

HEALTHY LIVING AND ENVIRONMENTAL SANITATION PRACTICES IN AKUNGBA-AKOKO, NIGERIA: ISSUES AND CHALLENGES

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Abstract: This paper examines sanitation practices in Akungba with a view to determining its implication on healthy living. The basic data set for the paper was collected using a structured questionnaire administered on selected household in Akungba. Simple percentages and correlation analysis were used to summarize data. The study revealed that diverse ill-health abounds in the study area. However, malaria, cough and catarrh have the highest proportion 54.2% and 23.3% respectively as a result of the observed inter-relationship between increased malaria parasites. Majority of the residents of Akungba do not have access to basic infrastructure. Sanitation condition in Akungba is not up to expectation, people have poor attitude towards sanitation which could be reasons for ill health among residents. The study recommended that government should engage in vigorous environmental sanitation education and implement the environmental sanitation bye-laws.

Key words: Sanitation, bye-laws, aliment, healthy living and pollution

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INTRODUCTION

Environmental sanitation is set of actions geared towards improving the quality of the environment and reducing the number of diseases in the area of management of water, solid and industrial waste as well as pollution and noise control Lawal and Basorun, 2015. World Health Organization (2006) describes sanitation as a package of health-related measures and of the view that every human should have a healthy and productive life in harmony with nature because in tragically degraded environment, human health is threatened. Poor sanitation and unhygienic behaviour led to the launching of “War Against Indiscipline” by Major Gen Tunde Idiagbon who said that slums and ghettos were the incubators of epidemic diseases that pose danger to human health. Similarly, problems of mortality, morbidity and poverty have been reported in the literature as consequences of poor sanitation coverage (Madise et al., 2012; WHO, 2010). The relationship between human and the environment is reciprocal in that the environment has the profound influence on human and at the same time human extensively alter the environment to suit their needs. Some of these changes create new hazards; the human attitudes towards the environment are still negative and are often contrary to the concept of sustainable development (Herman, 2008, 2009; Ianoş et al., 2009; Mac, 2003). Sadalla et al., (2001) noted that the environmental problems

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may be caused by inadequate provision of facilities and residents behaviour in communities. He emphasized the importance of education in achieving the goal in environmental sanitation; he stressed strategies such as sensitization, information and motivation.

Several efforts have been made by the state government to ensure that the city is always clean. It has engaged the services of private waste management companies to ensure that major streets are always cleaned and also ensure that communal dumpsters are emptied regularly. Coupled with these are the provision of new sanitation facilities and the maintenance of old ones. However the behaviour and attitude of people towards sanitation do not augment this effort. People do not seem to care about good environmental sanitation practices as a result National Environmental Policy spells out the guidelines and gives power to the local government to promulgate bye-laws to address environmental issues in their locality in an effort to reduce environmental pollution. It also gives power to the judiciary to establish and empower community Tribunals to prosecute offenders against this sanitary bye-laws and regulations. It is against this background this study assesses the knowledge and attitudes of the people toward various sanitation practices such as liquid and solid waste disposal, water supply and drainage system on state of health of people in the study area and a sustainable healthful environment.

CONCEPTUAL CONSIDERATIONS AND RELEVANT LITERATURE

The importance of healthy environment and socio-economic development cannot be overemphasized. Access to adequate sanitation is part of the Millennium Development Goals of reducing poverty. However, abnormally low levels of access to adequate sanitation by a large proportion of humanity have been reported (Smith and Marin, 2005). Environmental sanitation comprises a number of complimentary activities including the provision of and maintenance of sanitary facilities, safe excreta disposal; solid and medical waste management (Afon, 2006). However the pattern of waste management could create environmental problem. Schertenleib et al., 2002 define sanitation as interventions to reduce people's exposure to diseases by providing a clean environment in which to live and with measure to break the cycle of disease. Wherever human gather their wastes also accumulate. In Nigeria, 52 percent of the populations do not have access to adequate sanitation (UNDP, 2009, UNICEF, 2005). Access to adequate sanitation prevents the spread of sanitation related diseases. In developing countries lack of adequate sanitation often result in about two million infant deaths annually (Cosgrove and Rijsberman 2003, Gomez and Nakat, 2002). Yet many people still have no adequate means of appropriately disposing their waste. Environmental sanitation therefore involves controlling the aspect of waste that may led to the transmission of diseases.

