

WATER, SANITATION, HYGIENE (WASH): INTERLINKAGES IN RURAL INDIA

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UN sustainable development goals (SDG) recognize WASH and health as important areas to be targeted. Especially goal 6 "Ensure availability and sustainable management of water and sanitation for all". It talks about achieving universal and equitable access to safe and affordable drinking water for all, reduced pollution, increasing water use efficiency, source protection and participation of local communities in improving water and sanitation management. Swachh Bharat Mission needs a special mention as it targets the most critical challenge of Sanitation in rural areas. For the success of SBM, it is essential to work towards analysing the status of toilets and mapping people's behaviour for understanding the indigenous problems and not generalise it country-wide.

Dr Jong-Wook, WHO, succinctly highlighted the strong inter-linkage between water sanitation and health, he said that WASH is one of the primary drivers of public health and if we can secure access to clean water and to adequate sanitation facilities for all people, a huge battle against all kinds of diseases will be won.

Access to clean water, sanitation and hygiene are essential elements in achieving a basic standard of health. There are substantial evidence in the literature which indicate that interventions in the form of improved water supply, sanitation, and hygiene came up with significantly improved health outcomes (like reductions in the severity and prevalence of Diarrhoea and other infectious diseases). For example, in a study that analyzed data from a randomized controlled trial of a community sanitation program in rural area of Ahmednagar district, Maharashtra to identify effect of village sanitation on average child height, found an effect of approximately 0.3 height-for-age standard deviations (Hammer & Spears, 2016)

Improvement in WASH services has a long way to go across the globe, improper WASH services lead to second leading cause of death that is Diarrhoeal disease, around 525 000, in children under five years old (WHO, 2017). African and South-East Asian regions are struggling to provide safe WASH services leading to maximum mortality rate in these regions, (Figure 1).

India (which has a mortality rate of 27.4 per lakh associated with WASH services) also requires

a significant improvement to better the WASH services as it is in the top 25 per cent of the countries with maximum mortality rate due to unsafe WASH services. Rural regions in India, which primarily have agricultural and domestic water requirements, suffer from many challenges such as lack of water supply infrastructure, inadequate sanitation facilities, insufficient irrigation facilities etc. Figure 2, highlights the poor situation of drinking water supply and sanitation facilities in India.

Only 18 per cent, and that is restricted to few states only, of the rural households in India receive treated water supply. There is huge inter-state variation in such services. For example, in Bihar, Assam, Jharkhand, West Bengal and Odisha, the percentage of rural households getting

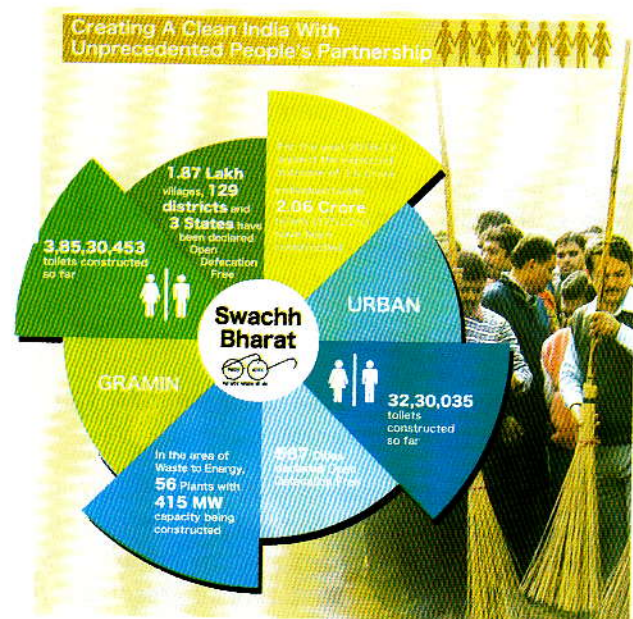
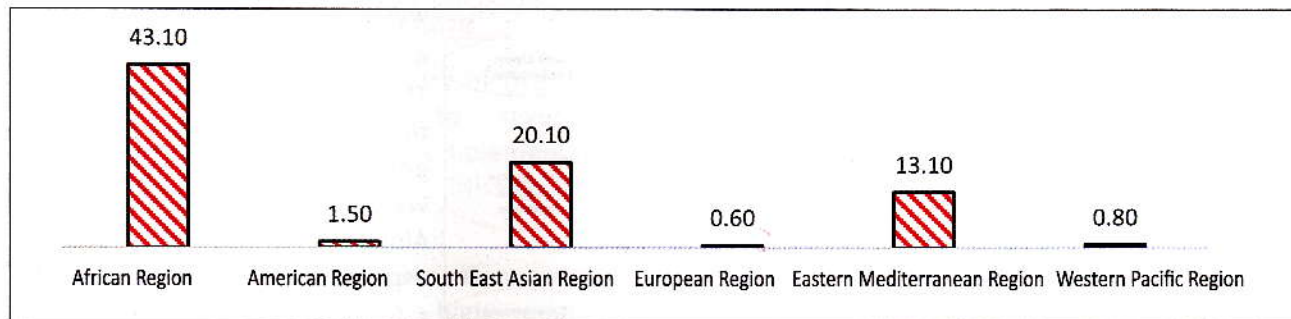


