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"Bridging the gap between increasing knowledge and decreasing resources"

Participation in Integrated Aquaculture-Agriculture Value Chain: Dynamics and its Determinants

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Abstract

Since long time integrated aquaculture with agriculture (IAA) technologies have been promoted by different national and international organisation in many parts of Asia and Africa as a potential sustainable intensified technique. However, little rigorous empirical research exists, but for widespread diffusion and targeted policy intervention it is necessary for such technologies. The objective of this article is to investigate the determinants of dynamics of participation in IAA value chain by indigenous people in Bangladesh. It utilises a large, three wave panel dataset collected from value chain participator and non-participator (control) households from 2007 to 2012. The data enables us to identify the distinguishing features of continuing participants in the IAA value chain as well as non-participators and leavers (dis-participators), groups which were very often overlook from most of the technology adoption studies. We employ different panel estimation strategies to control for omitted variables and endogenous regressors that very often are not investigated or questionable in cross-section studies. The results, however, confirm previous findings that larger farms with better access to complementary inputs are more likely to participate in IAA-related value chain activities, non-participators appear quite unlikely to become participators, and landless, off-farm and non-farm income dependent households are more likely to participate in IAA backward and forward related value chain activities. Despite its immense promise, we find that IAA value chain participation is difficult for most of the smallholder farmers because the method requires a significant amount of complementary inputs which is often very difficult to access by the marginalised extreme poor households. This article highlightes how panel data can improve our understanding of adoption of technology in general and sustainable farming system technology in particular.

Keywords: Bangladesh, discrete choices panel data methods, integrated aquaculture with agriculture, marginalised extreme poor indigenous households, participation dynamics, value chain

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