Environmental sanitation management requires the assignment of responsibilities to specialized institutions (Benneh, 2007) argues that the successful management of environmental sanitation in any country depends to a large extent on the effectiveness of the institutional arrangement put in place by government for the management. The two management strategies that could be adopted to improve environmental sanitation are behavioral management sanitation and regulatory management. These strategies involve activities that would ensure that people understand the consequences of poor environmental sanitation practices. The regulatory management involves activities that would ensure that people comply which can be achieved through enforcement of sanitation regulations. There are different ministries involve in environmental sanitation. The Environmental Protection Agency is a leading body responsible for protecting and improving the environment. Its job is to ensure that air, land and water are looked after by everyone in today's society so that tomorrow generation inherit a cleaner and healthier world (Vodounhesis, 2006).

As part of government debate concerning participation, there are by-laws and punishment and fines meted out to defaulters (Amoaning, 2006) since the most valuable resource is the human resources base. Consequently the protection and enhancement of the health and well-being of the people constitute a major responsibility of the government. By their individual and

collective behaviour human make significant positive or negative impact on the natural resources. Environmental sustainability will be impossible unless human numbers and resources demand level off within the carrying capacity of the Earth. Since the major objective of the natural environmental policy is to encourage measures which sustain a balance between population and environment, inter-sectorial cooperation involving all tiers of government is envisaged.

THE STUDY AREA

The study area is Akungba-Akoko, Ondo State, Southwest Nigeria (fig. 1, 2). Akungba Akoko lies between latitude 7°21'N and 7°31'N and longitude 5°22'E and 5°30'E, surrounded by Supare- Akoko (in the West), Iwara-Oka (East), Ikare-Akoko (North) and Oba-Akoko (South). The inhabitants of the study area are mostly Yoruba's and the population as at 2006 was 21,200 (NPC, 2006). At present the Town is said to have population of over 30,000 people. Since the establishment of the university in 1999, there has been massing of people and activities in the Town. The Town morphology has changed over time to assume its present status as university town with its attendant sanitation condition problems. It is located within the tropical rainforest region where rainfall is high throughout the year. The influence of Akungba as University Town has promoted its rapid growth and increased socio-economic activities.

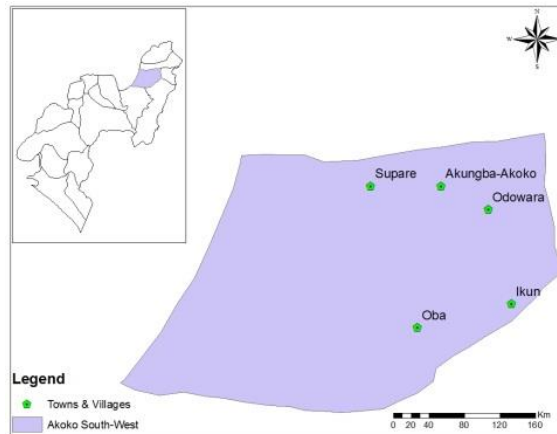


Figure 1. Map showing the situation of Akungba-Akoko in Akoko Southwest. Local Government Area (LGA). Inset is the map of Ondo State, showing the location of the LGA

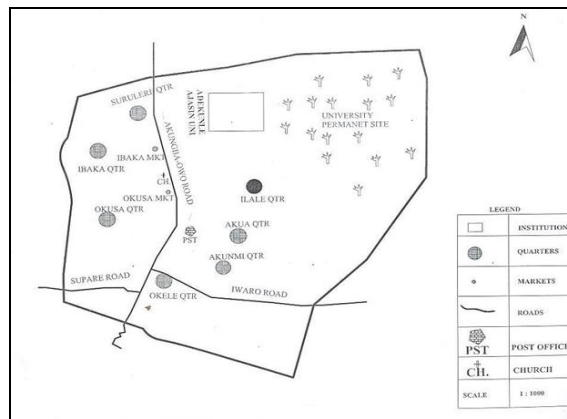


Figure 2. Map of Akungba-Akoko showing major streets and quarters
Source: Ministry of Lands and Housing, Akure, Ondo State

DATA AND METHODS

The scope of this article requires a comprehensive data containing variables on the economic, social and demographic variables of households as well as indicators of sanitation and health condition characteristics including their accessibility to sanitation and health facilities in the study area. The basic data set utilized for this paper was collected using a structure questionnaire administered to selected residents in Akungba. Systematic sampling technique was used to select buildings at interval of every fifth building in street. In all a total of 288 questionnaires were administered in the Town. Appropriate statistical techniques including frequency tables and percentages were used to explain the results of the study. Focused Group Discussions (FGDs) held in six different purposively selected residential areas in the Local Government-Ilale and Akua; Okusa and Ibaka; and Araromi and University area for the Low, Medium and High Class residential areas respectively as seen in table 1.

