
IMPLICATION OF COMMUNITY MARKET LOCATIONS ON ENVIRONMENTAL SAFETY OF RESIDENTS IN IMO STATE – NIGERIA

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ABSTRACT

Environmental safety is a serious concern to major towns and cities in recent times. This problem is compounded by increased population, communities/settlements and indiscriminate siting of markets. In view of this, analysis of commodity markets locations in major towns in Imo State was carried out using ArcGIS 10.1 to determine environmental safety concerns of the selected markets; the points of interest of five (5) major commodity markets were captured, and buffer was performed to determine their level of severity. The result showed that commodity markets are mostly sited along major roads, water ways and residential quarters with high, low and moderate risk levels thus creating room for hazards such as; incessant traffic congestion and man hour loss, fatalities resulting from road accidents, blockage of drains and consequent flooding, outbreak of epidemics from indiscriminate dumping of market waste to surrounding residents. The paper concludes with a call for a rethink in the siting of markets across major towns and cities and recommends the following: that public awareness campaigns should be carried out, that existing markets should be relocated from major roads, high ways and residential buildings and that planning units in the states should be empowered to implement the existing or reviewed laws on siting of market locations and effect compliance to ensure that the observed hazards are reduced or eliminated.

Keywords: *Geographic Information System (GIS), Environmental Safety and Community Markets.*

INTRODUCTION

Commodity markets are very essential units of the urban and rural livelihood as it provides platform for buying and selling of commodities for the sustenance of the daily needs of households and also a very important aspect of the economy that translate to GDP growth. However indiscriminate siting of commodity markets has the potential of threatening the surrounding natural environment and raising safety concerns. The activities involved in buying and selling of commodities generate large amount of waste. It is quite common to observe mountains of refuse at market places which provide excellent breeding grounds for vectors of communicable diseases which increase the potential for the spread of infectious diseases (Nigerian Observer, 2012).

It is also acknowledged that an unsafe market location is a contributory factor to a lot of diseases which affects nearby residents such as malaria, tuberculosis, dysentery and diarrhea (Nigerian National Planning Commission, 2004). The

Global estimate of death annually resulting from these diseases is recorded between 1.1 and 2.7 million people out of which over one million are mostly children under the ages of five and pregnant women due to their high vulnerability (Nkwocha, Egejuru, Pat and Njoku, 2011). Moreover it was reported on one of the National Dailies that some nursing student lost consciousness when their body system could no longer accept the stench coming out of the dumpsite near their hostel (The Guardian, 2015). Siting of major markets in overcrowded metropolis, as well as trading on access roads within and outside the markets add up to the dangers that people face, including blockade of access roads within the market and its surroundings which leads to uncontrollable stream of traffic which in most cases affects journey to work leading to man hour loss and to unavoidable loss of lives and properties of the users and residents through accidents. (Nigerian Observer, 2012).

In Nigeria roads today, hardly a day passes without the occurrence of a road traffic congestion or minor or severe accident. Put differently, Nigerian roads have become killing fields (Agbonkhese et.al, 2013). Records by FRSC shows that Nigeria has the highest road accidents rate as well as the largest number of death per 10,000 vehicles (Sheriff, 2009). It was recently reported that a truck driver lost control and killed at least 25 persons in Umuchu town market in Anambra State (TheNews Nigeria, 2015). A similar incident was also reported of one Nigerian market by the BBC News where a fuel tanker crashed into a major market, killing over 60 persons on the spot (BBC News, 2015).and another in Lagos which killed about five people about 2 months ago according to Nigerian News. Besides, the Federal Roads Safety Corps (FRSC) in Nigeria reported that 1070 deaths were recorded from about 247 road crashes in the 3rd quarter of 2017 alone (online news, 6/12/ 2017). Most of these accidents occurred in towns where markets are located as is usually the practice in Nigeria. It is therefore obvious that there is a problem about market location policy requiring attention and necessary review. This study therefore was designed to determine the issue of safety of residents and the environments vis-a- vis the location of markets across Imo state in particular and Nigeria as a whole.

