

# Decentralization of Markets and Environmental Sanitation Scheme: A Focus on Urban Core of Akure, Nigeria

Alexander Adeyemi Fakere (Corresponding Author)

Department of Architecture, Federal University of Technology,  
PMB 704, Akure, Ondo State, Nigeria.

Tel: +234 803 501 9352 E-mail: favoured517@yahoo.com

Joseph Akinlabi Fadamiro

Department of Architecture, Federal University of Technology,  
P.M.B. 704, Akure, Ondo State, Nigeria.

Tel: +234 803 550 8865 E-mail: joechrisdamiro@yahoo.com

## Abstract

Unplanned and overcrowded market places especially in developing countries usually grapple with sanitation problems. This phenomenon poses threats such as pollution of the environment and deterioration of city landscape. In Akure the capital of Ondo State, Nigeria, government in its urban renewal effort introduced neighbourhood markets in a decentralized market system, as a way of resolving these problems. This study focuses on the extent of these urban renewal efforts and their impacts on the socio-economic and general wellbeing of the market users. It further suggests ways to achieve proper sanitation in markets places in a manner that is sustainable. The methodology includes the use of structured questionnaires, interviews, as well as observations. The study reveals a successful decongestion of the king's market and a considerable improvement in sanitation. It concludes that sanitation in market places is absolutely expedient to ensure public health and proper public hygiene.

**Keywords:** Decentralization, pollution, sanitation, urban core, markets

## 1. Introduction

The existence of markets in any city is expedient due to the fact that commercial activities are the back-bone of several economies. People should be able to buy and sell and transact their businesses so that life could go on normally. However, lack of control in the proliferation of markets and trading spells doom for such cities due to the inherent risks. Street trading is the order of the day in several cities in many developing countries; which also increases fear and the security risk of such places. Fadamiro, (2001a; 2003a; 2005) recognized that the rapid growth of urban centres has generated management problems. The most important of these are the encroachment of open spaces, environmental and health issues including solid wastes management, water supply, housing, traffic congestion and water pollution. Shonibare, (1996) and Fadamiro, (1998; 2003b) also confirmed the encroachment of the open spaces by market and service industries as one of the greatest problems facing Nigerian urban centres.

On the other hand, one factor that is concomitant with markets is the generation of wastes, which if not well managed will increase public health risks. These wastes include animal wastes, human wastes, equipment wastes and wastes from several food products sold in such markets. In many developing countries like Nigeria, proper hygiene in markets has not been a major consideration; hence, markets spring up sporadically without any attention to provision of proper refuse dumps and public toilets. In order to forestall such occurrences as food poisoning, the importance of Cleanliness of market environments cannot be overemphasized.

Gellar cited in Fadamiro (2010) added that "human behaviour contributes significantly to the degradation of our environment and certain changes in human behaviour can, on the other hand contribute significantly to environmental protection. Many studies carried out in some urban centres confirmed the influence of the people on the maintenance and conservation of the environment".

There is a need to understand that especially Nigeria, several urban markets are poorly planned or not planned at all. They usually spring up haphazardly and when situated close to a major road, tend to obstruct the free flow of traffic and as such alter the city aesthetics. Proper siting and planning of markets will greatly project the image of the city, as markets generate huge waste constantly.

Furthermore, one of the numerous ways to decongest a market is to develop several markets to service residents of the urban centre. In many large cities, a central market would not suffice due to accessibility to such markets. It is usually necessary to construct other ones close to the neighbourhoods for ease of accessibility. This phenomenon is known as

neighbourhood markets and is currently being used in the Akure metropolis. This method can be used to decongest the main market and reduce the traffic congestion on the roads where main markets are situated.

Thus, this study therefore focuses on the effects of the state government decision to decentralize markets in Akure so that virtually every neighbourhood in city has one in close proximity to their location. The underlying reason is that, the Oba's (king's) market which was the major market in Akure (and is located in the centre of the town, next to the king's palace) was overcrowded as a result of concentration of patronage. This market is also called Erekesan market. Hence, this exercise helped to decongest it and adjoining roads by creating other ones in several other parts of the town such as; Isolo, NEPA, Afunbiowo and Isinkan areas.

The aim of this study is to therefore highlight the significance of the impact of the decentralization of markets in Akure urban core on environmental sanitation scheme. The main objectives of this study include: identification of the number of facilities provided in the neighbourhood markets existing in Akure metropolis. It further tries to assess the modes of sewage disposal, enforcement of sanitation, observation of the impacts on the neighbourhood markets and suggest urban design strategies to improve the cityscapes.

