-term operation and maintenance. Similarly, the septic tank system is also expensive and requires large volumes of water for flushing. They also have other problems, like periodic cleaning and disposal of sludge. Inadequate effluent disposal is a source of foul smell, mosquito breeding and health hazards.

Environmental sanitation includes clean water supply, safe disposal of human waste, waste water and solid waste management, control of water-borne diseases, and domestic and personal hygiene.

Sanitation means not just keeping clean but protecting those sources of the environment which support sustainable development. Development programmes, innovative as they may be, are not likely to yield desired results unless environmental sanitation is improved and protected.

The Problem

Globally, 2.5 billion do not have access to basic sanitation, of which 1.1 billion still practice open defecation. The countries where open defecation is most widely practiced are mostly the countries with the highest numbers of under-five child deaths, high levels of under-nutrition and poverty, and large wealth disparities.

In 2010, the UN estimated based on Indian statistics, that 626 million people practice open defecation. It means, more than half of India's population does not have access to basic structured sanitation facilities. According to the 2011 Indian Census, 53 per cent of households do not use any kind of toilet or latrine. However, the effect of lack of sanitation facilities can be seen much more beyond open defecation. Over 28 per cent of Indian children (2.3 crores) under the age of six suffer from malnourishment and are underweight, a direct result attributed to poor sanitation.

Swachh Bharat Abhiyan

On October 2, 2014, Prime Minister Narendra Modi launched the Swachh Bharat Mission, which aims to eradicate open defecation by 2019, restructuring the Nirmal Bharat Abhiyan. The campaign was officially launched at Rajghat, New Delhi, where the PM himself took up cleaning the road. The aim of the nationwide cleanliness drive by 2019, the year that marks the 150th birth anniversary of Gandhi, who wanted to make sanitation a priority for India. The current drive aims to end the wide-spread practice of open defecation, build more toilets and improve waste management, among other goals.

The programme plans to construct 12 crore toilets in rural India by October 2019. The PM spoke of the need for toilets in his 2014 Independence Day speech stating, 'Has it ever pained us that our mothers and sisters have to defecate in open? Poor womenfolk of the village wait for the night; until darkness descends, they can't go out to defecate.'



What bodily torture they must be feeling, how many diseases that act might engender. Can't we just make arrangements for toilets for the dignity of our mothers and sisters?"

Problems of Sanitation in Rural India

In the developed countries, the standard practice for the sanitary disposal of human waste is sewerage. Due to financial constraints and exorbitant maintenance and operational costs, sewerage is not the answer at present to solve the problem of human waste management in India. In developing countries neither the Government the local authorities, nor the beneficiaries can bear the total capital expenditure, and operation and maintenance costs of a sewerage system. Moreover, it requires skilled persons and good management for long term operation and maintenance. Similarly, the septic tank system is also expensive and requires large volumes of water for flushing. They also have other problems, like periodic cleaning and disposal of sludge. Inadequate effluent disposal is a source of foul smell, mosquito breeding and health hazards.

Technological Intervention

Essayist believes a technological intervention is the answer to India's sanitation problem in rural areas. To this effect in 1968 essayist innovated a revolutionary affordable technology- the two-pit pour-flush toilet.

Sulabh Two-Pit Pour-Flush Compost Toilet

Sulabh flush compost toilet is eco-friendly, technically appropriate, socio-culturally acceptable, and economically affordable. It is an indigenous technology and the toilet can easily be constructed by local labour and materials. It provides health benefits by safe disposal of human excreta on-site. It consists of a pan with a steep slope of 25-28 degrees and a specially designed trap with 20mm water seal requiring only one litre of water for flushing, thus helping conserve water.

It does not need scavengers to clean the pits. There are two pits of varying size and capacity depending on the number of users and location. The capacity of each pit is normally designed for three years' usage. Both pits are used alternately. When one pit is full, the incoming excreta is diverted to the second pit. In about two years, the sludge gets digested

and is dry and pathogen free, thus safe for handling as manure. Digested sludge is odourless and is a good manure and soil-conditioner. It can be dug out easily and used for agricultural purposes. The cost of emptying the pit can be met partially



from the cost of the manure made available. Sulabh toilets can also be constructed on the upper floors of buildings. They have a high potential for upgradation, and can later be easily connected to sewers when introduced in the area. Sulabh has so far constructed over 15 lakh individual household toilets in different parts of the country.

Sulabh flush compost toilet does not cause water pollution. When constructed in homogeneous soil, bacteria, in general, do not travel more than three metres horizontally, and the seepage is not more than one metre vertically. So, as a precautionary measure, the toilet is built at a safe distance from the source of water, keeping the above points in view. No vent pipe is needed since the gas gets absorbed in the soil. The parameters change depending upon the coarseness of the soil and the type of terrain where the toilet is being constructed. Depending on the availability of space, the shape of pits may be designed. It fulfils all the seven conditions of a sanitary latrine laid down by the WHO. (Excreta Disposal for Rural Areas and Small Communities by E.G. Wagner & J.N. Lanoix, WHO, 1958, pp. 39).