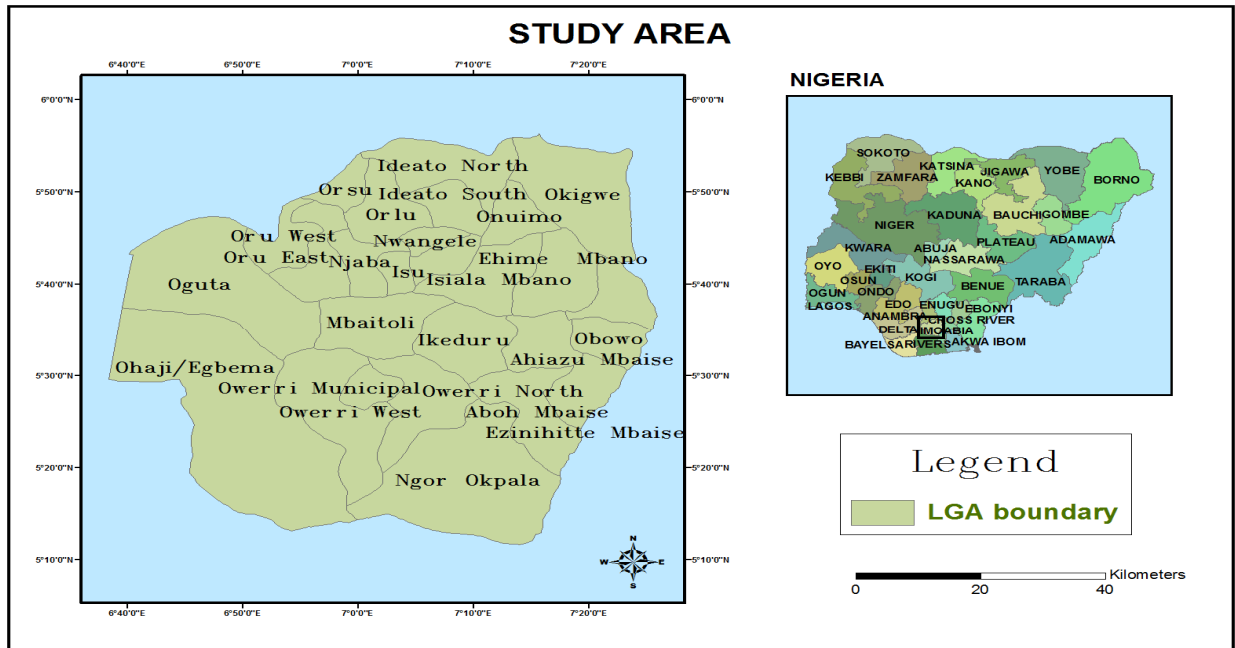


Figure 1: Study Area

Imo state is named after Imo River and lies within latitude 445 N and 715 N, and longitude 6 50 E and 725 E with an area of 5,100 sq km. This study was conducted in some major community's market locations in six selected local government areas of Imo state, South East Nigeria. The local government areas studied were- Owerri municipal, Owerri North, Mbaitoli, Njaba, Orlu and Oru West. This selected local government areas make up about 25% of the state.

MATERIALS AND METHOD

The coordinates of six selected major commodity markets, residential buildings with and dumpsites in Imo states were captured with the use of digital and video cameras and geographic positioning systems (GPS). These were further converted into point maps to show the various locations and the six (6) LGAs maps were georeferenced and digitized. This was produced using ArcGIS 10.1. An overlay operation was also carried out and buffers created.

RESULTS AND DISCUSSION

Findings were based on the assessment of environmental safety of six commodity market locations and residential buildings was carried out in Imo state. These were captured with GPS and analysis performed using ArcGIS 10.1 as shown and illustrated in the map as seen follow;

