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Assessing the Determinants of Collective Action in Common Property Brackish Water Management for Shrimp Farming in Bangladesh

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Abstract

Shrimp production ranks second in Bangladesh in terms of the sector's ability to earn foreign exchange after the garment industry. Shrimp farming is dependent on tidal flow of brackish water which passes through the main canals and sub-canals and the supply of water at the farms behind the sub-canals is usually done by using the others farmland. Thus, problem of a head-enders and tail-enders arose. Due to high sedimentation, the depth of the canals and sub-canals loaded by silts and the tidal flow of water decreased. These problems are creating negative externalities like poor water exchange, degradation of water quality, which ultimately affect on yield and increased cost of shrimp production and reduce profit to the shrimp farmers. In principle, there is a general consensus about water that all stakeholders need to be involved in its management. The empirical evidences allow to hypothesise that collective action can be an excellent solution for excavating the canals and managing brackish water very well. A number of NGOs as well as government of Bangladesh took initiative for collective management of water resource. Some farmers followed it and some not. Cooperation in collective action is the key of its' success. The main goal of the study is to determine what are the characteristics of the individuals that they agree to cooperate? Tobit regression analysis is used to assess these factors. The result of the study shows that education, annual non-farm income, land holdings, group size and involvement in NGO of the shrimp farmers are influencing to contribute in collective management. The study is constituted 120 tail ender shrimp farmers for the crop year of 2007–2008 from the south west region of Bangladesh.

Keywords: Brackish water management, collective action, tobit regression analysis