

Ensuring Safe And Adequate Drinking Water

National and International Provisions for Drinking Water

- **Article 47 of Indian constitution** has conferred the duty of providing clean drinking water and improving public health standards to the State.
- **United Nations Conference on Environment and Development (UNCED)** has themed this year's Water Day as '**leaving no one behind**'. This goes on par with the promise on the 2030 Agenda for Sustainable Development.
- The **SDG Goals 2015-2030** include **Goal 6 for clean water and sanitation** for ensuring their availability and sustainable management.
- **Goal 6.1** specifically says that by 2030, countries including India should 'achieve universal and equitable access to safe and affordable drinking water for all'.

Statistics:

- According to **global reports released by the United Nations**, 2.1 billion people live without safe drinking water at home and 80 per cent of those who have to use unsafe and unprotected water sources, reside in rural areas.
- Further, **more than 700 children under five years of age die every day** from diarrhoea due to unsafe water and poor sanitation.
- Nearly **two-thirds of the world's population experiences severe water scarcity** at least for 31 days per year.
- The intense impact of water scarcity could **displace 700 million people by 2030**.
- Water consumption of the world is doubling every 20 years.
- In India, due to a 3-fold increase in population during 1951-2010, the **per capita availability of water** in the country as a whole **decreased from 5,177 m³/year in 1951 to 1,588 m³/year in 2010**.

Water Availability in the Rural Areas:

- India is among the world's most water-stressed countries.
- Water resources are not evenly distributed. Half of India's annual precipitation falls in just 15 rain-soaked days, making floods and droughts a fact of life in the country.
- According to the **National Sample Survey Office (NSSO) (2011-12)**, 46.1 per cent of the rural households do not have drinking water facilities within their premises.
- A person in rural India has to spend, on an average, 20 minutes to fetch drinking water.
- India loses 73 million working days due to water-borne diseases.

Government Initiatives

- Constant efforts have been made in this direction starting from the **Bhore Committee** in 1946 to **Accelerated Rural Water Supply Programme** (1972), and '**Swajal Dhara**' scheme (1999) by empowering and involving local communities in tackling water and sanitation issues.
- In 1999, the **Department of Drinking Water Supply** was created in the Ministry of Rural Development.
- Then came '**Bharat Nirman**' as flagship programme of the Central Government which created the required infrastructure to have good quality water to rural household.

- **National Rural Drinking Water Programme (NRDWP)** aims at assisting States in providing adequate and safe drinking water to the rural population in the country.
- The Ministry is aspiring to achieve ‘**Har Ghar Jal**’ by 2030, in line with the UN’s Sustainable Development Goals.
- Earlier drinking water to the rural population has been provided through hand pumps, tube wells and piped water supply, preferably through a balanced mix of sustainable surface and ground water based resources.

Coverage in Rural India:

- NRDWP now target providing **rural populations with 40 litres of water** daily to cover domestic uses. On this measure, **water coverage has increased from 70 per cent in 2011-12 to 81 percent** now.
 - However, in 2012 the target was increased to 55 lpcd (litre per capita per day), more than the World Health Organizations’s recommended amount of around 50 lpcd.
 - As on 31 December 2018, 79 per cent of rural habitations had been covered at 40 lpcd but only 47 percent at 55 lpcd.
 - Till January 2019, 18 per cent of rural households had been provided with Piped Water Supply (PWS) household connections.
- The Central Government **aims to cover 90 per cent rural households with piped water supply and 80 per cent households with tap connections by 2022.**
 - A pilot project in the name of “**Swajal**” that is designed as a **demand driven and community centred** programme to provide sustainable access to drinking water to people in the rural areas.
 - The Central Government has also come up with a World Bank-aided **Atal Bhujal Yojana** with community participation to **ensure sustained groundwater management in overexploited and ground water-stressed areas in seven states.**
 - The **quality of water** supplied is also a major issue. Official NRDWP data reveals that around 60,000 of all habitations are exposed to water contaminated by arsenic and fluoride.
 - In March 2017, MDWS started as **new sub-programme under NRDWP** known as the **National Water Quality Sub-Mission (NWQSM).**
 - The sub-programme **aims to address the urgent need for providing clean drinking water in already identified 28,000 arsenic and fluoride affected habitations.**
 - To enable the rural community shoulder the responsibility in management operation and maintenance of water supply systems at village level, **decentralized, demand-driven, community-managed approach in the form of Swajal Dhara** have been adopted.
 - To further strengthen community participation in the drinking water sector for sustainability, **National Rural Drinking Water Quality Monitoring & Surveillance Programme** has been launched in February, 2006.
 - Under this programme, 5 persons in each Gram Panchayat are to be trained to carry out regular surveillance of drinking water sources for which 100 per cent financial assistance including water testing kits, are provided by the Government.