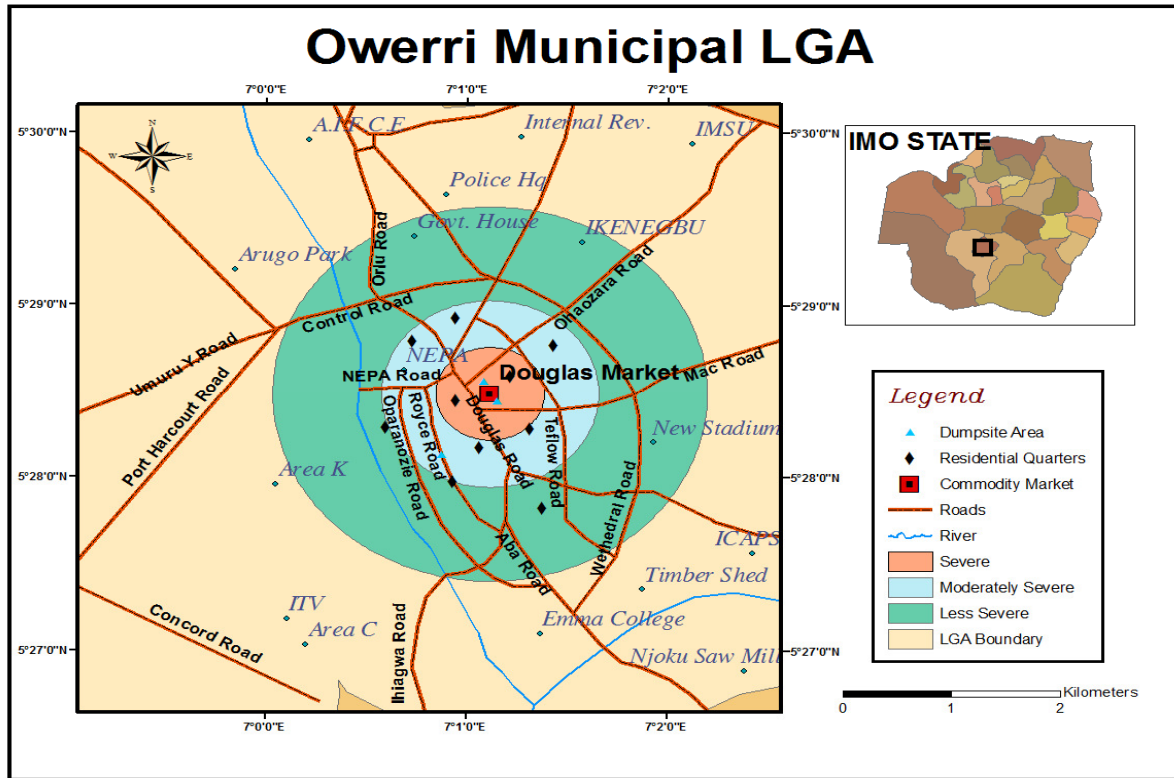


Figure 2:

Douglas Market: Findings revealed that the Douglas market share close proximity with three major dumpsites; two inside the severe range while the other is on the moderate range of severity. The dumpsites also share moderate severity in rang with residential buildings. **Residential Buildings:** Here findings revealed that residential buildings share close proximity with the market at a moderately and less severe range. And moderate severity to the dumpsites of wastes generated from the market and households. **Major Roads:** The findings revealed that the market is located along a major state road which links Aba in the North, Port Harcourt and Onitsha in the south at a severe range.

