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## Historical development of irrigation in Telangana: From tanks to mission Kakatiya

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The historical development of irrigation in Telangana is deeply intertwined with the region's agrarian economy, ecological diversity, and political transitions. From ancient times, the people of Telangana have devised ingenious water conservation techniques to adapt to the region's semi-arid climate and erratic monsoon patterns. Central to this evolution has been the construction and management of tanks (cheruvulu), especially during the Kakatiya dynasty (12<sup>th</sup>-14<sup>th</sup> century), which pioneered a decentralized, community-driven irrigation network that sustained agriculture and rural livelihoods for centuries. The tradition of tank irrigation continued under the Qutb Shahi and Asaf Jahi rulers, who expanded and maintained water bodies to support the growing population and urban centers. However, post-independence policies and a shift in focus toward large-scale irrigation projects like Nagarjuna Sagar and Sriramsagar resulted in the gradual neglect of minor irrigation sources, particularly tanks. This imbalance disproportionately affected Telangana, leading to groundwater depletion, reduced agricultural productivity, and increased farmer distress. In response to this historical neglect, the Government of Telangana launched Mission Kakatiya in 2015, a flagship initiative aimed at reviving over 46,000 tanks across the state. The program sought to restore the traditional irrigation ecosystem through desilting, strengthening of bunds, and repairing feeder channels. It also aimed to rejuvenate rural economies by enhancing water availability, increasing cropping intensity, and improving groundwater recharge. This paper traces the historical trajectory of irrigation development in Telangana, analyzing shifts from indigenous practices to state-led interventions. It critically evaluates the socio-economic and environmental outcomes of Mission Kakatiya, positioning it as a model for sustainable water management. By revisiting traditional knowledge and integrating it with contemporary policy frameworks, Telangana offers valuable insights into achieving agrarian resilience in water-stressed regions.

**Keywords:** Telangana, irrigation, tanks, Mission Kakatiya, Kakatiya dynasty, water management, sustainable agriculture

**Introduction**

Irrigation has always played a pivotal role in shaping the agricultural and socio-economic landscape of Telangana, a region characterized by semi-arid climatic conditions, variable rainfall, and a predominantly agrarian population. The availability of water for cultivation, drinking, and livestock has historically determined settlement patterns, crop choices, and even social organization in this part of the Deccan plateau. In such a context, irrigation infrastructure especially the network of tanks and lakes evolved not merely as a technological necessity but as a civilizational response to environmental challenges.

The early inhabitants of Telangana demonstrated remarkable ingenuity in water conservation, developing systems that were environmentally sustainable and socially inclusive. Among the most significant contributions was the extensive tank irrigation system established during the Kakatiya dynasty (12<sup>th</sup>-14<sup>th</sup> century), which laid the foundation for centuries of agrarian stability. These tanks (cheruvulu), constructed with local materials and managed through community participation, were not just irrigation sources but also cultural and ecological hubs.

The continuity of tank-based irrigation was maintained and expanded under the Qutb Shahis and later the Nizams of Hyderabad. During these periods, several medium irrigation projects were undertaken, alongside the maintenance of traditional water bodies. However, the post-independence era witnessed a strategic shift in India's irrigation policy, with an overwhelming emphasis on large-scale river valley projects. This led to the marginalization of minor irrigation sources in Telangana, which received a smaller share of water resources compared to coastal Andhra. The neglect of tanks over decades resulted in widespread

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siltation, reduced water storage capacity, and declining groundwater levels.

The cumulative effect of these historical and policy developments was a crisis in irrigation sustainability, particularly felt in rural Telangana. Responding to this challenge, the Telangana government-initiated Mission Kakatiya in 2015 an ambitious and comprehensive program to rejuvenate traditional tanks and restore the ecological and economic balance in the rural landscape. Named after the Kakatiya rulers who pioneered tank irrigation, the mission aimed to desilt tanks, repair bunds and feeder channels, and enhance community involvement in water management.

This article seeks to trace the historical evolution of irrigation practices in Telangana, focusing on the transition from traditional tank systems to state-led interventions. It critically examines the long-term neglect of decentralized water systems and the consequent agrarian distress, while highlighting the revival efforts through Mission Kakatiya. By exploring the intersection of history, policy, and practice, the study underscores the importance of integrating traditional knowledge systems with modern governance to address contemporary water challenges. The broader goal is to evaluate how irrigation reforms rooted in historical context can lead to sustainable agricultural development and rural resilience in Telangana.

