

MANAGEMENT AND DISPOSAL OF MARKET WASTES IN PERIODIC MARKETS IN ONDO EAST AND ODIGBO LOCAL GOVERNMENT AREAS OF ONDO STATE

Mopelola O. Akintoye, Morounkeji F. Fasakin & Olajumoke M. Tijani

Department of Home Economics,
Adeyemi College of Education, Ondo
Email: mopelolaace@gmail.com

ABSTRACT

Wastes constitute one of the most crucial health and environmental issues facing managers of cities and suburbs. Periodic markets have every other characteristics of a daily market apart from being opened on occasionally. As a result wastes are more likely to be left exposed or not properly managed. The study examined management and disposal of market waste in periodic markets in Ondo East and Odigbo local government areas of Ondo State. Four research questions and two hypotheses were stated to guide the findings of the study. The study employed the use of descriptive survey. The study was carried out on nine-one (91) market men and women. A structured questionnaire made up of 28 items was used for data collection. Responses to the questionnaire were analysed descriptively and inferential using frequency count, percentage, mean and t-test. Major findings revealed that the methods for disposing market wastes in periodic markets were land filling, incineration, open dumping, composting, mechanical destruction and public and private waste management. Further findings revealed that in periodic markets in Odigbo and Ondo East Local Government areas wastes were biologically, chemically or thermally treated. Wastes were left to decompose, packed in polythene bags for pick up, differentiated by type, sold to individuals in need of them, burnt to reduce its size and chemicals were added to detoxify wastes. It was recommended that through market meeting and organisation of different marketers there should be creation of special agencies for the collection of wastes in periodic markets. To differentiate each category and type of waste, organizations could have different arrangement for disposing and treating market wastes and that government should make concerted effort with the community to recycle and convert solid waste to wealth.

Keywords: *Periodic Markets, Waste Disposal, Waste Management, Sanitation*

INTRODUCTION

Market wastes are wastes originating from buying and selling such as those that emanated from the market. They could include human wastes, garbage from unwanted food items, paper and other old clothes or materials. The aggregate of all these waste products in a city or town is usually termed municipal solid waste (Efe, 2013). In the pre-colonial and colonial days when the “face was still black” and population was not as much as it is now, waste was better managed. The waste generated during this period was less voluminous and less complex than today, consisting largely of leaves, paper and wood products, with little plastic or hazardous chemicals. However, in the present days in developing nations, the waste is characterized by vegetative matters (60%), tins and cans (<10%), metals (<10%), polythene, wood and termites among others (Awomeso, Taiwo, Gbadebo and Arimoro, 2010).

Wastes are inevitable, as long as there is production and consumption, wastes are bound to be present, although, there is increasing evidence that the amount of wastes accrued is dependent on location (Efe, 2013; Fakere, Fadairo and Oriye, 2012). In an analysis by Fakere, Fadairo and Oriye (2012) domestic waste constituted 76.42% of the main sources of municipal solid waste in South-Western Nigeria. In some areas in Nigeria people still participate in petty waste disposal practices that have wrecked a lot of havoc, pose a threat on health, led to the outburst of hygiene related diseases such as cholera and dysentery, damaged properties and even claimed lives.

The items that constitute waste in developed countries are similar to that of developing countries. United Nations Environment Programme (UNEP (2010, 2011) reported that in United States of America and Germany, the items that constitute wastes are fluorescent light bulbs, common household batteries, paper, glass, plastic and household organic waste. In developed countries waste management has changed tremendously since the early days, from

mere disposal management to full-blown waste management – a process that constitutes a veritable paradigm shift. In Germany for instance, waste management now aims to conserve natural resources and manage waste in an environmentally sound manner, whereby sustainable strengthening of environmental and climate protection measures, as well as resource efficiency, play a key role (UNEP, 2010). The centrepiece of Germany's Waste Management Act is a five-level waste hierarchy that lays down a fundamental series of steps comprising waste prevention, reuse, recycling, and other elements besides, including energy recovery, and finally waste disposal (UNEP, 2011). The various types of waste are collected separately at source (source separation at the collection point by depositing the various types of waste in separate containers designated for this purpose) (UNEP, 2011).

