



Role on development of integrated watershed management programmes in Telangana – A study

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Abstract

In the entire Indian sub landmass Telangana State has the most noteworthy tanks. There is no town in Telangana which doesn't have tanks. There are a few towns existing which have more than one tank in Telangana state. Here workers and landowners, feudatories were shown extraordinary expertise and interest in creating water system offices. They thought giving water is an incredible strict and moral demonstration. There is proof of tanks development preceding the Satavahana time frame moreover. During the Kakatiya period there was massive advancement in water system. They followed exceptionally logical strategies and generally excellent structure materials were utilized. At the point when the standard of Asaf Jahis was begun Telangana had a most noteworthy pay producing state in light of improvement of water system offices as it were. Salar Jung took the motivation of Sir Arthor cotton and made arrangements to foster water sources. Water system branch involved a high spot in the public works division. Ghanpur, Osman sagar, Himayat sagar projects were intended to shield urban communities from floods and save downpour water too. Twin urban areas Hyderabad and Secunderabad both delighted in 24 hours water offices from nallas. There is a fortified connection between improvement of water system offices and work. Working work helped work through nourishment for work. Nizam sagar, Alisagar projects assumed a vital key part being developed of Southern Telangana district. Aside from every one of these Pranahita, Kaleshwaram projects were finished after new state development. Telangana state goes about as a development motor in water system improvement through mission Bhagiratha and mission Kakatiya. Its point is to make Telangana as one crore sections of land of Magani.

Keywords: Irrigation, PWD, Major irrigation Projects, streams teeming, Godavari valley development plan.

Introduction

Telangana state horticulture area has its own exceptional nature of water system office. As chain connecting tanks and streams overflowing its all are served a great deal to flourishing of Telangana. Since the period of Satavahanas to Asaf Jahis all lines have invested some great energy to further develop water administrations. Later

Freedom there is some lesser significance given in joined Andhra Pradesh state. After the state arrangement Telangana government took commencement to fabricate large water ventures to serve people in the future. These activities expected to accomplish one crore sections of land in neighboring future as it were.

According to the Socio-Economic Outlook 2023, during the 2014-15 to 2022-23 period, the Telangana government spent Rs 1.61 lakh crore on irrigation projects in the State, resulting in an increase of the Gross Irrigated Area (GIA) from 62.48 lakh acres in 2014-15 to 135 lakh acres in 2021-22, an increase of 117 percent. 26,885 crore has been proposed for the Irrigation Department for the 2023-24 fiscal. The Telangana government is determined to provide irrigation to 1 crore 25 lakh acres.

In the whole Indian sub continent Telangana state has the highest number of tanks. Most of the villages have more than one tank. But why is this type of tank construction possible in Telangana state? For the development of agriculture this type of tank construction was necessary. Geographical structure of Telangana state is also like that. Agriculture under tanks and a cultural, social life system around tanks are different phenomena. All important incidents in human life from birth to death are linked with tanks only. Telangana is located in Deccan Plateau. Plateau is a structure with hills, up and downs, streams teeming generated in hills and flows to downward areas changed as

rivers and at end of the point its all are joined in seas. Telangana state's northern part has Godavari and Southern part has Krishna river. Feudatories of Godavari river were Penganga, Kadem, Swarna, Maneru, Pranahita, Vaira, Kinnerasani and Feudatories of Krishna river were Moosi, Paleru, Munneru, Aakaeru, Dindi all are flowing. But all these are flowing at a low height level and agricultural land height is almost 200 to 650 m. high sea level. Therefore it is not possible to use Krishna and Godavari water in Agriculture. When Godavari and Krishna rivers reached the plains region they became vast and useful to coastal area districts.

Even Though these hurdles also Telangana farmers showed great construction skill to develop tanks. There is evidence of tank construction prior to the Satavahana period also. In Nalgonda district archaeological excavations we find this evidence. During the regime of Kakatiya, a number of tanks were built with great construction skills. They construct big tanks like seas. Ramappa, Pakala, Laknavaram, Ghanapuram, Bayyaram, Ganapa samudram, Udaya samudram, Dharma Sagaram, Thippa samudram, Jagat kesari, Rudra samudram, Chouda Samudram, Sibbi samudram, Kata samudram, Kamalapur all are build with selected building material and selective place also. They followed very scientific and technical methods. All were constructed in 13 c, but now they also serve the common man. Extension of agriculture was undertaken in the period of Kakatiyas only.