### *1.1 The Study Area*

This study was carried out in the urban residential core of Akure metropolis. Akure, which is the capital of Ondo State, Nigeria, has a population of 360,268 (2006 census figure). Using 2% yearly increase, it is expected that by 2016 it would rise to 439,165. Hence, with the population increase the challenges of sanitation in the city are expected to increase. It is located some 311km North East of Lagos, about 370m above sea level and lies on longitude 5° 18' East and Latitude 7° 17' North of the Equator.

The centre of the urban core, which happens to be the oldest residential portion of the city, consist of the oldest structures in the city and is bounded by Oba Adesida road to the North, Oke Aro road to the West, Hospital Road to the East and Arakale Road to the South. The rapidity of the city's development within the last twenty-five years stemmed from the political status of the town which was initially a provisional headquarter and later a state capital and also serving as the seat of the Local Governments since 1976. This accounted for the influx of people to the city for employment and other related activities. It is thus expected that the environmental situation would be critical in terms of the ability to meet up with the sporadic developments devoid of adequate planning and monitoring.

In addition, the state has been classified as an oil-producing state while Akure has been classified as a Millennium Development City. All these factors are expected to greatly influence the population growth of the city.

The medium sized urban centres like the city under study need to be investigated to collect existing data and make appropriate resolutions. This can be used to avert the future eruption of the non-habitability and environmental problems being suffered by bigger cities like Lagos, Ibadan and Kano; and caused by the inadequate planning at the inception of their growth and development. This study becomes necessary now that the political and economic situations with the accompanying population influx are influencing the development of Akure, and the findings therein can be applied to other contemporary cities in Nigeria and other developing countries.

However there is a need to define the urban core as used in this study. Thus, the urban core in this study refers to the area covered within 2.5 kilometer radius of the King's market, which is at the centre of the city. Figure 1 shows the map of Akure including the locations of the five (5) markets used in this study within the core area. The large circle shows the urban core and all the markets are located within.

## **2. Environmental Sanitation and Markets' Management**

Environmental Sanitation in markets is important not only from the point of view of urban aesthetics but also because of the pathogenic organisms which the liquid and solid wastes contain and transmit by direct handling or by water, food, insect or rodents (Fadamiro, 1986). Furthermore, when markets are overcrowded or improperly planned, it aggravates the waste management problems within the market and its immediate environs. This poses a serious health threat to the people that will use the markets as buyers or sellers. The dangers inherent in the dumping of raw sewage into water also includes contamination, production of foul-smelling environment, contamination of foods sold and destruction of aquatic life (Fadamiro, 2010). Based on an earlier research, Fadamiro and Bobadoye (2001) in a pilot study on waste management established the existence of a strong relationship between effective solid waste management, livability of neighbourhoods and the general wellbeing of residents. In other words, clean environments promote human wellbeing and health.

However, Africa has some of the world's major health problems. These are compounded by widespread ignorance of basic sanitation concepts and, in some areas, by high population densities. This phenomenon poses a serious health threat to the people and has turned most Nigerian cities into more or less "Garbage Cities" (Egunjobi, 1999; Fadamiro and Bobadoye, 2001). Nevertheless, "sanitary conditions are improving, especially in cities, as international aid

programs give high priority to health problems caused by the environment. Construction of better drinking water facilities—together with improved systems of sewage disposal, rubbish collection and wastewater drainage—is helping to create healthier settlements” (Redmond, 2009).

Furthermore, public health is attainable in an environment that is clean, and devoid of substances that can cause disease out-breaks. The urban core of Akure, especially the area around Erekesan market had been of major concern to every well-meaning resident of the Akure metropolis. This is due to the fact that this particular area had been the major market in Akure for several years, with little or no development control as a result of influx of people wrongfully aspiring to sell their goods at every available space. The resultant effects are poor sanitation, congestion, negative effect on public health, and deterioration of the urban environment.