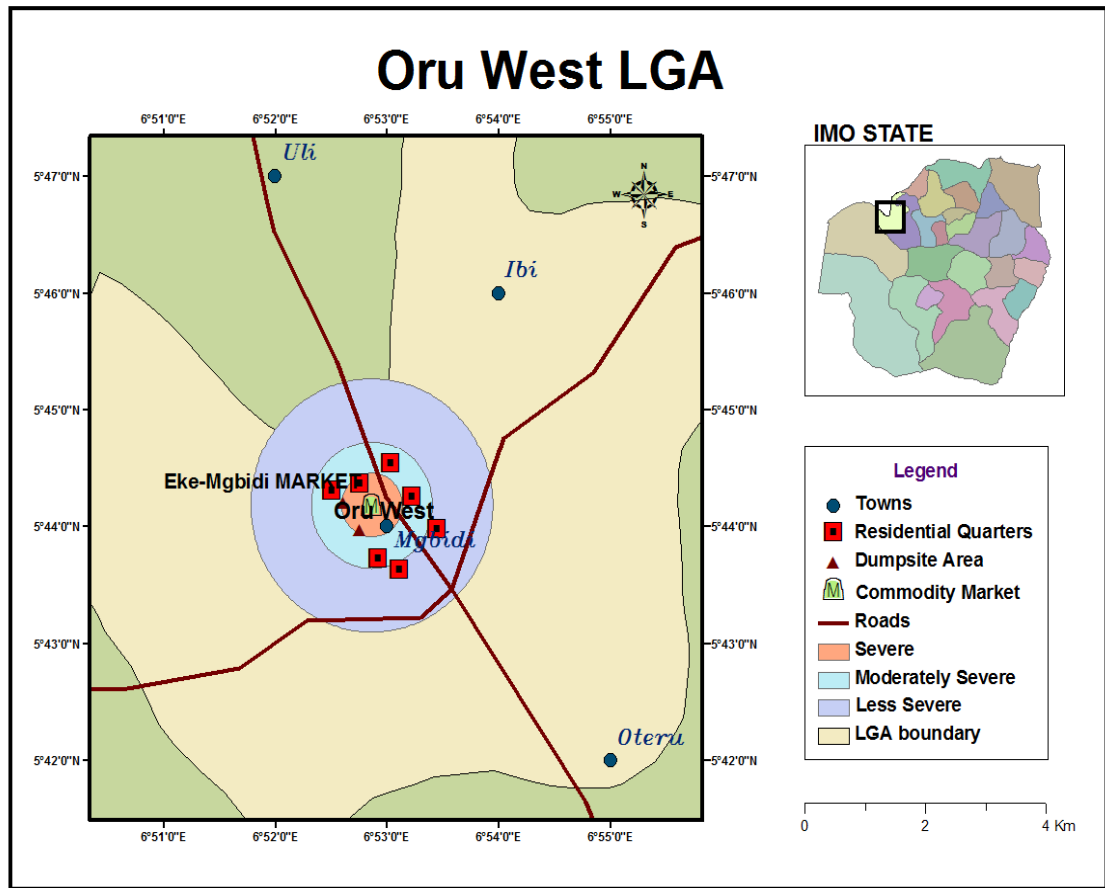


Figure 3:

Eke-Mgbidi Market: Findings revealed that Eke-Mgbidi market shares close proximity with two dumpsites both at the edge of the severe range points. **Residential Buildings:** Findings revealed that Residential Buildings also share close proximity with the market at a moderately severe range. **Major Roads:** Findings revealed that a major road to Onitsha and its environs runs through the market at a moderate range, that is, the roads that links Owerri and Onitsha.

