

## Mapping Poverty in the Philippines: Insights from Satellite Data and Spatial Econometrics

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**Abstract :** This study explores the relationship between a diverse set of variables, encompassing both environmental and socio-economic factors, and poverty levels in the Philippines for the years 2012, 2015, and 2018. Employing Ordinary Least Squares (OLS), Spatial Lag Models (SLM), and Spatial Error Models (SEM), this study delves into the dynamics of key indicators, including daytime and nighttime land surface temperature, cropland surface, urban land surface, rainfall, population size, normalized difference water, vegetation, and drought indices. The findings reveal consistent patterns and unexpected correlations, highlighting the need for nuanced policies that address the multifaceted challenges arising from the interplay of environmental and socio-economic factors.

**Keywords :** poverty analysis, OLS, spatial lag models, spatial error models, Philippines, google earth engine, satellite data, environmental dynamics, socio-economic factors

**Conference Title :** ICETID 2024 : International Conference on Economics, Trade, Investment and Development

**Conference Location :** Bangkok, Thailand

**Conference Dates :** February 01-02, 2024