



**THE REALITY OF DRINKING WATER SUPPLY AND SANITATION IN
SWACHH BHARAT: A COMPREHENSIVE ANALYSIS****Prof. Pankaj Singh¹ and Manoj²**¹Department of Public Administration, Kurukshetra University, Kurukshetra.²Research Scholar, Department of Public Administration, Kurukshetra University, Kurukshetra.**ABSTRACT:**

Drinking water supply and sanitation in rural India continue to face significant challenges despite government efforts to improve access to these basic necessities. Access to clean drinking water is a major issue in rural areas, with many communities relying on contaminated surface water ponds and streams, for their daily needs. The lack of adequate sanitation facilities is another concern, with many households lacking access to toilets or using open defecation. The Indian government has launched various initiatives to address these issues, such as the Swachh Bharat Abhiyan (Clean India mission) and the Jal Jeevan Mission (Water Life Mission). The Swachh Bharat Abhiyan aims to build toilets in every household and eliminate open defecation, while the Jal Jeevan Mission aims to provide tap water connection to every rural household by 2024. Despite these efforts, progress has been slow, and many challenges remain. For example, the cost of installing water and sanitation infrastructure can be prohibitively expensive for many rural communities, and there is often a lack of trained personnel to maintain and operate these systems. In addition, cultural and social barriers, such as the stigma associated with using toilets, can also hinder progress.

**KEY WORDS:** Drinking water, Swachh Bharat Abhiyan, surface water ponds.**INTRODUCTION:**

Access to safe drinking water and adequate sanitation continues to be a significant challenge in rural India. According to the latest data from Government of India:

1. As of 2021, only 84% of rural households have access to a basic water supply, which means they have to travel to collect water from a distant source.
2. Only 47% of rural households have access to a household connection for drinking water.
3. The remaining households rely on traditional sources such as hand pumps, wells, and surface water bodies, which are often contaminated and can cause waterborne diseases.
4. In terms of sanitation, only 35% of rural households have access to basic sanitation facilities, such as toilets, which means that open defecation is still common in rural areas.
5. Lack of access to safe drinking water and sanitation facilities contributes to high rates of waterborne diseases such as diarrhoea, which are a major cause of illness and death in rural India.

The Government of India has launched several initiatives to improve access to safe drinking water and sanitation in rural areas, such as the Swachh Bharat Abhiyan (Clean India Mission) and the Jal Jeevan Mission (Water for Every Household Mission). These initiatives aim to provide household

connections for drinking water, construct toilets, and promote behaviour change to encourage good hygiene practices. However, the challenges of providing safe drinking water and sanitation to all in rural India are complex and require continued efforts and investment.

Drinking Water

Drinking water refers to water that is safe and suitable for human consumption. It is water that is free from harmful contaminants and is safe for drinking without posing any risks to human health. Drinking water can come from a variety of sources such as lakes, rivers, groundwater wells, and municipal water treatment systems. Drinking water is essential for maintaining good health, as it helps to keep the body hydrated, aids in digestion, regulates body temperature, and flushes out toxins from the body. Access to clean and safe drinking water is a basic human right and is necessary for ensuring the health and well-being of individuals and communities.

Sanitation

Sanitation refers to the provision of facilities and services for the safe disposal of human waste, as well as for the promotion of hygiene and the prevention of disease. This includes a range of activities, such as the construction and maintenance of toilets and other sanitation infrastructure, the safe disposal of faecal matter and other waste, and the promotion of good hygiene practices like hand washing. Access to adequate sanitation is essential for human health and well-being, as it helps to prevent the spread of disease and infection. Inadequate sanitation can lead to the contamination of water sources, the spread of waterborne diseases, and the transmission of other illnesses. Sanitation is therefore a crucial component of public health and is necessary for promoting a safe and healthy living environment for all.

Relation between Drinking Water Supply and Sanitation

There is a close and important relationship between drinking water supply and sanitation.

Safe drinking water supply and sanitation are both essential components of a healthy and sustainable environment. Access to clean drinking water is crucial for maintaining human health, while sanitation facilities such as toilets and wastewater treatment systems are necessary for reducing the spread of disease and maintaining hygiene.

Poor sanitation can lead to the contamination of water sources, making them unsafe for drinking. On the other hand, the lack of access to clean drinking water can lead to poor sanitation practices, such as open defecation and improper waste disposal, which can further contaminate water sources.