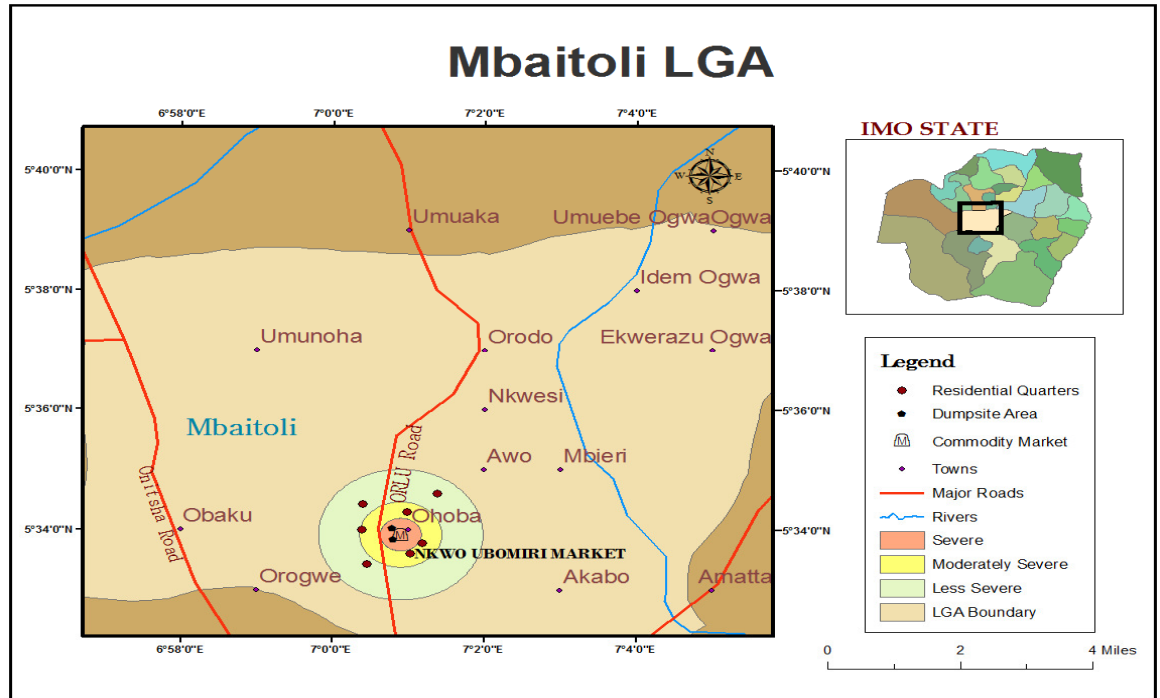


Figure 4:

Nkwo Ubomiri Market: Findings revealed that Nkwo Ubomiri market shares close proximity with two major dumpsites; both are located at a severe range with the market. **Residential Buildings:** Findings revealed that residential buildings are located at severe, moderate and less severe range of proximity with the market. **Major Roads:** The finding is interpreted as the market being sited at almost a severe range with Orlu road.

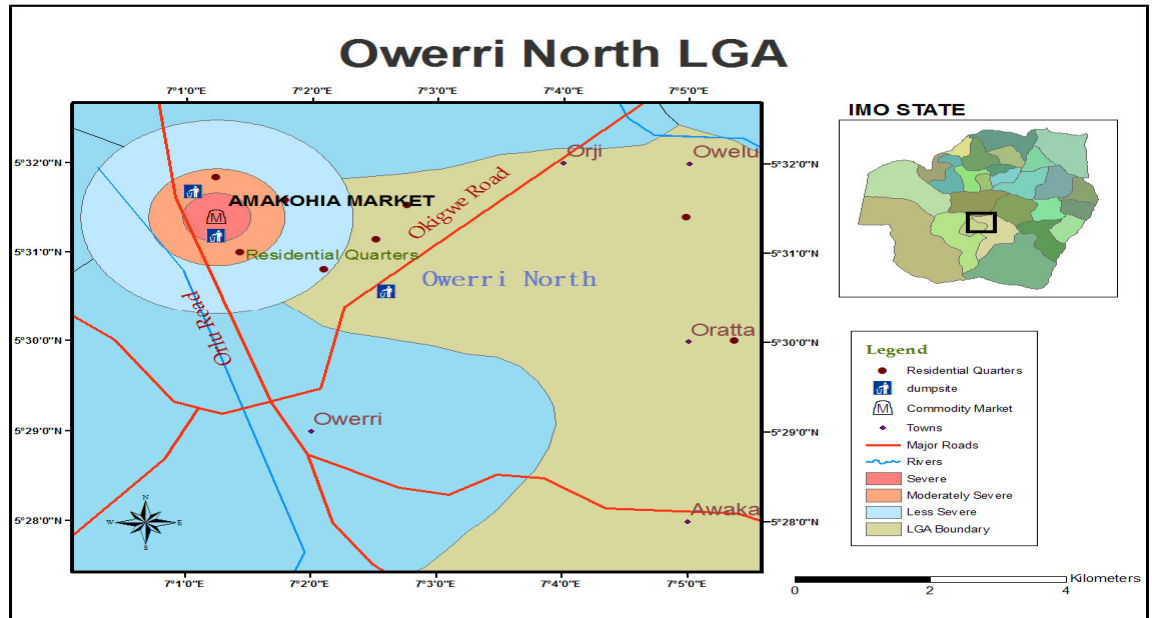


Figure 5:

Amakohia Market: Findings revealed that the Amakohia market also share close proximity with two major dumpsites; one slightly outside the severe range while the other is on the moderate range of severity. The dumpsites also share moderate severity in range with residential buildings. **Residential Buildings:** Findings revealed that residential buildings share close proximity with the market at a moderately and less severe range. It is moderate severity to the dumpsites of wastes which are generated from the market and households. **Major Roads:** Findings revealed that the market is located along a major state road which is the road linking Orlu at a severe range.

