

Wage and other Factor determinants of crop productivity and farm income in India? Panel analyses across six villages in SAT region from 2001-2011

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Abstract

The impacts of rising agricultural labor wage, and its marginal impact on crop productivity and profitability of smallholding farmers have been a heatedly debated public policy issue in India and in many other countries in Asia. In this paper, we have analyzed long-run relationship between various factors of production and crop productivity and farm income; and quantified the relationship between the productivity and the selected factors determinant across villages (space) and over the time. We have analyzed these issues using village data series across 6 villages spread over three different agro-climatic zones of one Andhra Pradesh (now Telangana state) and Maharashtra states of India. These are the villages where ICRISAT has been collecting panel form of farm household data by farm classes since 1975. Using the same data, we have analyzed growth trend of crop productivity (crop income per acre) and household income, then evaluate marginal impacts of wage and selected factor determinants of crop productivity and farm income from 2001 to 2011. This was done using fixed effects form of panel model across village level. After that we have also derive elasticity values of each of the exogenous parameter estimates for better comparison on relative importance of factors affecting the dynamics of farm productivity growth and farm transformation process in Semi- Arid Tropics of India. Our results show that factors like technology (fertilizers, hybrid variety of crops), social factor (education of farm household), rainfall factors have very positively contributed in enhancing crop productivity and crop profitability during the period studied. An additional increased of Rs. 1 on fertilizers had increased crop profitability by 1.48. One years of more schooling year attended by the head of farm household (farmers) had led to increase in crop profitability by Rs. 1194 per acre (in 2009/10 constant price). Our results also show that increase in male wage rate has decreased farm profitability significantly. In the village where share of livestock income and share of non-farm income were growing, the total farm profitability had not grown That is, the income earned from livestock and non-farm source have not been used for the buying inputs for growing the crops. The issues on factors determinants of crop productivity and crop profitability, and the dynamic relationship among these factors, as estimated here, provide improved understanding on technology adoption process in farming, and viability of smallholding farmers in the SAT India and other rainfed region of India, and in the region.

Keywords: *Rural wage, crop productivity, crop profitability, farm income, household panel data analysis, ICRISAT VDSA data sets, Semi- Arid Tropics of India*

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