

Transaction Costs and Institutional Innovation: Sustainability of Tank Aquaculture in Sri Lanka, by Athula Senaratene and Kalpa Karunanayake, SANDEE Working Paper No. 18-06

Abstract

Freshwater community-based aquaculture was introduced to village irrigation tanks in the dry zones of Sri Lanka in order to offset the limited supply of animal protein available to residents in inland areas. This paper examines transaction costs associated with the management of community-based aquaculture in Anuradhapura district, the most important inland fish production area in the country. Using data from 41 tanks and 340 households, the study finds that community-based aquaculture involves three types of management forms: tank management by farmer organizations, management by sub-group within farmer organizations and out-sourcing of management to third parties. All three institutional arrangements involve transaction costs associated with information provision, collective decision-making, and protection of fish harvest from poachers. While the costs of information provision and collective decision-making are relatively low under all three institutional arrangements, the cost of protection is significant and is considerably reduced when the entire farmer's association is involved in tank management. In general, while community based fisheries contributes cash flow to farmer organizations and bolsters village food security, the benefits to individual farmers are low. Hence, farmers have little incentive to participate in collective action. Of the three different institutional arrangements, management by farmer sub-groups is the most successful in providing benefits to participants. The study suggests that sustainability of community-based aquaculture depends on successes in experimenting with institutional arrangements that can minimize transaction costs and achieve adequate returns to participants through productivity gains from tanks.

Key words: Community-base aquaculture, transaction costs, farmer organizations, Irrigation tanks, fisheries, Sri Lanka