This system was followed by further dynasties also. The Reddi kingdom, Recherla Velama kings, Kutb shahis, Asaf Jahis and local feudal lords also took keen interest in development of tanks. In Adilabad district Nimma kings who ruled Nirmal as capital constructed 32 tanks with chain link. In Mahabubnagar district also princely state rulers

constructed Ranga samudram, Shankara samudram, Bhoopala samudram, Veera samudram, Gopalamudram, Ramasamudram, Raja samudram likewise sapta samudras they were constructed. Patancheruvu, Hussainsagar, Ibrahimpatnam, Shanigaram, Masab tank, Ravirala cheruvu all are built by Kutb shahis rulers. Telangana state is having a number of tanks in this way. Last and seventh Nizam, who was the richest man in the world, became famous because of these tanks only. These tanks played a key role in making Hyderabad a prosperous city in India. Due to these tanks there is no occurrence of droughts. Tanks played a remarkable role in cultural aspects also. The Telangana floral festival Bathukamma emerged based on tanks only. There is an undividable relationship between tanks and telangana lifestyle. When Hyderabad merged into the Indian Union Telangana state had more than 40,850 tanks according to revenue records. Among those tanks maximum were built in the medieval period only. During the time of Asaf Jahi period almost 12 lakhs acres is achukattu land under tanks. Ameers, jagirdars, deshmukhs, Inamdars all maintained these tanks and they only collected taxes also. It takes hundreds of years.

Water system water can emerge out of groundwater (extricated from springs or by utilizing wells), from surface water (removed from streams, lakes or supplies) or from non-regular sources like treated wastewater, desalinated water, seepage water, or mist assortment. An exceptional type of water system utilizing surface water is spate water system, likewise called floodwater reaping. If there should be an occurrence of a flood (spate), water is redirected to typically dry stream beds (watercourses) utilizing an organization of dams, doors and channels and spread over huge regions. The dampness put away in the dirt will be utilized from there on to develop crops. Spate water system regions are specifically situated in semi-bone-dry or parched, rocky districts. While floodwater collecting has a place with the acknowledged water system techniques, water reaping is normally not considered as a type of water system. Water gathering is the assortment of spillover water from rooftops or unused land and the grouping of this. Around 90% of wastewater created worldwide remaining parts untreated, causing far and wide water contamination, particularly in low-pay nations. Progressively, farming purposes untreated wastewater as a wellspring of water system water. Urban communities give worthwhile business sectors to new create, so are appealing to ranchers. Be that as it may, on the grounds that horticulture needs to vie for progressively scant water assets with industry and civil clients, there is much of the time no option for ranchers except for to utilize water dirtied with metropolitan waste, including sewage, straightforwardly to water their harvests. Huge wellbeing perils can come about because of utilizing water stacked with microbes along these lines, particularly assuming individuals eat crude vegetables that have been inundated with the contaminated water.

Almost of the Annual Rainfall in the state is received during South West Monsoon. This necessitates effective conservation and management of alternate sources of water. The topography and rainfall pattern in Telangana have made tank irrigation an ideal type of irrigation for storing and regulating water flow for agricultural use. Numerous tanks were constructed during the rule of different dynasties such as the Kakatiyas, Qutbshahis and Asafjahis. Over time, due to lack of proper maintenance and siltation, most of the

tanks fell into disuse leading to the almost collapse of these valuable and extensive resources. The disappearance of village institutions that were managing the tanks, encroachment on the tank foreshore area, deforestation in the catchment area, poor operating condition of the upper sluices, defective tank structures and weak farmers organization lead to decline of tank performance.

Status of groundwater Development

In the State, groundwater-based irrigation was a reliable source of water during the late 19th century monsoon drought years. The early 1980s drilling technology advancements in hard rock regions led to an increase in groundwater irrigation that eventually surpassed tank and canal irrigations. Most of the state's well irrigation systems are operated by individual farmers who have spent money on digging dug wells, dug cumbre wells, or bore/tube wells (bw/tw), installing pump sets, and constructing pipelines to their fields. These farmers only benefit from free power, which the previous administration has been giving them twice daily since 2004. As of January 1, 2018, the current administration is providing 24 hours of free, high-quality power to agricultural pump sets. Currently, the state has 24.2 lakh connections for pump sets. COVID-19 for many benefits to some, extracting 8084 mcm of groundwater for drinking, irrigation, and industrial use.

Government Initiatives and Programs

Telangana State Watershed Development Programme (TSWDP): The TSWDP aims to ensure sustainable management of watersheds and improve the livelihoods of rural communities.

Rural Development Department's Watershed Management Projects: These projects focus on rainwater harvesting, soil conservation, and afforestation.

Mission Kakatiya: A state-wide initiative to rejuvenate small water bodies such as tanks and ponds to improve water storage capacity and recharge groundwater.

Pradhan Mantri Krishi Sinchayee Yojana (PMKSY): A national initiative for water-use efficiency, particularly for irrigation in rural Telangana.

Integrated Wasteland Development Programme (IWDP)

Integrated Waste land Development Programme is being implemented in 7 districts of Telangana. The scheme is under implementation in non-DPAP blocks of DPAP districts and in all non-DPAP districts. The objective of the programme is to enable for checking of land degradation, sustainable and increased productivity of land based on Watershed concept with people participation.

