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Community Irrigation Sharing Arrangement and Smallholders' Market Led Agriculture - A Case of Odisha State, India

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Abstract

Community irrigation sharing arrangement (CISA) is known for its manifold socio-cultural-economic benefits irrespective of its place of formation and scale of operation. This study attempted to answer how such a sharing arrangement has shifted smallholders' land use decision especially when the market is favourable. A mixed method of survey was adopted to collect primary data from 60 farmers of 20 CISA from 12 villages of two adjoining districts, viz. Cuttack and Jagatsinghpur, Odisha State, India during November 2018 March 2019. Focus group discussions were conducted to collect information on land use and land cover change (LULCC), irrigation provision and market accessibility by CISA farmers. Based on these three parameters, surveyed farmers were post classified into four different groups namely highly diversified irrigated agriculture for direct market supply (HDIAM), moderately diversified limited irrigated agriculture for direct market supply (MDLIAM), moderately diversified limited irrigated agriculture for indirect and limited market supply (MDLIAIM) and least diversified mostly irrigated agriculture for direct market supply (LDMIAM). HDIAM and MDLIAM farmers were diversifying their land use mostly to off-season vegetables that fetch a remunerative price. For MDLIAIM and MDLIAIM farmers, sugarcane occupied more than 50% of cultivable land. Their market access was limited by a distant secondary market and poor transportation and communication facility.

The farmers were personally interviewed to elicit information on crop choice and irrigation accessibility before and after CISA formation. By using difference-in-difference approach it was observed that the previous rice-based cropping pattern, i.e. rice (rainy season)-green gram (winter season)-fallow (summer season) changed to the vegetable based cropping pattern, i.e. rice (rainy)-vegetables (winter)-vegetables (summer) for HDIAM and MDLIAM farmers. MDLIAIM farmers though shifted to vegetables and sold at farm gate price to traders but also specialized in sugarcane cultivation taking the existing facility of contract farming with the sugar mill. For LDMIAM, rainy season rice area was reduced to half of the gross cropped area and replaced by sugarcane after CISA formation. Thus, an irrigation provision through CISA enhanced farm economics while the market determined LULCC.

Keywords: Community!irrigation sharing arrangement, difference-indifference, market led agriculture