Waste Management has become an area of major concern in Nigeria today. It appears to be a losing battle against the harmful consequences of unguided waste and the attainment of a clean healthy environment for all Nigerians. It is common sight in Nigeria today to see heaps / accumulation of festering waste dumps in our urban and commercial cities. All sides of residential apartments, the drains, the highways, corners of major or and minor streets, undeveloped plots of land have all become waste dumps for many households. As Akinwale (2005) puts it, waste increases in a geometrical progression and collection and disposal is at an arithmetical progression.

Periodic markets unlike everyday markets happen at regular intervals. It could be every 5 days or four days. During these periods, farmers or artisans are expected to gather at a particular place typically referred to as the market to display their goods. One of the characteristics of periodic markets is that it is not as organised as everyday markets where each marketer has a predefined shop, spot or space to market their goods and services. Goods sold on market days are also observed to be cheaper compared to goods sold in periodic markets. The peculiarity in the organisation of periodic markets could make marketers vulnerable to improper disposal of wastes.

According to Yoda, Chirawurah and Adongo (2014) the poor waste management situation in recent years has led to a high incidence of sanitation related illness, such as cholera, intestinal worms and typhoid. In some cities in Nigeria, efforts are made for the collection, transportation and disposal of waste by local governments and private bodies, however, problems are encountered at these levels of waste management. Generally, existing public facilities, including sanitary facilities, are inadequate to serve the user population, and the sheer volume of municipal solid waste generated in the country's urban centres is overwhelming. Since, a bulk of these wastes are generated in the urban centres, urban waste management is drawing increasing attention, as it can easily be observed that too much garbage is lying uncollected in the streets, causing inconvenience, environmental pollution, and posing a public health risk

Kiran, Sanjay, Ravi, Santhosh and Kiran (2015) studied waste disposal of households in Kuttar and Manjanadi in India and concluded that the challenge confronting the City and many other booming towns in the country was the balance between environment and development. In a similar study Stanley, Andrew, Dania and Sani (2012) observed that most houses in Sabon Gari, Zaria generate a substantial quantity of wastes which are not properly disposed. Recently, Olagunju (2016) assessed household solid waste disposal practices in Ondo West Local Government Area, Ondo State and found out that organic and inorganic household articles constitutes wastes in household. The common ways of disposing wastes as observed by Olagunju are land filling, compositing, hog feeding, recycling, mechanical destruction, open dumping and incineration.

One of the notorious environmental problems that Nigeria has been struggling with in the past few decades is environmental pollution (land, air and water). Pollution is an undesirable state of the natural environment being contaminated with harmful substances as a consequence of human activities. In effect, pollution is mainly caused by human activities. One of such human activities that cause environmental pollution is disposal (particularly indiscriminate

disposal) of wastes. Wastes constitute one of the most crucial health and environmental issues facing managers of cities and suburbs. In effect, a study on waste management and disposal is important. The study therefore intended to examine the management and disposal of market waste in periodic markets in Ondo East and Odigbo local government areas of Ondo State.

Purpose of the Study

The study examined management and disposal of market waste in periodic markets in Ondo East and Odigbo local government areas of Ondo State. Specifically, the study:

- i. highlighted the items that constitute market waste in periodic markets in Ondo East and Odigbo local government areas of Ondo State;
- ii. identified the methods of disposing market waste in periodic markets in Ondo East and Odigbo local government areas of Ondo State;
- iii. examined the treatment of market waste in periodic markets in Ondo East and Odigbo local government areas of Ondo State; and
- iv. proffered waste management strategies that could alleviate the consequences of improper disposal of market waste in periodic markets in Ondo East and Odigbo local government areas of Ondo State.