### **Ancient and medieval irrigation practices in Telangana**

The history of irrigation in Telangana is deeply rooted in its ancient and medieval past, where communities devised water management strategies best suited to the region's topography and climate. Telangana, being part of the Deccan plateau, receives highly variable and seasonal rainfall, making water conservation a necessity rather than a luxury. Against this backdrop, ancient dynasties developed and maintained a remarkable tradition of tank irrigation, which sustained agriculture, supported livelihoods, and shaped the cultural fabric of rural society.

### **Early irrigation practices: Satavahanas and Ikshvakus**

The earliest organized irrigation systems in the Telangana region date back to the Satavahana dynasty (1<sup>st</sup> century BCE to 3<sup>rd</sup> century CE), which ruled much of the Deccan. Inscriptions and archaeological remains from this period suggest that agriculture flourished through the use of earthen bunds, small tanks, and canal networks sourced from local streams and seasonal rivers. These systems were modest but effective in providing seasonal irrigation for crops such as millets, pulses, and cotton.

The Ikshvakus, who succeeded the Satavahanas in parts of present-day Telangana and Andhra Pradesh, also continued the tradition of small-scale irrigation. Their patronage of Buddhism and temple construction often included water bodies as part of the temple complexes, reflecting the spiritual and practical dimensions of water management.

### **Golden age of tank irrigation: The Kakatiya dynasty (12<sup>th</sup>-14<sup>th</sup> century)**

The most significant phase in the development of irrigation infrastructure in Telangana occurred under the Kakatiya dynasty, whose capital was Warangal. The Kakatiyas made irrigation a central element of their administrative and developmental policy. Recognizing the value of decentralized water systems in an arid landscape, they promoted the construction of large numbers of tanks (cheruvulu) and anicuts across the region.

These tanks were built using local stone, lime, and mud, and they often included sluice gates, feeder channels, and overflow systems. They were strategically located to harvest rainwater and runoff from small streams and hill slopes. Historical evidence, including inscriptions and copper plates, reveals that over 5,000 tanks were constructed during the Kakatiya era, many of which are still functional or form the basis of later irrigation structures.

What distinguished the Kakatiya irrigation model was its community-based management system. The local village assemblies or "grama sabhas" took responsibility for maintaining the tanks, organizing desilting activities, and sharing water equitably. This model fostered a sense of collective ownership, ensuring the sustainability of the system.

Notable examples of Kakatiya irrigation infrastructure include:

- Ramappa Tank near Warangal, which supported a large agrarian population and fed the surrounding temple ecosystem.
- Lakhnnavaram Lake, built with a series of interconnected sluices and bunds, still serves as a prominent water source today.

### **Legacy and impact**

The tank systems established by the Kakatiyas not only boosted agricultural productivity but also supported biodiversity and groundwater recharge. They allowed for the cultivation of paddy, cotton, and oilseeds, and their presence led to the emergence of village settlements in their vicinity. In many cases, tanks became centers of cultural and religious activity, with temples built nearby and festivals celebrated on their banks.

The fall of the Kakatiya dynasty in the 14<sup>th</sup> century did not mark the end of the tank tradition; rather, it continued under successive rulers such as the Bahmanis, Qutb Shahis, and the Nizams, each of whom maintained and expanded the tank infrastructure while introducing new elements of water management.

### **Irrigation under the Nizam's rule (1724-1948)**

The period of the Asaf Jahi dynasty, commonly known as the Nizams of Hyderabad, marked a significant chapter in the irrigation history of Telangana. Following the decline of the Mughal Empire, the Nizams established their independent rule in 1724, and their governance extended over a large part of the Deccan, including present-day Telangana. Recognizing the importance of agriculture for economic stability and revenue generation, the Nizams continued and expanded the legacy of tank and canal irrigation systems inherited from earlier dynasties.

### **Maintenance and expansion of tank irrigation**

One of the critical contributions of the Nizam administration was the systematic maintenance of existing tanks and the construction of new tanks. While the rulers did not build tanks on the scale of the Kakatiyas, they ensured that traditional tanks were desilted, repaired, and well-managed. Several tanks from the Kakatiya era were restored, with repairs carried out to bunds, sluices, and feeder channels. The emphasis was on reviving neglected infrastructure and promoting minor irrigation works that could support rainfed agriculture.

Village-level officials were entrusted with the responsibility

of maintaining irrigation systems, and the Revenue Department regularly allocated funds for tank repair and upkeep. Additionally, tank ownership and irrigation rights were regulated through legal documents and land revenue settlements, which often included obligations for tank maintenance by cultivators.