Sulabh's Road Map for Rural Sanitation

The aim of Swachh Bharat Abhiyan is to build 12 crore toilets over a period of five years. That is almost one toilet every second. It seems like a mammoth task but with strategic planning and community mobilisation, it is not an impossible one.

Target

The target will be to make India open defecation free (ODF) by 2019. In India, there are 686 districts, 6849 blocks, 2.51 lakh panchayats and 6.46 lakh villages. The target to be achieved is construction of nearly 12 crore toilets.

Funds Requirement

Funds requirement will be ₹3,60,000 crores to build 12 crores toilets in three years. (with the cost of one toilet being ₹30,000, inclusive of cost escalation in three years. Therefore there will be no requirement of extra fund over and above, during the envisaged three years' period.)

Funds from Various Sources

- Contribution from beneficiaries
- Subsidy from the Government
- Bank loan
- CSR fund
- Donation from India, abroad, industries and affluent people.
- NRIs

Technology

The two-pit-pour-flush-compost-toilet technology was invented by the essayist. It is affordable, eco-friendly, indigenous and a culturally acceptable technology, popularly known as Sulabh-Shauchalaya (Sulabh toilet). It has been accepted and adopted by the Government of India as well as other countries like China, Vietnam, Bangladesh, South Africa etc.

Methodology

It will be a Centrally sponsored scheme and the Central Government, through its Ministry of Drinking Water and Sanitation, will place funds with about 1.25 lakh rural banks in India. The total number of panchayats is 2.51 lakhs. So, one bank will cater to the needs of two nearby panchayats.

Financing Pattern and Procedure

The implementing agency/agencies will be selected on the basis of their expertise, experience, infrastructure, financial turnover, management capabilities and any other condition/s the Government may decide upon.

Agency/agencies so selected will choose one person from each panchayat, to be known as motivator. This means 2.51 lakh motivators will be selected throughout the country for implementation of the programme. Apart from motivation, education and communication, the motivator selected from one panchayat, with the help of two masons and four labourers, will/should be able to construct minimum 20 toilets in a month and will subsequently follow-up the functioning of the toilet.

Construction of minimum 20 toilets in a month will mean 720 toilets in three years. There being 2.51 lakh panchayats, it would mean construction of more than 18 crore toilets in three years. Therefore, even if there are slippages in construction, attainment of target of construction of 12 crore toilet should be possible.

The motivator will motivate the beneficiary and after the latter agrees to get the toilet constructed in the house, will fill-up a form and authorise the agency to receive money from the bank on behalf of the beneficiary. After receiving the application and proper scrutiny the bank will give 50 per cent amount as advance to start the construction work. The bank will inspect the construction work and after satisfying itself that 80 per cent work of the received amount has been completed will then release another 45 per cent amount as advance and rest 5 per cent of the money will be released after the completion of the work after being so satisfied. The implementing agency will be given 15 per cent as implementation charge, out of which 10 per cent will be given to the local youth who will implement the project.

Review

After completion of the work the progress review should be conducted jointly by the bank, the beneficiary, implementing agency and coordinating agency. The completion certificate will be submitted to the bank signed by the beneficiary and the executing agency and the bank will adjust the amount after the inspection of the work done.

- Ten per cent of the families who have no toilets in their homes have been excluded from the

assistance because they are supposed to be rich people.

- About 54 million families have already been provided assistance or subsidy from 1986 when the cost of a toilet was ₹500 except few percentage or maximum are either non-existent or non-functional. The Government should consider giving them fresh subsidy, otherwise they will not be able to build toilets on their own within three years.
- At present, the Government of India is giving loan of ₹12,000 per toilet. This amount is not adequate to build good quality toilets. So, loans of up to ₹50,000 should be given to help achieve the target.
- The Government can provide ₹30,000 as a subsidy then there will be a chance to achieve the target 100 per cent.
- In India, there are 675 districts, 6,849 blocks, 2.51 lakh panchayats and 6.46 lakh villages. We have 16,057 companies whose profits are more than ₹500 crores. Depending on the capacity of the company, they can take up one village, one panchayat, one block or one district.
- Price of ₹30,000 per toilet has been calculated for three years, that is, up to 2019, keeping in mind the inevitable escalation in price. Thus, the company may like to donate a minimum of ₹30,000, the cost of one toilet, and so on and so forth. If there are 200 toilets needed in a village, the cost will come to ₹60 lakh. For one panchayat comprising of three villages, the cost will come to ₹1.8 crore. Similarly, the cost for covering a block or tehsil is ₹60 crore and for one district ₹600 crore. The Bharti Foundation has taken responsibility for one district—Ludhiana—and the company may decide whether it will take responsibility for one toilet, or for toilet in all homes of a village, a panchayat, a block, or a district. The work will be carried out in the name of your company or organisation. Before taking the decision, the company may like to interact with the people of the village for whom the work will be done.