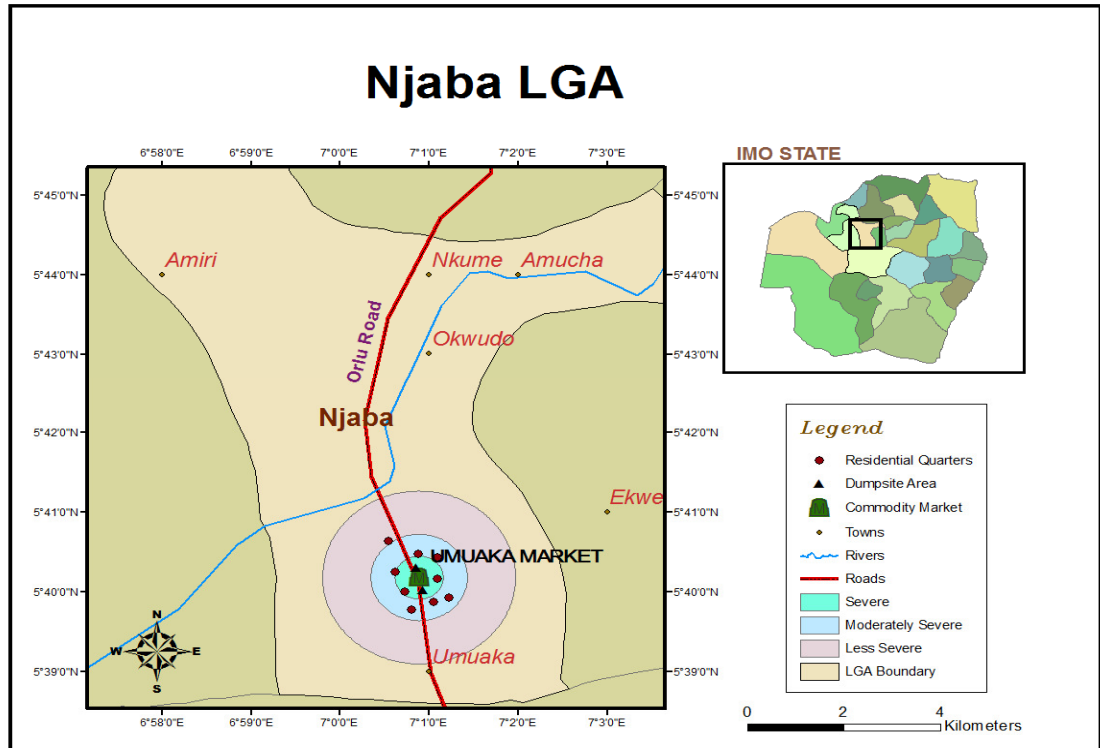
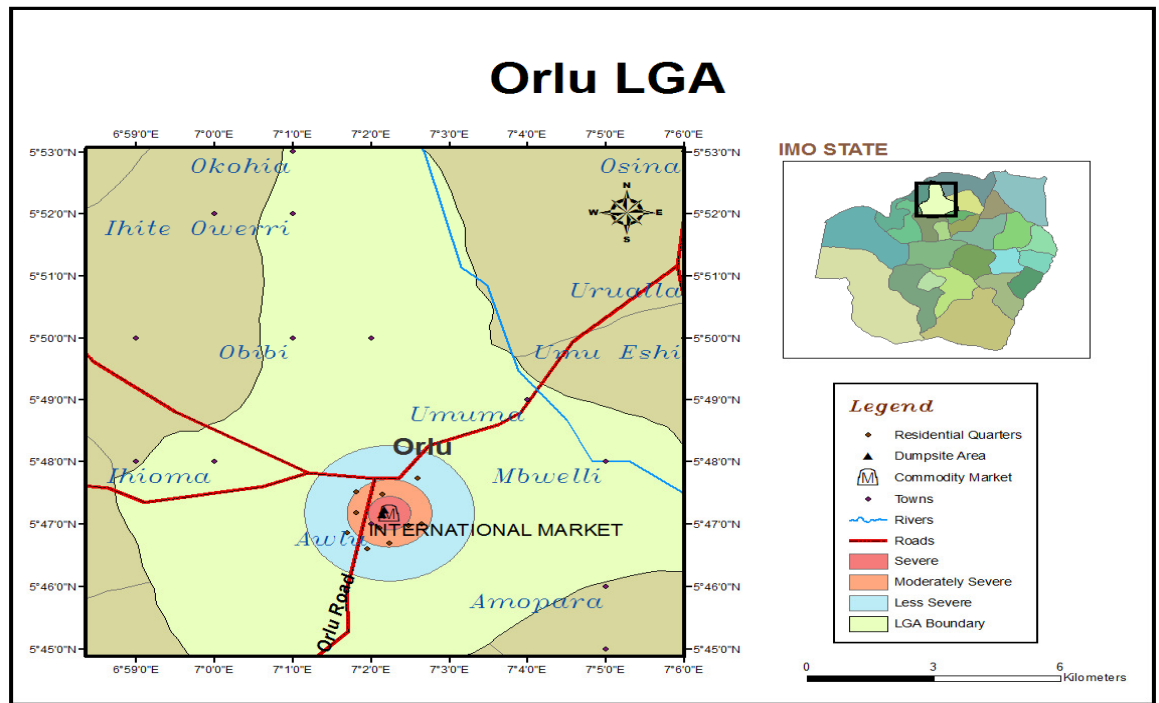


