

# **THE CHALLENGE OF PARTICIPATIVE GOVERNANCE OF COMMON PROPERTY RESOURCE IN A DEVELOPING COUNTRY-A CASE IRRIGATION TANKS IN INDIA**

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## **Abstract:**

An irrigation tank is a small reservoir constructed across the slope of a valley to catch and store water during rainy season and use it for irrigation during dry season and also indirectly recharges the open wells and farm ponds which further extends the availability of water for agriculture. The tanks an important wetland ecosystem has a long history and have been an important source of irrigation in Southern India. The tank irrigation system has a special significance to the marginal and small farmers who make a very large majority. Irrigation tanks has potential in future under climate change regime of high variability of floods and droughts necessitating increased water storage as an adaption strategy.

The irrigation tanks in Puducherry are also part of this excellent historic water conservation system and. Earlier Maintenance Systems of tanks were through collective efforts and farmers could use their water rights through institutional arrangements. Transfer of management of tanks to government and the adoption of the Green Revolution led to the slow but steady decline of the tank systems. With excessive ground water withdrawals coupled with the failure of the tanks which used to recharge the shallow wells, water table sank quite fast and this resulted in salt water intrusion in the coastal Puducherry region in the early 1970s. . However, profit making through privately owned water sources (i.e., wells) within the hydrological boundary of the common property resource posed serious threat to the very survival of the tank. Subsequently a Tank rehabilitation project Puducherry (TRPP) was taken up by the Government of Puducherry with financial support from European Union. Rehabilitation of tanks resulted in augmented supply of irrigation water, better recharge of groundwater, improved quality of drinking water, increased production and productivity, enhanced employment opportunities and better well-being of the stakeholder communities. The positive aspect of successful rehabilitation depends heavily on a true participatory governance starting from the formation of the institutional structures, empowering them, prioritizing planning, execution of works and maintenance of the rehabilitated tanks.

Even the United Nation (2008) recommended the need for a more inclusive approaches to development which involve the participation of all involved stakeholders in the formulation of public policies and in the decision making process.

Hence this paper attempts to analyze the socio-economic,environmental and institutional impacts of participatory tank rehabilitation in Union Territory of

Puducherry, India. The tools of analysis included conventional percentage analysis, groundwater level changes, Lorenz curve of income distribution, Gini ratio in income inequality, Benefit cost ratio, multiple regression and Garrett ranking are taken to find the impact of the study. It was observed that the cropping pattern, cropping intensity and irrigation intensity of the sample farms showed the positive impact of TRPP. There was an increase in net returns of all crops after implementation TRPP. Among the crops, rice yield the highest net returns and BC ratio among various categories of the farmers. Ground water level has improved in both the villages due to the implementation of TRPP. The on-farm and non-farm income of the sample farmers. The Lorenz curve and Gini ratio revealed that the income inequality had declined after the TRPP.

Perception of tank benefits are listed, increased crop productivity was the major benefits perceived by the farmers with the mean score of (81). followed by increased soil moisture (74), decrease in encroachment in water spread area (68), revenue from fish culture and trees (55), increase in number of livestock (40), increased fodder availability(35), water users association performed well(33), gained labour employment during project period( 28) As for the indirect benefits of Tank Rehabilitation Project are concerned, water levels raised in the well was important benefits felt by the respondents with Garret score of 65 followed by improvement of Ecology/scenic beauty (52). Regarding the people participation in the project that majority of farmers revealed that partially participated both in planning and implementation stages of the project.

The study has suggested that the success of TRPP is largely and solely depended on the effective participation of the beneficiaries. Therefore, beneficiary participation should be ensured right from the beginning and more especially in planning and implementation stages.

The above successful model of participative governance of a common property water resource “tanks” is instructive not only to India but also for other site considering the governance in water resource for climate adaptation.