

International Journal of Innovative Research in Science, Engineering and Technology

(An ISO 3297: 2007 Certified Organization)

Vol. 5, Issue 12, December 2016

Management of Drinking Water, Sanitation, and Health in Rural Areas

¹Dr. Amar Singh Mounpria, ²Dr. B. L. Mehra

¹Lecturer in Zoology, SNDB Govt P.G. College, Nohar (Raj.), India

²Lecturer in Zoology, Govt. Lohia P.G. College, Churu (Raj.), India

ABSTRACT: Sanitation, cleanliness, and access to clean water are essential for human health and welfare. Safe water, sanitation and health (WaSH) is not only necessary for health, but also for livelihoods, development, and dignity, as well as for building resilient communities with wholesome surroundings. Health is harmed by drinking contaminated water leads to conditions like diarrhoea. The community should not utilise untreated, contaminated surface and ground water for drinking, irrigation, bathing, or home uses. Healthcare facilities must have the following amenities in order to deliver high-quality care; a clean, accessible water supply, hygienic restrooms and hand-washing stations and suitable waste disposal methods. Low cost technologies are available that requires less quantity of water to maintain sanitary and hygienic conditions.

KEYWORDS: Clean water, sanitation, health, rural area, WaSH, facilities, hygienic

I. INTRODUCTION

Rural communities confront significant issues with regard to water supply and sanitation, which are only going to get worse over the ensuing decades. Although urban areas are expected to see the highest population growth, rural areas currently have the weakest levels of coverage. Numerous studies have emphasized the value of hand washing in reducing the spread of fecal-oral diseases (Cairncross 2003; Fewtrell et al. 2005; Herbst et al. 2009). Outside the hamlet, defecation took place mostly in open spaces like fields and desolate ground (Geetha and Srinivasan 2014). According to the most recent estimates, diarrhoea causes roughly 1.7 million fatalities globally, which is a result of a lack of facilities for managing drinking water, sanitation, and hygiene (WaSH) (Gupta and Obani 2016). Due to mostly to poor WaSH practices, 0.8 million diarrheal and intestinal infections-related fatalities were documented in India (GBD 2017). Open defecation causes environmental (water) contamination, which in turn causes waterborne illnesses that are also to blame for the high child mortality rate (Chan et al. 2021). The study results show that due to education and awareness of basic hygiene habits, hand-washing with soap after urinating and before eating is frequent among those under the age of 40. (Banda et al. 2007).

Evidence from all across the world indicates that people's involvement in the development process might significantly alter how we access resources, which would in turn help to raise our standard of life. Additionally, it has been noted that everyone should have access to and afford water rights without restriction in order to live a healthy life.

The first section of this study analyses several drinking-water-related issues, while the second section examines many aspects of community sanitation, drinking-water supply, and health care in rural areas. Based on the findings from the earlier sections, the final section offers a summary assessment.

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Aims of the study:

The goal of this study is to maximize the health advantages of sustainable water and sanitation management while reducing diseases connected to water and sanitation in the rural area. The goals are to help the health sector and other sectors effectively handle the illness burden caused by poor water and sanitation and involve others in its reduction, as well as to help non-health sectors recognise and address the health effects of their actions.

Observations:

Lack of improved domestic water supply leads to disease through two principal transmission roots: Drinking contaminated water is the main method of spreading waterborne diseases. This has happened in numerous notable cholera and typhoid outbreaks, among other faecal oral infections. Waterborne disease outbreaks continue to happen in both industrialized and poor nations. Evidence points to waterborne disease as a factor in background disease rates that go undetected as epidemics. The faecal oral diseases, such as diarrhoea, typhoid, viral hepatitis A, cholera, and dysentery, as well as guinea worm disease, are classified as waterborne diseases.

When there is not enough water available for washing and personal hygiene, the sickness known as "water washed disease" might develop. Lack of water makes it difficult for people to maintain clean, sanitary hands, bodies, and residential settings. Skin and eye illnesses, such as trachoma, are easily transmitted when there is not enough water. Diarrhoea is the most important public health problem affected by water and sanitation and can be both waterborne and water washed.

The problem is worse in Rajasthan's rural districts, where there are few surface water sources, little rain, and frequent droughts. Women and girls must go a minimum of 3-5 kilometers each day to gather water for their homes. In addition, women frequently experience assault while defecating in the open, which poses greater health hazards to them than do men (World Bank 2011; Lee 2017). Another serious problem in Rajasthani rural households is gender imbalance because women do not make decisions about sanitation and water services (Doron and Jeffrey 2014). To track and assess WaSH-related issues like open defecation, toilet use, drinking water quality, gender inequality, and the progress toward the Swachh Bharat Mission, these attitudes and practices in rural Rajasthan require a thorough household survey.

Since gaining its independence, India has managed its water supplies and sanitary infrastructure using a top-down strategy. However, the Panchayati Raj institutions and Urban Local Bodies (ULBs) were given increased authority as a result of the 73rd and 74th constitutional amendments. As a result, the state governments were required to develop, organize, and carry out programmes for water and sanitation through the relevant ministry. The ownership of latrines has increased, according to other research (Cofey et al. 2014; Barnard et al. 2013; Lee 2017), however more than a third of those were not being utilised by the households.

However, the national government took the initiative in organizing numerous programmes and allocating funds to harmonise the standards throughout the nation. It also developed tactics through a number of Five-Year Plans to assist state governments in further simplifying their investments to meet their goals. Additionally, a number of central agencies have either directly or indirectly been involved in the planning and supervision of water supply and sanitation. For instance, the "Central Water Commission" (CWC) is in charge of managing surface water used for industrial, agricultural, and drinking reasons. Similar to this, the Central Ground Water Board (CGWB) keeps track of the country's water resource inventory as well as the quantity and pace of groundwater depletion. The Government of India's Ministry of Jal Shakti oversees both organisations. There are numerous additional organisations, including research institutions that work in the fields of water and sanitation to establish standards and offer technical support to the federal and state governments.

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The government of India's main initiatives, including the Swachh Bharat Mission (SBM), Total Sanitation Campaign, and the National Rural Drinking Water Programme (NRDWP) at district levels in each state, have contributed significantly to India's success in this field. By offering financial assistance to households below the poverty line, landless labourers, small and marginal farmers, women-headed households, and individuals with disabilities, SBM has encouraged the widespread installation of toilets to stop open defecation throughout the nation. However, water contamination levels are high in 34% of Indian states, and there are around 718 districts that are severely water-stressed (WaSH Tatatrusters 2020). According to estimates, 82 percent of rural families in India lack access to clean water (WHO 2017).

II. CONCLUSION

While inadequate water supply and sanitation have a significant negative impact on health, improving these conditions has enormous positive effects on social and economic growth. Hand washing with soap and water can cut the spread of diarrheal diseases in half. Therefore, promoting good hygiene is a top responsibility. According to the survey, India has made significant strides toward providing its citizens with access to clean water and sanitary facilities. Its quality is still a significant worry, though. Despite the implementation of numerous programmes by the national and state governments, drinking water access within the confines of various social groups in rural and urban India still varies greatly. It turns out to be a severe issue because limited access to necessities impedes inclusive growth. The government and many stakeholders may have worked together to achieve the recent news that the country is free of open defecation. However, our findings indicate that due to toilet facilities' brokenness and inadequate water supply, a significant portion of Indians does not use them. In this instance, the report recommends a change to the system to enhance the efficiency of the nation's administrative system. Additionally, the effort necessitates increased public spending in order to offer all inhabitants basic services. Low cost technologies should be promoted in rural areas.

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