

Towards Nirmal Bharat

Developing a Strategy for Rural Sanitation, 2010 – 2012



Status and Issues



1. Vision: *A Nirmal Bharat!*

The vision of *A Nirmal Bharat!* is the dream of a nation where every person has an aspiration and right to live in an environment, which is clean and healthy. It is an environment where the people living within imbibes and practices living in a clean environment as a way of life.

It is with this inspiration that we seek to lay down a mission and operational plan to achieve our vision of *A Nirmal Bharat!*

2. Mission Statement

To become a *Nirmal Bharat* where:

- the traditional habits of open defecation and contaminating the physical environment are completely eradicated
- conditions are established such that the dignity and worth of each human being are preserved and quality of life is improved

3. Objectives

The specific objectives of our strategic plan for rural sanitation are as follows:

- Ignite Collective Action:*** A clean environment is a public good and therefore communities must achieve total sanitation at a collective level to realize public health benefits. Through a collective approach and outcomes, ensure that progress is inclusive such that marginalized social sections and areas benefit from the gains achieved
- Panchayati Raj Institutions take the lead:*** PRIs must take the lead in inducing desired behavior changes at the collective level through awareness creation, incentives and disincentives. PRIs can delegate and/or contract responsibilities to third parties e.g. Village Water and Sanitation Committee (VWSC), Self Help Group (SHG), private contractor etc.
- Total Sanitation:*** This means that the focus is not solely on open defecation free status at community level, but building upon this to include adoption of improved hygiene behaviors, institutional sanitation systems in schools and public institutions, and solid and liquid waste management.
- Informed Choice on Technology Options:*** Encourage informed choice regarding cost-effective and appropriate technologies for ecologically safe and sustainable sanitation.
- Community Ownership:*** Minimize dependence on subsidy and motivate communities to take ownership of systems for environmental sanitation
- Monitoring:*** Move away from ‘counting toilets constructed’ to ‘counting the number of communities that have become totally and sustainably sanitized’
- Incentives and Disincentives:*** Reward achievement and sustainability of outcomes.



4. Background

The rural sanitation sector in India has seen much progress over the years, especially in the last one decade. There has been significant increase in coverage in the rural areas with monitoring systems pointing to about 65% coverage; in addition, about 22,000 gram Panchayats has achieved Total Sanitation Status.

There is, however, significant way to go before rural India achieves Nirmal status. The remaining coverage of access to sanitation facilities for households and institutions, adopting of hygiene behavior by all, solid and liquid waste management are some of the significant challenges still remaining.

A strategy to address the challenges in the sector, to enable attainment of a Nirmal Bharat, is being attempted. This strategy is being developed for the years 2010 to 2022. This position paper gives a description of the current status of the sector, combined with a description of the issues that need to be addressed along with options, to effectively come out with a strategy.

5. Department of Drinking Water Supply

The Department of Drinking Water supply (DDWS) is the nodal department, under the Ministry of Rural Development, Government of India, tasked with the role of effectively guiding the sector by utilizing the available resources (financial, institutions at various levels of the sector) to meet the vision and objectives of the sector. Specifically, the department has the following broad roles:

- a. Planning, implementation and monitoring of centrally sponsored programmes and schemes for safe drinking water and sanitation in rural areas
- b. Conducting periodic performance reviews with all States
- c. Supporting R&D initiatives, IEC & HRD activities for all stakeholders in drinking water and sanitation sector
- d. Providing support to States in the wake of natural calamities to mitigate drinking water and sanitation problems in rural areas
- e. Building partnership and synergizing efforts with other sector partners, organization, UN and bilateral agencies, NGOs, R&D institutions and civil society in our common endeavour to ensure access to safe drinking water and sanitation for rural communities
- f. Enabling states in resource mobilization from external funding agencies
- g. Technical support to state through seminar, interactions, documentation of best practices and innovations
- h. Providing inputs to other departments/ Ministries for formulation of policies imparting water and sanitation issues
- i. Recognizing and awarding Panchayats and organizations for excellent work in rural sanitation

The strategy may address the issues with respect to internal capacity of the department to effectively fulfill its roles.