- Total no of projects-----101 (1499 watersheds)
- Ongoing projects-----83 (1078 watersheds)
- Completed projects-----18 (421 watersheds)
- Total no of blocks-----155
- Total no of districts-----7
- Area covered (Ha)-----7.48 lack Hectares

During the year 2010 -11 upto July-2010, out of the available funds of Rs. 4786.71 Lakhs, an amount of Rs.1549.16 Lakhs has been incurred as expenditure.

Objectives of the programme

Checking of land degradation

- Sustainable and increased productivity of land
- Beneficiary and people participation in implementation of the program

Achievements

- Out of 1499 watersheds, 421 watersheds are completed and 1078 watersheds covering 83 projects are as ongoing watersheds.
- The total area for treatment under IWDP is 5.39 Lakhs hectares in 1078 ongoing watersheds in 7 Districts.
- During the year 2010 -11 upto July-2010, out of the available funds of Rs. 4786.71 Lakhs, an amount of Rs.1549.16 Lakhs has been incurred as expenditure.

Improving IWM in Telangana

1. Enhanced Technological Integration:

Incorporating advanced technologies such as GIS, remote sensing, and IoT-based monitoring systems for real-time data collection and analysis.

2. Strengthening Policy Frameworks

Developing and implementing more robust policies for water conservation, sustainable agriculture, and forest management at the state and district levels.

3. Public-Private Partnerships

Encouraging collaboration between government bodies, NGOs, and the private sector for resource mobilization and implementation of projects.

4. Financial Support

Providing financial incentives, subsidies, and low-interest loans to farmers and communities who adopt sustainable water and land management practices.

5. Long-Term Sustainability

Shifting focus from short-term projects to long-term sustainability by monitoring and adapting to changing environmental conditions and community needs.

Issues and Challenges

The main test that most audits of India's water system and farming scene put forward is that of detouring populace. After the freedom the critical wellspring of tank water system definitely diminished because of a few financial and institutional elements, the most factors have been changes in land possession example and changes in standing and class setup. The minor water system was diminished after freedom because of significance given to trench frameworks and over abuse of ground water. The downfall of tank water system because of especially monstrous dissemination of private wells and siphons has spread to tank order region. Development of wells is impacted by many factors, for example, the appearance of green upset innovation, the ranchers were exchanged over to well water system because of its quality water system which gives more yield and more harvest. Because of this change ranchers can develop numerous harvests in a year. So the editing design was changed in the interim the customary water system framework, for example, tanks got crumbled. Emergence of wells in the tank ayacut has prompted the decay of interest in the tank the executives among ranchers who own wells

simultaneously well is a confidential asset while a tank is a normal property, also well water system is more steady and solid than tank water system.

It is obvious that irrigation facilities have grown over time, but additional facilities will need to be added in the future. We find that well irrigation, one of the dominant methods of irrigation in recent decades, has negative effects on groundwater levels and requires greater private investment, which drives up the cost of farming. However, irrigation in tanks and canals exhibited a decreasing tendency at that time. Additionally, irrigation encourages increased land use, causing a change in crop pattern in favour of new and improved crop types, commercial crops, and cropping intensity. Since agriculture is the foundation for all other types of growth, the state must develop its agricultural sector. In agricultural development, irrigation in the form of soil moisture plays a prominent role. thus, role. Therefore, irrigation is a key component in the growth of agricultural in the State.

Conclusion

In the United Andhra Pradesh government no doubt Telangana water resources were immensely abandoned and put aside. All funds used for the growth of AP region only. For the movement water was also one important cause. Even though we have Godavari and Krishna rivers, Telangana did not receive enough water. Major population of Telangana supported this issue and rebelled against political leaders ultimately got a separate state. Mission Kakatiya and Mission Bhagiratha were good policies undertaken by the government. Projects which were put aside by the previous government also restarted by this government. According to the census by this project 89 lakhs acres of land was irrigated. And there is a future plan to irrigate 125 lakhs acres of land. Since 9 years of rule Telangana government emphasis on water development was fruitful. This is a very good visionary activity for the welfare of future generations. Agriculture in Telangana has drawn in impressive consideration in the beyond few years, for the most part due to the suicides of many cotton ranchers. Two discernments have ruled the the tried and true way of thinking. In the first place, it is contended that horticulture in Telangana has for quite some time been both in reverse and stale. Second, it is contended that Telangana experiences a serious deficiency of water system assets, because of disregard of the district by the assembled Andhra Pradesh government. Presently the tank water system framework is basic condition. Since ranchers are more worried about Ground water. Without surface water the ground water utilized for just restricted period. Different elements of decline of tank water system are struggle among townspeople, infringement, siltation, unfortunate support and so on. But reasonable money, institutional game plans, improve of client cooperation are developed the current condition will proceed. The State or Focal States ought to make an important move through Open Works Office, Timberland Division, furthermore, Town Panchayats (watershed improvement, water gathering, recovery of little water bodies) to keep away from developing water shortage for farming, industry, homegrown and drinking purposes.

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