Therefore, the importance of urban design strategies to mitigate these sanitation challenges cannot be over-emphasized. There is a need for proper planning of the markets and environs in order to create a healthy environment where commercial activities can be carried out. Fadamiro (2010) posited that cities are supposed to be centers of innovation, industrialization and modernization, where they are neglected, unplanned and underdeveloped, the city can become a place of despair rather than a habitat of hope and better life. Urban renewal is a deliberate effort to improve the urban environment through planned, large-scale adjustment of existing city areas to the present and future requirements for living and working (Fadamiro and Atolagbe, 2005). Furthermore, the idea of urban renewal is a relatively comprehensive community redevelopment programme, through which a particular segment of the city could be transformed from its present structure in order to enable it cope successfully with the environmental problems confronting it (Agbola, 1997; Fadamiro, 2001b; 2002)..

Thus, it is expected that having properly planned neighbourhood markets for every neighbourhood in the city, the sizes of which would depend on their population would help improve sanitation and management of markets since it is a means to reduce overcrowding especially of the city centre. Proper landscaping of the environment is also very important in this regard to improve the cityscape and enhance sustainability. Furthermore, provision of appropriately planned walkways and pathways will enhance circulation.

### 2.1 *Millenium Development Goals (MGDs) and Sanitation*

According to Greaves and Webster, (2007), “sanitation is the safe management of human waste and is critical to the health of communities. Good sanitation can help to control infectious conditions, such as diarrhoea and dysentery. Improved sanitation and hygiene have direct impact on child health in particular as about 1.8 million children die of dehydration caused by diarrhoea each year and studies have shown that improved sanitation results in at least a 30% reduction in child mortality”.

The report further asserted that, “about 2.6 billion people which are more than a third of the world’s population lack access to sanitation. The Millennium Development Goal (MDG) 7, Target 10, is ‘to halve, by 2015, the proportion of people without access to safe drinking water and sanitation’. This is an ambitious target, but the MDGs have been of importance in encouraging governments and NGOs to focus on key developmental issues. At the halfway point, achievement of the sanitation element is too slow in 74 countries of the world. At current rates of progress, the target is not expected to be met in sub-Saharan Africa until at least 2076. This lack of progress on sanitation and hygiene is likely to have a big impact on other MDG targets such as maternal mortality, access to education, and tackling disease”.

## 3. **Methodology**

The study utilized a structured questionnaire to collect the necessary data. This was administered in the king’s market and four other neighbourhood markets within Akure metropolis. The instrument used for the research was administered by 500-level students of the Department of Architecture at the Federal University of Technology, Akure who acted as research assistants after having been thoroughly trained for the survey.

Provided in the questionnaire are social, economic and environmental variables the respondents could use to indicate their preferences. These include, their level of education, income level, disposition about sanitation in markets, facilities provided in the markets, waste disposal system, and rating of government efforts in the decentralization. A data matrix comprising 12 variables by 26 cases was used for the research and it yielded 312 responses. For the purpose of this study, the King’s market was coded as ‘Ma’, Caring heart neighbourhood markets at Afunbiowo (Mb); Isolo (Mc); NEPA Area (Md); and Isinkan Area (Me). Sampling frame of 5 questionnaires was used in each of the 4 neighbourhood markets (Mb, Mc, Md, Me) and 6 in the king’s market (Ma), which required simple random sampling in choosing the cases. The questions were tested to avoid ambiguities. A questionnaire was administered in each case on a member, irrespective of the number of traders in the markets; since the variables under investigation generally address the situation of sanitation in the markets, their responses were expected to be similar, provided that the respondents are rational. All the questionnaires (100%) were retrieved and the data obtained from them were collated and presented in

the single factor descriptive analysis. Interviews were also conducted with some of the principal staff of the Ministry of Physical Planning and Urban Development (MPPUD) in Akure in order to find out relevant information relating to the markets.

#### **4. Findings and Discussions**

The area under study is the Akure urban core encompassing the king's market (Ma) and four other neighbourhood markets within the metropolis as mentioned earlier. In the markets, majority of the users are traders (buyers and sellers), while others are, the enforcement and sanitation officers. About 12% of the responses were from sanitation officials, while 88% of them were from traders. The urban core in this study is defined by the area covered within 2.5 kilometres radius of the Oba's palace (see figure 1) which is at the centre of the town and the places inhabited by the early settlers. All the five markets under study fall within this area (figure 1). Each market was analyzed individually for detailed study as enumerated in the tables 1-3 below. Plates 1-4 also shows some parts of the study area.