Table 1. Classification of Residential Area
(Data source: Author field work 2015)

FGD Theme	Residential Districts	Study Areas
Environmental Characteristics of Respondents	Low Class Residential Areas	1. Ilale 2. Akua 3. Akunmi
	Medium Class Residential Areas	1. Okusa 2. Ibaka 3. Surulere
	High Class Residential Areas	1. Okele 2. Araromi 3. University area

The Low Class Residential Areas (LCRA) is highly congested indigenous areas with poor quality housing. These areas are typical of old Akungba. Most of the residents of these districts are either partially literate or total illiterates and they are in the lowest strata of socio-economic status among the three categories of the residential districts. They belong to the lowest income group earners. Environmental quality is also very poor in these districts, with very narrow roads, unacceptable refuse sites and poor drainages.

The Medium Class Residential Areas (MCRA) is moderately congested areas with relatively fair housing quality. Residents here are economically better, with a bit higher literacy level than the residents of the LCRA. Also, the environment is a bit finer with better drainages and organized refuse sites.

The High Class Residential Areas (HCRA) is properly planned residential estates with good quality housing. This district comprises planned quarters. The inhabitants are unarguably the highest income earners and are top businessmen and professionals who belong to the upper class in the society.

RESULTS AND DISCUSSIONS OF FINDINGS SOCIO - ECONOMIC CHARACTERISTICS OF RESPONDENTS, INFRASTRUCTURE AND SANITATION CONDITION IN AKUNGBA

Table 2 depicts the pattern of the income structure of the respondents as obtained from field investigation. It is evident from Table 2 that a high proportion of the respondents 75.6% earn below #15,000 monthly. It can be inferred that majority of the respondents are low-income earners, while about 20% are middle-income earners. The remaining 4.6% of the sampled population are therefore under the high-income group. This result shows that majority of householders or residents of the study area are low and medium income earners. This pattern of income distribution has a lot implication on residents' ability to access adequate sanitation.

Table 2. Income Profile of Respondents
(Data source: Field Survey 2013)

Income (Naira)	Freq	%
Below #15,000	211	75.6
#15,001-#50,000	60	19.8
Above #50,000	17	4.6
Total	288	100

Some infrastructure sample in respondents' house was used for this study. Some of those considered were as follows: mode of waste disposal, water supply and availability of toilet. On method of refuse collection and disposal in the study area, the Waste Management Authority is responsible for collection and disposal of waste form 31.2 percent of all buildings in the city (Table 3) 55.1 and 11.8 percent of waste generated in Ondo state are disposed-off by dumping them on dump site and by burning them respectively. These methods are not only unhealthy but destroy and pollute the environment.

Table 3. Mode of Solid Waste Disposal
(Data source: Field Survey 2013)

Method of disposal	No of House	%
Waste management van	90	31.2
Burning/Incineration	34	11.8
Dump site	159	55.1
Others	5	1.8
Total	288	100

Table 4. Type of Toilet Facilities
(Data source: Field Survey 2013)

	Freq	Percent
Water Closet	102	35.38
Pit Latrine	119	41.31
None	67	23.25
Total	288	100

Another parameter taken into consideration in the study area is types of toilets. Table 4 shows that the highest percentage (41.31) of building in the study area is provided with pit latrine. This is closely followed by water closet which accounted for 35.38 percent. It is evident from the Table that 23.25 percent lack any form of toilet facilities. The fact that 35.38percent of buildings in the city and another 23.25 percent of all buildings do not have any form of toilet facilities indicate that majority of buildings in the study area lack toilet facilities and many residents of the city will defecate anywhere, causing environmental problems.

Table 5 shows the major sources of water supply in Akungba. Analysis of the Table shows that majority of the residents of the city depend on wells for their water supply. This constitutes 65.7 percent. This is followed by those categorized as others 19.5 percent which include springs, brooks, rain, and streams and in some cases public tap. Boreholes and pipe-borne water accounted for 6.0 and 8.3 percent respectively. The State government had provided boreholes for many of the towns and villages in the local government but the ground trotting information showed that more than 70% of the boreholes were no longer functioning, as a result of poor maintenance. The implication of this is that majority of the residents in the study area depends on water supply from unsafe sources thereby lowering the quality of urban life.

