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A Study on Drinking Water Supply in India

Pradeesh G
MBA, Department of Management Studies
Bharath Institute of Science and Technology,
Selaiyur, Chennai, Tamil Nadu 600 073
Bharath Institute of Higher Education and Research

ABSTRACT

In these paper studying the potable water. Drinking water is essential for life. The amount of drinking water required is variable. Water generated from the biochemical metabolism of nutrients provides a significant proportion of the daily water requirements for some arthropods and desert animals, but provides only a small fraction of a human's necessary intake. The most efficient way to transport and deliver potable water is through pipes. Plumbing can require significant capital investment. Institutional arrangements for water supply and sanitation in Indian cities vary greatly. The government also suggested to all state government as rural drinking water supply is a State subject, the State Governments are vested with powers to select, plan, approve and implement drinking water supply schemes.

1. INTRODUCTION

POTABLE WATER, also known as Drinking water or improved drinking water. Water is essential for life. It's useful with safe enough for drinking and food preparation. The amount of drinking water required is variable. It depends on physical activity, age, health issues, and environmental conditions. It is estimated that the average American drinks about one litter of water a day with 95% drinking less than three litters per day. For those working in a hot climate, up to 16 litres a day may be required. Water makes up about 60% of weight in men and 55% of weight in women. Infants are about 70% to 80% water while the elderly are around 45%. The drinking water contribution to mineral nutrients intake is also unclear. Inorganic minerals generally enter surface water and ground water via storm water runoff or through the Earth's crust. Treatment processes also lead to the presence of some minerals. Examples include calcium, zinc, manganese, phosphate, fluoride and sodium compounds. Water generated from the biochemical metabolism of nutrients provides a significant proportion of the daily water requirements for some arthropods and desert animals, but provides only a small fraction of a human's necessary intake. There are a variety of trace elements present in virtually all potable water, some of which play a role in metabolism. For example, sodium, potassium and chloride are common chemicals found in small quantities in most waters, and these elements play a role in body metabolism. Other elements such as fluoride, while beneficial in low concentrations, can cause dental problems and other issues when present at high levels

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TYPES OF WATER SOURCES

- Ground sources such as groundwater, springs, hypothetic zones and aquifers
- Precipitation which includes rain, hail, snow, fog, etc.
- Surface water such as rivers, streams, glaciers
- Biological sources such as plants.
- Desalinated seawater
- Water supply network
- Atmospheric water generator

SURVEY OF POTABLE WATER SUPPLY

GLOBAL

Globally, in 2012, 89% of people had access to water suitable for drinking. Nearly 4 billion had access to tap water while another 2.3 billion had access to wells or public taps. 1.8 billion People still use an unsafe drinking water source which may be contaminated by faces. This can result in infectious diarrheal such as cholera, typhoid and jaundice among others. Water covers some 70% of the Earth's surface. Approximately 97.2% of it is saline, just 2.8% fresh. Potable water is available in almost all populated areas of the Earth, Sources where water may be obtained include:

The most efficient way to transport and deliver potable water is through pipes. Plumbing can require significant capital investment. Some systems suffer high operating costs. The cost to replace the deteriorating water and sanitation infrastructure of industrialized countries may be as high as $200 billion a year. Leakage of untreated and treated water from pipes reduces access to water. Leakage rates of 50% are not uncommon in urban systems.

The World Health Organization/UNICEF Joint Monitoring Program (JMP) for Water Supply and Sanitation is the official United Nations mechanism tasked with monitoring progress towards the Millennium Development Goal (MDG) relating to drinking-water and sanitation (MDG 7, Target 7c), which is to: "Halve, by 2015, the proportion of people without sustainable access to safe drinking-water and basic sanitation". The JMP is required to use the following MDG indicator for monitoring the water component of this: Proportion of population using an improved drinking-water source.

DRINKING WATER SUPPLY AND SANITATION IN INDIA

Drinking water supply and sanitation in India continue to be inadequate, despite longstanding efforts by the various levels of government and communities at improving coverage. The level of investment in water and sanitation, albeit low by international standards, has increased in size during the 2000s. Access has also increased significantly. For example, in 1980 rural sanitation coverage was estimated at 1% and reached 21% in 2008. Also, the share of Indians with access to improved sources of water has increased significantly from 72% in 1990 to 88% in 2008. At the same time, local government institutions in charge of operating and maintaining the infrastructure are seen as weak and lack the financial resources to carry out their functions. In addition, only two Indian cities have continuous water supply and according to an estimate from 2008 about 69% of Indians still lack access to improved sanitation facilities.