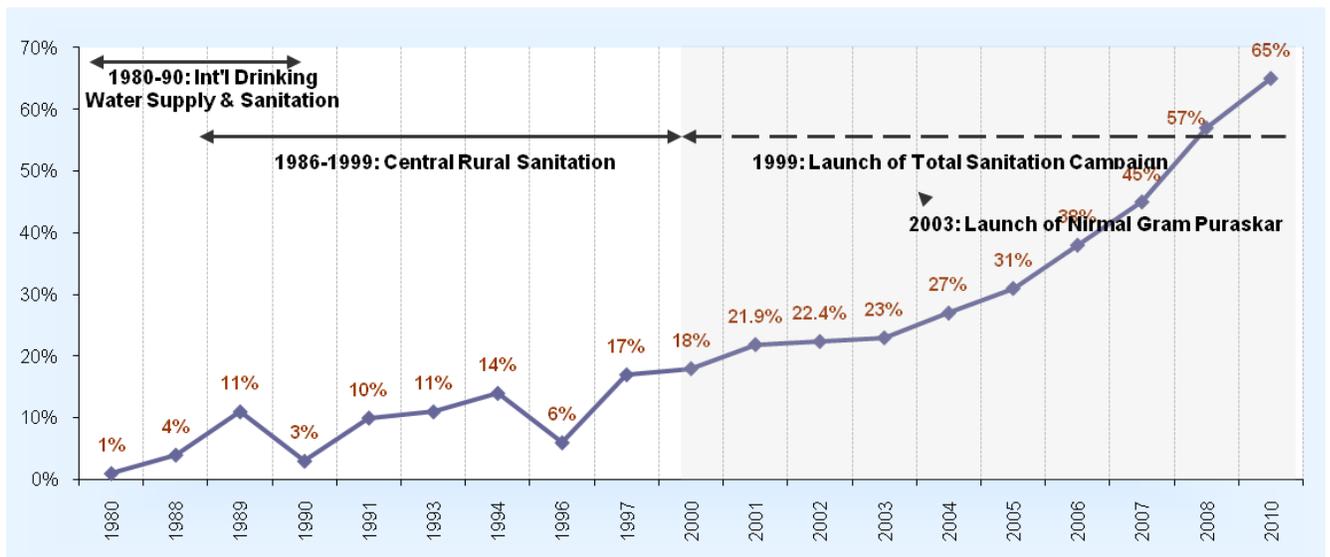


6. TSC program

Open defecation is a traditional behavior in rural India. This, along with the relative neglect of sanitation in terms of development priorities, was reflected in the country's low sanitation coverage at the close of the nineties when it was found that only 1 in 5 rural households had access to a toilet (Census 2001). This fact, combined with the low awareness of improved hygiene behavior, made achieving the goal of total sanitation a pressing challenge in rural India.

In response to this challenge, the Government of India launched the Total Sanitation Campaign (TSC) in 1999 with a goal of achieving universal rural sanitation coverage. The TSC program emphasizes a community led demand driven approach to reach total sanitation within the entire village. To give a fillip to the TSC, the government introduced an innovative incentive program known as *Nirmal Gram Puraskar* (NGP) in 2003.

Figure xx Rural Sanitation Coverage in India



Source: Govt. of India, Dept. of Drinking Water Supply <http://ddws.nic.in> Accessed 20 Mar-10

7. Current status

1. Implementation of the Total Sanitation Campaign

The TSC is being implemented in 606 districts of the country. The components the TSC addresses is the access of households to improved toilets, access of institutions (schools, anganwadis) to improved toilets, and solid and liquid waste management. To address these, appropriate institutional framework has been established at various levels with capacity building of stakeholders, effective IEC has been disseminated, supply chain mechanisms has been established and monitoring systems set up.



