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Land Use Changes and Challenges in Achieving Effective Regional Development Planning in the Jaffna Divisional Secretariat Division

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Abstract

Land use plays a vital role in achieving effective regional development planning, particularly in areas experiencing rapid socio-economic transformation and environmental change. In the Jaffna Divisional Secretariat Division, land use patterns have undergone notable shifts due to post-war resettlement, urban expansion, migration, and changing agricultural practices. These transformations have created several land-use planning challenges, including the loss of agricultural land, illegal coastal settlements in Navanthurai, unregulated land reclamation, widespread encroachment, and poor drainage particularly Kurunagar and in Aanaikoddai J/88 GN Division. Waste-filled canals along the Sandilipay-Jaffna border, polluted mangroves, illegal tree cutting, and rapid, unplanned building expansion, together with four decades of population pressure from island-to-mainland migration and in-migration for services like education, employment, have further intensified these challenges. The study uses a mixed-methods approach combining GIS-based mapping, descriptive statistics, and thematic analysis to assess land use changes from 2010 to 2024. This period was selected due to the availability of continuous secondary data and its relevance for capturing post-war resettlement impacts. Secondary data from the Divisional Secretariat Statistical Handbooks provided annual land use types and extents for the analysis. GIS digitization was conducted to identify changes across major land categories, while qualitative insights were derived from field observations, stakeholder interviews, and photographic documentation. Quantitative findings from secondary records show that most land categories including built-up areas (87 ha), gardens (567 ha), and coconut/plantation areas remained largely unchanged from 2012-2024. The only substantial shift observed was the sharp decline in paddy extent, dropping from 52 ha during 2012-2019 to only 4-5 ha after 2020, indicating the conversion or abandonment of agricultural lands. Total mapped land area also decreased from 1,092 ha (2012-2019) to about 1,045 ha (2020-2024), a change attributed to boundary adjustments and updated digitization. These findings align with observed issues of agricultural land encroachment, unregulated reclamation, weak institutional coordination, and outdated land use plans. Based on the findings, the study recommends updating existing land use plans using accurate GIS baselines, strengthening enforcement against illegal coastal settlements and land reclamation, restoring blocked drainage and polluted mangrove areas, and protecting the remaining agricultural lands through clear zoning and monitoring. Improved coordination among planning authorities and active community participation are essential to address the documented challenges and support sustainable regional development in the Jaffna Divisional Secretariat Division.

Keywords: *Challenges, Jaffna DSD, Land use change, Regional development planning*