### Medium irrigation projects

Apart from tank-based irrigation, the Nizams introduced medium-scale irrigation projects using canals, bunds, and reservoirs. Noteworthy among these are:

- **Pakhal Lake (Warangal):** Originally built during the Kakatiya period, it was expanded and maintained by the Nizams to serve as a major irrigation source in the region.
- **Palair Reservoir (Khammam):** A medium irrigation source still functional today, it was developed further under the Nizam's supervision.
- Ramagundam canal and other localized systems were introduced to support dryland farming.

These projects provided supplemental irrigation, especially in areas with inadequate tank infrastructure, and helped stabilize food production.

### Engineering and technical contributions

The Nizams employed Persian, British, and local engineers for water works. The Department of Public Works was established to oversee major irrigation and water supply projects. Hyderabad, being the capital, benefited from early modernization, including stormwater drainage systems, drinking water reservoirs (e.g., Osman Sagar, Himayat Sagar), and urban water management projects.

While the city of Hyderabad saw modern hydraulic infrastructure, rural Telangana continued to depend primarily on tanks and seasonal rivers. However, irrigation investment under the Nizams was substantial, and they developed a reputation for water conservation, particularly under the reign of Mir Osman Ali Khan, the last Nizam, who was known for his developmental initiatives.

### Limitations and regional inequities

Despite notable initiatives, the irrigation development under the Nizams was marked by regional disparities. Areas closer to Hyderabad and the Godavari basin received more attention, while remote tribal and forested regions were left underserved. Moreover, large-scale irrigation remained underdeveloped due to limited capital and dependence on traditional methods.

Additionally, water rights were often linked to land ownership patterns, reinforcing the power of landlords and jagirdars, which sometimes hindered equitable water access. Still, the overall irrigation coverage expanded during the Nizam rule, and their irrigation policies laid a semi-modern foundation later built upon during post-independence planning.

### Post-independence developments (1948-2000)

The post-independence period marked a watershed in the irrigation history of Telangana, shaped by both national priorities and regional disparities. The integration of Hyderabad State into the Indian Union in 1948, followed by the formation of Andhra Pradesh in 1956, significantly altered the trajectory of irrigation development in the region. While India as a whole began investing heavily in large-

scale irrigation infrastructure during this period, Telangana saw both progress and marginalization in the realm of water resource development.

### Integration and focus on large dams

Following Operation Polo in 1948, Hyderabad State was merged with the Indian Union, and later, under the States Reorganization Act of 1956, Telangana was merged with Andhra State to form the unified state of Andhra Pradesh. This marked the beginning of a new phase in irrigation policy, with an emphasis on large multipurpose river valley projects inspired by Nehruvian developmentalism. These projects aimed not only to irrigate vast areas but also to generate hydroelectricity and provide drinking water to urban centers.

The most significant projects in this era included:

- **Nagarjuna Sagar Project (NSP):** Constructed on the Krishna River, this was one of the largest masonry dams in the world at the time. While intended to benefit both Andhra and Telangana regions, the canal system primarily served coastal Andhra, with Telangana receiving a disproportionately smaller share of water.
- **Sriramsagar Project (SRSP):** Built on the Godavari River in Nizamabad district, SRSP was envisaged to irrigate large parts of northern Telangana. However, its execution faced delays, cost overruns, and reduced capacity, limiting its reach.

These projects demonstrated technical and engineering prowess but often ignored regional water balance and equitable distribution, especially for rain-fed and tank-dependent areas of Telangana.

### Neglect of minor irrigation tanks

While large dams received substantial investment and national attention, traditional tank systems, once the backbone of Telangana's agrarian economy, were largely neglected during this period. The focus on modern engineering and centralized planning led to the gradual institutional erosion of local water management systems. Thousands of tanks fell into disrepair due to lack of desilting, damaged sluices, encroachments, and absence of community involvement. The minor irrigation department was underfunded and functioned with limited capacity, leading to systemic neglect of decentralized water bodies.

This shift had serious implications:

- Groundwater depletion accelerated as farmers increasingly relied on borewells due to the unreliability of tank-based irrigation.
- Soil moisture stress and reduced cropping intensity became common in tank-fed areas.
- Ecological imbalance ensued, with loss of wetland biodiversity and microclimate regulation.