Figure 6:

Umuaka Market: Findings revealed that Umuaka market share close proximity with two major dumpsites both at a severe proximity with the market. **Residential Buildings:** Findings revealed that residential buildings also share very close proximity with the market location as the market is severely clustered by residential buildings. **Major Roads:** Findings revealed that the market is located along a major state road which is the road linking Orlu and other LGAs and states. The result also show that Orlu road runs through the market location within a severe range point.

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I. **Orlu International market:**

Findings reveal that Orlu international market share close proximity with a dumpsite located at a very severe range which is directly inside the market.

Findings reveal that residential buildings share close proximity with the market at a moderately severe range.

Findings also reveal that the market is located along a major state road which is the road linking Orlu at a severe range.

Analysis and Safety Implications

Findings from the assessment of environmental safety of commodity markets locations dumpsites and residential building located around the markets in Imo showed that commodity markets are mostly sited at close proximity to major roads, residential quarters and dumpsites with severe, moderate and less severe risk implications. The major safety implication of these market locations to major roads is incessant traffic congestion and man hour loss, as well as fatalities resulting from road accidents; Moreover, there is the blockage of drains and consequent flooding of the roads causing hazards to road users and residents alike.

For the location of dumpsites in close proximity with markets, there is the likelihood of preventable pollution and subsequent outbreak of epidemics from indiscriminate

dumping of market wastes on traders and surrounding residents. Moreover beyond the health hazards associated with the siting of markets close to residential quarters, there is associated risk of high tendency of criminal incidences as a result of the concentrated economic activities due to high landuse level, flooding of homes causing homelessness and a concomitant of diseases and epidemics on the vulnerable residents.

CONCLUSION

This paper made attempt to establish the fact that there is indiscriminate siting of market locations in Imo state without due obedience to town planning laws and policies and cognizance to safety of residents and the environment. Identified peculiar environmental challenges faced by the state on daily basis is usually connected with this facts, namely incessant blockage of drainages systems, floods, road accidents, traffic- jam or hold ups and high crime rate in certain locations with concentration of high level economic activities and filth. Chronic health issues are also traceable to indiscriminate market location. The crisis of urbanization is not far-fetched from the findings of this study but can relatively be handled by proper urban planning and adherence to urban planning laws and regulations. Therefore, policies on commodity market system should be revisited by the state government to create decorum and decency to the state, but most importantly, environmental and health safety of the residents of the state should be considered when siting market location to meet global best practices and standards. In view of the aforementioned the following recommendations were proffered for conderation; that public awareness campaigns should be carried out that existing markets should be relocated from major roads, high ways, residential buildings and dumpsites, and that town/urban planning units in the states should be empowered to implement the existing or reviewed laws on siting of markets locations and effect compliance to ensure that the observed hazards are checked.

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