2. Institutions

The institution primarily responsible for achieving Total Sanitation status is the Gram Panchayat. In addition, other facilitating agencies support the GP in achieving this: at the district, the District Water and Sanitation Mission (DWSM), the District Water and Sanitation Committee (DWSC), the district sanitation cell, and hired organizations like NGOs; at the state, the State Sanitation and Water Mission (SWSM) and Communication and Capacity Development Unit (CCDU); at the national level, the DDWS and the Key Resource Centres (KRCs).

3. Results of TSC

After sluggish progress throughout the eighties and nineties, rural sanitation coverage (individual household latrines) has nearly tripled from just around 22 per cent in 2001 to 61 per cent in 2010 post-TSC and NGP. Since its launch, the NGP has been a very successful fiscal incentive for achievement of sanitation outcomes. The number of winners has gone up from just 40 NGP in 2005 to 22,604 NGP in 2009.

The number of IHHL targets constructed against the sanctioned is given below:

Component	Sanctioned (As per cumulative project objectives)	Achievement (cumulative as on 31.03.10)
IHHL(BPL)	5,97,57,268	3,57,46,504
IHHL(AP)	6,22,12,962	3,04,26,508
Total IHHL	12,19,70,220	6,61,73,012

4. Outcomes of TSC

The sustainability of the outcomes under the TSC and NGP has been an issue which has been tried to be understood. A study, supported by UNICEF, in 2008 revealed that only 6 of the 162 NGPs have sustained completely their status. A rapid assessment by WSP of five states in 2009-2010 revealed that about 67% of the households were using toilets in NGP GPs.

8. Constraints

1. Lack of demand

Sanitation has been given a low priority within the society. With an attitude of 'out of sight, out of mind', sanitation has been forced to the bottom of the developmental agenda. At various levels – the political, the administrative and among the people of the village – this lack of demand and priority is manifested, resulting in poor focus on sanitation.

2. Lack of resources

Despite the levels of allocation for sanitation for rural areas, the availability of resources for second generation activities in sanitation, such as solid and liquid waste management may be limited.



9. Issues

1. Mobilization and community participation

- a. The strategy to address total sanitation may be aimed at the community to motivate it to achieve total sanitation to achieve health and other quality of life benefits. The achievement of a 100% achievement of safe sanitation, at the collective level, may be the main message disseminated through various interpersonal and mass media mediums.
- b. The strategy may make incentives available to gram Panchayats for making the village ODF – these may be used by GPs to assist households which are below the poverty line for construction and usage of toilets (minimum of six months); to ensure that community spirit behind making the village open defecation free is not hampered, the incentives may be given only after the entire village becomes ODF.
- c. A strong mass media based campaign to change the basic mindsets among people in the villages towards sanitation should be undertaken at national and state levels so that attitude towards safe sanitation and hygiene is changed.
- d. The political leadership at state and district levels may be sensitized on the principles of demand driven approaches to total sanitation, to enable high level political support for sanitation.
- e. Local leaders / natural leaders from NGP villages and other villages may be used as resource persons to scale up the concept of total sanitation among other villages.
- f. Village / cluster level motivators ‘Swatchata Sahayaks’ may be engaged under the program to push for disseminating messages on sanitation and waste management.
- g. Social marketing approaches may be adopted to push for attitude and behavior change among the people. Mass marketing and advertising techniques may be used to make this behavior change.

2. Institutional structure

- a. The nodal institution responsible for sanitation at the state level may be reviewed to assess the best fit for a community driven approach to total sanitation. The nodal department may be changed or strengthened depending on need, to effectively manage the sanitation program.
- b. SWSM may develop strategies for the state on rural sanitation, which priorities community led approaches leading to total sanitation outcomes at collective level; the SWSM may set milestones for achievement of various components of the sanitation for the districts; SWSM may take proactive steps at regular intervals (of 3 months) to review the progress; SWSM may undertake six monthly meetings as well as annual workshops of districts, to review the progress and share experiences and best practices; SWSM may compare and benchmarking the overall performance of districts against each other; SWSM may initiate state level competitive or milestone based reward programs for GPs, institutions and individuals.
- c. CCDU may develop communication campaigns for the state, focusing on critical messages to change behavior of communities and make usage of safe sanitation as a norm; CCDU may develop capacity building strategies and roll out capacity building activities to bridge capacity gaps in sector on social mobilization, technical capacity and



monitoring; CCDU may set up monitoring systems at state level to track processes, outcomes and sustainability to enable timely support to laggards and strengthen the leaders.

