

Investigation of Social Economic Activities and Their Implication for
Wetland Conservation in Nyando Wetlands

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ABSTRACT

Wetlands are vital parts of a watershed. The Nyando wetlands are multidimensional resources that provide the community with a range of inter-related environmental functions and socio-economic benefits, which support a variety of livelihood strategies. Because of the range of wetland use strategies at the local levels, there are often conflicting demands placed upon wetlands. The need to use these wetlands wisely is greatest as biodiversity is higher in these regions and basic human needs are most acute. Unfortunately, the exploitation of these wetlands around the Lake Victoria region of Kadibo has been extensive leading to their decline in quality and functioning. The threat from overuse and over exploitation, lack of application of new management technologies and weak institutional policies have resulted in reduction of the biodiversity within these wetlands. The general objective of this study was to investigate and propose ways to enhance wetland resource utilization for sustainable livelihoods and ecosystem services. The specific objectives were; to establish the influence of social economic activities on wetland resource utilization at household level in Kadibo division; to quantify the trend and extent of land use/cover changes in the area of Kadibo division and to propose appropriate management practices to guide policy development on sustainable utilization of wetlands within the Lake Victoria basin. The study methodology combined a questionnaire survey together with interviews and field observations which were subjected to sample population of households in three agro-ecological zones of the division. The response variables were standardized by using collected before the analysis since it was not normally distributed. The data was then subjected to nonparametric analysis of variance (ANOVA) using Kruskal-Wallis Test and Wilcoxon Scores using SAS Version 9.1 at 5% level of significance. Summary statistics analysis of means and frequencies was conducted. Principle Component Analysis (PCA) was conducted on some response parameters of the questionnaire. In addition, use of remotely sensed imageries was also applied for land use and land cover change analysis. The research indicated degradation by unsustainable levels of resource extraction. The wetland resources were currently undergoing rapid

transformation through diverse consumptive practices (crop production, fishing, grazing, craft materials, brick making, clay, water and wood fuel harvesting) by the communities for their daily survival. Large areas of the wetlands had been altered to other forms of land use. The area under swamps and wetland cover increased by 4.58 Km² (20.8 %) in 1985-1995 and then decreased at a rate of 0.65 Km² per year to 6.54 Km² (24.6 %) in 1995-2008 period. In addition, the area under dense agricultural land use increased by 37.71 Km² (53.9 %) in 1995-2008. Alternative sustainable development options have been studied to be of significant help in improving the livelihood of adjacent communities; some of which include eco-tourism and recreation, business, educational sites and agro forestry. The wetlands can be utilized sustainably through value addition techniques. Value addition contributes significantly to sustainability of papyrus materials. Local involvement and participation should be present in all stages of their management.