The interviews conducted with some of the staff of the Ministry of Physical Planning and Urban Development in Akure confirmed that it was the State government's decision to create neighbourhood markets and the motive was in order to decongest the king's market and to make markets more accessible to every neighbourhood in Akure metropolis. This interview also revealed that other neighbourhood markets were in the pipeline in areas such as Oke Lisa, Odopo (Ijoka road), Olisaro areas, etc. This is of paramount importance in order to further reduce the effects of overcrowding of markets especially in a city where the population is on the rapid increase. Effective landscaping of the environment with adequate proportion of hard and soft surfaces will facilitate the sustainability of the environment.

#### **5. Conclusion**

This paper has revealed the need to sustain the quality of market environments by ensuring that such environments are of good sanitary quality. This in turn has a direct bearing on urban aesthetics, public health and hygiene. Sustainable urban development aims at reducing poverty to improve the quality of the urban environment and promote urban economic growth. The emergence of neighbourhood markets in Akure metropolis as elucidated in this paper, will give a sense of inclusion to the beneficiaries, who will have security of tenure over their business premises. Hence, the entire urban population stands to benefit, as the urban core and its environs will become cleaner and less congested, bringing the benefits of urbanization to the people and improving the beauty of the urban centre. Furthermore, it improves the functionality of urban spaces due to the fact that it promotes easy circulation within the city.

#### **6. Recommendations**

The recommendations for this study include among others that:

- i. Specialization and segmentation of markets should be used in planning markets in urban centres due to acceptability of the concept and the resultant economic viability in order to enhance good design and sustainability.
- ii. Community participation by way of meeting on relevant issues such as: security, social relationship, cleanliness and peace should be encouraged for the continuous viability of the business outlook.
- iii. There should be adequate provision of support facilities in the markets accompanied with proper maintenance in order to prevent degradation over time.
- iv. There is need to conduct periodic monitoring of markets from time to time to discover the problems emanating from current government programmes in order to make future programmes more people-friendly.

#### **References**

- Agbola, S. B. (1997). The Housing Debacle. Inaugural lecture delivered at the University of Ibadan.
- Egunjobi, L. (1999). Our gasping cities. An Inaugural Lecture delivered at the University of Ibadan.
- Fadamiro, J. A. (1986). Contemporary Architecture as a strategy towards Primary Health Care Delivery System in Nigeria. *Nigeria School Health journal*, 6(1), 36-43
- Fadamiro, J. A. (1998). *Landscape Design and the Environment*. (1<sup>st</sup> Ed.) Akure: Alfad Publications Limited. 116
- Fadamiro, J. A. (2001a). The Influence of Development and Preservation on Urban Heritage. An Appraisal of Akure Urban City Centre. *International Journal for the Review of Growth and Change*. 5 (1), 33-40

- Fadamiro, J. A. (2001b). The Urban Open Space Management in Akure, Nigeria: An Assessment of the roles of the Professionals in the Built Environment. *International Journal of Environment and Development*, 5(1), 39-46.
- Fadamiro, J. A. and Bobadoye S. A. (2001). Urban Waste Management. A Comparative Analysis of Solid Waste Disposal in two Estates in Akure, Nigeria. *International Journal of Urban and Regional Affairs*. 5 (1), 49-54
- Fadamiro, J. A. (2002). Open Space and City Development: An empirical analysis of Akure Urban Centre. *National Conference on "The City in Nigeria"*, Obafemi Awolowo University, Ile Ife, 133-139.
- Fadamiro, J. A. (2003a). Population Growth and Urban Environmental Quality: A Challenge to Open Space Management in Akure Metropolis. *African Journal of Environmental Studies*. 4(1&2). 15-19
- Fadamiro, J. A. (2003b). Landscape Sculpturing and the Natural Response to Urban Recreation: A case study of Oyemekun Rock Tourist Centre, Akure, Nigeria. *Journal of Science and Technology Research*. 2 (4), 22-27
- Fadamiro, J. A. and Atolagbe, A. O. (2005). The Architecture in Urban Renewal Scheme: An enduring contribution to a qualitative urban environment. *Journal of the Nigerian Institute of Architects*, 15(1), 7-12.
- Fadamiro, J. A. (2005). Urban Aesthetics and Environmental Quality: The challenges for Architectural Profession in Nigeria. *The Built Environment Journal*. 1 (2), 212-219
- Fadamiro, J. A. (2010). Landscape Architecture: Dynamics of City Development. *Inaugural Lecture Series 58*, delivered at The Federal University of Technology, Akure. 10
- Greaves, F and Webster, L. (2007). Sanitation and the Millennium Development Goals. [On-line]. Available: [www.tilz.tearfund.org/.../Sanitation+and+the+Millennium+Development+Goals.htm](http://www.tilz.tearfund.org/.../Sanitation+and+the+Millennium+Development+Goals.htm). (July 22, 2010)
- Redmond, W. A. (2009). "Sanitation". *Microsoft Encarta*. Microsoft Corporation.
- Shonibare, O. (1996). The Management of Open Space in Nigerian Urban Cities. An unpublished Diploma Degree Project. Department of Architectural Technology, The Polytechnic, Owo, Nigeria.