Figure 1: Mortality rate attributed to exposure to unsafe WASH services (per 100,000 population)



(Source: Adapted from the World Health Statistics, 2016)

treated tap water within the premises are 2 per cent, 4 per cent, 5 per cent, 6 per cent and 6 per cent, respectively. These are all eastern states where the rural population is largely dependent on groundwater for drinking purposes. Many of these households face negative health impacts due to poor water quality, mainly arsenic contamination in these regions. Status of sanitation in India is even worse as nearly 70 per cent of the rural households have no latrine facility, and there is high scale open defecation.

On 19 November 2014, United Nations Secretary, urged that it is a moral imperative to end open defecation to ensure women and girls are not at risk of assault and rape simply because they lack a sanitation facility. This is because one out of three women worldwide lacks access to safe toilets. On the same day, UN vowed to eliminate open defecation from the globe before 2025.

Open defecation is a major cause of fatal diarrhoea. Everyday, about 2000 children aged

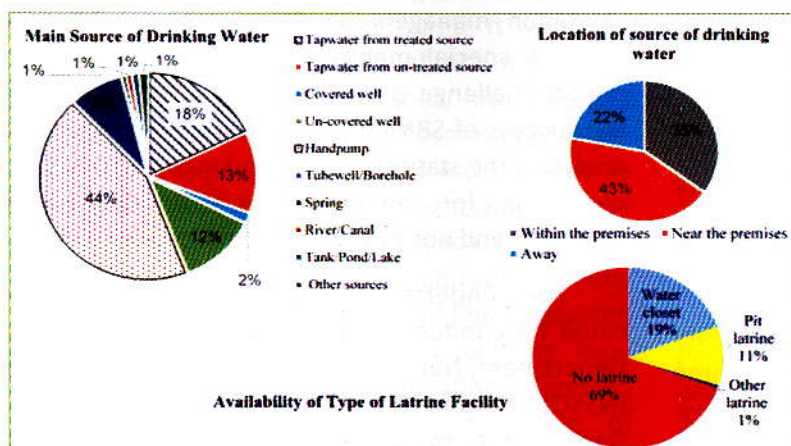
less than five succumb to Diarrhoea and every 40 seconds, a life is lost. According to UNICEF, India (with more than 700 million people defecating in the open) accounts for 90 per cent of the people in South Asia and 59 per cent of the 1.1 billion people in the world who practise open defecation. Another joint survey by the WHO and the UNICEF indicates that close to 400 million (out of 700 million) people in India practice open defecation despite having latrines available. This clearly suggests that eliminating open defecation is not possible without the change in individual behaviour.