Challenges:

- As per the report submitted by the **Committee on Restructuring the Central Water Commission (CWC) and the Central Ground Water Board (CGWB), 2016** if the current pattern of demand continues, about half of the demand for water will be unmet by 2030.
- In addition, **climate change** poses fresh challenges as more extreme rates of rainfall and evapotranspiration intensify the impacts of floods and droughts.
- 60 percent of our districts face **groundwater over-exploitation** and with **251 cubic kilometer (cu km) annual groundwater extraction rate**, our country is the **world's biggest consumer of groundwater**.

Few Good Initiatives:

- Rainwater harvesting is one of the most important initiatives which can help in a long way in sustaining the supply of safe drinking water in the rural areas.
- In this regard, the **Central Ground Water Board** has prepared a conceptual document entitled '**Master Plan for Artificial Recharge to Ground Water in India**'.
- There are many success stories in India which draw their success from ancient traditional knowledge and wisdom. **In 2001, the Tamil Nadu government** made it *compulsory for each household to have rainwater harvesting infrastructure* and the results are now reflected in the improvement of overall water quality within 5 years.
- The **efforts by local communities in India to improve water availability have been lauded in a UN report** that highlights the importance of finding nature-based solutions to meet global water challenges.
- It also cited the **example of China's Sponge City** which aims to recycle 70 per cent of rainwater.
- According to this report the collective water storage efforts have **benefitted Kadwanchi village in Jalna district in Maharashtra** to go in for high value crops such as grapes, ginger and chillies.
- The report highlights the **importance of beris, traditional system of harvesting rainwater** in part of **western Rajasthan**. Shaped like matkas (pitcher), these shallow wells are dug up in areas with gypsum or bentonite beds which prevent the rainwater from percolating downwards but guide them towards the wells through capillary action.

Way Forward:

- Overexploitation of ground water is a major concern in India. There is need for **regulatory mechanism by the State governments** to check the overexploitation of this resources.
- There is **need for more role of Panchayati Raj Institutions (PRIs)** in making the drinking water supply schemes functional. Presently, the role of PRIs is minimal.

Community Participation And Quality Drinking Water Supply

An important component of rural infrastructure is drinking water arrangements. To meet the demands of the citizens, increased public investment is required for the creation of water infrastructure. A water-secure nation will not only provide clean and safe drinking water to its citizens but also would ensure a healthy and economically productive society.

Schematic Interventions:

- The first-ever formal schematic intervention was initiated with the implementation of the **Accelerated Rural Water Supply Programme (ARWSP)** during 1972-73.
- Its approach towards last-mile delivery got modified by the introduction of the **National Drinking Water Mission (NDWM)** in 1986.
- The **first-ever National Water Policy** was drafted in 1987 to give a concrete direction to the approach adopted to create sustainable water infrastructure.
- In 1991, **Rajiv Gandhi National Drinking Water Mission** replaced NDWM.
- In 1994, the **73rd constitutional amendment** incorporated specific provisions of entrusting the responsibility of drinking water supply to Panchayati Raj Institutions (PRIs).
- **Swajaldhara** accorded priority to *servicing villages which did not have an adequate source of water*.
- The period 2005-2012 witnessed the **implementation of Bharat Nirman Programme** during which the **Nation Rural Drinking Water Programme (NRDWP)** was launched in 2009.
- With effect from 2016, **NRDWP was transformed into an outcome-oriented schematic intervention** to ensure adequate potable water availability without undermining the importance of convenience, affordability and equity in distributing drinking water in rural areas.

