



Sanitation upgrading: an approach

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ABSENCE OF A proper delivery system for sanitation services, along with “unaffordable” technology are amongst the major constraints which hamper rural sanitation in India.

Unlike other utility technologies, sanitation is closely linked with behavioral patterns, convenience, privacy, demand perception and economic abilities of the community. The sanitation upgradation process becomes necessary to ensure that the existing sanitation facilities which the community can afford, can be further upgraded according to demand perception, availability of funds, local materials, skilled manpower and a delivery system that functions properly.

In the Indian situation, where prevalence of indiscriminate open defecation by a large segment of the rural population is commonplace, it is essential for the process of upgradation to start by eliminating and discouraging indiscriminate open defecation.

At the community level, sanitation — particularly the On-site system — is very closely linked with the economic ability of the local populace to sustain and maintain the system. It is therefore, essential that the facility is available at a reasonable cost, along with easy functional maintenance and a viable delivery system. Minor failures in the system, like pit emptying, inconvenience of the superstructure or choking of connecting pipes to the leach pits can cause total rejection of the technology by the community.

At the same time, further cost reduction in low cost sanitation technologies needs to be considered from the point of ascientific and hygienic disposal system which will prevent the environmental degradation of surface and ground water.

Against this background, the introduction of simple sanitation technologies with minimum maintenance problems and financial investment can be acceptable to individual users. Gradual acceptance and adoption of a particular option can break the behavioral barrier. Attempts at gradual improvement can be made so that ultimately, a differentially better technology option which provides better durability and greater convenience is adopted.

The rationale for a new approach

Gradual upgradation of sanitation can be vertical, lateral and differential. The sanitary facilities constructed by households are not a one time affair. It has been observed that a family aspires for a better quality of life and improves its own house and surroundings with an in-

crease in its socio-economic status. Upgrading sanitary facilities constructed earlier can also form a part of improvement of living standards.

The rationale behind this approach is quite simple. The present option of twin pit pour flush latrines is a low cost option in comparison to conventional excrement disposal like septic tank or sewerage system. However, differentially it is still a high cost option for a certain segment of the rural population. Therefore, between indiscriminate open defecation and water seal latrines, it is possible to identify several options, each one being an improvement over the previous one in sequential form. This movement from one alternative to a better alternative can form an integral part of the approach to upgrading sanitation.

There is more than one advantage to this approach. It takes into consideration the affordability of the user at a given instant but is flexible enough to let the households upgrade the facilities by certain addition(s)/alteration(s) at an appropriate time. This approach may take any of the three courses mentioned below:

- Lateral
- Vertical
- Differential

Upgradation sequences

Possible upgradation sequences may be from a very simple pit system to a lined pit system where there is a qualitative change in the materials, with functional quality remaining unchanged, resulting in lateral upgradation. Similarly upgradation of pit latrines to waterseal system which changes the functional quality may be classed vertical upgradation. And when a simple pit system is directly upgraded to biogas digester or waterseal system, it has differential upgradation covering both material standards and functional quality. From these considerations, the user can choose the best suited option, depending upon his/her interest in and commitment for environmental sanitation.

Conditions for success

The success of this approach however, depends on proper demand, perceptions, environmental and sanitation literacy along with a functioning delivery system ensuring easy availability of materials, skilled manpower and a proper operational maintenance schedule. The proposed target of 50 per cent coverage of rural population with basic sanitation, including Government and other initia-

tives, during the Ninth Five Year Plan (1997-2002) requires a massive infrastructure for the delivery system and a network of production centers.

To cover a target of 50 per cent of the rural population by the year 2002, the present infrastructural facilities for manufacture of hardware will be required to provide an additional 24 million toilets. The increased demand should be covered by establishing at least one production centre in each of the 5900 blocks of the country by the Ninth Five Year Plan period. Similarly, for ensuring a functional upgradation approach, it will be necessary to establish one Rural Sanitary Mart in each block which can work in coordination with the production centre.

The upgradation approach towards latrine-biogas-plant with a target of 1.20 million excreta based biogas plants during 1997-2002, works out to approximately 24000 plants per year.

With the capacity of a production unit to produce about 100 to 150 such plants per year, it will be necessary to have around 2400 such units.

The proposed production centre should be strengthened to manufacture the components for biogas digesters, inlet and outlet materials, pipes etc. These facilities should be available in the production centre depending upon the upgradation demand. The RSM's in these areas may include cooking and other components which are required for maintenance.

The selection of technology should be based on total community acceptability. This requires the provision of several options including Biogas option where feasible. Adoption of better options in the gradual improvement of components removes the initial barriers of apprehension of investment at the users level. The success of the upgradation approach motivates the prosperous user looking for a replicable model primarily due to "neighbourly" faith in the performance of the system.

A multi option approach

The multi option approach with investment at the users level which was followed in the Medinapur intensive sanitation projects provides ample examples of flexibility

in technical choices with a provision for improvement at certain stages, based on improved affordability of the user. The critical role played by village motivators, village masons, and youth club leaders provide replicable parameters for effective use elsewhere.

The approaches proposed by the Institute of Engineering and Rural Technology, Allahabad have anticipated demand a step ahead. While the families are approached with a technology range from which to choose, the very selection is made keeping in view the upgradable possibilities/opportunities of the facility in the next, higher affordability phase, and ultimately making a two-pit latrine over a period of time.

The combination of motivation and upgradation of technologies followed by the all India Co-ordination Project on Water and Sanitation initiated by Technical Teachers Training Institute, (TTI) and Community Polytechnic system in some states, provides sufficient feedback towards acceptability of this approach by the community. The feedback shows that community acceptability has resulted in better maintenance of the assets created.

Future strategies

The future strategies proposed to be followed by the country during Ninth Plan period are focused on reduction of subsidy, providing alternative delivery systems with a network of production centers. A range of options supported by a massive motivation program is expected to provide an appropriate environment for the sanitation upgradation approach to become a viable alternative for rural communities in India.

References

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