

Urban Sprawl and Land Use Change in the Ga East Municipality

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ABSTRACT

Urban sprawl is described as the outward spread of a city and its fringes into surrounding rural land areas caused by increasing residential and non-residential growth. Population dynamics are seen as the principal causes of urban sprawl that puts innumerable demands on land for various purposes that alter the structure of the environment. The consequences of urban sprawl have numerous environmental, biological, economic, social and political implications. The objective of this thesis was to analyze the extent of urban sprawl and land use in the Ga East Municipality. Geographic Information System and Remote Sensing (GIS and RS) techniques were used to assess the extent of urban sprawl in Ga East Municipality. Assessment of land use cover using matrix of land cover was also carried out. Socio-economic survey involving the use of semi-structured questionnaires was carried out to seek the opinion of residents in the municipality on the impact of urban sprawl on agricultural lands, green space and micro-climate in the selected communities. Again, interviews were carried out to assess the impact of implementation of municipal land use policies in the control of urban sprawl.

The results of the study indicated that urban sprawl has been rapid in the Ga East Municipality and this has affected land use/cover pattern in the Municipality. In all, five land use/cover classes were identified: closed thicket dense herbaceous, open thicket dense herbaceous, dense herbaceous/grass, grass/shrubs and bare surface/build areas. It is evident that forest cover has given way for settlement development and bare surface/built up areas. The forest cover had decreased throughout the two decades (reduction of closed and open thicket dense herbaceous by

17.5% to 4.1% and 33.9% to 18.1% respectively). Grass/shrub and bare surface/ built up on the other hand increased throughout the period assessed (from 0.10 % to 8.82% and 27.3% to 57.1% respectively). The study also indicated that the extent of urban sprawl was not uniform in the Municipality. During the first decade (1990-2000) lands in the Northern parts of the Municipality were covered by vast lands of vegetation while the southern parts of the Municipality were covered by bare surface/built up with small grass/shrubs. However during the second decade (2000-2010), most of the forest cover (closed and open thicket dense herbaceous) in northern sector experienced urban sprawl.

Again, urban sprawl has negatively impacted agricultural lands, green space and micro- climate of the area as explained by the respondents. The study also revealed that the causes of urban sprawl were mostly population increase and urbanization and these have led to deterioration of economic benefits which has affected the social values of the inhabitants in the study area. Finally, the study brought to the fore that urban land use policies were not effective enough to protect urban sprawl. Causes of this ineffectiveness include monitoring problems and lack of respect for land use regulations.

The study recommended the integration of agricultural lands, green space and urban land use planning for resourceful management and protection of the deteriorating farm space. In this regard, zoning of land use and green belts as practiced in Europe could be employed to restrain urban sprawl or prevent encroachment of built-up environment on farmlands and green spaces.

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