

Recent Advances Made in Achieving Basic Sanitation and Hygiene in India

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ABSTRACT

The low levels of sanitation in India make the country sites for a host of diseases. Cholera, dysentery, typhoid, paratyphoid, infectious hepatitis and many diseases caused by various types of worms in the body may be traced to human excreta. Some fifty infections can be transferred from a diseased person to a healthy one via direct or indirect excreta route. Disposing of human wastes in a manner which does not contaminate the environment and which further limits the likelihood of transmission of diseases from person to person is a very big problem in India. Open-air defecation has been accepted practice in rural India for generations. A Total Sanitation Campaign – a movement to attain universal rural sanitation coverage is launched by the Government of India and several NGO's adopted an integrated approach of self-sustaining sanitation in parts of India. Mr. Calvert from Kerala from western coast of India, achieved a positive headway in constructing a compost toilet. The Sulabh Sanitation Movement by Dr. B. Pathak using affordable remedies using a low-cost, pour-flush water-seal toilet with twin leach pits for on-site disposal of human waste revolutionized the country. The Government of India, Ministry of Rural Development has instituted national level awards and incentives for working towards total sanitation program. The increase in the coverage of rural sanitation from 1% in 1981 to 38 % in 2006 is very encouraging and the government is expected to accelerate it further to achieve universal coverage of all rural households with sanitation facilities by 2012.

Keywords

Sanitation, Compost toilet, Sulabh sanitation movement, Total sanitation campaign, Liquid fertilizer

INTRODUCTION

Pandit Jawahar Lal Nehru, the first Prime Minister of India once said in early fifty's that "the day everyone of us gets a toilet to use, I shall know that our country has reached the pinnacle of progress".

Health benefits from the heavy investments made in water supply in India have been severely limited due to lack of progress in sanitary waste disposal. Improper disposal of human wastes, half of which remain uncollected, denies majority of people an adequate standard of living and remains one of India's most serious public health problems. Lack of sanitation and a failure to promote hygiene and behavioural change are responsible for the transmission of diarrhoea, schistosomiasis cholera, typhoid and other infectious disease affecting millions of human beings. Millions of people suffer from parasitic worm infection stemming from presence of human excreta and solid waste in the environment. It is estimated that just one gram of excreta contains 10,000,000 viruses, 1,000,000 bacteria, 1,000 parasite cysts and 100 parasite eggs. Everyday approximately 200,000 MT of excreta is disposed in open area. Children carry upto 1,000 hookworms, roundworm and whipworms at time, that causes anemia and other debilitating conditions. Multiple infections with several different parasites, including hookworm, roundworm and amoebae are common and often contribute to nutritional deficiencies. Field experience and studies suggest that the sanitation problem is more severe in rural areas where a mere 3% of the population has access to sanitary

toilets. The urban areas, too, are not well placed. Nearly 20% of the population has an access to water-flush toilets connected to a sewerage system and nearly 14% enjoy water-borne toilets connected to septic tanks. This deplorable lack of adequate sanitation is responsible for severe health problems, to say nothing of the foul odours wafting through the air that diminish the quality of life for all in undeserved communities.

PROBLEM

Disposing of human wastes in a manner which does not contaminate the environment and which further limits the likelihood of transmission of diseases from person to person is a very big problem in India. Therefore, a total sanitation programme including the handling of drinking water, disposal of waste water, disposal of human excreta, disposal of garbage and animal excreta, home sanitation and food hygiene, personal hygiene and the environmental cleanliness is urgently required in India for creating a better and safe living environment.

INDIAN COMMUNITIES EMBRACE LOW-COST SANITATION SYSTEM

India is the world's second most populous country, with a population reaching over one billion. The country has made great progress in ensuring clean drinking water for all since independence in 1947 but lacked in providing sanitation to all. Sanitation is very important index of the socio-economic development of the people. Nearly 85 % of the people now covered. However, with regard to sanitation some 800 million people still either defecate in the open or use unsanitary bucket latrines or smelly public toilets. In the rural areas, open air defecation has been a regular practice since generations. This is true even in urban areas, where hardly 20 % of the population has access to water flush toilets connected to a sewage system and nearly 14 % enjoy water borne toilets connected to septic tanks or leach pits. In rural areas a mere 3% of the population has access to sanitary toilets. In-house latrine system is quite uncommon leading to most unhygienic conditions specially for the children which is a main factor responsible for the poor health of rural population specially the children. The deplorable lack of adequate sanitation is responsible severe health problems, to say nothing of foul odours. With the result nearly eighty nine out of a thousand infants die soon after birth and diarrhoeal diseases claim the lives of about a million children each year. The sanitation facilities are extremely poor and require lot of improvement to reduce prevailing water borne diseases like gastro-enteritis, malaria, diarrhoea, cholera, dysentery, typhoid, infectious hepatitis and many diseases caused by various types of worms in the body. Figure 1 shows a pit latrine that are widely used in India in urban as well as in rural areas in order to prevent faeces from contaminating the environment. but even this facility itself does not guarantee the isolation of faecal contamination and it can get into drinking water and food and thereby into the mouth, or directly from fingers into mouth. Multiple infections with several different parasites, including hookworms, roundworms and amoebae, are common and often contribute to nutritional deficiencies. Both health and social consequences of this deplorable state of affairs are especially harsh for women and girls. At the same time, incentives to tackle sanitation are often lacking.



