

Leveraging Indonesia's One Map and One Data Initiatives to Assess Livelihood Resilience after Compulsory Land Acquisition

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SUMMARY

Globalization and the pursuit of economic growth have placed increasing pressure on land management systems, particularly in the allocation and use of land for large-scale development. In many countries, including Indonesia, compulsory land acquisition has become the most common mechanism to meet the growing demand for land-based development. However, this process often generates significant social and environmental consequences, especially for affected communities whose livelihoods are disrupted. While Indonesia's ongoing One Data and One Map Policy initiatives offer opportunities to enhance land acquisition planning by utilizing integrated geospatial and non-geospatial datasets, these data remain underutilized and fragmented across institutions and sectors. In light of these challenges, this study proposes an alternative framework for assessing and visualizing land acquisition impacts and livelihood resilience using available spatial and non-spatial data. Using the Yogyakarta – Bawen Toll Road Project in Indonesia as a case study, we demonstrate how multi-source data can be systematically integrated to map the resilience and vulnerability of affected areas.

A first finding is that although Environmental and Social Impact Assessments (ESIAs) are formally conducted, their implementation remains ineffectively integrated with relevant data. Field-based surveys, while ideal, are often constrained by time, financial resources, and data accessibility. As a result, project planning and land acquisition mitigation measures are frequently based on descriptive statistical summaries that fail to capture the complex socio-economic characteristics of affected populations. This gap limits planners' capacity to translate planning documents into actionable restoration strategies. The analysis further identified patterns of potential social impacts related to land acquisition, including variations in livelihood dependence, asset distribution, and socio-economic sensitivity across locations. Furthermore, a stakeholder mapping analysis was conducted to identify key data providers, institutional roles, and opportunities of multi-stakeholder

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collaboration in mitigating social impacts and designing context-specific livelihood restoration programs. The findings highlight that by supporting a better alignment of existing datasets to the information and reporting requirements of practitioners, supported by enhanced coordination and interaction mechanism, it will be possible to enhance data-driven decision-making in land acquisition planning. This study contributes to the ongoing policy discourse on social impact management in compulsory land acquisition practice in Indonesia. It offers a practical approach that aligns with national data governance reforms while advancing the integration of spatial planning, social assessment, and livelihood restoration. Ultimately, the proposed framework provides a replicable model for evidence-based and socially responsive compulsory land acquisition, supporting the transition toward more sustainable and inclusive land-based development.

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