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An Analysis of Impact of Contract Farming on Farm Productivity and Efficiency: The Case of Hybrid Paddy Seed Cultivation South India

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Abstract

The adverse impact of globalisation on farmers in developing countries especially in India needs to be seen against the fact that agricultural sector is not internationally competitive on account of low productivity, high cost of production, lack of institutional support and other related factors. For addressing these issues, appropriate institutional innovations/platform is required in agriculture sector in delivering new technology, knowledge, inputs and a better market for farmer's harvest. The private sector could play a role in providing a range of services from input and technology supply to crop assembly and marketing. The studies have shown that contract farming has increased in crop productivity and output growth in agriculture sector by delivering better technology, coordinating producer's and consumer's market as well as strong grass-root linkages. However, the effectiveness of contract farming in terms of farm productivity and efficiency in India has not received much attention among scholars.

In this context, the paper would like to examine whether technological and input linkages in contract farming increases farm productivity and efficiency by taking a case study of hybrid paddy seed cultivation under contract farming in Southern India. Heckman sample selection model is estimated to examine productivity difference between contract and non-contract farmers and production frontier has used to measure the technical efficiency.

The results indicated that non-contract farmers could achieve higher productivity and efficiency in growing general paddy (non-contract crop) compared to contract farmers. On the other hand, contract farmers are more efficient in growing hybrid paddy seed (contract crop) as in growing general paddy (non-contract crop). Small farmers were found to achieve a higher level of efficiency compared to large land holders. The main determinants to attain a higher technical efficiency for growing general paddy are region, pesticide use and education level of the farmers, whereas, region, frequency of fertiliser application and pesticide use were the main determinants for hybrid paddy seed. The fact that education is insignificant in case of the cultivation of the contract crop is understandable as the production strategy is guided by the firm/processor and there is little space for farmer's knowledge.

The result open up many avenues for future research: for instance, the autonomy of farmers in contract farming and the spillover effect of technology. The impact of modern technology in contract farming on traditional knowledge of farmers and local environment should be examined in greater depth.

Keywords: Contract farming, Efficiency, Productivity, Small farmer