- d. DWSSM may effectively coordinate between various departments through quarterly meetings to review the progress and chalk out the implementation strategy and plan.
- e. A sanitation cell at district level along with block coordinators populated with dedicated (full time) staff may be set up at all district and block levels to enable the scaling up of message dissemination and achievement of outcomes. The staff in these cells may be either taken from within the government departments on deputation, or contracted from the open market.
- f. The Gram Panchayat may appoint a community represented committee (Village Water and Sanitation Committee or similar) to facilitate and implement the sanitation and SLWM activities. The Gram Panchayat may support the marginalized households of the GP to help them construct individual toilets and SLWM facilities; the GP may also identify and engage private parties (SHGs, CBOs, private sector) to operate and maintain common facilities in the village.
- g. The sanitation program may partner with other kinds of organizations such as NGOs, faith base organizations, micro finance institutions private firms, to synergize the strengths of these institutions to move forward the program.
- h. Capacity building of all institutions on issues of social mobilization, technical principles, operation and maintenance of facilities, monitoring for achievement and sustainability may be undertaken.

3. Technology

- a. Ecosan technologies, which focus on closing the loop and using the resources for agriculture, may be promoted for adoption by the households and institutions.
- b. Bio digesters and Biogas may be promoted for sanitation and solid waste at household and community levels for effective management of waste.
- c. R&D for development of various technologies for sanitation and SLWM for different geo-climatic areas may be undertaken. Private organizations and academia may be linked up with, to undertake this process.

4. Financing

- a. User financing – users of facilities (households constructing toilets, households using solid / liquid waste management facilities) contribute fully or partially to the capital costs of the facilities; and fully to the operation and maintenance costs
- b. Public financing – governments financial partially or fully, through community level institutions (GPs), the capital costs of the facilities, with priority to poorer households.
- c. Public Private Partnerships – engage with the private sector / development sector to enable investment by private sector for the capital costs in sanitation (including SLWM), as part of the corporate social responsibility.
- d. Finance commission – the funds available under the Thirteenth Finance Commission be use for supporting O&M of sanitation and SLWM facilities.
- e. Banks and Micro finance institutions – the sanitation program may partner with banks and micro finance institutions to establish lines of credit for financing sanitation and



other waste management facilities.

5. Monitoring

- a. Process monitoring – the monitoring system tracks the processes adopted by the program in achievement of the objectives and benchmarks against ideal processes
- b. Quality monitoring – the monitoring system undertakes monitoring of the quality of the facilities constructed to ensure that they subscribe to improved sanitation parameters.
- c. Usage and sustainability monitoring – monitoring of usage and sustainability may be undertaken at quarterly intervals through sample studies of NGP villages, through third party organizations.
- d. Impact monitoring – the impact of sanitation on health may be monitored by comparing the changes due to achievement of sanitation outcomes (NGP) on main health parameters such as diarrhea through data available from the health department (PHC, rural hospitals, NRHM, etc.)
- e. MIS system – the TSC / NGP monitoring system may be integrated into one system; the MIS system may be upgraded to include latest available data from processes, usage, sustainability; the MIS system may evolve composite indicators to assess the overall performance of states and districts and benchmark them against each other.
- f. GIS – the monitoring system may use GIS based applications to effectively track progress and sustainability
- g. The TSC / NGP monitoring system may develop common indicators for measurement and develop inherent systems to compare and reconcile data and results with other monitoring programs like NFHS, JMP, DLHS, etc.
- h. The monitoring system may incorporate approaches, in which the community has a major role to play.
- i. Independent third party monitoring of implementation of TSC, which includes processes, outputs, outcomes and sustainability may be undertaken by national, state or district nodal agencies.