Research Questions

- i. What are the items that constitute market waste in periodic markets in Ondo East and Odigbo local government areas of Ondo State?
- ii. What are the methods of disposing market waste in periodic markets in Ondo East and Odigbo local government areas of Ondo State?
- iii. How is market wastes treated in periodic markets in Ondo East and Odigbo local government areas of Ondo State?
- iv. What are the strategies for proper management of market waste in periodic markets in Ondo East and Odigbo local government areas of Ondo State?

METHODOLOGY

The design that was used for the study was descriptive survey design. This design was adopted because descriptive studies make no attempt to manipulate variables, and it is concerned with describing and interpreting existing relationships, attitudes, practical processes and tends to compare variables (Isaac, 2002). The study was carried out in Ondo East and Odigbo Local Government Areas of Ondo State. The population of Ondo East is 76,092 and the population of Odigbo is 232,287 [National Population Commission (NPC), 2012]. There are several periodic markets in Ondo East and Odigbo Local Government, some of which are: Ore, Odigbo, Alaya-mesan, Omifon, Igburowo, Ofosu, Igbo-Oha, Bolorunduro, Owena, Bagbe. The markets used for the study were selected based on the ones available during the time of the field survey. The population for this study comprised of all marketers in periodic markets in Ondo East and Odigbo Local Government Area of Ondo State and random and systematic sampling techniques were used. Seven (7) periodic markets were selected using systematic sampling technique. Simple random sampling technique was used to select market men and women from the population of the study. A total of ninety-one (91) respondents made up the sample size of the study. Thirteen (13) market men and women were selected from each periodic market.

The research instrument used for the study was a fixed response structured questionnaire. The questionnaire consisted of five (5) sections. It was validated by experts in the field of Home Economics and Environmental Sciences. Frequency counts, percentage, mean scores and t-test [estimated using Statistical Package for Social Science 17 (SPSS 17)] were used for data analysis.

RESULTS

1. Items that constituted market waste in periodic markets in Ondo East and Odigbo local government areas of Ondo State

Table 1: Frequency count and percentages of men and women in Ondo East and Odigbo Local Government areas on items that constitute market waste in periodic markets

$N_3 = 91, N_2 = 60, N_1 = 31.$								
S/N	Article	Ondo East		Odigbo		Total		Rank
		Freq.	Percent	Freq.	Percent	Freq.	Percent	
1.	Fruit peels	28	90.3	49	81.7	77	84.6	4 th
2.	Shells or bones	22	71.0	34	56.7	56	61.5	13 th
3.	Plastic bags	23	74.2	43	71.7	66	72.5	8 th
4.	Glass materials	23	74.2	55	91.7	78	85.7	3 rd
5.	Leaf vegetable sticks	28	90.3	51	85.0	79	86.8	2 nd
6.	Compost	25	80.7	44	73.3	69	75.8	6 th
7.	Disposables	15	48.4	42	70.0	57	62.6	12 th
8.	Food packaging	23	74.2	45	75.0	68	74.7	7 th
9.	Food scraps	20	64.5	46	76.7	66	72.5	8 th
10.	Bottles	23	74.2	39	65.0	62	68.1	11 th
11.	Paper	13	41.9	23	38.3	36	39.6	14 th
12.	Plastic	22	71.0	43	71.7	65	71.4	10 th
13.	Nylon	21	67.7	52	86.7	73	80.2	5 th
14.	Cans	28	90.3	58	96.7	86	94.5	1 st

Key: N_3 = total number of respondents, N_2 = number of Odigbo respondents, N_1 = number of Ondo East respondents, Freq. = Frequency

Table 1 revealed that the items that constituted market waste in periodic markets include cans (94.5%), leaf vegetable sticks (86.8%), glass materials (85.7%), fruit peels (84.6%), nylon (80.2%), compost (75.8%) and food packaging (74.7%). Other items that constitute waste in periodic markets in Ondo West and Odigbo Local Government Areas include food scraps and plastic bags (72.5%), plastic (71.4%), bottles (68.1%), disposables (62.6%) and shells or bones (61.5%).

