

Ancient Water Tanks in Kolar: Restoration and sustainability efforts

By Debika Goswami

Water, as one of the most vital natural resources of planet Earth, is quite justifiably referred to as "life." Water is extremely crucial for human survival as well as for the sustenance of ecology and climate upon which the natural and artificially built human worlds depend. The rising stress on water resources across the globe is leading to acute water scarcity due to increases in population, economic growth, climate change and global warming, heightened rates of pollution, and other related factors. The importance of efficient water management, conservation, and sustainability related practices can no longer be ignored or denied.

The district of Kolar, which is the eastern gateway of Karnataka and famous for its gold mines, owes its prosperity and development to the existence of a number of traditional water tanks. Almost 3,298 tanks, the highest in the state, exist in this district. Historical evidence such as various rock inscriptions testify the existence as well as the multifarious benefits gained from the use of these tanks in many districts of Karnataka, including Kolar. Since ancient times, these tanks have been sources of drinking water and other benefits for the community and also provided water for performing rituals for worship in Hindu religion.

Rulers, feudal lords, landowners, and communities have laid out efficient management strategies to uphold the utility of these tanks and maintain them. Any effort to tamper with tank water in any form was handled strongly, and people involved in such acts faced stringent punishment. These ancient tanks continue to be immensely valuable for the well-being of the ecosystem as well as human communities dwelling in Kolar. The tanks store rainwater and help in groundwater recharge of the local aquifers, which farmers use through bore wells.

In the wake of increasing demands of the growing population and the effects of global warming, Kolar is now undergoing severe issues related to water scarcity. The reasons for this stem from a range of factors such as the overuse of existing groundwater sources for irrigation (agriculture is the primary occupation of the district), dwindling pattern of rainfall (the location of the district is a semiarid region), and so on. A decade of moderate to severe droughts in the district has further worsened the condition, leading to drying up of the surface water sources and a rapid decline of the groundwater level. Bore wells, a major source of irrigation in Kolar, have reached the level of 2,000 feet. Recharging the groundwater is difficult as the district has no perennial rivers. Kolar has three small rivers, but all of them are rain-fed and carry a very small amount of water during a specific time of the year. In addition, the groundwater is contaminated with fluoride. Communities in Kolar are fighting for drinking water, and the state experienced a huge strike demanding safe water in June 2017. In such an alarming state of affairs, conservation, rejuvenation, and maintenance of the ancient water tanks is all the more crucial.

High-scale erosion from catchment areas, encroachment of water channels and water spread areas, and silting of the tank bed have all resulted in reduced capacity of these tanks to store rainwater. With scanty rainfall, water does not even reach

the tanks. Coupled with excessive exploitation, local aquifers are under great pressure, which affects the availability of water for irrigation as well as domestic purposes. Many of the local bore wells have dried up and crop yield has reduced considerably. Desilting and rejuvenation of the traditional water conservation structures are pressing needs.

To address the situation, Sehgal Foundation in collaboration with Coca-Cola India Pvt. Ltd., has been working since 2017 to rejuvenate and sustain these tanks and mobilize local communities in Kolar to engage effectively and take ownership of the maintenance of these tanks. Primary objectives behind this collaborative intervention include desilting and rejuvenation of traditional water tanks for improving their water storage and groundwater recharging capacity, and increasing the awareness of communities, community-based organizations, and village-level institutions on water conservation. Information related to government programs on water and agriculture builds community ownership for water conservation, sustaining the structures, and increasing access to government programs.

Five tanks from four villages, Aniganahalli, Halepalya, Obatti, Kempasandra in Malur, and Banagarapet mandalas of Kolar district were selected for tank rejuvenation. To engage local communities in the whole process, especially in maintenance and sustainability of the tanks, four Tank User Groups (TUGs) were formed involving men and women community members from all castes, key persons of the villages, and members of *gram panchayats* (village councils). The groups include Sri Ram Jaladhara TUG in Aniganahalli, Gangamma Sapalamma Jaladhara TUG in Halepalya, Vijaya Veeranna Jaladhara TUG in Obatti, and Satyamma Jaladhara TUG in Kempasandra.

Efforts to mobilize the local community began in January 2018. Village-level meetings were conducted in all four project villages involving community members, both male and female, key persons and members of gram panchayats of the villages. In these meetings, the foundation team introduced the project objectives and described the interventions. With consent of participants in these meetings, seventy-six members (49 male, 27 female), training of the four TUGs on management of community water tanks was underway. Members learned about the importance of sustaining the traditional water tanks, their roles and responsibilities, procedures to maintain accounts and bylaws framed specifically to facilitate the adoption and proactive management the water tanks by the local community. These bylaws were framed and translated with reference to the *Jal Samvardhane Yojana Sangha* (JSYS),¹ developed by Ministry of Water Resources, Government of Karnataka.

In addition to community mobilization through the formation and regular trainings of TUGs, major issues have also been identified that are instrumental in reducing the capacities of the ancient water tanks. These include over silting of tank beds and feeder canals, and the dilapidated or predominantly broken waste weirs,

¹ Jala Samvardhane Yojana Sangha (JSYS) is a registered society established by Govt. of Karnataka, and governed by the Ministry of Water Resources (Minor Irrigation) to serve as the nodal agency in the state for Community Based Tank Management. JSYS was formed to help facilitate the transfer of tank system development and management from the state back to communities.

sluices, and bunds. After consultation with technical experts, the foundation team began rejuvenation work on all five tanks. The desilting and rehabilitation processes are going on currently in the tank locations.

Participation of women from local communities in all the TUGs is significant. Lakshamma, a woman panchayat member in Aniganahalli, proactively participates in the trainings and other TUG activities. Women are more concerned about water conservation and sustainability-related practices as well as tank restoration processes as they handle most of the water. Had these tanks functioned in normal capacities like they used to do in the past, women could have saved themselves from a huge number of perils related to water collection, storage, and usage. These tanks could have acted as easy sources of water for managing their daily chores. As a result, women in the community seem to connect more than men with the pressing issues such as the reasons behind drying up and the reduced usage of the tanks.

TUG members are motivated to give monetary contributions themselves as well as collect community contributions from villagers for future maintenance of these tanks. Community contributions already collected amount to Rs. 1 lac in Aniganahalli, Rs. 53,000 in Obatti, Rs. 110,000 in Halepalya, and Rs. 50,000 in Kempasandra, and is being saved in bank accounts opened in the names of TUG groups in Pragathi Krishna Grameena Bank, Tekal. The president, secretary and treasurer of the TUGs, along with one representative of Sehgal Foundation, operate these accounts. However, collecting the monetary contributions from the local communities has been the greatest challenge so far in this collaborative project. Though villagers are ready to take responsibilities of tank maintenance, they are not as easily convinced to contribute monetarily. To address this issue, TUG members in all four intervention villages are conducting door-to-door visits and having detailed discussions with the resident villagers. Together they are attempting to generate awareness about the importance of community contributions, which in turn can create ownership by local communities for tank maintenance and lead to improved water conservation practices and sustainability.

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