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The Role of Telangana Government Policies in Sustainable Water Management

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ABSTRACT: The Telangana government prioritizes sustainable water management through major initiatives like Mission Kakatiya (tank restoration), Mission Bhagiratha (safe drinking water), and large-scale irrigation projects like KLIP. Policies emphasize groundwater regulation via the TGWALTA Act, 2002 and, as of 2023, strict extraction rules for industries and residential projects. Key strategies include community-based water management, rainwater harvesting, and shifting crop. These efforts have led to a "sea change" in water availability, specifically by raising the groundwater table and enhancing surface water storage through decentralized, community-driven approaches

I. INTRODUCTION

Telangana, in southern India, has other critical water resource concerns like repeated droughts, low rainfall, or groundwater over-exploitation. The state economy is largely agrarian in nature, and agriculture consumes more water than any other activity. The sustainable management of water resources is aimed at safeguarding the future of this state, as fast-developing urban centers such as Hyderabad, industrial demands, and the menace of climate change constantly work to erode it. The various policies and programs instituted by the government of Telangana to deal with these issues, thereby promoting conservation, equitable water distribution, and long-term viability, are discussed. The paper delves into the role of various government policies in water resource management for sustainable development, their effectiveness, and their coverage.

II. WATER GOVERNANCE AND INSTITUTIONAL FRAMEWORK IN TELANGANA

They require an institution for the appropriate management of water resources in Telangana. The governance of water resources in this state has evolved into a multi-tier level involving various governmental departments, local bodies, and community participation. The following are the important institutions:

Telangana State Water Resources Department: It is planning, developing, and maintaining the water resources of the state. This department is responsible for river basin management, irrigation, and groundwater resource management.

Telangana State Groundwater Department: The most important function of this department is the assessment, monitoring, and protection of groundwater resources, because there is substantial pumping of groundwater for agricultural use from within the state.

Rural Development and Panchayati Raj Department: This department has the role in implementing water management policies, mainly at the village level, in rural and tribal communities.

Telangana State Pollution Control Board: TSPCB is mostly connected with regulation of water pollution, wastewater treatment policy enforcement, and maintaining water quality in rivers and lakes.



Legislative Support in Water Management

There has been a legislative approach towards the use, wastage, and distribution of water resources. For example, the Telangana State Water, Land, and Trees Act, 2002 provides a regulatory framework for use of water in irrigation, drinking, and industrial purposes: rights and obligations of users, rules for distribution and penalties for illegal extraction. Cooperation within the state also finds a reflection in national policies, such as the one on national water.

III. MAJOR POLICIES FOR SUSTAINABLE WATER MANAGEMENT

Mission Kakatiya (2015):

Mission Kakatiya is one of the flagship program initiatives launched by the government of Telangana for sustainable water management. It was launched in 2015 to restore and rejuvenate thousands of tanks in state for the purpose of sustainable water management. These tanks have been invaluable to Telangana for water conservation; yet, most of these have become silting, neglected, or encroached.

Goals: Under Mission Kakatiya, more than 46,000 water tanks will be restored and rejuvenated to retain additional rainwater and increase groundwater recharge capacity. The work includes desilting, strengthening bunds, and repairing sluices and embankments.

Impact: Enhancing water availability at local levels, improves agricultural productivity, and provides communities with resilience against droughts through the restoration of these water bodies. The program also involves the community in the management of these water bodies, empowering community ownership among locals.



MISSION KAKATIYA

Mission Bhagirathi (2015):

Another important initiative is Mission Bhagirathi which seeks to ensure that every household in Telangana, even in the most backward rural areas and tribal habitations, has access to safe drinking water. The program aims to bring water to villages from large reservoirs and rivers through a network of pipelines.

Objectives: Clean drinking water for 9.2 million rural households would be supplied through tap water connections. The sources of water would be the Krishna and Godavari reservoirs.

Impact: Not only has Mission Bhagirathi tackled scarcity in drinking water supply to rural areas, but it has also created a more complete infrastructure, thus securing long-term access to water. It has increased public health provisions by providing access to clean safe potable water and thus reducing reliance on traditional sources such as wells and ponds that are usually unsanitary.



JAL JEEVAN MISSION (2020):

The state of Telangana is also one of the participants in the mission launched nationally, aimed to bring tap water connections to every single household in a rural area by the year 2024. The government of Telangana has now transformed its own goals into that tide by expanding its own water distribution networks into rural and un-served localities.

Objectives: Improving drinking water availability, and ensuring sustainable systems for water supply besides reducing the waterborne diseases because of better water quality.

Impact: This scheme is to be beneficial, in tune with the state's initiatives which will make the water policy available to rural masses, particularly in areas which are under severe depletion of groundwater. Telangana's proactive approach in the mission is a model for other states.

