

## ABSTRACT

The pollution of the environment increased considerably in the past century due to industrial expansion, rapid growth of human population as well as the effects of released toxic compounds from domestic sewage waste water system.

In the recent decades, the levels of heavy metals in the soils, water and sediments have become critically higher as a result of sewage water and sewage sludge on agricultural fields, around industrial cities and along main roads.

Residents of Kisumu East have petitioned NEMA over the pollution of River Nyamasaria and River Kibos from industrial waste dumped by Kibos Sugar Factory. The locals have started a movement called Okoa River Kibos which aims at exerting pressure on authorities to act. The group says communities living along the two rivers have endured pollution of the rivers for years. Kibos is an inlet of Lake Victoria thus it is directly discharging into the lake and the locals are suffering. It is said that the water has a pungent smell and is unfit for domestic use.

There is therefore need to protect the ecological integrity of this River. A study was carried out to assess the environmental and sociological and economic impacts of pollution of the river. The river supports a number of activities, both industrial and domestic as well as ecological. Some of these uses include: cleaning, drinking, bathing, fish habitat and by industries as a solvent. The general objective of the study was to assess the environmental and socio-economic impact of industrial waste discharge into the river. Its specific objective were to: Identify the sources of pollution in the river, determine types of pollution in the river and to assess the effects of the river pollution on the local community. To achieve these objectives, data was collected through observation, questionnaires and information from secondary sources. The data was analyzed and integrated with a focus of conserving and managing the integrity of the river ecosystem. The data collected was summarized into tables and graphs. The results of the study revealed that Kibos sugar factory and the allied companies were the major pollutants of the river. This has led to the extensive pollution of the river ecosystem. The wastes produced by these companies are very problematic. They include : bagasse, vinasse and waste water. The local community has complained of foul smell from the river, unsafe water for domestic use , skin disease and water borne diseases as well as unsafe water for domestic animal use. To address these issues, the study recommends that industrial waste water should be treated before it is released into the river, implement national policy on water resource management and development and NEMA to enforce environmental standards and regulations. The results of this study can be adopted by environmental actors for conservation and rehabilitation practices and it can be used for future studies.

Keywords: Pollution River Kibos, industrial waste