Fig. 1 A widely used pit latrine

The deplorable practice of women removing night soil continues in many parts of India even today. The following Figure 2 is one such example of primitive practice of employing scavengers for removing night soil .



Fig. 2 Manual removal of the night soil

CHANGING HABITS AND MINDSETS

A multimedia campaign by the Government of India, State government / bodies and NGOs, aimed at changing the habits and mindsets of local people, local leaders and producers of sanitary ware, as well as school children who carry messages on hygiene has paid the dividend and helped in improving the existing latrines and sewage drains.

RECENT ADVANCES IN PROMOTING HYGIENE AND SANITATION

Dr. B. Pathak, an eminent action oriented sociologist, social reformer, environmentalist, and internationally known expert on low cost sanitation and production of biogas from human excreta, has brought about revolutionary changes in sanitation system Called “Sulabh Sauchalaya” – a low cost, pour-flush water seal toilet with twin leach pits for on-site disposal of human waste. It has now 700,000 units all over India which are culturally acceptable inasmuch as it remains free from filth and foul odours. Moreover, it does not require the services of scavengers. This organization in India works in collaboration with local people on production of biogas from human excreta derived from community toilets, and on the generation of electricity as an alternative source of energy.

Another revolution has been brought about by Mr. P. Calvert in 1995 when he introduced the compost toilet in Kerala in response to local women’s desire to have a more private and dignified place to defecate through a total sanitation package including local production of affordable technology and behavioral change that uses very little water, does not require a sewer or treatment plant, eliminates flies and odours and produces both useful compost and liquid fertilizer for vegetables, flowers and shrubs gained a very wide acceptance .

Figure 3 shows a design of compost toilet by Calvert consisting of a slab raised over two vaults. The slab has a hole over each vault for faeces and a funnel to receive urine. It would yield compost to help nourish coconut tress, plantains and kitchen garden. The cmpost toilet is an effective solution to sanitation in other parts of India too and in neighboring countries.

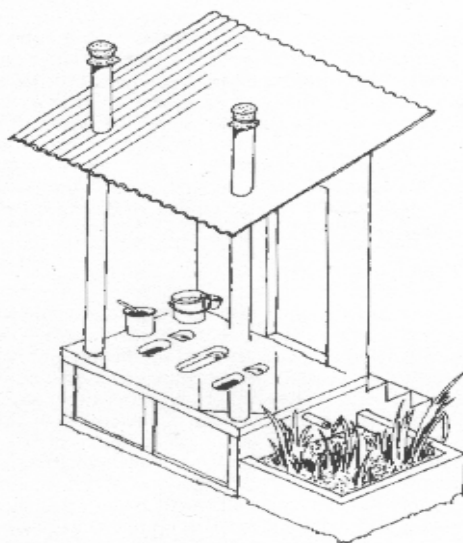


Fig. 3 The compost toilet design by Calvert (after Global Environmental Sanitation Initiative)

INITIATIVES FROM THE GOVERNMENT OF INDIA

The Government of India has introduced a Total Sanitation Campaign (TSC) in 1999 – a movement to attain universal rural sanitation coverage and has introduced a Nirmal Gram Puraskar – a national award under total sanitation campaign awarded on the 23rd March every year to motivate the rural as well as urban population to adopt the sanitation and hygiene. The Government of India budgetary provision for the Total Sanitation Campaign has been substantially increased from Rs 400 crore(Ten millions) in 2004 – 05 to Rs 800 crore in 2006-07 (1 \$US = Rs 47). At present the sanitation programs are being implemented in 559 districts of the country and will be launched in all the remaining districts in coming years. The rural coverage in 1981 was nearly 1% which has

now grown to 38% in 2006 and is expected to cover all rural households with sanitation facilities by 2012 thus, fulfilling the dream of the first Prime Minister of India which is now taking a positive shape in the country.

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