In many cases, the provision of safe drinking water and improved sanitation facilities go hand in hand, as communities often need both to achieve sustainable water and sanitation services. By investing in both drinking water supply and sanitation, communities can improve their overall health and well-being, reduce the spread of disease, and promote economic development.

Status of Drinking Water and Sanitation at Global Level

The status of drinking water and sanitation at the global level has improved significantly over the past few decades, but many challenges still remain.

According to the latest data from the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF), as of 2021:

1. 2.2 billion people lack access to safely managed drinking water services, meaning they do not have access to water that is free from contamination and available on premises when needed.
2. 4.2 billion people lack access to safely managed sanitation services, meaning they do not have access to toilets or other facilities that safely dispose of human waste.
3. 2 billion people still lack basic sanitation facilities, such as toilets, which can lead to open defecation and the spread of disease.

In low-income countries, 50% of the population lacks access to basic handwashing facilities with

soap and water.

4. Inadequate access to safe drinking water and sanitation contributes to an estimated 485,000 deaths per year from diarrhoea, and is also linked to the spread of other infectious diseases such as cholera, typhoid, and hepatitis A.

While progress has been made, achieving universal access to safe drinking water and sanitation remains a major challenge, particularly in low-income countries. Efforts are underway to address this issue, including increasing investment in water and sanitation infrastructure and promoting behaviour change to encourage good hygiene practices.

What are SDGs?

SDGs stand for Sustainable Development Goals. They are a set of 17 goals established by the United Nations General Assembly in 2015, as part of the 2030 Agenda for Sustainable Development. The SDGs are intended to be a universal call to action to end poverty, protect the planet, and ensure that all people enjoy peace and prosperity by 2030.

The 17 SDGs are:

1. No Poverty
2. Zero Hunger
3. Good Health and Well-being
4. Quality Education
5. Gender Equality
6. Clean Water and Sanitation
7. Affordable and Clean Energy
8. Decent Work and Economic Growth
9. Industry, Innovation and Infrastructure
10. Reduced Inequalities
11. Sustainable Cities and Communities
12. Responsible Consumption and Production
13. Climate Action
14. Life Below Water
15. Life On Land
16. Peace, Justice and Strong Institutions
17. Partnerships for the Goals

Each goal has specific targets and indicators that countries are expected to work towards, and progress towards the SDGs is tracked through global indicators and reporting mechanisms. The SDGs are intended to be interconnected and holistic, recognizing that sustainable development requires addressing social, economic, and environmental challenges together.

SGD 6?

SDG 6 stands for Sustainable Development Goal 6, which is focused on ensuring availability and sustainable management of water and sanitation for all. The specific targets of SDG 6 are:

1. By 2030, achieve universal and equitable access to safe and affordable drinking water for all.
2. By 2030, achieve access to adequate and equitable sanitation and hygiene for all, and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations.
3. By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.
4. By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the

number of people suffering from water scarcity.

5. By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate.
6. By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes.
- By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies. 'Support and strengthen the participation of local communities in improving water and sanitation management.

SDG 6 aims to ensure access to safe and affordable drinking water and sanitation for all, and to improve the management of freshwater resources to address water scarcity and water-related ecosystems. Achieving SDG 6 is critical for human health, economic development, and environmental sustainability.

Challenges before Drinking Water Supply and Sanitation in Rural India

Access to safe drinking water and adequate sanitation in rural India faces several challenges, including:

1. **Water scarcity:** Many parts of rural India face water scarcity due to uneven distribution of rainfall and overexploitation of groundwater resources. This can make it difficult to provide reliable access to safe drinking water and adequate sanitation facilities.
2. **Contamination of water sources:** Many of the traditional water sources in rural India, such as wells, hand pumps, and surface water bodies, are often contaminated with pollutants, including human and animal waste, pesticides, and industrial effluents. This makes it difficult to provide safe drinking water and can lead to waterborne diseases.
- **Poor sanitation infrastructure:** In rural India, access to basic sanitation facilities, such as toilets, is limited. Open defecation is still common in many areas, which can lead to the spread of diseases and impact public health.
3. **Lack of awareness:** There is often a lack of awareness and understanding about the importance of safe drinking water and sanitation practices in rural communities. This can lead to poor hygiene practices and contribute to the spread of waterborne diseases.
- **Funding and infrastructure:** Providing safe drinking water and adequate sanitation facilities in rural areas requires significant investment in infrastructure, including water treatment plants, pipelines, and sanitation facilities. The funding for such infrastructure is often inadequate in rural areas, making it difficult to provide reliable access to safe drinking water and adequate sanitation.
4. **Climate change:** Climate change can exacerbate water scarcity and impact the quality of water sources. Extreme weather events, such as floods and droughts, can damage water supply infrastructure and disrupt water availability.
5. **Inadequate maintenance:** Even when water supply and sanitation facilities are provided, the maintenance and upkeep of the infrastructure is often inadequate, leading to breakdowns and a lack of access to safe drinking water and sanitation.
6. **Gender inequality:** Women and girls often bear the burden of collecting water in rural areas, which can take up significant amounts of their time and prevent them from pursuing education and income-generating activities. Additionally, the lack of access to safe and private sanitation facilities can be a barrier to women's dignity and safety.
7. **Limited institutional capacity:** The institutions responsible for providing drinking water and sanitation services in rural areas often lack the capacity and resources to effectively deliver services, monitor and maintain infrastructure, and address the needs of vulnerable populations.
- **Limited political will:** Despite the importance of access to safe drinking water and sanitation, there is often limited political will to prioritize these issues in policy and budget decisions. This can lead to inadequate funding and resources for improving water and sanitation infrastructure in rural areas.
8. **Migration:** Rural to urban migration is a common phenomenon in India, which can leave rural

communities with limited resources to invest in water and sanitation infrastructure. Additionally, migration can put additional stress on urban water and sanitation systems, leading to inequities in access to these services.

9. Poor water quality testing: Even when water sources are available, they may not be adequately tested for quality, leading to health risks for communities that consume contaminated water.
10. Limited access to financing: Many rural households and communities lack the financial resources to invest in their own water and sanitation infrastructure, which can limit their access to safe drinking water and adequate sanitation facilities.
11. Lack of coordination among stakeholders: Different agencies and actors may be responsible for different aspects of water and sanitation management in rural areas, leading to fragmented approaches and limited impact.
12. Limited technology adoption: In some cases, traditional water and sanitation technologies may be more appropriate for rural communities than modern technologies. However, limited research and development in these areas can limit the availability of appropriate technologies.
13. Cultural barriers: Cultural practices and beliefs may affect the adoption of new water and sanitation technologies or practices in rural communities, requiring tailored approaches to behaviour change communication.
14. Limited data and monitoring: There is often limited data available on water and sanitation access and quality in rural areas, which can make it difficult to design effective interventions and monitor progress.
15. Political interference: Politicians may interfere in the allocation of water resources or the management of water and sanitation services, leading to corruption and inefficiencies.
- Limited access to electricity: Many rural areas in India have limited access to electricity, which can make it difficult to provide reliable access to safe drinking water and sanitation facilities.
16. Low literacy rates: Low literacy rates in rural areas can limit the effectiveness of behaviour change communication campaigns related to water and sanitation.
17. Limited availability of skilled human resources: There may be a shortage of trained professionals in water and sanitation management in rural areas, limiting the capacity of government agencies and service providers.
18. Lack of community ownership: In some cases, water and sanitation facilities may be provided to rural communities without adequate community participation or ownership, leading to low levels of usage and maintenance.
- Limited access to markets: Limited access to markets for water supply and sanitation products and services can limit the adoption of appropriate technologies and approaches. Addressing these hurdles requires a holistic approach that involves addressing social, cultural, and economic factors that affect water and sanitation access in rural areas. This may involve improving governance and accountability in the water and sanitation sector, promoting public private partnerships to increase investment in infrastructure, strengthening community participation and ownership, and addressing underlying social and economic inequalities that affect access to water and sanitation services.