Water Quality Issue:

- Even though Gol Data shows the coverage of 80.6 percent of rural habitations with drinking water, *it indicates neither the average actual supply of drinking water over a considerable period nor the quality of water being supplied through the installed capacities in rural areas*.
- Further, drinking water sources depend on ground water sources. Thus, there is every possibility of **slipping back from 'fully covered' to 'partially covered' or 'quality affected'**.
- This calls for an **integrated quality monitoring and surveillance mechanism** at the level of community.
- The quality of water is deteriorating in rural areas due to the following major factors:
 - (a) Rapid depletion of ground water level **due to over extraction by Agriculture and Industry sectors**;
 - (b) **Uncontrolled construction** activities in rural areas and encroachment of the erstwhile water bodies;
 - (c) **Siltation of rural water bodies** and reduction of water bodies;
 - (d) **Erratic rainfall and droughts** or drought-like conditions;
 - (e) Water pollution due to incessant and **increased use of pesticides; fertilizers and effluents** coming from industry.

Community & Water Quality Management:

- The community's involvement enhances economic viability of operation and maintenance, better upkeep due to inherent community belongingness and also increases life span of system so created.

Community Water Management through Special Purpose Vehicle - A Success Story

- Gujarat Government created a special purpose vehicle, **Water and Sanitation Management Organisation (WASMO_)** in 2001. WASMO – an autonomous entity aimed at facilitating community managed drinking water facilities in rural areas of Gujarat.

- WASMO, marched towards attaining sustainability by **adopting a demand-driven community-led cost sharing service approach** to assure safe drinking water availability at the doorstep.
 - **Rainwater harvesting has become the rule** for recharging the local water supply sources.
 - WASMO focuses on **bulk transfer of water from water-surplus south Gujarat to water-deficient north Gujarat**, Saurashtra and Kutchh through canal and pipeline systems to supplement the local sources.
 - The relentless work to ensure sustainable safe drinking water in Gujarat's rural areas was bestowed the **2010 Commonwealth CAPAM international Award**.
- In order to arrest problems of arsenic and fluorides contamination in drinking water, NITI Aayog had recommended **commissioning of community water purification plants** and **advocated for last mile connectivity of piped water supply schemes** in 2016.
 - In 2017, Gol launched the National Water Quality Sum-Mission to provide safe drinking water to arsenic/fluoride affected rural habitations in span of four years.

Conclusions:

- There is need for empowerment of PRIs and local communities to manage and monitor the rural drinking water sources and systems at the local level to achieve the objective of 'Har Ghar Jal'.
- A shift in approach is required to '**area-specific development interventions**' from 'universalization of programmes/schemes'.
- An independent mapping of development status at frequent intervals is the need of the hour.
- Also, there is need to go for a **rigorous convergence drive of Gol's various rural development programmes**, such as Mahatma Gandhi National Rural Employment Guarantee Act, Pradhan Mantri Krishi Sinchayee Yojana, other scheme for watershed development and restoration of water bodies, etc., backed by a **need based village-level water planning**.

Technology Innovations For Safe Drinking Water Supply

- Appropriate technologies and innovations can play a pivotal role in making available safe and clean drinking water to the rural population.
- If technologies and innovations are equipped with the insight of traditional knowledge system of India, then drinking water supply in rural parts of the country can be realized.

Availability of Safe and Clean Water:

- According to the World Health Organization, **84 per cent of Indians** who do not have access to clean water and sanitation live in rural communities.
- As per the **review of the Millennium Development Goals done by the United Nations**, out of the 35 Indian states, only 7 have achieved full coverage of having a safe water source for their villages.
- Drinking water quality remains an issue and this reflects the fact that approximately 21 per cent of communicable diseases are waterborne and 75 per cent of water-related deaths are of infants under five years.

Need for technological innovation:

- Inappropriate quality and unreliable and unsustainable water supplies have an adverse effect on socio-economic development of these countries.

- It has become increasingly obvious that a new approach must be evolved in order to provide better service to vulnerable sections of society.
- **Instead of being supply-led**, the new approach **should be demand-responsive**. The selection of appropriate technological options and judgment at the required level of service are essential elements of this new approach.

Public bodies involved in the rural supply of water:

- **Central Water Commission (CWC)** regulates the use of water to irrigate surface water, the industry and potable water.
- **Central Groundwater Board (CGWB)** monitors groundwater levels.
- **National Rivers Conservation Directorate (NRCD)** oversees the implementation of Action Plans to improve the quality of the rivers in India.
- **Central Pollution Control Board (CPCB)** promotes basin-wide pollution control strategies.
- The **Ministry of Drinking Water and Sanitation** is the nodal ministry for the overall policy, planning, funding and co-ordination of the National Rural Drinking water supply in the country.
- **Ministry of Agriculture (MoA)** deals with planning, formulation, monitoring and reviewing of various watersheds based developmental project activities.
- **Central Bureau of Health Intelligence (CBHI)** performs the collection, compilation, analysis and dissemination of the information on health conditions in the country.
- **Bureau of Indian Standards (BIS)** is responsible for the drafting of standards pertaining to drinking water quality.

