LAND USE AND LAND COVER CHANGES IN NSOOBA-LUBIGI WETLAND SYSTEM, CENTRAL UGANDA

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Abstract

A study was conducted to determine the contribution of land use and land cover to the degradation of Nsooba-Lubigi wetland system. The aim of the study was to identify changes in the land use and land cover that have been carried out in Nsooba-Lubigi catchment area in the last three decades using already existing satellite images, examine the effects of the identified land use and land cover on the selected functions (biodiversity protection and flood protection and wildlife) Performed by Nsooba-Lubigi wetland system. GIS techniques were applied to quantify the spatial coverage of land cover/use changes. Ground trothing of satellite imagery classifications were conducted using observation checklists while gathering of views from institutions and local respondents was carried out using a cross-sectional survey. A DAFOR likert scale of 1-5 where D=Dominant (5); A=Abundant (4); F=Frequent (3); O=Occasional (2); R=Rare (1); was used to examine the functionality of different components of the wetland system. A total of 8 institutions and 100 local respondents (local stakeholders) of Nsooba-Lubigi wetland has changed significantly over the last three decades. The built-up environment which constitutes infrastructure development, residential development, establishment of commercial facilities such as hotels, guest houses, shops and institutions such as schools have almost doubled in the Nsooba-Lubigi wetland system and account

for 73.1% of the current land cover in the catchment. The functionality of the wetland system has equally reduced due to encroachment. The buffer zones/spaces for food control, sinking sediments, silt, nutrients, pollutants, toxins and sewage treatment have been turned into built-up environment which explains the growing problem of flooding and water quality in the wetland catchments. Interesting to note is the emergency of a dominant grass species (Vossia cuspidate) which was linked to the increased nutrient level (eutrophication) in the wetland catchment. The current management strategies though well-articulated in the literature and views obtained from different government institutions are not reflected on ground. Over (96.1%) had never been invited for any awareness meeting, 84.1% had not heard of any committee formed in their neighborhood to enforce wetland management, none had ever heard about the management plan or ever been engaged in management planning in their local areas and 84.6% indicated that law enforcement was very weak. The results suggest a need to demarcate the catchment, awareness creation, formation of local wetland committees, community based management planning, formation of bye-laws and law enforcement.