

A GIS Based Application, a Tool for Waste Management in Accra Metropolitan Area of Ghana

Stephen Djaba, Priscilla Djaba and Evans Arthur (Ghana)

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SUMMARY

The production of municipal solid waste has increased noticeably during the recent past due to mounting global population and fast urbanization. Poor management and indiscriminate disposal of waste dominant in developing countries has grown cancerous and become an instrument of climate change related issues. In Ghana, it is common knowledge the grave state of its waste management systems such as the heaps of undisposed waste in drainage systems, overflowing disposal sites and indiscriminate disposal of refuse on its street which leads to a number of environmental issues including the reoccurring floods in the country. This paper therefore attempts to simulate proper waste management techniques with the use of Geospatial tools employed through the development of a web- based application for the Accra Metropolitan Area. It examines the efficient distribution of waste bins, streamlined collection of waste, revenue collection to waste operators and proper disposal methods with the use of a web-based application. In addition, the application provides incentives to ensure waste generated is recycled. Land use/ Land cover change of unregulated disposal sites within the city has also been examined including the ramifications if the necessary systems are not put in place. Geospatial tools and its application have therefore been demonstrated to be an efficient and effective tool to achieve a sustained clean city within Ghana.

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