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Mission Kakatiya in Telangana State Emulates Kakatiya Irrigation Methods[1]

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ABSTRACT

The Kakatiya Dynasty, ruling from the 10th to the 14th century in the Telugu-speaking region of India, is renowned for its significant advancements in irrigation systems, which played a crucial role in agricultural development. The Kakatiya dynasty was known for its excellent irrigation systems, notably tank-based water management techniques. They built numerous tanks, reservoirs, and canals, including the well-known Ramappa, Pakala, and Lankavaram tanks, which resembled seas and greatly increased agricultural productivity. These systems, together with canals and wells, guaranteed a consistent water supply for agriculture and other requirements. Since Telangana is located in a geographically advantageous position, tanks have been the state's primary means of defense. The residents of the state are extremely reliant on the tanks, which are dispersed throughout all ten districts of the state. since of the topography and rainfall pattern in Telangana, tank irrigation is an appropriate method of irrigation since it allows for the storage and regulation of water flow for industrial and agricultural purposes. Since before the Satavahana era, the construction of tanks in Telangana has been a time-honored and time-consuming practice. The Kakatiya era was characterized by the construction of tanks that were carried out with the highest level of technological ability. The tanks that were constructed by the Kakatiyas, such as Ramappa, Pakhala, Laknavaram, Ghanapuram, and Bayyaram, were designed to seem like seas. These tanks were of tremendous assistance to the Kakatiya kingdom's agricultural sector, as well as its overall development and prosperity.

Keywords: *Tanks; irrigation; Mission Kakatiya; Agriculture.*

INTRODUCTION

It is well known that the Kakatiya dynasty, which ruled over a significant portion of what is now Telangana, was responsible for an extensive and efficient irrigation system that was mostly consisting of tanks. They built thousands of tanks, many of which are still in use today, demonstrating their concentration on water management and agriculture. Many of these tanks are still in construction. In order to facilitate the distribution of water in an effective manner, these tanks were frequently connected to one another.

Construction of the tank: A great number of tanks, ranging from tiny village ponds to huge reservoirs such as Ramappa, Pakhal, and Laknavaram, were constructed by the Kakatiya monarchs because of their prolific construction. According to a number of scholarly investigations, they built 46,531 bodies of water, which included 5,000 tanks that were connected to one another. The interconnected system: It was consisted of a large number of these tanks that were connected to one another through channels, so establishing a network that made water management and distribution easier. The significance of these tanks lies in the fact that they were essential for irrigating agricultural regions, which in turn supported the agricultural prosperity of the region.

Government of Telangana state desires to uphold the vision of Kakatiyas which envisages revival and restoration of Minor Irrigation Sources in Telangana State. The Government has taken up the massive programme of restoring all the 46,531 minor irrigation sources under the name “Mission Kakatiya” (manaooru – manacheruvu) in a decentralized manner through community involvement. The Government is aiming to complete the restoration of all the tanks in five years @ 20% of the tanks each year.

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IMPORTANT FACTORS THAT AFFECT THE KAKATIYA IRRIGATION SYSTEM

The Kakatiya monarchs were responsible for developing irrigation systems, but subsequent rulers chose to disregard them. Large dams took the place of the systems as humanity transitioned into the modern era. As a result of the loss of control over water, the region not only continued to suffer from persistent thirst but also became a backward place in terms of the process of development. It was necessary for the state to look back and take cues from the irrigation systems that were in place during the Kakatiya era in order to resort to the restoration of irrigation systems. There are four different types of influences: technological inspiration, water management practices, community involvement, and ecological restoration. "Mission Kakatiya," which is a concept that provides an efficient and sustainable tank restoration program, has been technologically modelled based on the gravity-fed channels, reservoirs, and check dams that existed during the Kakatiya era. A number of sophisticated and environmentally friendly water management measures, such as crop rotation and water rationing, have been incorporated into the mission in order to ensure that water resources are distributed in an equitable manner. A proposal for the active participation of the community in the administration of the irrigation system, as embraced by the Kakatiyas, is one of the goals that will be pursued. In the mission, it was suggested that the irrigation system should be synchronized with the natural environment, which was an essential component of the old system. This was done with the intention of restoring the ecosystem and preserving the biodiversity.

MISSION KAKATIYA

Mission Kakatiya, which is also referred to as "Chinna Neeti Vanarula Punaruddarana," is a flagship program in the Indian state of Telangana that focuses on rehabilitating and revitalizing smaller irrigation tanks. By increasing the capacity for water storage and developing irrigation infrastructure, the plan intends to boost the general rural economy, as well as the income of agricultural producers, increase community-based irrigation management, and enhance agricultural agriculture income. This was launched on 12th March 2015 by government of Telangana.

