

MAPPING THE DYNAMICS OF AGRICULTURAL LAND USES FOR CONFLICT RESOLUTION USING GIS AND MULTI-TEMPORAL REMOTE SENSING DATA IN PARTS OF KEBBI STATE, NIGERIA

¹Tukura Bello Alhaji and ²Tukur Muhammad Baba-A

¹Department of Geography, Federal University Birnin Kebbi

²Department of Sociology, Federal University Birnin Kebbi

Corresponding Author's email: bellotukura1@gmail.com



Abstract

Nigeria is one of the countries where substantial progress has not been made in reducing farmer herder's conflicts despite decades of inter-communal transformations, revitalizing the traditional institutions and series of conflict resolution mechanisms. This paper mapped out the dynamics of agricultural land use with a view to addressing conflict resolution using geospatial techniques, analyzed the spatial variation of land use dynamics in the study area between 1989-2022; identified the conflict zones and suitable areas for grazing or farming in the study area and suggested scientific sustainable remediation measures that can be developed, adopt for mitigating the conflict. Methods and procedures include primary and secondary datasets were used for this study. Primary and secondary datasets were used for this study. Primary data through questionnaire administration was used to extract information on sampled respondents. Secondary data of Topographic map (1992) and Grazing route map (1989) covering the study area was acquired from the department of Geography, Bayero University, Kano and updated using the Google earth visualizer (2020). The study shows LULC of the various years of interval, areas of conflicts zones, areas suitable for farming and grazing were identified. Its further reveals that bare land has increased by 24.7% within 1982 to 2022. Built-up increased by 28.4% in 2002 and 47.9% in 2022. Waterbody was made exposed implying that they increased from 3.2% in 2012 to 7.6% in 2022, farmlands in 2002 by 23.4% and 42.8% in 2022 which shows that most people are into the farming due some certain factors. Vegetation cover reduced significantly from 470,557.1 hectares to 89,033.5 that is approximately 81.1% loss. This shows that deforestation is high and there are no environmental control measures in the area or the enforcement is low. Therefore, the grazing lands in small villages and local government regions should be demarcated as reserves for the herdsmen who travel short distances on various grazing trails, Water conservation and supply via modest dams, man-made ponds, or wells alongside the grazing paths; Raising public awareness of the need to protect the environment and the consequences of climate change in order to reduce conflict; and finally, to ensure proper, equitable conflict resolution, resource management, and implementation, farmers and herdsmen should be involved in the planning process at all levels.

Keywords: Mapping, Dynamics, Agricultural land uses, Conflict resolution, Geospatial techniques.