Technology interventions for Drinking Water:

- The design of hand pumps is very important for better performance efficiency.
- The technology for water treatment removes contaminants that may be organic, physical or chemical in nature. Diverse water treatment technologies are available to clean and make contaminated water suitable for human consumption by removing unwanted chemicals or biological contaminants.

Few Examples:

- Capacitive deionization (CDI), is a technology in which a separator channel (with a porous electrode on each side) removes ions from water;
- Reverse osmosis (RO) technology
- OS-Community scale Arsenic Filter is an organic arsenic filter which is developed by the IIT Kharagpur.
- Solar water purification system.

Innovation: Key to Resolve Drinking Water Crisis:

- Under SDG, it is targeted to achieve the following global goals by 2030.
 - Universal and equitable access to safe and affordable drinking water for all.
 - 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.
 - Improve water quality by reducing pollution, eliminating dumping and minimizing the release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.

- For this cost effective and user friendly innovations are important.
- For example, in the technological sphere, it is particularly important to convert dirty, brackish, and salt water into fresh water using techniques that can be economically and ecologically acceptable.`

Communication and Educational Innovation

- In the past, Millennium Development Goal 7, the United Nations created an innovative program called **WASH (Water, Sanitation and Hygiene)** *which is essential for all time in improving people's health, education and lifestyle, as well as in reducing poverty around the world.*

The Road Ahead:

It is our collective responsibility to think and act logically to save water. At the same time, we should support the government as well as non-government agencies that are developing technological and innovative interventions to make available safe drinking water.

Water Security And Sustained Drinking Water Supply

Challenges:

- Demand pressures from various sectors, changing cropping pattern, high rate of urbanization and industrialization and most importantly, climate change are some of the factors that need to be addressed if India wants to become a water secure nation.
- **Water pollution** is another big challenge that India is facing today.
- India receives an average annual rainfall of around 1100 mm but there is a **huge regional and temporal variation** in the distribution of rainfall.
- The country receives more than 80 per cent of the rainfall from June to September. The unequal spatial distribution could be easily observed by the fact that the Brahmaputra and Barak basin, with only 7.3 per cent of the geographical area and 4.2 per cent of the country's population, have 31 per cent of the annual water resources.
- It could be found that one region is facing floods while some other region is having drought at the same time.
- **Over-reliance on centralized systems and insufficient attention towards traditional water harvesting systems and disconnect of the community from water management** is one of the major cause of such situation.
- Groundwater (GW) which is currently the lifeline of Rural India, as it supports more than 85 per cent drinking water requirements in rural areas, is **depleting at an unprecedented rate.**
- A **performance audit of the NRDWP** was conducted by CAG of India in 2018 highlighted insufficient community involvement, lack of long term sustainability plan, over-reliance on depleting groundwater resources and lack of focus on operation and maintenance of created infrastructure is not serving the purpose of building water secured rural India.

Policy Recommendations:

- Different states in India face completely different water related challenges and thus “**one size fits all**” **approach would not be applicable.** Major policy reforms in regard to rural water management are discussed below:
 - i. **Better data** on water quality and quantity

- ii. **Basin/Sub-basin level water management:** Several basins are inter-state thus it would require the riparian states to come to a consensus. Therefore, water management at the sub-basin level should be initiated.
- iii. **Water source improvement:** as per a CPCB report 2018, 351 river stretches on 275 rivers across the country have got polluted due to the discharge of both municipal and industrial waste water over the years.
- iv. **Integrated water and waste management:** Open defecation, domestic solid waste, wastewater and waste from cattle are the major cause of water contamination in rural areas.
- v. **Supply and access augmentation:** On the supply side, wastewater reuse and recycling and rain water harvesting should be encouraged. On the access front, households and farms with poor access to water should be targeted on priority. Decentralised systems need to be promoted in a big way to complement the existing water infrastructure.
- vi. **Demand side management:** There is need for increased adoption of water efficient practices and agro-ecology based crop selection in the agriculture sector as the groundwater sources are finite.
- vii. **Capacity building:**
- viii. **Institutional and legislative reforms:** Water is segregated amongst so many institutions that accountability is difficult to be defined. There is no umbrella agency that controls the governance of the water sector.
- ix. **Revival of traditional wisdom:** The first and most important initiative to preserve traditional knowledge is the documentation of traditional customs and practices. Also, the community needs to be made the guardian of water resources in their locality.
- x. **Preparedness for disasters** – drinking water is heavily affected during disasters. Thus people should be made aware of actions to be taken for restoring drinking water sources.