For holistic management of WASH services, it is essential to protect water sources used for drinking purposes. A typical rural set up in India is represented in Figure 3. In a typical rural region in India, irrigation water requirement is the major demand followed by drinking water requirements. The irrigation efficiency is low, on an average 50 per cent – 60 per cent, leading to wasteful use of water and in addition due to excess fertilizer use, which gets drained into run-off, there is large scale

pollution of water sources. Also, a rural community may not be necessarily completely isolated from urban regions, such rural regions receive untreated wastewater flows from nearby cities further polluting the water sources. Due to unavailability of sewage treatment in rural set-up and large scale open defecation, several freshwater ponds have turned into sewage ponds.

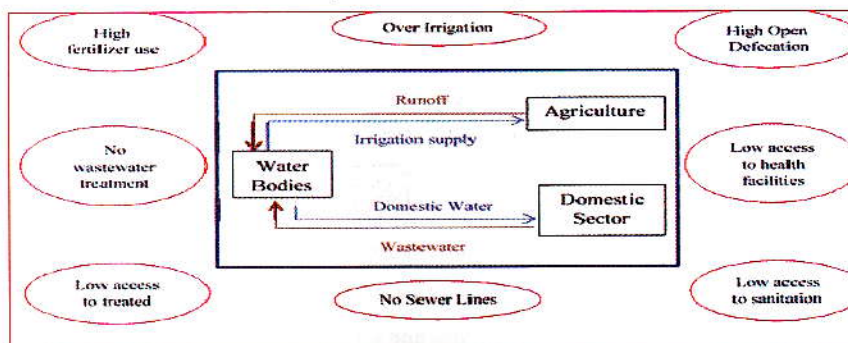
The public health facilities in rural areas generally operate at three levels: (i) **Sub-Health Centres (SHCs)**, each of which is supposed to serve a population of 3,000 (in tribal and hilly areas) to

Figure 2: Rural Water Supply and Sanitation Situation in India



(Source: Census 2011)

Figure 3: Agri-water and WASH nexus in a typical Indian rural/ peri-urban set-up



Source: CEEW (Red circles represent Challenges, Blue boxes represents Agri-water and WASH Nexus)

5,000 (in plains); (ii) **Primary Health Centres (PHCs)**, each of which is supposed to serve a population of 20000 (in tribal and hilly areas) to 30,000 (in plains); and (iii) **Community Health Centres (CHCs)**, each of which is supposed to serve a population of 80,000 (in tribal and hilly areas) to 1,20,000 (in plains). As per Rural Health Statistics (2016), an average SHC was covering 4 villages (with an average coverage area of 20 square km). For an average PHC, this was 25 villages (with an average coverage area of 122 square km), whereas for an average CHC, this was 119 villages (with an average coverage area of 563 square km).

There are few flagship missions of Government of India which are targeted to improve the WASH and Health services in rural India:

1. **National Rural Drinking Water Programme (NRDWP) (2009)–Ministry of Drinking Water and Sanitation (MoDWS):** The goal of this mission is to provide every rural person with adequate safe water for drinking, cooking and other domestic basic needs on a sustainable basis.
2. **National Rural Health Mission (NRHM):** The mission to set up a fully functional community owned, decentralized health care delivery system in the country with its focus to ensure simultaneous action on an extensive range of determinants of health such as water, sanitation, education, nutrition and so on.
3. **National Rural Drinking Water Quality Monitoring & Surveillance Programme (NRDWQM&S) (2005) : MoDWS,** which is now under NRDWP is a community based programme to ensure good quality of public water supply to

rural people through decentralised water quality monitoring systems.

4. **Jalmani(2008)–MoDWS:** This mission aims to supplement the on-going NRDWP mission to ensure good quality safe drinking water by installing simple Stand Alone Purification systems, especially in schools.