2. Methods of disposing market waste in periodic markets in Ondo East and Odigbo local government areas of Ondo State

Table 2: Mean rating of market men and women in Ondo East and Odigbo Local Government areas on methods of disposing market waste in periodic markets

S/N	Methods of disposing market waste in periodic markets	\bar{X}_3	SD	\bar{X}_1	\bar{X}_2	P-value
1.	Wastes in the market are buried in abandoned or unused quarries or burrow pits and covered with layers of soil (land filling).	3.98	0.147	4.00	3.97	0.037*
2.	Wastes in the market are burnt to convert them into residue or gaseous products (incineration).	3.04	0.254	3.00	3.07	0.002*
3.	Waste in the market are dumped on open land or water, especially during rainfall (open dumping)	3.68	0.535	3.74	3.65	0.136
4.	Wastes in the market are allowed to decay (composting).	3.30	0.483	3.26	3.32	0.966
5.	Wastes in the market are destroyed using machines (mechanical destruction).	3.44	0.542	3.42	3.45	0.190
6.	Market wastes are picked up by public and private waste management bodies and dumped in dumpsites.	3.51	0.585	3.65	3.43	0.024*

Key: SD = standard deviation, \bar{X}_3 = mean response of Ondo East and Odigbo respondents, \bar{X}_1 = mean response of Ondo East respondents, \bar{X}_2 = mean response of Odigbo respondents

* mean difference significant at 0.05 level of significance.

Table 2 revealed that the mean responses of all market women in Ondo East and Odigbo on all items ranged from 3.04 to 3.98 and were greater than the cut-off point (2.5). The standard deviation of the responses ranged from 0.147 to 0.585 and was low. This indicates that the responses were clustered around the mean. Hence, respondents agreed to all items statement

3. Market wastes treated in periodic markets in Ondo East and Odigbo local government areas of Ondo State

Table 3: Mean rating of market men and women in Ondo East and Odigbo Local Government areas on treatment of market wastes in periodic markets

S/N	Methods of disposing market waste in periodic markets	\bar{X}_3	SD	\bar{X}_1	\bar{X}_2	P-value
1.	Market wastes are left alone to decompose.	3.69	0.464	3.94	3.57	0.000*
2.	Market wastes are packed in polythene bags and placed where they can be picked up by waste management bodies.	3.24	0.431	3.06	3.33	0.000*
3.	Market wastes are separated and packed by types (organic or inorganic).	3.55	0.500	3.65	3.50	0.022*
4.	Some organic market wastes are sold out to people or individuals in need of them.	3.35	0.480	3.32	3.37	0.392
5.	Market wastes are kept in bins and incinerators temporarily.	3.57	0.617	3.48	3.62	0.739
6.	Chemicals are added to market wastes to detoxify them.	3.51	0.524	3.58	3.47	0.265
7.	Before markets wastes are packed in polythene bags, they are burnt to reduce the size.	3.37	0.798	3.48	3.32	0.252

* mean difference significant at 0.05 level of significance.

Table 3 revealed that the mean responses of all market women in Ondo East and Odigbo on all items ranged from 3.24 to 3.69 and were greater than the cut-off point (2.5). The standard deviation of the responses ranged from 0.431 to 0.798 and was low. This indicates that the responses were clustered around the mean. Hence, respondents agreed to all items statement.

