

‘Poverty, Private Property and Common Pool Resource Management: The Case of Irrigation Tanks in South India’, by R. Balasubramanian and K.N. Selvaraj, SANDEE Working Paper No. 2-03

Abstract

Irrigation tanks are one of the oldest and most important common property water resources in the resource-poor regions of South India. Tanks are also important from an ecological perspective because they serve as a geographically well-distributed mechanism for the conservation of soil, water and bio-diversity. Unfortunately, tank irrigation has undergone a process of rapid decline in the recent past, much of which can be attributed to the disintegration of traditional irrigation institutions. In response, people adopt various coping strategies such as migration, non-agricultural employment, and private tube-wells. Adoption of private coping mechanisms has serious implications for community coping mechanisms, i.e., for collective conservation efforts. Against this background, this study tries to understand the main causes of tank degradation and the complex interrelationships among poverty, private coping mechanisms and community coping mechanisms that affect tank performance. Primary and secondary data are used to estimate three regressions models: a macro model on tank degradation, a household-level model on collective action, and a production function incorporating collective action as an input.

In general, poor people are more dependent on tanks for various livelihood needs and hence they contribute more towards tank management compared to non-poor households. The analysis of tank degradation shows that there has been a decline in the performance of tanks. Population pressure is found to have accelerated the process of tank degradation. Though the emergence of private tube-wells contributes towards mitigating tank degradation within a narrow range, a continuous increase in the number of wells beyond limits exacerbates the process of tank degradation. This result is further validated by the micro-level econometric model of collective action towards tank management, which indicates that the increase in the number of private wells has a strong negative effect on the participation of rural communities in tank management. The size of the user group has a negative impact on cooperation, while the existence of traditional governance structures, such as rules for water allocation, promotes collective action. Wealth inequality is found to have a U-shaped relationship with collective action. The production function analysis shows that collective action has a positive and significant impact on the rice yields. Therefore, collective action is important for higher productivity and income. The study proposes several policy measures to revive and sustain tanks so as to provide livelihood security to the poor, who are the most affected by resource degradation.

*Key Words: irrigation tanks, collective action, coping mechanisms, poverty, common pool resources, South India*