Solutions for Safe Drinking Water Supply and Sanitation in Rural India

Here are some potential solutions to improve drinking water supply and sanitation in rural India:

1. Community participation: Engaging rural communities in the planning, implementation, and maintenance of water and sanitation projects can increase the sustainability of these interventions and ensure they meet the needs of local populations.
2. Capacity building: Investing in training and capacity building for water and sanitation professionals, as well as community members, can help build the knowledge and skills needed to manage water and sanitation infrastructure effectively.
3. Improved financing: Increasing financing for water and sanitation infrastructure and services can improve access to safe drinking water and adequate sanitation facilities for rural populations. Innovative financing mechanisms such as public-private partnerships, microfinance, and

- community-based financing can also help mobilize resources for water and sanitation projects.
4. Technological innovation: Investing in research and development of appropriate water and sanitation technologies can increase access to safe drinking water and sanitation facilities in rural areas. This may include technologies that are low-cost, easy to maintain, and appropriate for local conditions.
 5. Policy and regulatory reform: Strengthening policies and regulations related to water and sanitation can help promote sustainable water management, increase accountability, and improve access to services for underage populations.
 6. Multi-stakeholder collaboration: Improving coordination among government agencies, civil society organizations, and the private sector can increase the effectiveness of water and sanitation interventions in rural areas.
 7. Behaviour change communication: Promoting behaviour change related to water and sanitation through community-based approaches can help improve hygiene practices and increase the demand for safe drinking water and adequate sanitation facilities.
 8. Use of renewable energy: Incorporating renewable energy sources such as solar power into water and sanitation infrastructure can improve access to safe drinking water and sanitation facilities in areas with limited access to electricity.
 9. Water harvesting and conservation: Promoting water harvesting and conservation practices can increase the availability of water for drinking, irrigation, and other uses in rural areas.
 10. Wastewater treatment and reuse: Treating wastewater and reusing it for non-potable uses can reduce the demand for fresh water and increase access to safe water in rural areas.
 11. Gender mainstreaming: Promoting gender mainstreaming in water and sanitation programs can help address gender inequalities in access to water and sanitation facilities. Disaster risk reduction: Incorporating disaster risk reduction measures into water and sanitation projects can help increase the resilience of rural communities to water-related disasters such as floods and droughts.
 12. Data collection and monitoring: Improving data collection and monitoring of water and sanitation facilities can help identify gaps in service provision and inform decision making related to water and sanitation interventions.
 13. Innovation hubs: Setting up innovation hubs that bring together water and sanitation experts, researchers, and entrepreneurs can help promote innovation in the water and sanitation sector.
 14. Mobile technologies: Using mobile technologies such as SMS and mobile apps can improve communication and information sharing related to water and sanitation services in rural areas.
 15. Advocacy and awareness-raising: Advocating for increased investment in water and sanitation infrastructure and raising awareness about the importance of safe water and sanitation can help generate political will and public support for water and sanitation initiatives.
 16. Sustainable agriculture: Promoting sustainable agricultural practices such as drip irrigation and crop rotation can reduce the demand for water in agriculture and increase the availability of water for other uses, including drinking water.

Overall, addressing the challenges related to drinking water supply and sanitation in rural India requires a multi-dimensional approach that involves addressing social, economic, and environmental factors. By adopting a holistic approach, it is possible to improve access to safe drinking water and adequate sanitation facilities for rural populations and promote sustainable water management practices.

REFERENCES

1. "Rural Drinking Water and Sanitation in India: A Status Report" by Water Aid India (2018), published by Water Aid India, New Delhi.
2. "Rural Drinking Water and Sanitation in India: A Report" by the Ministry of Drinking Water and Sanitation (2015), published by the Government of India, New Delhi.
3. "Water and Sanitation for Rural Communities in India" by International Water Management

-
- Institute (2010), published by International Water Management Institute, Colombo.
4. "Improving Access to Drinking Water in Rural India: An Evaluation of the National Rural Drinking Water Programme" by World Bank (2009), published by World Bank, Washington D.C.
 5. "Handbook on Drinking Water Treatment for Rural Areas" by Central Pollution Control Board (2008), published by Central Pollution Control Board, Delhi.
 6. "Water and Sanitation in Rural India: Policy Issues and Options" by World Bank (2006), published by World Bank, Washington D.C.
 7. "Rural Water Supply and Sanitation in India: Status, Challenges and Policy Options" by National Institute of Rural Development (2004), published by National Institute of Rural Development, Hyderabad.
 8. "Rural Drinking Water Supply and Sanitation: An Overview" by Planning Commission (2002), published by Planning Commission, New Delhi.