6. O&M

- a. Leach pit toilets – address the issues of digging of a second pit for leach pit toilets, once the first has filled up; address issues of sealing of filled pit to enable decomposition and emptying for use in agriculture
- b. Septic tanks – address the emptying of septic tanks once they are full; address safe disposal of septage removed from septic tanks
- c. Institutional sanitation – address maintenance of toilets, especially cleaning of facilities on a daily basis.

7. Difficult areas

- a. Remote areas / difficult terrain/water-logged areas - the sanitation program for remote and difficult areas may look at developing separate guidelines on the programmatic and technical approach to sanitation in remote areas and difficult terrain which is based on an understanding of the special challenges faced in these situations. Timelines for implementation may be based on the accessibility and special provisions may be made to ensure adequate supply of sanitary products and services in response to demand.
- b. Disaster Situations - The wealth of information available on sanitation in disaster and



emergency situations may be consolidated into an emergency sanitation handbook and translated into local languages as relevant. Areas that are classified as disaster-prone, may develop disaster and emergency preparedness plan to ensure a timely response to sanitation issues such as toilets, garbage disposal, availability of water substitutes for cleansing/disinfecting, dealing with illnesses and controlling rodents and insect breeding.

8. Public places

- a. Markets, Tourist Spots, Religious Places, Seasonal Fairs - The approach to sanitation in public areas may be through communication and incentives to motivate key stakeholders (tourist/religious authorities, restaurant owners) to provide sanitary facilities, as well as regulatory approaches to ensure that public place owners comply with the existing rules to provide such facilities.
- b. Railways - The approach to provision of sanitation facilities in railways must be in partnership with Indian Railways. The DDWS may provide technical assistance but the onus may be upon the railways to provide safe sanitation facilities in coaches and at stations. This may be achieved through regulation or legal provisions relating to cleanliness standards and sanitation facilities in railways.

9. Inclusion

- a. Gender - As menstrual hygiene affects the health of women and also has an impact on the continuing education of girls post puberty, the sanitation program may look strategies of menstrual hygiene to promote dignity of women; The sanitation program may engage with Self Help Groups to start the production of affordable sanitary napkins for women in the rural areas; The sanitation program may establish incinerators at toilets for girls in schools and other places within the village, to ensure safe disposal of sanitary napkins
- b. Poorest - The marginalized sections of the village may be provided with financial/material support by the Gram Panchayat for construction of toilets and other waste management activities. The poor may also be supported or exempted from paying user charges, as decided by the GP, for sustaining the activities. Constant tracking of the impact of the program on the poorest in terms of their participation, access to benefits and the costs paid should be undertaken to ensure that they are not being left out.
- c. HIV/AIDS afflicted - There may be special focus given for people afflicted with HIV/AIDS, in form of subsidies, rebates, etc. in construction and use of sanitation and waste management facilities.

10. Solid and Liquid Waste Management

- a. Institutions - The Gram Panchayat may take the lead in ensuring service delivery for safe garbage and wastewater disposal at community level. The responsibilities that institutions at different levels may adopt are suggested below:

Level	Suggested Responsibility for SLWM
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National/State	<ul style="list-style-type: none"> ▪ Develop strategy to tackle SLWM at scale ▪ Identify resources – financial, human and capacity related – that can support at different levels of implementation ▪ Support development of communication plan ▪ Compile manual of technology options for SLWM ▪ Operationalise outcome-focused SLWM incentive program and M&E system
District	<ul style="list-style-type: none"> ▪ Develop district level strategy and Terms of Reference for engagement of Support Organization/Resource persons ▪ Facilitate identification of resource persons/organizations for training
Block	<ul style="list-style-type: none"> ▪ Work with the GPs and any Support Organization (e.g. NGO, SHG, private contractor for recycling) at block level ▪ Actively monitor the program
Gram Panchayat	<ul style="list-style-type: none"> ▪ Motivators may be made responsible for every 2-3 villages ▪ Involvement of community members are involved by the Gram Panchayat in planning and implementation ▪ Identification of initial adopters/active individuals who can support SLWM activities ▪ Actively monitor the program