Mission Kakatiya's Objectives:

- Enhance Agricultural Income: Improve agriculture-based income for small and marginal farmers by developing minor irrigation infrastructure.
- Restore Tanks and Lakes: Renovate 46,531 tanks and lakes to store 265 TMC of water across Telangana, increasing water availability for irrigation.
- Strengthen Community Management: Promote community-based irrigation management, ensuring sustainable water use and maintenance of restored tanks.
- Improve Groundwater Table: Enhance groundwater levels, reducing dependence on rainfall and benefiting agriculture.
- Rejuvenate Rural Economy: Spur growth in livestock, reduce power consumption, and increase crop yields, ultimately revitalizing the rural economy.

Mission Kakatiya is one of admirable programmes of Telangana state government. This programme was started in the year 2014 right after the inception of the government. The mainstream of this programme is to develop 46531 tanks of the state. The government has started the programme with the local officials. At the initial state the sircilla police rejuvenated the minor irrigation project called Timmannkunta. The tanks were filled up with silts and shrubs. Around 4000 trucks were needed to carry the silt and plants from the tank. The police also built a three meters width bund around the tank. In the year 2017 all the tanks of the state are filled with the rain water. This water is used to irrigate the 150 acres of land. As per the estimation of the government if the rainfall is adequate every year the state can restore around 9000 lakes every year. In this regard the government of Telangana state conducted the Samagra Tank Survey. It contained about 46531 tanks. Further, they prepared the tentative district wise schedule to restore the tanks. The detailed information of the proposed restoration of tanks is given in the following table.

District-wise Proposed Restoration of Tanks in Telangana State (Year-wise Restoration of Tanks)

S.No.	Name of the District	No. of Sources	Number of Tanks Proposed during the year				
			2014-15	2015-16	2016-17	2017-18	2018-19
1	Karimnagar	5939	1188	1210	1220	1200	1121
2	Adilabad	3951	790	800	800	800	761
3	Warangal	5839	1168	1170	1180	1200	1121
4	Khammam	4517	903	910	920	930	854
5	Nizamabad	3251	650	650	650	650	651
6	Medak	7941	1588	1590	1600	1610	1553
7	Ranga Reddy	2851	570	500	570	600	611

8	Mahaboobnagar	7480	1496	1500	1510	1510	1464
9	Nalgonda	4762	952	978	980	980	872
Total		46531	9308	9308	9430	9480	9008

The above table is the proposed year wise programme of Mission Kakatiya in developing the irrigational tanks. As per the data of the table, the Telangana government has initiated this programme by focusing on the major districts of the state. Further, this programme was started at the time where the state had only 10 major districts. Later, these districts are bifurcated to 31 districts and the Mission Kakatiya programme has also split to all the present districts. According to the data of the table, much importance is given to the areas where the water resources were very low compare to the other districts. Among the districts, Mahaboobnagar and Medak districts were highly proposed for the irrigational tanks. Karimnagar and Warangal were also considered equally for this purpose. It is proposed to restore all the 46531 tanks in 5 years,20 % of Tanks each year with a tentative cost of Rs.20000.00 crores.

Impacts of Mission Kakatiya Programme

To have a Transparent Impact assessment of the Mission Kakatiya by third party, the Government have entrusted the task to M/s NABCONS a sister concern of NABARD.

1. Tank Silt Application: The impact assessment survey shows a decrease in consumption of chemical fertilizers by 35 – 50% which resulted in reduced expenditure on fertilizers by 27.60% over the base year. The decrease in expenditure ranges from Rs. 1500 to Rs. 3000 per acre per season, depending on the crops. Further, the tank silt application contributed to increase in crop yields, reduction on soil erosion, increase in soil moisture retention, levelling of plot sizes etc.,
2. Ground Water: Another good impact of Mission Kakatiya is increase in ground water levels in the tank influence areas. Though the rainfall during the baseline year (i.e., 2013-14) is similar to 2016, the rise in groundwater levels is more in the impact year (2016) due to larger and longer storage of water in the tanks. In base year, the average rise in ground water level was 6.91 m where as it is 9.02 m in the year 2016 from September to February.
3. Gap Ayacut: In the year 2013-14, the gap ayacut was 42.40% whereas it is 23.20% in the year 2016-17, after implementation of the Mission Kakatiya Phase – I.
4. Irrigation Intensity: Irrigation Intensity (total cropped area Khariff & Rabi in ayacut) has been increased by 45.60% over the base year, it is mainly due to the improved water retention capacity in the tanks post restoration works which directly increased the water retention capacity in the tanks. In the base year, the irrigation intensity was 88.40% and it is increased to 134% with implementation of Mission Kakatiya.
5. Crop Yield: Increase is witnessed in the yields of Paddy, Cotton and Jowar after Mission Kakatiya Phase – I over the base year. The increase is more significant in Rabi Paddy (19.60% and Cotton (11.60%).
6. Fisheries: Apart from the farmers, the other major beneficiary of Mission Kakatiya is the Fishermen community. Longer storage period of water in the tanks has resulted in the increased fish weight, and so the yield. On average, there is an increase of 36- 39% yield, particularly in the Rohu, Katla and Mrigala types of fish.
7. There is an increase of household agricultural income by 78.50% in the tank ayacut area. The reason for increase can be attributed to increase in irrigated area and also the yields.