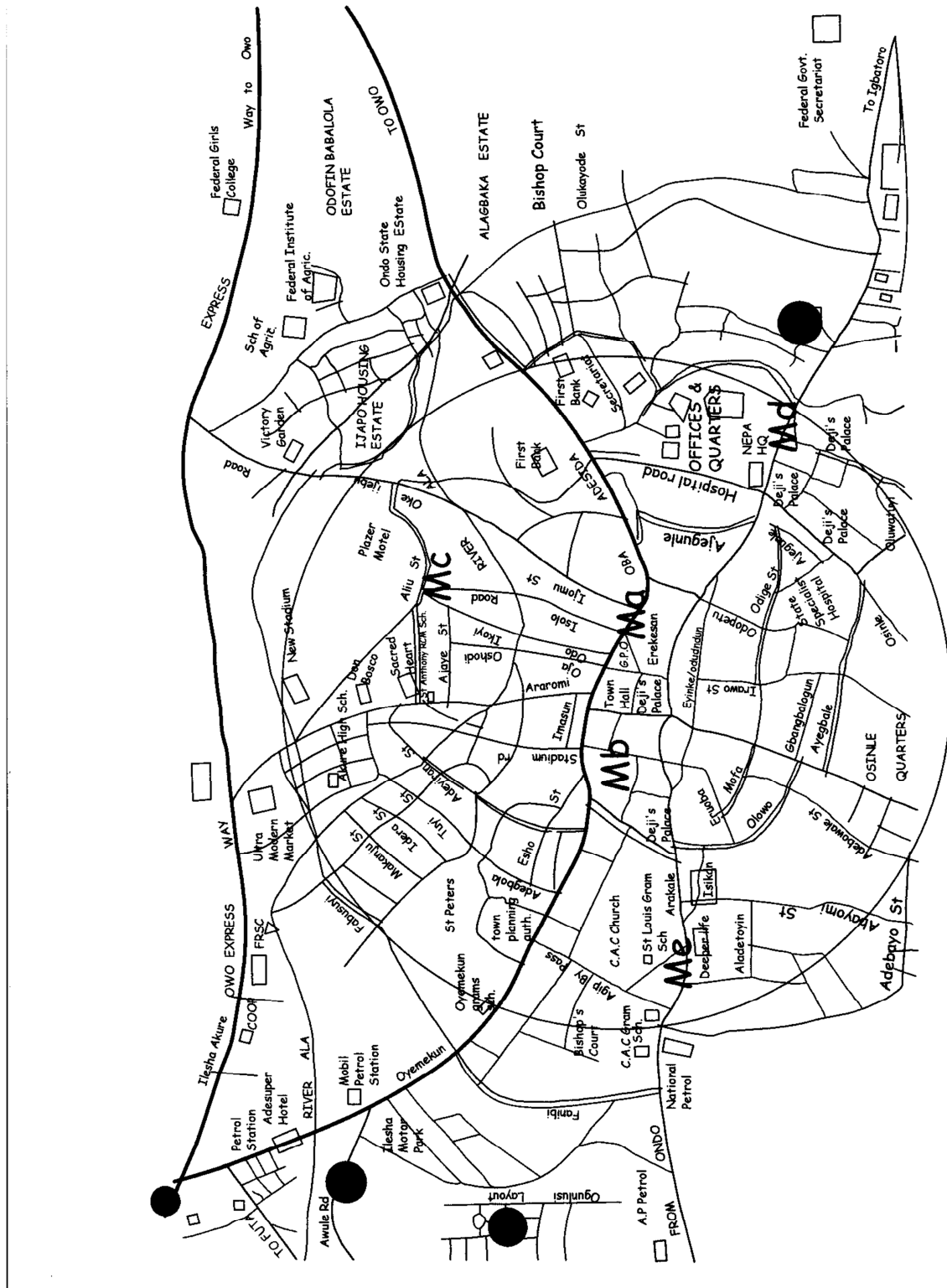


Figure 1: Map of Akure, showing the locations of each market within the urban core  
Source: Ondo State Ministry of Lands and Housing, Akure.

