

29th IAA SYMPOSIUM ON SPACE AND SOCIETY (E5)
Space Assets and Disaster Management (4)

Author: Mr. Oniosun Temidayo Isaiah
Federal University of Technology Akure, Ondo state, Nigeria, Nigeria

CAPITALIZING ON GEOSPATIAL TECHNIQUES TO CURB URBAN WASTE IN AFRICA

Abstract

At the sustainable development summit in 2015, UN Member states adopted the 2030 agenda for sustainable development, which includes a set of 17 Sustainable Development Goals (SDGs). In response to this, YouthMappers emphasizes the creation and utilization of open data and open source software for geographic information directly related to development objectives in unmapped places of the world where the US Agency for International Development (USAID) works to end extreme poverty. We are living in an era full of trash, and it's clear the problem is massive, growing constantly and varies considerably by region in Africa. To get a handle on it, starting from Akure, Nigeria, geospatial technique is being used to locate and identify illegal dump sites and find suitable sites to locate dumping sites. Principal sub-criteria used for spatial analysis include slope, built-up area, road networks, geological maps, etc. This is important because it is not enough to identify illegal dumping sites, we need to give a complete solution guideline to the appropriate bodies. KoboToolBox was used to collect data from the field, data collected include: picture of the dump site, coordinate, site description, type of waste (special waste, liquid waste, hazardous waste, restricted solid waste, general solid waste [Putrescible], general solid waste [Non-Putrescible]), proximity to residential or water bodies (less than 10m, 10-30m, 30-80m, 80-150m, greater than 150m), size of site and accessibility (either motorable or not). Navigation through the city for data collection was done using Bicycles/Motorbike while the processed information is made available openly on UMap. In Identifying suitable locations to site dumping sites, ARCGIS was used for the Satellite Imagery analysis and Land Use Land Cover of the area was done. From analysis, the most common type of waste is the General Solid Waste (non-putrescible) which mostly contain household waste, over 80 percent of the sites can be accessed using trucks and over 50 percent of the dump sites are less than 10 meters from buildings/water bodies which pose a serious threat to the health of residents in the city.