Key aspects of the emulation:

Mission Kakatiya, a program in Telangana, emulates the Kakatiya dynasty's irrigation practices by focusing on restoring and rejuvenating tanks to enhance water storage and improve agricultural yields. It aims to revive traditional tank irrigation systems, which were crucial for agriculture during the Kakatiya period. The project involves desilting tanks, repairing irrigation canals, sluices, and weirs, and strengthening tank bunds to increase water storage capacity and improve groundwater recharge.

- Restoration of Tank Irrigation: The Kakatiya dynasty was known for its extensive tank irrigation system, which played a vital role in the region's agriculture. Mission Kakatiya mirrors this by prioritizing the restoration of minor irrigation tanks, which were often neglected in the past.
- Desilting for Increased Capacity: Desilting tank beds is a core activity of Mission Kakatiya, mirroring the Kakatiya's approach of maintaining and improving the water storage capacity of tanks.
- Strengthening Irrigation Infrastructure: Repairing and strengthening tank bunds, sluices, and feeder channels are essential components of the project, echoing the Kakatiya rulers' focus on robust irrigation infrastructure.
- Community Participation: The Kakatiya rulers involved local communities in irrigation management. Mission Kakatiya also emphasizes community participation in tank management and maintenance, promoting a sense of ownership and responsibility.

- ❖ Groundwater Recharge: By restoring tanks, the project aims to improve groundwater recharge through seepage, which was a significant benefit of the Kakatiya irrigation system.
- ❖ Increased Agricultural Yields: The project aims to improve water availability for irrigation, which is expected to lead to increased agricultural yields, particularly for crops like cotton and chilies.
- ❖ Reduced Fertilizer Usage: The silt removed during desilting is often used as a fertilizer, reducing the need for chemical fertilizers.
- ❖ Sustainable Water Management: Mission Kakatiya promotes sustainable water management practices by restoring and maintaining traditional water bodies, ensuring their long-term viability.

CONCLUSION

Mission Kakatiya, undoubtedly, has set the ground for technical innovations, tender reforms, online procurement, billing and payment, and created a noteworthy example for other state interventions. Our field studies strongly indicate that when implemented well, it has the potential to bring significant positive benefits to the village agrarian economy – in terms of expansion of irrigated area; enhanced groundwater recharge; reduction in cost of cultivation; improved crop productivity; and positive spill over impacts on fisheries, toddy tapping and ca le herding. However, the quality of implementation and responsiveness of the village community has not been uniformed across the districts. The Kakatiyas who ruled during medieval era were pioneers in water management practices and conceived the design of innovative irrigation systems. They built multitude of tanks, or reservoirs that store rainwater, canals and wells for irrigation purposes. Large extents of land were brought under cultivation by ‘Land Reclamation Policy’. Agriculture flourished and subsequently trade and commerce boomed, making the state economically sound. By drawing inspiration from the Kakatiyas’ irrigation system, the tank restoration programme in Telangana ‘Mission Kakatiya’ has proposed sustainable and community-driven approaches to tank restoration water management, ensuring the long-term viability of agriculture and the well-being of local communities. Overall, Mission Kakatiya has demonstrated the potential of community-based irrigation restoration projects to bring about significant positive changes in rural areas, contributing to agricultural growth, improved livelihoods, and enhanced environmental sustainability

REFERENCES

1. Aryan, S. P., Singh, R., & Varthini, P. (2017). *Assessment of Mission Kakatiya in Telangana* (Unpublished internship report). Anand: IWMI-Tata Water Policy Program.
2. Bhar. (2016). *Mission Kakatiya Study* (Unpublished report). Anand: IWMI-Tata Water Policy Program.
3. Chintala, P. (2017, February 19). Mission Kakatiya gets global attention. *The Hindu*. Retrieved from http://www.thehindu.com/news/cities/Hyderabad/Mission-Kakatiya-gets-global-attention/article17327210.ece
4. Irrigation & Water Resources. (2017). An article published in the monthly journal *Kurukshetra*, February 2017.
5. Kumar, S. C., & Kumar, S. D. V. (2015). *Mission Kakatiya: Telangana's attempt to replicate Saurashtra's success* (Unpublished report). IWMI-Tata Water Policy Program.
6. Vaidyanathan, A. (2001). *Tanks of South India*. New Delhi: Centre for Science and Environment.
7. Government of Telangana. (2023). *Socio-Economic Outlook of Telangana 2023*. Hyderabad: Planning Department.
8. Government of Telangana. (2024). *Socio-Economic Outlook of Telangana 2024*. Hyderabad: Planning Department.