### Irrigation imbalance between Telangana and Andhra

The formation of Andhra Pradesh in 1956 sowed seeds of long-standing regional discontent. One of the most prominent issues was the unequal distribution of irrigation and river water resources between Telangana and the Andhra region.

While Telangana was rich in river basins like Krishna and Godavari, the benefits of irrigation projects were disproportionately routed to coastal Andhra, where politically influential groups and agriculturally rich delta zones thrived. Despite contributing significantly to state



revenues, Telangana received a smaller share of irrigation investment.

This imbalance was a major factor behind the Telangana statehood movement, which gained momentum in the 1960s and re-emerged in the 2000s. The lack of irrigation development was seen not only as an economic injustice but also as a symbol of systemic neglect.

### **Impact on agriculture and rural economy**

The consequences of irrigation disparities and tank neglect had a cascading effect on agriculture, rural employment, and livelihoods. In many parts of Telangana:

- Rain-fed agriculture continued to dominate, leaving farmers vulnerable to erratic monsoons.
- Crop failure, debt cycles, and migration became increasingly common.
- Limited cropping intensity and restricted access to water prevented farmers from diversifying into high-value or water-intensive crops.

The Andhra region witnessed irrigation-driven prosperity, with double cropping and market-oriented agriculture made possible by canal irrigation.

Despite these challenges, the resilience of Telangana's farmers, combined with ongoing struggles for justice, ensured that the demand for irrigation equity remained at the forefront of political discourse.

### **Irrigation challenges in Telangana (2000-2014)**

The first decade and a half of the 21st century brought to light the deepening irrigation crisis in Telangana, shaped by a combination of historical neglect, ecological stress, and policy failures. The period from 2000 to 2014 was marked by the collapse of traditional irrigation systems, widespread farmer distress, and growing calls for equitable water access, which played a critical role in the revival of the Telangana statehood movement.

### **Tank siltation and abandonment**

By the early 2000s, a majority of the traditional tank systems in Telangana once the backbone of rural water security had become defunct. Years of neglect, absence of desilting, and structural damage had rendered thousands of tanks incapable of storing water. Many tanks had lost over 50% of their original capacity due to silt accumulation. In some cases, tanks were completely encroached upon or converted into real estate, especially in peri-urban areas.

Without maintenance, feeder channels and catchment areas were blocked, leading to the disconnection of tanks from their natural water sources. As a result, the local hydrological cycle was disrupted, and water availability became more uncertain and irregular.

### **Farmer distress and migration**

The irrigation crisis translated directly into agricultural distress. Farmers dependent on tanks for supplemental irrigation suffered crop failures, leading to indebtedness, loss of income, and increased migration to urban centers. The failure of both traditional and state-led irrigation sources forced small and marginal farmers to rely on groundwater extraction through borewells, which soon proved unsustainable due to declining aquifer levels.

This period also witnessed a sharp rise in farmer suicides, especially in the districts of Karimnagar, Nalgonda, and Medak, where tank irrigation had historically played a crucial role.

### **Rainfall variability and climate impacts**

Telangana experienced increasing climatic variability, including delayed monsoons, erratic rainfall patterns, and prolonged dry spells. The semi-arid climate of the region made it especially vulnerable to climate change impacts. Rain-fed agriculture, which still accounted for a large portion of cultivated land, became increasingly risky.

The lack of water storage infrastructure due to abandoned tanks further reduced the resilience of farming communities to cope with climatic uncertainties.

### **Regional demands and the Telangana movement**

Irrigation inequity became a political and emotional issue during this period. Activists, intellectuals, and farmers' associations in Telangana repeatedly pointed out the disparity in water allocation and development spending between Telangana and the coastal Andhra regions. The perception that Telangana's rivers were dammed elsewhere but delivered little benefit to local farmers became a key grievance.

The statehood movement gained momentum by framing irrigation injustice as a symbol of broader systemic neglect. Protesters demanded restoration of tanks, revival of minor irrigation, and fair share of Krishna and Godavari river waters. These demands were not merely technical but were framed as rights-based claims tied to Telangana's historical identity.

By the time Telangana achieved statehood in 2014, the collapse of decentralized irrigation, coupled with socio-economic pressures and environmental stress, had made irrigation revival a central priority for the newly formed state.

### **Mission Kakatiya: Objectives and implementation (2014-Present)**

With the formation of Telangana as a separate state in 2014, one of the earliest and most ambitious initiatives undertaken by the government was the revival of traditional irrigation infrastructure. Recognizing the historical importance and socio-economic significance of tanks, the Government of Telangana launched "Mission Kakatiya" in March 2015 a flagship program named after the Kakatiya dynasty, whose legacy in tank irrigation shaped the region's agrarian foundation.

