

A critical view of the 'sanitation miracle' in rural India

In the past decade, improving sanitation coverage has been one of the key public policy miracles in India. Access to water and sanitation is Goal 6 in the 17 Sustainable Development Goals envisaged by the United Nations. Public sanitation programmes have a long history in the country, beginning with the launch of the highly subsidised Central Rural Sanitation Programme (CRSP) in 1986. The Total Sanitation Campaign in 1999 marked a shift from a high subsidy regime to a low subsidy one and a demand-driven approach. The public sanitation programme evolved as a mission in 2014 under the Swachh Bharat Mission-Grameen (SBM-G) to make India Open Defecation Free (ODF) by October 2019.

Data and behavioural patterns

According to information by the Government of India, sanitation coverage in the country improved from 39% in 2014 to 100% in 2019. Encouraged by the achievements under the SBM, the government launched Phase II of the SBM-G. The focus here was on the sustainability of initial achievements by promoting solid and liquid waste management and covering those households left out earlier. The government aims to transform India from ODF to ODF Plus by 2024-25. Around 85% of villages in India have become ODF Plus, according to government data. Nevertheless, this impressive performance also needs to be viewed from the perspective of behavioural change, which will usher in sustainability in a true sense.

The construction of toilets does not automatically lead to their use. A National Sample Survey Office (NSSO) survey (69th round), showed that in 2012, when 59% of rural households had no access to a toilet, 4% of individuals who had access reported not using the facility. The primary reasons for not using one were: not having any superstructure (21%); the facility malfunctioning (22%); the facility being unhygienic/unclean (20%); and personal reasons (23%).

A survey conducted by us in 2018, covering the best and worst covered districts and blocks of three States, showed that 59% of households in Bihar, 66% in Gujarat and 76% in Telangana had toilet access. Among those having access, 38% of households in Bihar, 50% in Gujarat and 14% in Telangana had at least one member who did not use it. A higher non-use of toilets in Gujarat was due to a lack of access to water in Dahod district, one of the two districts selected from the State.

In another study by us in 2020, we observed that 27% of households in survey villages in Gujarat and 61% in West Bengal did not have their own toilets. Moreover, around 3% of households did not use their own toilets in either State.



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The government needs to identify the shortcomings in the existing programme if it wants to transform India from open defecation free to open defecation free-plus status by 2024-25

One-fourth of non-user households in Gujarat did not cite any specific reason for not using it. Social norms of purity may have dissuaded them from using the toilet. Quality issues were also another major reason. In Gujarat, 17% of those not using toilets reported that the sub-structure had collapsed, and 50% reported that the pits were full. One-third of non-users in West Bengal reported that the superstructure had collapsed, and another one third reported the pit being full. Toilets not used for defecation are used as storerooms. If social norms prevent toilet use on the premises, the facility is used for bathing and washing clothes.

The variations across surveys of the percentage of households having access to toilets and their use are due to the selection of different districts. The more comprehensive National Annual Rural Sanitation Survey (NARSS)- Round-3 (2019-20), conducted by the Ministry, shows that 95% of the rural population had toilet access in India. Access to owned, shared, and public toilets was available to 79%, 14% and 1% of households, respectively. It was also reported that 96% of toilets were functional, and almost all had access to water. However, the same report suggests that only 85% of the rural population used safe, functional, and hygienic toilets. Assuming that the same percentage of people have toilet access as the households, the gap rises to 80% between access to toilets and their use.

These surveys throw up two major issues – the left-out households and toilets unused for defecation. The left-out households appear substantial and need to be covered in Phase II. On the other hand, the government should identify the shortcomings of the previous phase and cover the gaps in the present phase.

Household size, social norms

Our econometric models show that along with economic conditions and education, toilet use depends on household size. The higher the household size, the greater the chances of not using the toilet. Overcrowding and social norms prevent all household members from using the same toilet. Our survey of 2020 shows that only 3%-4% of households have more than one toilet. Further, the chances of using a toilet are reduced if access to water is difficult. Toilet use is found to be very high in remote and backward villages if households have doorstep access to water. The chances of toilet use are also reduced if a household has a detached bathroom.

Phase II of the programme does not have any criteria mandating multiple toilets for households larger than a certain size. Neither does it have any provision for building an attached bathroom. The Jal Jeevan Mission (JJM) programme was launched to provide tap water to each household by 2024.

Nevertheless, no relation has been observed between per capita central expenses made on the JJM and the percentage of villages declared ODF Plus across States. Neither is there any relation between the percentage of ODF Plus villages in a State and households having tap connections.

Social norms that act through social networks play a significant role in toilet construction and use. Examining the networks through which others influence people for their sanitation behaviour, we observed that the size and characteristics of these networks can be different in various parts of the country. In one of the upper caste-dominated villages, lower castes were found to have high brokerage (ability to connect others) to make social norms acceptable and enforceable. Many networks pass through high brokerage nodes, making associated individuals highly connected. Hence, sanitation decisions are less likely to be taken independently. On the contrary, sanitation networks in upper caste villages are more cohesive, smaller and diverse.