Table 1: Responses from users of the markets (Ma, Mb, Mc, Md, Me) of study area

	Ma(%)	Mb(%)	Mc(%)	Md(%)	Me(%)
<b>1. Educational background</b>					
Not literate	17	-	-	20	-
SSCE	-	100	100	40	100
ND	17	-	-	20	-
B. Sc./ HND	66	-	-	20	-
<b>2. Income level per month</b>					
N10,000 or less	33	40	40	20	100
N10,001 – N29,999	-	60	60	40	-
N30,000 and above	67	-	-	40	-
<b>3. Factors for creation of neighbourhood markets</b>					
Economic development	33	80	100	60	100
Road congestion	83	20	-	80	100
Proper sanitation	33	-	100	100	40
Urban aesthetics	17	-	-	80	60
For decentralization	100	100	100	100	100
<b>4. Importance of having clean markets</b>					
Promotion of public hygiene	100	100	100	100	100
Attracts more buyers to the market	17	100	100	100	100
Reduction of traffic congestion	17	40	-	80	60
<b>5. Rating of sanitation enforcement in markets</b>					
Excellently effective	17	-	-	20	-
Very effective	-	80	100	60	-
Effective	83	-	-	20	-
Fair	-	20	-	-	-
Poor	-	-	-	-	-
<b>6. Factors discouraging sanitation in markets</b>					
Traders not conscious of the benefits of keeping clean markets	67	100	100	80	100
Enforcement agents not effective	33	-	-	20	-
Lack of drainage system	50	80	-	60	40
Inadequate waste bins	67	40	-	60	-
<b>7. Effects of decentralization on sanitation</b>					
Cleaner than before	100	100	100	80	100
No significant difference	-	-	-	20	-
Dirtier than before	-	-	-	-	-
<b>8. Factors that can improve traders' sales</b>					
Markets should be specialized	66	100	100	100	100

Development of markets shouldn't be controlled	17	80	-	-	-
All traders should return to the king's market	17	20	-	20	-

Source: Field Survey, 2010

In table 1, it is observed that majority of the respondents had the Senior School Certificate Examination (SSCE) Certificate as their highest qualifications except at Ma where 66% had either Bachelor of Science (B. Sc.) or Higher National Diploma (HND) as theirs. From the same table, it is observed that majority of the respondents earn between N10,001 and N29,999 monthly except in Me where all the respondents earned N10,000 or less and at the Ma where 67% earned N30,000 or above. Also In table 1, it is observed that all of the respondents agreed that clean markets promote public hygiene. All of the respondents from all the markets agreed that clean markets attract more buyers to the market except at the Ma, in which a paltry 17% agreed to it. Also, 80% and 100% of the respondents from Mb and Mc rated enforcement of sanitation in their markets as very effective respectively. Furthermore, 20% of those from the Mb rated it as fair. While just 20% from Md responded that there has been no significant difference in cleanliness, all other markets responded that markets have become very clean since the introduction of the concept of decentralization.

Table 2: Response of users (Ma, Mb, Mc, Md, Me) on facilities in the market

	Ma (%)			Mb (%)			Mc (%)			Md (%)			Me (%)		
	VI	FA	VA	VI	FA	VA	VI	FA	VA	VI	FA	VA	VI	FA	VA
Availability of waste bins	17	33	50	40	20	40	-	-	100	100	-	-	-	-	100
Toilets	83	17	-	20	20	60	-	60	40	80	20	-	-	-	100
Parking	66	17	17	40	40	20	-	-	100	60	20	20	-	-	100
Shelter	50	50	-	60	-	40	-	-	100	60	-	40	-	80	20
Sheds/Stalls	33	50	17	40	-	60	-	-	100	40	40	20	-	80	20
Security	33	33	34	100	-	-	-	-	100	20	40	40	-	-	100
Water facilities	17	83	-	-	100	-	-	-	100	66	17	17	-	60	40
Safe area for children	67	33	-	100	-	-	100	-	-	-	-	100	60	40	-

Legend: VI- Very inadequate; FA – Fairly adequate; VA- Very adequate

Source: Field Survey, 2010

From table 2, it can be observed that in the Md, 100% responded that the availability of waste bins was very inadequate, while 100% of the respondents from the Mc and Me believed otherwise. And 83% and 80% from the Ma and Md respectively, believed that there was inadequate provision of toilet facilities in the markets.



