
Roles of Growth Centers in Regional Development: A Case Study in Northern Thailand

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Abstract:

This paper utilizes GIS technology integrated with spatial analysis and spatial modeling techniques to explore the roles of intermediate-size regional centers – Chiang Mai City and Lamphun Municipality (Northern Thailand) – in spreading development to surrounding rural areas. The spatial process of regional development is mapped in various physical, socio-demographic and economic aspects for the years 1986 and 1994 and, then, quantified using spatial autocorrelation statistics. The radiuses of significant spreading effects from the two centers are defined using so-called *ring analysis* and *spatial cross-correlograms*. The roles of growth centers in terms of urban core - rural periphery interaction are then modeled using spatial lag regression model. As results, insights into spatial patterns, spatial extent and intensity of core-periphery inter-dependencies in terms of important socio-economic factors in regional development during the 1986 – 1994 period are revealed. This application also demonstrates that GIS can serve as a useful technical vehicle, upon which various exploratory and explanatory spatial analysis techniques can be built in order to evaluate and further advance regional development strategies.