Sanitation behaviour also varies across socio-economic classes. NARSS-3 finds that access to toilets was highest for upper castes (97%) and lowest for Scheduled Castes (95%). Our multi-State study finds that the percentage of non-users is higher among upper castes than backward castes. Hence, sanitation behavioural change campaigns should consider two steps: construction and use. Further, the variation in networks between villages should be considered in campaign design as in some villages, behavioural change of households can happen independently, and collectively in others. Phase II of the SBM-G does not seem to have given enough thought to social engineering through the social networks in a society haunted by regressive norms and caste hierarchy.

Lack of synergy

Around 10 crore toilets were constructed between 2014 and 2019 during the initial phase of the SBM-G. The spurt in coverage has also triggered awareness regarding safe sanitation practices. However, collective behavioural change in the nation has still to take place. Our studies suggest that behavioural change in sanitation cannot happen independently. It is contingent upon social networks and an overall improvement of living standards, including better housing and access to basic services. There are separate programmes for each of these basic needs, but they are not well coordinated. The lack of overall planning in India has led to a lack of synergy of programmes despite high levels of expenditure in fulfilling basic needs. Uncoordinated efforts would lead to an inefficient utilisation of precious public finances.

An Uttar Pradesh model to tackle malnutrition

Uttar Pradesh is a remarkable example of the importance of women's empowerment in tackling malnutrition by supporting community-based micro enterprises led by self-help groups. These enterprises produce fortified and nutritious foods for pregnant/breastfeeding mothers and children, provided as take home ration through the Integrated Child Development Services (ICDS) programme.

In 2020, the Department of Women and Child Development and the Uttar Pradesh State Rural Livelihood Mission collaborated to set up a decentralised production of take home rations by women's enterprises. The model involves the production of different variants for ICDS beneficiaries. This is done by a 20-member women group that uses automated equipment with a capacity of five metric tonnes per day. Once the rations are delivered to Anganwadi centres by the women's groups, the women are reimbursed according to ICDS cost norms. The feasibility of this model was demonstrated by the United Nations World Food Programme (WFP) by using two pilot plants in Unnao and Fatehpur in 2021.

After positive feedback and commitment from the Government of Uttar Pradesh, this project expanded to 202 production units across 43 districts in just over two years. This has created livelihood opportunities for 4,080 women, reaching 12 million ICDS beneficiaries.

Women's empowerment for nutrition

Engaging women from the community to run the take home ration production units is a game-changer. This unique gender-transformative approach provides livelihood opportunities to local women, empowering them economically. Over 4,000 women have organised themselves into 204 self-help group micro enterprises across 204 blocks in 43 districts. They have been provided with machinery and raw materials such as wheat at subsidised rates to produce and



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Community-based micro enterprises, led by women's self-help groups, produce fortified and nutritious foods as take home ration through the Integrated Child Development Services programme

distribute take home ration. This project presents an excellent opportunity for them to earn a livelihood and contribute to the local economy as several ingredients are procured locally.

In the past, Uttar Pradesh followed a centralised model to produce and distribute take home rations, where private companies were awarded tenders. However, with the government shifting to a de-centralised model, women from self-help groups are responsible for preparing specific calorific values ration and its supply. The aim is to generate an additional income of ₹8,000 a month for each woman.

The Department of Women and Child Development has also used the opportunity to re-formulate the take home ration – it is nutritious with the inclusion of high-quality milk powder, oil, vitamins and minerals, which can help to support the health and well-being of children and prevent malnutrition. Different formulations were designed for different groups to address the monotony issue, and the packaging was reworked to reflect a sense of quality and create demand in the community. National Accreditation Board for Testing and Calibration Laboratories-accredited laboratories test the products before dispatch to Anganwadi centres to certify the requisite calorie and protein values and ensure food safety.

Strengthening demand

The WFP has collaborated with the Department of Women and Child Development to enhance the nutritional value and utilisation of supplementary nutrition provided through the ICDS scheme in the State. The focus has been on making the take home ration products more nutritious and diverse to increase consumption. This has been achieved through a validated process that improvises existing products and develops new products under ICDS norms and global guidelines.

To ensure good uptake of the variety of products developed, there was research which

included production trials, shelf-life analysis, and an acceptability study. The products include sweet and savoury options, such as *aata besan halwa*, *aata besan barfi*, *daliya moong dal khichdi*, and energy-dense *halwa*. Ready-to-eat meals come in age-appropriate colour-coded packaging that includes helpful information on infant and young child feeding practices. The packaging label also lists the ingredients, nutritional information, cooking instructions, directions for storage, food safety and hygiene messages, manufacturing dates, and batch numbers. All these aspects have been included in alignment with the regulations set by the Food Safety and Standards Authority of India.

Fostering innovation and sustainability

An app-based solution is being developed to build the capacities of women to produce take home rations. To improve the viability of the production units, women will receive training to develop nutritious products for the local market. They will use the same units they use to produce take home rations, which will enhance their income, improve the revenue of the take home ration units, and ensure the availability of nutritious food in local markets.

A pilot project is being implemented to strengthen the supply chain and track home rations using QR codes during delivery. The WFP supports this project and will enable government officials to track the Take home ration production, delivery status, and value chain.

The State-wide expansion of micro-enterprises led by women who produce take home rations for supplementary nutrition confirms successful targeting and demonstrates how empowering women can bring about effective and sustainable processes that help improve long-term nutrition in a community. This also highlights the significance of a multi-stakeholder approach towards technically sound and comprehensive solutions that are scalable by leveraging the strengths of the community.