- b. Financing and Incentives for SLWM - A GP may view SLWM service delivery as an obligation. Different sources may be considered for the upfront capital expenditure on SLWM works e.g. DDWS earmarked grant funding, Finance Commission funds, state subsidy, GP resources and user fees. Users may invest their own resources (financial, labor) into on-site household level options and variable O&M costs of community schemes. Community level incentives can include benefit of a clean environment and any economic benefits from waste management. In addition, achievement of SLWM at scale may attract a cash prize or recognition from higher levels of administration. A system of penalties/fines may be instituted for improper disposal of garbage and wastewater.
- c. Technology Options for Solid Waste Management - Garbage is generated at household level and in public places e.g. markets, street waste. In order to properly manage this waste, the focus may be on household level waste management to the extent possible. The waste which cannot be managed at household level may be handled at community level.
- d. Household Level Waste Management - *Step 1: Segregation at Source*: Segregation means classification of waste according to its type or nature. This classification is important for selection of technology for waste disposal. Waste may be segregated into two types: **Bio-degradable waste** is that which can be decomposed by biological processes. **Non-biodegradable waste** cannot be broken down by biological processes. Non-biodegradable waste can be further classified into two types: **Recyclable waste** is that waste which has economic value that can be recovered e.g. metal. **Non-recyclable**



waste is that waste which does not have economic value of recovery e.g. tetra-pack, PET mineral water bottle, thermocol. Segregation may be done at source i.e. at the point at which waste is generated. At household level, waste may be segregated using 2 bins of different colors of 5 to 10 litres capacity each, one for biodegradable waste and one for non-biodegradable waste. *Step 2: Treatment:* For bio-degradable waste, treatment at household level through available technology options to convert this waste into manure e.g. composting, vermi-composting, biogas plant. For non-biodegradable waste, some of this will be recyclable. Households may be encouraged to keep such waste separately and sell to scrap dealers. Non-recyclable waste may be kept aside for community level management.

- e. **Community Level Waste Management** In those villages, where all waste cannot be managed at household level, segregated household waste needs to be collected, transported and treated. *Step 1: Segregation at Source:* Similar to segregation at source in households, this may also be done in public spaces through placement of two different colored bins for biodegradable and non-biodegradable waste. *Step 2: Collection and Transport:* The Panchayat may select a body for collection of waste e.g. SHG group, youth group. For transporting waste, carts or tricycles may be used. The number of vehicles required may be decided based on the size of the Panchayat and density of population. Generally, one tricycle is sufficient for 100 to 200 households. The tricycle may also have separate compartments to store the segregated waste. *Step 3: Treatment:* Waste collected from households and public spaces may be transported to a place identified at community level e.g. land donated by a Panchayat. For treatment, all biodegradable waste should be composted. This can be done by adopting a technology option such as, for example, composting, vermi-composting or a bio-digester. Non-biodegradable waste may be further segregated and sold to a scrap dealer or recycled
- f. Technology Options for Liquid Waste Management - Wastewater is generated at household level and in public places. In order to properly manage this waste, the focus may be on household level wastewater management to the extent possible. The waste which cannot be managed at household level may be handled at community level.
- g. Classification of Liquid Waste - Wastewater may be classified into two types: Waste water generated in the toilet is called **black water** and it contains harmful pathogens. Waste water generated in the kitchen, bathroom and laundry is called **grey water** and it generally contains fewer pathogens than black water. Generally, bulk of the wastewater generated in rural areas is grey water and depending on its use, it can be treated and used for gardening.
- h. Household level options - Some of the options available for wastewater treatment at household level may include soak pit, leach pit and re-use in gardening.
- i. Community level options Community level greywater can be divided into two types: greywater from schools, public stand-posts etc. and domestic greywater that cannot be managed at the household level. This may be managed through on-site options such as soak-away channel, leach pit or piped root zone system. Off-site options include collection and transport of greywater and may include drainage. Here, final disposal options may include sullage stabilization pond and re-use; sedimentation, filtration and re-use, and screening stabilization tank systems.



