Abstract

Spatio-temporal land cover changes witnessed within the Nyando River Basin of Kenya were assessed in this study. The land cover changes were mapped by classifying the predominant land cover classes on selected Landsat satellite images. The accuracy of the classifications were assessed using reference datasets developed and processed in a GIS with the help ground based information obtained through participatory community based mapping techniques. The results of the analysis indicated significant deforestation in the headwaters of the basin. Obviously apparent from the land cover conversion matrices was that the majority of the forest decline was a consequence of agricultural expansion. Despite the haphazard land use patterns and uncertainties related to poor data quality for environmental change assessment, the study successfully exposed the vast degradation and hence the dire need for both sustainable landuse planning and catchment management strategies.