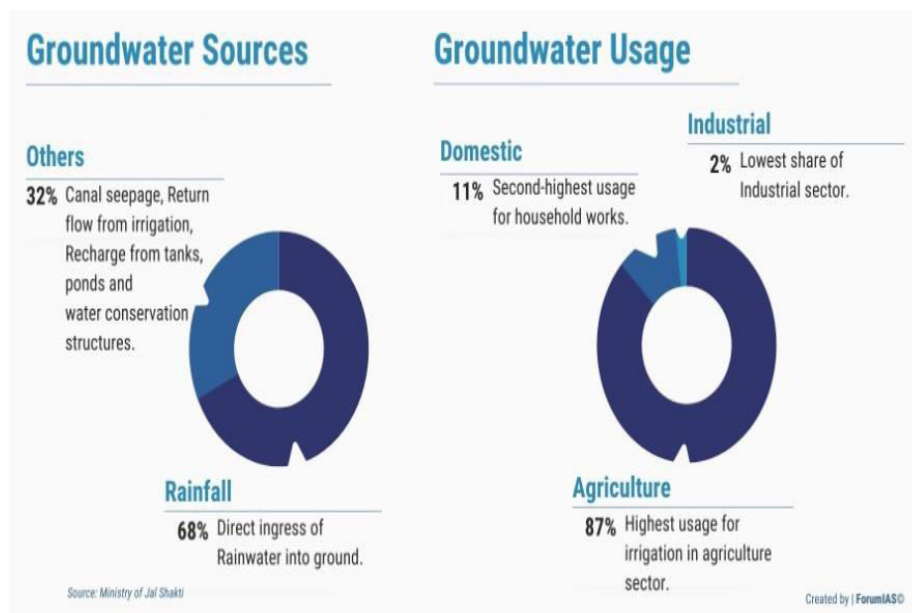


Telangana's Ground Water (Regulation) Policy (2021):

With an increased dependence on groundwater hours in Telangana, the state enacted a groundwater regulation policy to address over-extraction. Emphasis is on the sustainable management of groundwater resources and preventing illegal extraction. The components of the policy are:



Objectives: The policy intends to be an instrument that regulates groundwater abstraction by promoting water conservation practices and rainwater harvesting, and restricting groundwater use in over-exploited areas. **Impact:** The policy aims to find a balance between agriculture and groundwater sustainability so that over-extraction can be avoided and recharge encouraged. Thus, the need for groundwater conservation measures, such as rainwater harvesting, is being advocated at individual, community, and institutional levels.



IV. WATER CONSERVATION AND AWARENESS PROGRAMS

Telangana State Water Conservation Campaign (2020):

Launching a series of public awareness programs to highlight the importance of water conservation, the Telangana government has begun the State Water Conservation Campaign, which encourages citizens to adopt water-saving practices and be mindful of water consumption. For example:

Rainwater Harvesting: The state offers incentives to households, industries, and government entities that install rainwater harvesting systems so that the water can be harvested during the months of the monsoon for use during the lean months.

Maximized and Efficient Use of Water Programs: Promote practices that will employ water efficiently in agricultural, industrial, and domestic uses. The government further cash subsidies on such appliances such as low-flow faucets, indoor and outdoor water-efficient irrigation systems, and drip irrigation.

Public Approach: At the institutional level in schools and colleges or at the community level through rural outreach programs, the campaign mobilizes people on tree planting programs, cleaning of water bodies, and educational workshops on water conservation.

Sustainable Water Use in Agriculture:

Farming being the maximum consumer of water in Telangana, all vibrant and progressive solutions to the problem of sustainable water use have been developed with it. The following are some of the initiatives taken by the government to promote and encourage efficient water use in agriculture:



Micro Irrigation Systems: The government promoted effective means of irrigation, namely drip irrigation and sprinkler irrigation, besides assisting farmers through subsidies and technical help in adopting such systems of micro-irrigation instead of the conventional practice of flood irrigation.

Water Efficient Crops: The government has also encouraged the cultivation of moisture-hardy plants as well as water-efficient cropping patterns such as pulses and millets to lessen consumption in agriculture and ultimately result in more sustainable water use.

Watershed Development: Rain fed watershed development in Telangana is perhaps the most important program in the state for conserving rainwater. The government's work in those watershed areas would enhance the absorption of rainwater and reduce surface runoff through emphasis on solid and water conservation's availability in dry times.

V. CONCLUSION

In an overture to water sustainability, the government of Telangana has evolved visionary policies and actionable strategies. The policies address mainly aspects such as water scarcity, water quality, and equitable distribution and cover a gamut of actions ranging from infrastructural programs like Mission Bhagirathi and Mission Kakatiya to regulatory frameworks and awareness programs. Yet, on the other hand, climate change, groundwater depletion, and urbanization stand as challenges requiring continued adaptation and innovation to secure the future of water resources in Telangana. Therefore, the short run offers an opportunity to create a very productive chapter of water sustainability, thereby facilitating the strengthening of currently applied policies, and the deepening of partnerships among all stakeholders.

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