Access To Drinking Water And Public Health

- The fact that major civilizations across the world developed/evolved along rivers is a testament to the relevance of water in human life.

The idea of population health or Public health is said to have born in Rome with the development of bath (for hygiene), sewers (drainage) and aqueducts (to supply safe water to cities).

- The scientific linkage and importance of pure drinking water and good health was established around 1840 with experiments and observations of two **British physicians and epidemiologists John Snow**, who studied the spread of cholera in London from 1848 to 1854.
- After that, **William Budd followed up on John Snow's** work on Cholera and conducted additional observations based on an outbreak of typhoid fever in rural north of England and concluded that spread was by drinking water.

Global situation on drinking water availability, 2015

- In 2015, Nearly 72% of the world population or 520 Crore (5.2 billion) people used safely managed drinking-water services.
- The remaining 210 Crore (2.1 billion or 28%) people were living without safely managed drinking water services.

Quantity of water required by a person:

- The basic physiological requirement for drinking water has been estimated at 2 liters per person per day. This is minimum for survival and consumption of water depends upon lifestyle, climate condition and habits.
- For urban settings, the water availability of 150-200 liter per person is considered adequate to meet all domestic purposes. In rural India, a norm of 40 liter per person per day is a set target.

Water and Public Health:

- The water borne diseases are considered public health problem due to a number of reasons, which includes
 - (a) their potential to cause large outbreaks;
 - (b) high disease burden;
 - (c) for being major causes of admissions and outpatient visits to the hospitals and health facilities mainly amongst young children;
 - (d) for many water borne disease, no specific treatment is available and prevention is the best approach and
 - (e) These disease spread rapidly and may cause panic in the community.

Availability of Water Adversely Affects Health Service Delivery:

- The WHO/UNICEF Joint Monitoring Program (JMP) report, 'WASH in Health Care Facilities', is a comprehensive global assessment of Water, Sanitation and Hygiene (WASH) in health care facilities.
- It finds that **1 in 8 health care facilities has no water service** and **1 in 5 has no sanitation service**.
- In India, in March 2017, nearly 20% Health Sub-Centres and 4% of Primary Health Centres in rural India did not have access to running water.
- This adversely affects practices such as Hand washing, which is a very proven and cost-effective health intervention.
- IN 2015, WHO & UNICEF jointly developed **WASH FIT (Water and Sanitation for Health Facility Improvement Tool)**.
- WASH FIT aims to guide small, primary health care facilities in low-and middle-income settings through a continuous cycle of improvement through assessments, prioritization of risk, and definition of specific, targeted actions.

Conclusion:

- From the health sector perspective, water & sanitation, hygiene, amongst others are considered Social Determinants of Health, which are attributed to nearly half of the improvements in health outcomes.
- There is a high burden of water-borne diseases which can be prevented with improved availability of drinking water.
- As the global development community and India is focusing on advancing universal health coverage and addressing the social determinants of health, improved provision of safe drinking water should be prioritized.

Rural Drinking Water Supply Infrastructure: Monitoring, Operational And Maintenance

- There is an urgent need to develop and implement newer ways of storing, conserving protecting and distributing water.
- An assured supply of safe and adequate drinking water can also be seen as one of the basic factors determining the quality of life of people and in the process enhancing their quality of life.