4. Strategies for proper management of market waste in periodic markets in Ondo East and Odigbo local government areas of Ondo State

Table 4: Mean rating of market men and women in Ondo East and Odigbo on the strategies for proper management of market waste in periodic markets

N = 91, C = 2.5		
S/N	Waste Management Strategies	$\bar{X} \pm \text{Std. Dev}$
1.	Creation of special agencies for the collection of solid wastes in periodic markets.	3.82±0.383*
2.	Government should make concerted effort with the community to recycle and convert solid waste to wealth.	3.15±0.420*
3.	Emergency market clean-up campaigns should be organised and monitored in markets across the state.	3.51±0.503*
4.	Solid waste management services in the country should be privatized.	3.43±0.561*
5.	Artisans with organic wastes should be encouraged to practice composting especially for solid wastes in the market.	3.33±0.496*
6.	Artisans in the market should be educated on the consequences of improper disposal of solid wastes.	3.64±0.506*
7.	Government should support artisans and waste management organizations and create good relationship with the market people.	3.32±0.492*
8.	Open dumping (dumping of solid wastes on land and water areas) should be discouraged in the market places.	3.67±0.516*

* mean greater than cut-off point (2.5) accepted as agreed

Key: N – Number of respondents, C – cut-off point, \bar{X} - Mean response of all respondents, Std. Dev – Standard deviation

Table 4 revealed that the mean responses of market men and women on items 1, 2, 3, 4, 5, 6, 7 and 8 ranged from 3.15±0.420 to 3.82±0.383 and were greater than the cut-off point (2.5). The standard deviation of the responses ranged from 0.383 to 0.561 and was low. This indicates that the responses were clustered around the mean. Hence, respondents agreed to all items statement.

DISCUSSION OF FINDINGS

Wastes are generally materials unused and rejected as worthless or unwanted. They vary in terms of their state (solid or liquid), type (industrial or domestic). In the areas of study, the items that constituted market waste in periodic markets were cans, leaf vegetable sticks, glass materials, fruit peels, nylon, compost, food packaging, food scraps, plastic bags, plastic, bottles, disposables and shells or bones. The market is a place where goods and services are exchanged for money. In the case of a periodic market, marketers gather en-masse to display their products on specific day(s) of the week. It is typical of this type of market to accommodate people from different parts outside the area. In such instances, such waste items as the ones observed are likely to be accrued. In a similar study by Babatunde, Vincent-Akpu, Woke, Atarhinyo, Aharanwa, Green and Isaac-Joe (2013) prominent wastes categories were observed to be organic waste, paper and nylon. Akaninyere and Atser (2001) examined the typology, characteristics and future trends of solid waste and asserted that the major components of waste are degradable materials (food remnants, paper, and rags) and non-biodegradable plastics, tins, metals, bottles, glass, and bones.

Since wastes are unwanted, marketers look for means of disposing them. Some of these methods include land filling, incineration, open dumping, composting, mechanical destruction and public and private waste management. Due to the nature of the environment and the modalities in the market, some of these methods such as open dumping, composting and mechanical destruction could pose further threat to human life and eco-system. For instance open dumps could breed flies and vermin, lead to air and water pollution as well as discharge of greenhouse gases which are very injurious to human health and damaging to the eco-system. Similarly, mechanical destruction involves the use of machines to destroy waste materials (Banga, 2013), these machines run on fossil fuels which also emits carbon(II)oxide which is also injurious to human health and damaging to the environment. In line with this finding, Anyanwu and Adefila's (2014) found out that the methods of solid waste disposal range from direct dumping (43.6%), open burning

(23.0%), dust bins (32.4%), composting and dumping in drains accounted for (1.0%).

Irrespective of the method(s) of disposing wastes, it is important that wastes be treated to make it easier to dispose them. The study found out that respondents sometimes leave wastes alone to decompose, pack in polythene bags and placed where they can be picked up by waste management bodies or separate them by types (organic or inorganic). Some marketers also sell out organic market wastes to people or individuals in need of them, keep some wastes in bins and incinerators temporarily, detoxify some using chemicals or even go to the extent of burning them to reduce the size. In line with this finding LeBlanc (2016) noted that wastes treatment involves chemical or biological processing of certain types of waste for the purpose of rendering them harmless, reducing volumes before landfilling, or recycling certain wastes.

