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Socio-economic and Spatial Determinants of Farm Production and Local Livelihoods in the Middle Mountain of Nepal

GOPAL DATT BHATTA, WERNER DOPPLER, KRISHNA BAHADUR K. C., IWAN RUDIARTO

University of Hohenheim, Dept. of Agricultural Economics and Social Sciences in the Tropics and Subtropics, Germany

Abstract

The middle mountains, a broad strip of sharply dissected and highly variable hill country, occupy about 30 % of Nepal's land covering 42,000 km² area which accommodate 48 % of Nepal's population including densely populated broad shallow basin of the Kathmandu Valley. This shallow basin is enriched with varieties of production practices, local resources and biophysical make-ups. Market oriented production that dominates in peri-urban fringe is a key factor driving land-use intensification in the valley bottom. Subsistence farming that predominates in rural areas is based on marginal hill slope cultivation and both of these production practices illumine the scar on sustainability of local livelihood.

This paper attempts to find the socio-economic and spatial determinants of farm production and livelihoods of the farmers in the highly populated peri-urban and rural transects of middle mountains. Socio-economic factors were based on micro-survey while biophysical factors were assessed using GIS, both of which were integrated to establish a link between people to pixel.

Multivariate regression analysis shows that vegetable area, dependency ratio, family labour, credit and road availability are the crucial socio-economic determinants of farm income and livelihoods and most of these variables are spatially correlated implying that these attribute start becoming better-off in the accessible areas and worse-off in the remote areas. Spatial differences in socio-economic variables are mainly related to road, market and other infrastructure which are crucial for livelihood development. Households with poor access to these infrastructures have low farm and family income and poor livelihood and opposite is true in accessible areas. The results of GIS based cost distance modelling shows substantially higher time to reach to the market from rural areas. Some parts of the peri-urban areas have agro-chemical based market oriented vegetable production and some parts have organic vegetable farming while rural farming due to relative inaccessibility is subsistence based with commercial dairy farming which is a major component of rural livelihood. The findings also pinpoint that most of the socio-economic parameters are governed by spatial position of the household and therefore any intervention to uplift the livelihood through agriculture development should take this spatial variation in account.

Keywords: Cost distance model, farm income, GIS, Nepal, peri-urban fringe