Table 3: Perceptions of users on benefits of good sanitation in markets

	Ma (%)			Mb (%)			Mc (%)			Md (%)			Me (%)		
	A	N A	D	A	N A	D	A	N A	D	A	NA	D	A	N A	D
Markets are a source of disease, if not well sanitized	33	-	67	-	-	100	-	-	100	-	40	60	-	20	80
Markets should be outside the city core	83	-	17	100	-	-	100	-	-	60	20	20	100	-	-
Market spaces have many social benefits	17	17	66	40	60	-	-	10	-	20	40	40	40	60	-
I prefer a central market	66	17	17	60	-	40	80	-	20	80	-	20	100	-	-
My sales have improved by providing neighbourhood market	-	33	67	20	40	40	-	40	60	20	60	20	-	-	100
Sanitation of the markets have improved since the neighbourhood markets	83	17	-	83	-	17	100	-	-	60	40	-	100	-	-
The State government used a good approach to decentralize the markets	-	-	100	20	-	80	-	-	100	-	20	80	-	-	100

Legend: A- Agree; NA – Neither agree nor disagree; D- Disagree

Source: Field Survey, 2010

From table 3, it is observed that all of the respondents from the Mb, Mc and Md agreed that markets should be situated outside the city core, while about 83% and 60% agreed same in the Ma and Me respectively. About 67%, 60% and 100% of respondents from the Ma, Mc and Me respectively were of the opinion that their sales did not record improvement since the introduction of neighbourhood markets.



Plate 1: The King's market (Ma), along Oba Adesida Road, Akure

Source: Researchers' field survey (2010)

Plate 1 shows the front view of the King's market (Erekesan: Ma) showing the Oba Adesida road which is at the northern side of the market. It is built with sandcrete blocks and reinforced concrete on two floors. It is observed that the decentralization exercise has successfully decongested this market allowing for free flow of traffic on the major road and allowing for easier circulation. Furthermore, in the tables above, the majority of the respondents were of the opinion that sanitation has improved in this market since the decentralization too place.



Plate 2: Caring Heart neighbourhood market (Mb), Afunbiowo, Akure

Source: Researchers' field survey (2010)

Plate 2 shows a view of the Caring Heart Neighbourhood market, Afunbiowo (Mb), one of the markets established for the purpose of decentralization. It is an open market erected with steel stanchions and covered entirely with aluminium roofing sheets. It is also equipped with parking lots, security post and conveniences. The cleanliness of the market can be observed in the plate.



Plate 3: Caring Heart Neighbourhood market, Isolo, Akure

Source: Researchers' field survey (2010)

Plate 3 shows a view of the Caring Heart Neighbourhood market, Isolo area (Mc). It is an open market constructed with a mass concrete floor; sandcrete blocks steel posts and aluminium roof.



Plate 4: Caring Heart Neighbourhood market, NEPA Area, Akure

Source: Researchers' field survey (2010)

Plate 4 shows a view of the Caring Heart Neighbourhood market, NEPA area (Md) in the city. It is also an open market equipped with parking lots, security post and conveniences. The cleanliness of the market can also be observed in the plate.

This academic article was published by The International Institute for Science, Technology and Education (IISTE). The IISTE is a pioneer in the Open Access Publishing service based in the U.S. and Europe. The aim of the institute is Accelerating Global Knowledge Sharing.

More information about the publisher can be found in the IISTE's homepage:

<http://www.iiste.org>

The IISTE is currently hosting more than 30 peer-reviewed academic journals and collaborating with academic institutions around the world. **Prospective authors of IISTE journals can find the submission instruction on the following page:**

<http://www.iiste.org/Journals/>

The IISTE editorial team promises to review and publish all the qualified submissions in a fast manner. All the journals articles are available online to the readers all over the world without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. Printed version of the journals is also available upon request of readers and authors.

### **IISTE Knowledge Sharing Partners**

EBSCO, Index Copernicus, Ulrich's Periodicals Directory, JournalTOCS, PKP Open Archives Harvester, Bielefeld Academic Search Engine, Elektronische Zeitschriftenbibliothek EZB, Open J-Gate, OCLC WorldCat, Universe Digital Library, NewJour, Google Scholar