A closer observation on the methods of disposing and treating waste among market men and women in Odigbo and Ondo East Local Government areas revealed that despite the fact that there are several kinds of wastes (organic and inorganic) accrued in the periodic market areas, not all the methods of disposing and treatment of wastes are effective and eco-friendly. It is therefore important to develop strategies to encourage waste management practices that are effective and eco-friendly. Findings from the study revealed that, to achieve this it is necessary to create special agencies for the collection of solid wastes in periodic markets, to recycle and convert solid waste to wealth, to set-up emergency market clean-up campaigns and monitoring markets across the state as well as privatising solid waste management services in the country. Composting organic wastes, educating market people on the consequences of improper disposal of solid wastes and discouraging open dumping are very important.

In line with this finding Awopetu, Awopetu, Sample, Olufiropo, Awokola, Fullen, Booth, and Hammond (2014) and Oloruntade, Adeoye and Alao (2014) noted that in order to overcome the greatest problem facing many urban and semi-urban areas in many

countries during solid waste management, several methods including creation of special agencies for the collection, solid wastes incineration, recycling and conversion of Municipal Solid Waste (MSW) to wealth are effective. Kassim and Ali (2003) added that waste management strategies should be accompanied with educating households, providing good services, creating good relationship with the households and collecting fees for the service at the light time. The finding is also in consonance with the assertion of Sharholy, Ahmad, Mahmood and Trivedi (2007) recovery of inorganic materials from municipal solid waste is a key component in the management of waste.

CONCLUSION

Wastes are generally organic or inorganic. Some of the wastes that can be found in periodic markets include cans, leaf vegetable sticks, glass materials, fruit peels, nylon, compost, food packaging, food scraps, plastic bags, plastic, bottles, disposables and shells or bones. To dispose these wastes, marketers practice land filling, incineration, open dumping, composting, mechanical destruction and public and private waste management. In some cases, these wastes are thermally, chemically or biologically treated to reduce their size, prepare them for recycling, detoxify them or earn from selling them. To ensure the proper management of wastes and serene environment in periodic markets it is important for non-government organizations and private waste management organizations, the government as well as the community to work collaboratively. This should be done to sensitize the public on the importance of proper wastes management and its relationship with sustainability of the environment and the individual.

RECOMMENDATIONS

Based on the research findings and the problems identified, the followings were recommended:-

- through market meeting and organisation of different marketers there should be creation of special agencies for the collection of wastes in periodic markets. To differentiate each category and type of waste, organizations could have different arrangement for disposing and treating market wastes;

- government should make concerted effort with the community to recycle and convert solid waste to wealth;
- emergency market clean-up campaigns by market heads, government and other organizations should be organised and monitored in markets across the state;
- to allow for efficiency and accountability, waste management services in the country should be privatized;
- artisans with organic wastes should be encouraged to practice composting especially for solid wastes in the market and should be educated on the consequences of improper disposal of solid wastes; and
- government should support artisans and waste management organizations and create good relationship with the market people. Open dumping (dumping of wastes on land and water areas) should be discouraged in the market places.

REFERENCES

- Akaninyere, M., & Atser, J. (2001). Solid waste characterization and management issues in Uyo municipalities, Nigeria. Libro-Gem, Lagos, Nigeria.
- Akinwale, A. (2005). Waste management in Nigeria local governments. *International Conference on Energy, Environment and Disasters- INCEED2005*, Charlotte, N.C, USA- July 24-30, 2005.
- Anyanwu, N. C., & Adefila, J. O. (2014). Nature and management of solid waste in Karu, Nasarawa State, Nigeria. *American International Journal of Contemporary Research*, 4(11), 149-159.
- Awomeso, J. A., Taiwo, A. M., Gbadebo, A. M., & Arimoro, A. O. (2010). Waste disposal and pollution management in urban areas: A workable remedy for the environment in developing countries. *American Journal of Environmental Sciences* 6(1), 26-32.