Infrastructure of Rural Drinking Water Supply:**Rural Drinking Water Infrastructure – Habitation wise**

S.No	Particulars	Coverage of Habitations
1	Fully covered	3,96,348 (80.9%)
2	Partially Covered	2,69,096 (15.59%)
3	Drinking Water Quality Affected	60,365 (3.5%)
4	Piped water Supply	77,368 (44.84%)

Drinking Water Infrastructure under SWAJAL in Aspirational districts:

- The **MoDWS launched SWAJAL**, which is a community demand driven, decentralized, single village, programme for the 112 aspirational districts in 27 States identified by NITI Aayog.
- The aspirational districts have low coverage of habitations with piped water supply as compared to National Coverage.
- **Gram Panchayats** in partnership with rural communities and **State Sectoral agencies** are being involved in the execution of the scheme and also operate and maintain the scheme.
- Swajal was originally launched as a pilot scheme in February 2018 in six States of Bihar, Maharashtra, Madhya Pradesh, Uttar Pradesh, Uttarakhand and Rajasthan. Later, it was extended to all the 112 aspirational districts identified by NITI Aayog.
- The States Governments are advised to **access the funds under the “Flexi Funds” under NRDWP**.
- 5% of the funds (both Central and state share put together) under NRDWP can be utilized by the State for funding Swajal.

Infrastructure of Water through Convergence for Swachh Bharat Mission (SBM):

- The availability of enough water for sanitation purposes needs to be taken into account on priority.
- A conjoint approach to water and sanitation is being adopted through convergence with the National Rural Drinking Water Programme (NRDWP) and the SBM(G).
- Villages which have been declared ODF are given priority for Piped Water Schemes under NRDWP.

Water App for monitoring water supply schemes:

- The **RWS mobile App** has been developed by the Ministry and description of those schemes are available through this mobile application.
- Using this App, the user can upload the photographs for beneficiaries/Source/Delivery Points using a Smartphone.

- At present, this facility has been provided to state government officials, as a tool for reporting the progress of NRDWP to the central Ministry.

Drinking Water Quality Monitoring:

- The **Integrated Management Information System (IMIS)** facilitates the Ministry and the line departments to **monitor the coverage status** of rural habitations and population with potable drinking water.
- The status of quality affected habitations and population and its coverage with safe potable water is regularly monitored on this platform.
- The system also provides a platform to the district and block water testing laboratories to upload the water sample test report.

Conclusion:

- No doubt, more than 80% of rural habitations have been provided rural drinking water supply infrastructure due to which 40 litres of water per day per person is ensured.
- The monitoring tools such as Water APP and Drinking Water Quality Testing are ensuring sustainable safe drinking water to the rural people.
- Further, the field studies have revealed that a good number of villages in the country are maintaining O & M with the active participation of communities, specially women resulting in 27x7 safe drinking water supply on a sustainable manner.
- This is one of the contributing factors for preventing water borne diseases in achieving health for all.

Revival Of Traditional Rainwater Harvesting Structures In Rajasthan

- Rajasthan is India's largest state by area, accounting for more than 10 percent of the country's geographical area.
- However, possesses just 1.2 per cent of the total surface water and only 1.7 per cent of the groundwater available in India.
- The state is heavily dependent on groundwater for drinking water and irrigation.

Traditional Rainwater Harvesting (TRH) Structure:

- Hundreds of years ago, the rulers of princely states in Rajasthan had created structures for rainwater harvesting, now called traditional rainwater harvesting (TRH) structures.
- The main TRH structures in Rajasthan are **kundi, kui/beri, baori/ber, jhalara, nadi, toba, tanka, khadin, johad and anicut.**
- The main reasons for the dysfunctional state of TRH structures are:
 - Availability of other sources of water (piped water, hand pumps and canal water)
 - Requirement of financial resources for their use and maintenance;
 - Requirement of time and labour to use water from these structures;
 - Lack of ownership and participation of the community, and;
 - Tendency to disregard age old and time tested lifestyle in favour of the latest technology in the name of modernization.

- In 2016, the **state government launched a comprehensive scheme** to ensure effective implementation of water conservation and water harvesting related activities in rural areas.
- Further, following the Union Government's Model Bill for Ground Water Management (2011) and National Water Policy (2012), the State Government has made rainwater harvesting mandatory for all public establishments and all properties in plots covering more than 500 sq m in urban areas.

Conclusion:

- As a result of such focus, the revival of TRH structures now occupy considerable importance in the policy space in Rajasthan.
- It has been recognized that despite the depleting water resources, the state still has significant potential for harvesting and conserving rainwater.
- While constructing or renovating TRH structures is necessary, it is even more important to maintain these structures properly so that their benefits can be derived for many years to come. For that community participation and involvement is must.