Leveraging The Uganda National Land Information System For Climate Change Prediction Spatial Analysis Of Land Tenure And Land Use Patterns

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SUMMARY

Climate change poses significant challenges for Uganda, including disruptions in agricultural productivity, water resource availability, and sustainable land management. The Uganda National Land Information System (UgNLIS) provides a robust platform for spatial analysis of land tenure and land use, offering opportunities to predict and mitigate climate change impacts. This study investigates how UgNLIS can be leveraged to integrate geospatial data into climate change analysis, focusing on land cover changes, carbon sequestration potential, and the impacts of land use on climate variability. The findings emphasize UgNLIS's role in fostering climate resilience by supporting adaptive strategies, promoting sustainable practices, and enhancing governance. Recommendations include optimizing UgNLIS functionality to address climate-related land challenges, fostering stakeholder collaboration, and aligning with national policies for a sustainable green economy, rural and urban development. 1.Introduction Climate change is a significant threat to Uganda’s socio-economic and environmental stability. As a country heavily reliant on agriculture and natural resources, Uganda faces heightened vulnerability to erratic weather patterns, increased flooding, and prolonged droughts. These impacts are closely tied to land use and management practices. Inefficient land governance, deforestation, and unplanned urbanization exacerbate the challenges posed by climate change. The Uganda National Land Information System (UgNLIS) has transformed land administration by digitizing land tenure records and providing a spatial platform for analyzing land use. This paper explores the role of UgNLIS in addressing climate change, focusing on its capacity to facilitate predictive analysis, inform policy decisions, and promote sustainable land-use practices.