5. **Swachh Bharat Mission (Gramin) (2014) – MoDWS:** This mission aims to improve the general quality of life in the rural areas, by promoting cleanliness, hygiene and eliminating open defecation.

6. **Provision of Urban Amenities in Rural Areas (PURA) (2003): Ministry of Rural Development (MoRD):** Under this scheme, amenities like water and sewerage and drainage were proposed to be made available to rural areas.

7. **National Rurban Mission (NRuM) (2015) – MoRD:** This scheme aims to provide basic amenities like piped water supply, solid and liquid waste management and drains in 'rurban clusters'.

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For understanding behaviour, a survey could be conducted by agencies such as Census Department, National Sample Survey Organisation (NSSO), National Rural Health Mission (NRHM), Department of Water supply and Sanitation (DWSS), Sarva Siksha Abhiyan (SSA).

Swachh Swasth Sarvatra

- A joint initiative with Ministry of Drinking Water and Sanitation to leverage achievements of complementary programmes Swachh Bharat Mission and Kayakalp.
- Grant of Rs 10 lakhs to ensure Community Health Centres achieve high quality benchmarks of sanitation, hygiene and infection control; and minimum score of 70 under Kayakalp assessment.
- Certification by the end of every financial year for such centres.

For changing the behaviour, the strategy would require mapping the village defecation area, toilets, water & food sources that could be done by Nirmal Bharat Abhiyan (NBA) workers in association with local NGOs, public personalities, local and national media. Local NGOs could be contracted by the district sanitation committee for this purpose. Behaviour could be changed by doing focussed group discussions, showing audio-visuals, community meetings etc., for associating Shame and Disgust with open defecation and Pride with having clean toilets. Also, organising improved sanitation campaigns, advertisement regarding sanitation campaigns through print and digital media, posters etc. and involving public personalities, local leaders etc., for propagating message of improved sanitation benefits would be useful. Mechanisms such as awarding/recognising households with toilets as Nirmal households or propagating ideas such as no toilet no marriage could be adopted. It would be also important to build capacity of local workers by providing training to local masons, local vendors and local people and operator of community toilet. The training could be provided to local masons in a group of 20-30 for showing them ways to use local materials for construction of toilets and also demonstrating techniques to design proper toilets. Training/awareness campaigns could be conducted for creating new and motivating existing local sanitary material vendors by educating interested local entrepreneurs about the marketing of sanitation utilities. Also, cleaning and maintaining toilet hygiene is important and this could be done

by training operators of community toilets and sample households.

The institutions involved in execution of Swachh Bharat also need to be trained. Training of district level expert team and Community-Led-Total-Sanitation (CLTS) facilitators could be done by UNICEF. NBA has already created a district level sanitation team which comprises of experts from different sectors and they could act as trainers for block level CLTS facilitators. ASCI, in association with UNICEF, has designed a course especially for district level sanitation executives. Thus, the expert team could be sent to these training programmes for learning new technologies, developing management skills etc.

Every school should be mandated to build separate toilet for girls. Also, by utilising public spaces, construction of at least one community toilet complex per village is suggested. It should be provided with a dedicated operator preferably selected from one of the community toilet using households. Funds for constructing toilets at school and community level are already covered under SSA & NBA, respectively. Regular cleaning of individual and community toilets is necessary for maintaining hygiene status.

Most importantly, monitoring and evaluation could be done by the existing sanitation team. They can prepare a report of the type of toilets built at individual household and community level, but an initial training is required to be provided to the sanitation team. It is also very necessary to keep a check on the use of toilets by villagers. Again Gram Panchayat (GP) sanitation team can send data to the district about household still defecating in open.

At national level linking programmes such as NBA, SSA, MNREGA, DWSS, NRHM etc., which are working in isolation but for similar cause is important. Although, some work has been done to link MNREGA and NBA, but a more holistic approach is required for achieving secure WASH services for a healthy rural India (Sugam, Mitra, & Ghosh, 2014).

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