11. Supply chain

- a. A robust supply chain mechanism for sanitary products and services is required to achieve total sanitation at scale.
- b. Some of the options that may be considered to facilitate the supply of these products and services are private wholesale and retail networks and also Rural Sanitary Marts or 'one-stop-shop' retail outlets.
- c. RSM and PC may operate on a commercial basis to tap into the potential of the market for sanitary products and services while serving their social objective of providing materials, services and guidance needed for constructing different types of latrines and other sanitary facilities, which are technologically and financially suitable to the area.

12. Incentives

- a. Incentives may be instituted at different levels to motivate the achievement of sanitation outcomes. These incentives could be for villages or Gram Panchayats that achieve total sanitation and as well as for institutions and individuals that facilitate the achievement of this goal.
- b. There may be disincentives for gram Panchayats, and other levels to prevent inflation of numbers and expenditure (toilets built, NGP applications, etc.).
- c. The state and districts may prioritize GPs which have received NGPs for inclusion in the various developmental programs.

13. Hygiene

- a. A hygiene component may be incorporated into the sanitation program to inculcate the habits of hand washing, proper water and food storage and handling among the people.
- b. Mass media campaigns may be undertaken at various levels to promote hygiene behavior among people, including children.

14. Linkages

- a. Health - Inadequate sanitation facilities or unsafe disposal of feces puts the health of everyone living nearby at risk. Diarrheal disease is a leading cause of under five child mortality and is also linked to malnutrition and impaired cognitive development. Strengthening preventive health component of health programs and stronger linkages with these may help in promoting total sanitation.
- b. Agriculture - Excreta contain valuable nutrients that can be utilized in agricultural production. However, conventional sanitation technologies treat excreta as waste, ignoring its potential for re-use in agriculture. There are now a range of technology options available that can recover nutrients from excreta and urine e.g. ecological sanitation, leach pit etc. The potential of harnessing these technologies at scale may be explored so as to achieve the goal of zero waste management may be explored.
- c. Power - The option of using sanitation and waste management for power generation for rural areas may be explored. Use of biogas powered electricity generation may be used in markets, tourist places and other areas with large floating population.
- d. Education Sanitation and hygiene habits may be incorporated into the curriculum of students from the early classes. In light of this, the potential of working with the education programs to promote and sustain safe sanitation and hygiene habits may be taken up. Linking the sanitation program with the Sarva Shiksha Abhiyan at the policy



and operational levels may be undertaken. Linking sanitation with the ICDS program to inculcate sanitation and hygiene habits in children may be taken up.

- e. Water - In many parts of rural India, washing with water is the traditional method of cleansing after defecation. Water-based flush systems are also preferred due to the fact that these limit odor and fly menace and are therefore more aesthetically attractive. In addition, hand-washing with soap presupposes the availability of water to perform this behavior. As a result of this, scarcity of water plays a significant role in slippage or non-usage of flush sanitation systems and adoption of improved hand-washing behavior. Therefore, the possibility of working with the rural water program to ensure convergence may help in achieving the objective of total sanitation.

15. Media

- a. Raising profile of sanitation among general public: Sanitation is often a dirty word and generally left out of polite conversation. Sanitation and hygiene are also not discussed openly because many people find it embarrassing. Perhaps, because of this taboo, the sanitation challenge does not generate the same reaction as a plane crash would, even though it is estimated that thousands of children die every day due to preventable diseases linked to inadequate sanitation. This is the equivalent of a jumbo jet crashing *every four hours*. The media can play a key role in sensitizing the public to the issue of sanitation and hygiene by supporting the advocacy to see these issues, not as dirty words but critical to child survival and human dignity. Some of the ways in which media may be involved are: Partnership with the nodal department at different levels to report on sanitation and hygiene issues; Behavior change communication to generate demand for total sanitation and move away from social norms such as open defecation or littering in public places; Environmental journalism awards to promote media involvement in sanitation and hygiene coverage

