Symbiosis or Exploitation? Assessing the Ramifications of Rural-Urban Water Transfers in Tamil Nadu, India.

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Abstract

Transferring water from rural agriculture use to urban municipal and industrial use by administrative decisions is widely practiced in many water-scarce regions in India. There have been numerous ‘for’ and ‘against’ arguments on rural-urban water transfers. Water transfers are justified on the basis of more efficient use of water, as farmers are often seen as getting a disproportionate share of water and wasting water. However, opponents of water transfers argue that mostly short term economic gains play a major role in shaping water transfers, ignoring the broader political economy and environment. Ideally, planning and implementation of such water transfers should be carried out with the understanding of the trade-offs involved, as there is economic, social and environmental interdependence between urban and rural areas.

The processes and critical impacts of rural-urban water transfer are not well researched or understood (Celio et al., 2010). Past empirical inquiries on water transfers focus on just a few variables, ignoring the intervening or modifying mechanism, such as characteristics of the water supplying region and response capacities of preexisting water users, and present contrasting results. Hence, to understand the trade-offs involved in the rural-urban water transfers, the analysis needs to take a holistic approach that considers the complex and interdependent ecological and socio-economic processes and feedbacks. In this context, it would be beneficial to adopt a complex Social-Ecological Systems (SES) approach, as the existence of trade-off, losing one quality or aspect in exchange for another, is one of the fundamental aspects considered in the analysis of SES.

This study analyses a selected water transfer case in totality deploying a SES framework (Ostrom, 2011) and presents the results. Water transfer process is examined from a broad systems perspective, conceptualizing the water supplying region in the selected case as a complex SES. Chennai Water Augmentation Project I is chosen for the detailed analysis. This project was implemented in 2004 to convey water from the Veeranam Lake to the city of Chennai, Tamil Nadu, India, through a 230 km pipeline. The Veeranam Lake, constructed in the 11th century, irrigates an area of 18,152 ha benefitting 128 villages.

This study draws upon both qualitative and quantitative data derived from surveys, key informant interviews, field observations and secondary data, and investigates the nature of...
changes in the supplying region. Socio-economic characteristics, agricultural productivity, land use and water availability before and after water transfers are analyzed to determine the changes in the supplying region. The analysis reveals the following trends: increase in well irrigated and rain-fed agricultural lands; a shift from agriculture as the main source of income and employment; temporary migration of agricultural workers.

Based on the study findings, the water transfer policy and planning processes can be optimized to balance the trade-offs between and within the rural and urban regions.

References:


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