

## Geospatial Assessment of Waste Disposal System in Akure, Ondo State, Nigeria

**Authors :** Babawale Akin Adeyemi, Esan Temitayo, Adeyemi Olabisi Omowumi

**Abstract :** The paper analyzed waste disposal system in Akure, Ondo State using GIS techniques. Specifically, the study identified the spatial distribution of collection points and existing dumpsite; evaluated the accessibility of waste collection points and their proximity to each other with the view of enhancing better performance of the waste disposal system. Data for the study were obtained from both primary and secondary sources. Primary data were obtained through the administration of questionnaire. From field survey, 35 collection points were identified in the study area. 10 questionnaires were administered around each collection point making a total of 350 questionnaires for the study. Also, co-ordinates of each collection point were captured using a hand-held Global Positioning System (GPS) receiver which was used to analyze the spatial distribution of collection points. Secondary data used include administrative map collected from Akure South Local Government Secretariat. Data collected was analyzed using the GIS analytical tools which is neighborhood function. The result revealed that collection points were found in all parts of Akure with the highest concentration around the central business district. The study also showed that 80% of the collection points enjoyed efficient waste service while the remaining 20% does not. The study further revealed that most collection points in the core of the city were in close proximity to each other. In conclusion, the paper revealed the capability of Geographic Information System (GIS) as a technique in management of waste collection and disposal technique. The application of Geographic Information System (GIS) in the evaluation of the solid waste management in Akure is highly invaluable for the state waste management board which could also be beneficial to other states in developing a modern day solid waste management system. Further study on solid waste management is also recommended especially for updating of information on both spatial and non-spatial data.

**Keywords :** assessment, geospatial, system, waste disposal

**Conference Title :** ICWWEM 2016 : International Conference on Water, Waste and Energy Management

**Conference Location :** San Francisco, United States

**Conference Dates :** June 09-10, 2016