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Spatial Differentiation in Farming Practices and Their Impact on Rural Livelihood: A Case from Hills of Nepal

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Research Problem

Farming practices adopted by the farmers in the hills of Nepal differ owing to spatial differentiation that leads to varying resource availability, physical infrastructure development and external intervention. Differential farming practices within a short transect brings impact on local livelihoods.

Objectives

- To delineate the relationship between socio-economic variables and spatial location of the household
- To find the effect of spatial differentiation on rural livelihoods of the farm families

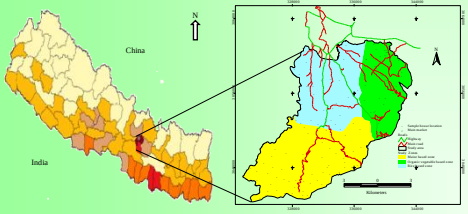

Figure 1: Map showing study area with study zones

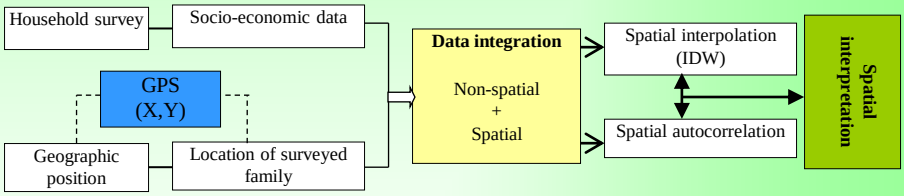

Figure 2: Integration of socio-economic and biophysical data in GIS environment

Research Methodology

- Household survey of 130 farm families selected through spatial sampling design from rural-urban continuum of the hills (Fig 1).
- GPS was used to locate household spatially, analogue maps and digital data have been purchased.
- Micro-survey data were integrated to GIS environment (Fig 2).
- Spatial interpolation with key variables was done using IDW method.
- Cost distance in terms of travelling time from household location to main market was calculated using slope and road infrastructure.

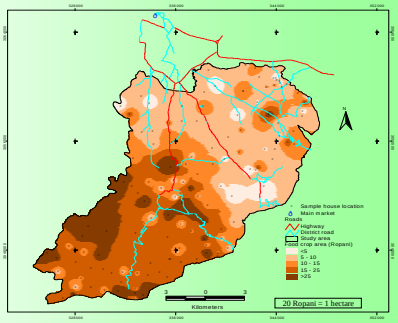

Figure 3: Food crop area (Ropani)

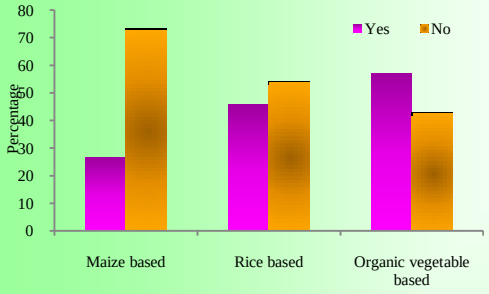

Figure 4: Food sufficiency as per farming zones

Results

- Maize based, rice based and organic vegetable based zones (Fig 1) have been identified on the basis of crop domination at differing altitudinal gradient, slope and remoteness.
- The closer the farmers are to the market and other infrastructure centre, the better the tendency to adopt improved practices.
- Yield of food crop is higher in the lower altitude while area is higher in higher altitude (Fig 3).
- Strong spatial autocorrelation was found with key socio-economic variables.
- Higher farm and family income was found in the most favorable zones (Fig 6) and impact of cost distance is prominent (Fig 5).
- Additionally opportunities for food, health and housing and quality education are better as one moves from rural to urban area.

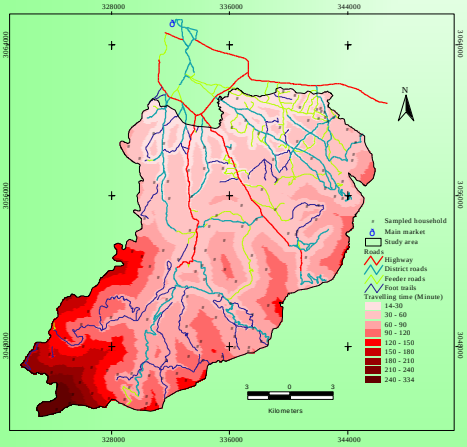

Figure 5: Cost distance (travelling time to the market)

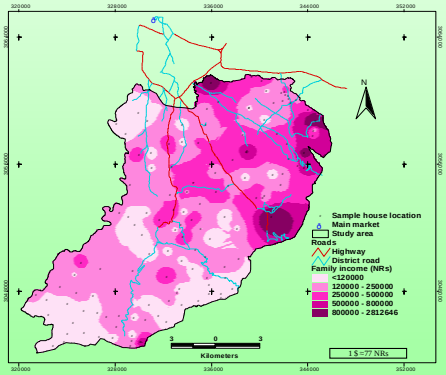

Figure 6: Family income (NRs)

Conclusion

- Farming differentiation in rural-urban continuum is high towards more favoured areas while it is slow and low in less favored depopulated areas.
- People in rural areas have poor livelihood status.
- Efficient strategies especially in developing road and market infrastructures should be hammered out in rural areas to curtail the disparity in living standards caused by spatial differentiation.

References

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- KC, Krishna Bahadur. 2005. Combining socio-economic and spatial methodologies in rural resources and livelihood development: A case from mountains of Nepal. In: Doppler, W., Bauer, S. (Eds.) Farming and Rural System Economics, Vol. 69, Margraf Verlag, Weikersheim, Germany.

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