### **Overview of the scheme**

Mission Kakatiya was envisioned as a comprehensive tank rejuvenation program aimed at restoring 46,531 minor irrigation tanks across Telangana over a period of five years. The mission was a direct response to the widespread tank degradation, falling groundwater levels, and the urgent need to create climate-resilient agricultural systems.

The core objective was to restore the water-holding capacity of existing tanks through scientific desilting, coupled with structural repairs and community mobilization. The program also sought to integrate traditional knowledge of water conservation with modern engineering and participatory governance.

### **Key goals and components**

The primary goals of Mission Kakatiya were as follows:

1. **Desilting of tanks:** Removing accumulated silt to increase storage capacity. The desilted material was encouraged to be spread on nearby agricultural lands to improve soil fertility.

2. **Strengthening of tank bunds:** Repairing and reinforcing the bunds (embankments) to prevent breaches and enhance safety.
3. **Feeder channel restoration:** Cleaning and repairing the feeder channels to ensure natural water inflow during the monsoon.
4. **Restoration of sluices and outlets:** Reconstructing or repairing damaged sluice gates and outlets to ensure effective water distribution.
5. **Groundwater recharge:** Enhancing groundwater levels by restoring tanks that act as natural percolation points.
6. **Environmental Sustainability:** Promoting biodiversity, wetland ecosystems, and microclimatic benefits through restored water bodies.

#### **Phased implementation: Targets and achievements**

Mission Kakatiya was implemented in five phases, each aiming to restore approximately 9,000-10,000 tanks. The implementation strategy was decentralized and demand-driven, allowing districts and local communities to prioritize tanks based on condition and importance.

Progress Highlights (2015-2021):

- By 2021, over 27,000 tanks had been desilted and restored.
- Silt removal exceeded 140 crore cubic meters, a significant achievement in terms of physical and ecological restoration.
- Irrigation potential was increased for nearly 20 lakh acres of farmland.
- A reported 5-6 meters rise in groundwater levels was observed in tank-dense areas.
- Increase in cropping intensity, especially for second-season (rabi) crops, was recorded in multiple districts.

#### **Community and panchayat participation**

One of the most transformative elements of Mission Kakatiya was its emphasis on community ownership and decentralized governance. The program involved Gram Panchayats, Water User Associations, and local farmer groups in planning, supervision, and post-restoration maintenance.

Local communities participated in:

- Identification of priority tanks.
- Monitoring desilting work.
- Deciding the location of silt application on farmlands.
- Organizing awareness programs and labor drives.

The involvement of communities revived traditional stewardship of water resources, ensuring that the restored tanks were not only physically revived but also socially reintegrated into rural life.

#### **Integration with MGNREGA**

To reduce financial burden and generate rural employment, Mission Kakatiya was strategically integrated with the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA). This linkage helped:

- Fund a substantial part of labor-intensive work like bund strengthening and desilting.
- Provide employment to lakhs of rural households, especially during non-agricultural seasons.
- Improve transparency through geotagging of assets and community audits.

This synergy between a state-level developmental mission and a national employment scheme made Mission Kakatiya financially viable, socially inclusive, and administratively efficient.

#### **Impact assessment of mission Kakatiya**

The implementation of Mission Kakatiya brought about substantial and multi-dimensional benefits to the irrigation ecosystem of Telangana. Beyond physical restoration of tanks, the program produced significant socio-economic and environmental outcomes, many of which have been documented through government surveys, independent studies, and field-level observations.

#### **Rise in groundwater levels**

One of the most immediate and measurable impacts of Mission Kakatiya was the rise in groundwater tables across many districts. Tanks function as natural recharge structures, and the desilting of over 27,000 tanks helped restore the percolation capacity of these water bodies.

- In tank-restored areas, groundwater levels reportedly rose by 3 to 6 meters, especially in Mahbubnagar, Karimnagar, and Medak districts.
- The availability of water in borewells improved, reducing the cost of irrigation for farmers who had previously struggled with dry wells.

This groundwater recharge effect ensured water availability not only for irrigation but also for drinking water and livestock, enhancing overall water security in rural areas.