- Awopetu, M. S., Awopetu, R. G., Sample, E. D., Olufiropo, A. O. C., Awokola, S., Fullen, M. A., Booth, C. A., & Hammond, F. N. (2014). Municipal solid waste management and the role of waste-pickers in Nigeria. *International Journal of Educational Research*, 2, 1-12.
- Babatunde B. B., Vincent-Akpu, I. F., Woke, G. N., Atarhinyo, E., Aharanwa U. C., Green, A. F., & Isaac-Joe, O. (2013). Comparative analysis of municipal solid waste (MSW) composition in three local government areas in Rivers State, Nigeria. *African Journal of Environmental Science and Technology*, 7 (9), 874-881.
- Banga, M. (2013). Household knowledge attitudes and practices in solid waste segregation and recycling: The case of urban Kampala. *Zambia Social Science Journal*, 2, 27-39.
- Efe, S. I. (2013). Waste disposal problems and management in Ughelli, Nigeria. *Journal of Environmental Protection*, 4, 4-11.
- Fakere, A. A., Fadairo, G., & Oriye, O. (2012). Domestic waste management and urban residential environment: Focus on Akure, Nigeria. *International Journal of Engineering and Technology*, 2(5), 878-887.
- Kassim, S. M., & Ali, M. (2003). Private solid waste collection services, Dar es Salaam, Tanzania. *29th WEDC International Conference Towards Millennium Development goals*. Abuja, Nigeria, 39-41
- Kiran, K. G., Sanjay, K., Ravi, K., Santhosh, N. P., & Kiran, N. U. (2015). KAP study of solid waste disposal of households in Kuttar & Manjanadi Panchayath covered under gramaskhema programme of K.S. Hegde Medical Academy. *Nitte University Journal of Health Science*, 5(3), 29-35.
- LeBlanc, R. (2016). Waste treatment and disposal methods. *The Balance*, December, 31. Retrieved March 26, 2017 from

<https://www.thebalance.com/waste-treatment-and-disposal-methods-2878113>

National Population Commission (NPC) (2012). National Population Commission Nigeria Retrieved March 15, 2017 from www.population.gov.ng.

Olagunju, C. O. (2016). Assessment of Household Solid Waste Disposal Practices in Ondo West Local Government Area, Ondo State. An unpublished B.Ed. Thesis of Obafemi Awolowo University, Ile-Ife.

Oloruntade, A., Adeoye, P., & Alao, F. (2014). Municipal solid waste collection and management strategies in Akure, South-Western Nigeria. *Casp. J. Environ Sci.* 11, 1–10.

Sharholy, M., Ahmad, K., Mahmood, G., & Trivedi, R. (2007). Municipal solid waste management in Indian Cities: A review. *Waste Management*, 28, 459- 467.

Stanley, A. M., Andrew, S. S., Dania, A. A., & Sani, I. F. (2012). An assessment of household solid waste disposal practices in Sabon Gari, Zaria. *ATBU Journal of Environmental Technology*, 5 (1), 48-59.

United Nations Environment Programme (UNEP) (2010). Framework of Global Partnership on Waste Management, note by secretariat. Retrieved March 27, 2017 from http://www.unep.or.jp/Ietc/SPC/news-nov10/3_FrameworkOfGPWM.pdf.

United Nations Environment Programme (UNEP) (2011). Waste – Investing in Resource and Energy Efficiency, Towards a Green Economy. Retrieved March 27, 2017 from http://www.unep.org/greeneconomy/portals/88/documents/ger/GER_8_Waste.pdf

Yoda, R. M., Chirawurah, D., & Adongo, P. B. (2014). Domestic waste disposal practice and perceptions of private sector waste management in urban Accra. *BMC Public Health, 14*, 697.

Reference to this paper should be made as follows: Mopelola O. Akintoye et al., (2018), Management and Disposal of Market Wastes in Periodic Markets in Ondo East and Odigbo Local Government Areas of Ondo State. *J. of Management and Corporate Governance*, Vol.10, No.1, Pp 1-17