Case study 1: Ludhiana

In Ludhiana district, in the northern Indian State of Punjab, Paramjit Kaur, 27, a mother of three children, just had a toilet built in her house and describes it as a precious gift.

With a monthly income of ₹6,000, the family had no means to build a modern toilet. Her family dwells in a tiny cluster with four other families, also with no toilets. The semi-concrete houses adjoin a dusty motorway with fast moving lorries and cars.

Paramjit narrates how her life changed drastically when a toilet was “gifted” to her. “I had to walk almost two kilometers, taking three little children with bottles of water just before day-break, crossing the highway far into the fields for relieving ourselves so that no one could notice us during dawn.”

She says it was a nightmarish and humiliating exercise as the owners of the nearby paddy farmlands would shoo and abuse if they were caught defecating in their fields. There was a constant threat of snake and rodent bites, and also the fear of unknown elements lurking in the dark.

This took a toll on the family’s health. “My children would fall sick with diarrhoea, cholera, fever, stomach infection or cold. We had high medical expenses almost every month. We never had the luxury to sleep, and even during the winters, we had to brave the chilly winds and the fog.” she says.

Answering the call of nature was further difficult if any of the family members felt ill. That meant relieving near the house and disposing the poo at a safer distance. There were other problems like children often getting late for school, which invited the ire of the teachers.

A few months back, the Bharti Foundation offered to construct toilets for her and her neighbours free of cost. The project is part of a ₹100 crore initiative with an aim to provide 12,000 toilets covering 900 villages in Ludhiana district. The toilets are being built and maintained by Sulabh International, a globally

renowned sanitation NGO with over four decades of experience in proving affordable two-pit pour-flush compost toilets.

Case study 2: Hirmathla

Hirmathla is a village in Mewat district of Haryana where Sulabh has undertaken promotion of sanitation awareness and construction of toilets for all inhabitants. Sulabh got financial assistance from the Rail Tel Corporation India Limited under its Corporate Social Responsibility Programme for construction of 100 individual household toilets.

Out of the total cost, the beneficiary's contribution was ₹3,000 and the rest of the cost was borne by Rail Tel Corporation for 100 units and for 36 units by Sulabh.

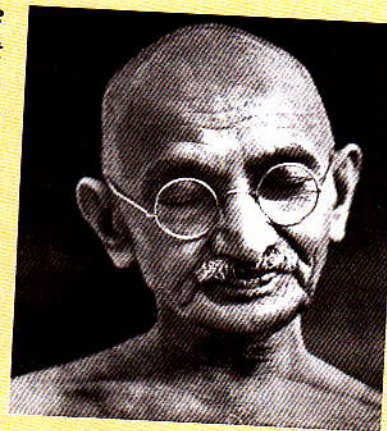
Every household in the village has a toilet now. Thus, the village has become free of open defecation. Having been declared a Nirmal Gram, Hirmathla has been awarded for the same. Sulabh has provided Total Sanitation Coverage in the village: construction of toilets for all individual households; creation of awareness for sanitation; promotion of health and hygiene programmes in schools; encouragement of women empowerment; and strengthening of Self-Help Groups (SHG) for monitoring and implementation of the sanitation and social plans.

Conclusion

Sulabh's approach is based on partnerships with local Governments, backed by community participation, and this has substantially improved environmental quality in rural and urban slums inhabited by poor people. Sulabh's system is never out of commission because there are two pits; so one can always be used while the other is being cleaned. The latrine can be built with locally available materials and is easy to maintain. It also has high potential for upgrading. Sulabh has also introduced 8,500 pay-and-use public toilets, staffed by an attendant round the clock. The public toilets include facilities for bathing and doing laundry and offer free services to children, disabled and poor people. As a result, more than 2 crores people have received improved, low-cost sanitation, and 50,000 jobs have been created. Sulabh's door-to-door campaigns also provide free health education to millions of people. The organisation trains local people to construct more latrines themselves, and has helped set up and maintain fee-based community toilets in slums and other areas. The extent and magnitude of the sanitation problem is tremendous and as an organisation, Sulabh with its family of more than 50,000 dedicated volunteers must rededicate their services to be equal to the challenging tasks.

(Author is an Indian sociologist, social activist and founder of Sulabh Sanitation and Social Reform Movement. He has received various national and international awards for his work in the sector. He can be reached at sulabhinfo@gmail.com.)

"... No one should spit or clean his nose on the streets. In some cases, the sputum is so harmful that the germs are carried from it and they infect others with tuberculosis. In some places, spitting on the road is a criminal offence. Those who spit after chewing betel leaves and tobacco have no consideration for the feelings of others. Spittle, mucus from the nose, etc, should also be covered with earth. Near the villages or dwellings, there should be no ditches in which water can collect. Mosquitoes do not breed where water does not stagnate. Where there are no mosquitoes, the incidence of malaria is low. At one time, water used to collect around Delhi. After the hollows were filled, mosquitoes were greatly reduced and so was malaria."



-Mahatma Gandhi

Navajivan,

Dated: November 2, 1919.