#### **Revival of traditional tanks and cropping intensity**

The revival of tanks re-established the traditional village-centered irrigation model, reducing dependency on erratic rainfall and deep borewells. As tanks filled during monsoons and retained water for longer periods:

- Farmers began cultivating second-season (rabi) crops more confidently.
- The cropping intensity in many areas increased from one to two crops per year.
- Crop diversification became possible, with many farmers growing pulses, vegetables, and even paddy in regions that had previously been mono-cropped.

Tanks that had been abandoned for decades were now brimming with water, restoring agrarian confidence and traditional practices.

#### **Enhanced farmer incomes and reduction in migration**

With reliable irrigation support from restored tanks, farmers were able to achieve better yields, improved soil quality (due to silt application), and reduced input costs. This translated into:

- Increased farm incomes, particularly for small and marginal farmers.
- Lower debt dependency, as farmers no longer needed to invest heavily in groundwater extraction.
- A visible decline in seasonal migration, especially among landless laborers, who found work under both MGNREGA and improved farm conditions.

The economic stabilization of rural households was one of the most transformative social outcomes of the mission.

#### **Environmental benefits**

The environmental benefits of Mission Kakatiya are equally significant and often overlooked:

- Restored tanks contributed to wetland revival, supporting aquatic life, birds, and biodiversity.
- The local microclimate improved due to the presence of surface water bodies.
- The natural water cycle was partially restored, with tanks acting as buffers against both drought and floods.
- Aquifer recharge helped in maintaining ecological balance and sustained water availability even during dry spells.

Together, these outcomes demonstrate that Mission Kakatiya was not merely an irrigation scheme, but a holistic ecological restoration program with long-term sustainability potential.

### Challenges and the way forward

While Mission Kakatiya has made significant progress in reviving tank irrigation in Telangana, several challenges remain in ensuring the long-term sustainability of these efforts. The success of tank restoration must now be followed by institutional, ecological, and policy-level measures to protect these assets from falling back into neglect.

### Sustaining tank revival efforts

One of the primary concerns is the maintenance of restored tanks. Without regular desilting, bund repairs, and community engagement, tanks may once again face siltation and abandonment. Many Gram Panchayats lack the financial and technical capacity to maintain tanks without external support. There is a need for institutionalizing periodic maintenance and establishing village-level water management committees to ensure continued monitoring and upkeep.

### Need for integrated watershed management

Tank revival, though vital, should be part of a broader watershed development strategy. This includes soil and moisture conservation, afforestation, check dams, and farm ponds that work in synergy with tanks. An integrated watershed approach can enhance the water-holding capacity of landscapes, reduce runoff, and improve percolation across catchment areas.

Policy Suggestions for Long-Term Irrigation Sustainability

To sustain irrigation gains, the following policy directions are crucial:

- Legal protection of tanks from encroachment and diversion.
- Digital mapping and geotagging of tanks to track progress and ensure transparency.
- Capacity building for local institutions in tank management.
- Incentivizing farmers to participate in tank upkeep through subsidies or water-user associations.
- Climate-resilient irrigation planning, taking into account rainfall variability and water demand.

By embedding tank revival into the larger agricultural and environmental governance framework, Telangana can become a model for sustainable irrigation in semi-arid regions.

### Conclusion

The historical evolution of irrigation in Telangana, from the tank-building traditions of the Kakatiya dynasty to the modern revival under Mission Kakatiya, reveals a long-

standing relationship between people, water, and landscape. The region's reliance on tank-based irrigation reflects not only an adaptive response to semi-arid conditions but also a deep-rooted community ethos of managing shared water resources sustainably.

Post-independence shifts toward large-scale irrigation projects created infrastructural asymmetries and widened the gap in water access, especially between Telangana and coastal Andhra. The neglect of minor irrigation led to significant agrarian distress and environmental degradation in Telangana, contributing to social unrest and regional demands for equity.

Mission Kakatiya emerged as a landmark corrective initiative, reconnecting policy with traditional wisdom and environmental realities. Its success lies not only in physical restoration but also in reinvigorating rural livelihoods, enhancing groundwater recharge, and reinforcing community participation. The program has demonstrated that sustainable irrigation is not just about engineering but also about ecological balance, inclusive governance, and long-term stewardship. However, the journey does not end here. The challenge ahead lies in sustaining the momentum, integrating tank revival with watershed and climate-resilient planning, and ensuring that future policies continue to empower local communities. Telangana's experience offers valuable lessons to other Indian states and semi-arid regions globally. By blending historical knowledge with participatory governance and modern policy frameworks, it is possible to create a resilient and equitable irrigation system that serves both people and the planet.

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