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A number of innovative approaches to improve water supply and sanitation have been tested in India, in particular in the early 2000s. These include demand-driven approaches in rural water supply since 1999, community-led total sanitation, a public-private partnerships to improve the continuity of urban water supply in Karnataka, and the use of micro credits for water supply and sanitation in order to improve access to water and sanitation.

URBAN AREAS

Institutional arrangements for water supply and sanitation in Indian cities vary greatly. Typically, a state-level agency is in charge of planning and investment, while the local government (Urban Local Bodies) is in charge of operation and maintenance. Some of the largest cities have created municipal water and sanitation utilities that are legally and financially separated from the local government. However, these utilities remain weak in terms of financial capacity. In spite of decentralisation, ULBs remain dependent on capital subsidies from state governments. Tariffs are also set by state governments, which often even subsidise operating costs. Furthermore, when no separate utility exists, there is no separation of accounts for different activities within a municipality. Some states and cities have non-typical institutional arrangements. For example, in Rajasthan the sector is more centralised and the state government is also in charge of operation and maintenance, while in Mumbai the sector is more decentralised and local government is also in charge of planning and investment. In 2012 the Delhi Jal Board contracted out operations and management in three zones of the city to private companies under performance-based contracts to reduce non-revenue water. The Vasant Vihar-Mehrauli zone is operated by SMPL Infrastructure of India, Malviya Nagar by Suez Environment and the Nangloi zone by Veolia Environment.

RURAL AREAS

There are about a 100,000 rural water supply systems in India. At least in some states, responsibility for service provision is in the process of being partially transferred from State Water Boards and district governments to Panchayati Raj Institutions (PRI) at the block or village level (there were about 604 districts and 256,000 villages in India in 2002, according to Subdivisions of India. Blocks are an intermediate level between districts and villages). Where this transfer has been initiated, it seems to be more advanced for single-village water schemes than for more complex multi-village water schemes. Despite their professed role Panchayati Raj Institutions, play only a limited role in provision of rural water supply and sanitation as of 2006. There has been limited success in implementing decentralisation, partly due to low priority by some state governments. Rural sanitation is typically provided by households themselves in the form of latrine. The drinking water contribution to mineral nutrients intake is also unclear. Inorganic minerals generally enter surface water and ground water via storm water runoff or through the Earth's crust. Treatment processes also lead to the presence of some minerals. Examples include calcium, zinc, manganese, phosphate, fluoride and sodium compounds. Water generated from the biochemical metabolism of nutrients provides a significant proportion of the daily water requirements for some arthropods and desert animals, but provides only a small fraction of a human's necessary intake. There are a variety of trace elements present in virtually all potable water, some of which play a role in metabolism in the following table.

SOURCE: IMIS

Table showing the population covered with Piped Water Supply as per IMIS data

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FUTURE PLAN IN INDIA

The government also suggested to all state government as rural drinking water supply is a State subject, the State Governments are vested with powers to select, plan, approve and implement drinking water supply schemes. States have been advised to go for surface source based piped water supply schemes to preserve ground water and avoid slippage in 2015-16, an amount of Rs. 2758.45 core has so far been released to States / UTs for providing safe drinking water to rural areas of the country.

The Ministry has prepared a strategic plan to cover 90% of the rural population of the country through piped water supply schemes by the year 2022, subject to availability of funds. States have been advised to set up Community Water Purification plants or provide safe drinking water through surface water based piped water supply schemes in all remaining arsenic and fluoride affected habitations by March 2017.

2. CONCLUSION

The one thing that is potable water supply is how the people are using potable water through the world including India. A number of innovative approaches to improve water supply and sanitation have been tested in India, in particular in the early 2000s. Based on the survey improved water source are urban 96% and rural 84%. And improved sanitation is urban 54% and rural 2%. Access to safe drinking water is indicated by safe water sources. These improved drinking water sources include household connection, public standpipe, borehole condition, protected dug well, protected spring, and rain water collection. Sources that do not encourage improved drinking water to the same extent as previously mentioned include: unprotected wells, unprotected springs, rivers or ponds, vender-provided water, bottled water (consequential of limitations in quantity, not quality of water), and tanker truck water. Access to sanitary water comes hand in hand with access to improved sanitation facilities for excreta, such as connection to public sewer, connection to septic system, or a pit latrine with a slab or water seal

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