Table 5. Source of Water Supply
(Data source: Field Survey 2013)

	Freq.	Percent
Pipe Borne Water	23	8.3
Boreholes	17	6.0
Wells	189	65.7
None	56	19.5
Others	3	0.4
Total	288	100

VARIATIONS IN HOUSING/ENVIRONMENTAL CHARACTERISTICS OF RESIDENTIAL DISTRICTS IN AKUNGBA

There are clear variations in terms of type and quality of houses located in Akungba and the number of occupants per room also varies from one residential district to the other. Based on the Focused Group Discussion, The Low Class Residential Areas (LCRA) such as Ilale and Akua are predominantly dominated by face to face traditional buildings which are characterized by tightly packed together buildings with extremely poor ventilation, bad drainage system and poor environmental sanitation. See Table 6. It is obvious during the FGD, that there is an average of three persons per room in the LCRA. The field survey revealed that the Medium Class Residential Areas (MCRA) such as Okusa and Ibaka comprised a mixture of flats and face to face traditional buildings system. Features such as ventilation, drainage and environmental sanitation are averagely fair in these places and an average of two persons per a room is a common practice in this area.

Table 6. Housing/Environmental Characteristics of Residential Districts in Akungba
(Data source: Field Survey, 2015)

Residential Districts	Residential Areas	Defecation Methods	Sources of Water	Solid Waste Disposal Methods	Drainage	Sanitation
Low Class Residential Areas	1. Ilale 2. Akua	Pit toilet Pit toilet	Well Well	Dumping/Burning Dumping/Burning	Very bad Very bad	Not neat Not neat
Medium Class Residential Areas.	1. Okusa 2. Ibaka	Water closet/pit toilet Water Closet/Pit toilet	Well/borehole Well	Dumping/collected Dumping/burning	Fair Fair	Fair Fair
High Class Residential Areas	1. Araromi 2. Varsity area	Water Closet Water Closet	Pipe-borne/bore-hole Pipe-borne/bore-hole	Collected Collected	Very good Very good	Very neat Very neat

Note: 'Dumping' in table 6 above means dropping solid wastes in unapproved places, while 'Collected' means packing them at designated points for onward movement to where they will either be recycled or buried.

The case of the High Class Residential Areas (HCRA), especially University area is totally different as it comprises mixtures of modern blocks of flats, detached bungalows and mansions with extremely aesthetic environment, good ventilation and very good drainage system. Also, an average of one person occupies a room here. Research has revealed that ventilation, drainage, environmental sanitation, type of house and number of occupants per room bring about variation in outbreak of diseases from place to place. It is not amazing therefore while outbreak of diseases is common in the Low Class Residential Areas such as Akua and Ilale and scarce in the High Class Residential Areas based on the discussions held. This means that with regard to these points of discussion, more diseases outbreak recorded from the LCRA due to poor sanitation practices.

HEALTH OF RESPONDENTS AND ENFORCEMENT OF SANITATION LAWS

In addition to the parameter discussed above, other parameters used are ailments commonly treated by respondents were examined in order to ascertain if poor sanitation attitude have impact on health status of the populace in the study area.

Table 7. Ailment recently treated by respondents
(Data source: Field Survey 2015)

	Freq	%
Malaria	156	54.2
Cough & Catarrh	67	23.3
Diarrhea	33	11.5
Typhoid	18	6.3
Others	14	4.9
Total	288	100

Malaria ranked the highest percentage of ailment commonly treated by respondents. It is evident that cough and catarrh accounted for 23.3% of the sampled population. While diarrhea and typhoid accounted for 11.5% and 4.9% respectively. Health constitutes an essential aspect of socio-economic development and a major component of the quality of life as well as a pre-requisite of high level productivity. Therefore the need for adequate sanitation is essential. The correlation between residential districts of respondents and reported ill-health is shown in Table 8.

Table 8. Correlation between Residential Districts and reported ill-health
(Data source: Field Survey 2013)

	Malaria	Cough & Catarrh	Diarrhea	Typhoid	Others
Low Class Area	.121*	.110*	.169*	.138*	.075
Medium Class Area	.118*	.078	.033	.058	.130*
High Class Area	.105*	.063	.072	.037	.140

*correlation is significant at 0.05 level. Source: Authors' Survey, 2015

The above relationships show that the reported ill-health in the study area varied with diverse influence of the residential area in the study area. In additions, low class residential area accounted for the highest numbers of correlated patterns that play significant roles in the state of health conditions of the residents. It is generally clear that stable consideration for ideal residential area is pre-requisite to averting the incidence of reported ill-health in the study area.

On enforcement of sanitation laws, violating of environmental sanitation laws entails some punishment and fine by the state government. Table 9 depicts punishment for violating the law.

Table 9. Punishment for violating sanitation law
(Data source: Field Survey 2015)

	Freq	%
Fine	118	44.2
Imprisonment/Fine	52	16.7
Community Service	80	28.3
Others	38	10.0
Total	288	100

It is evident from Table 9, that payment of fine constitutes 44.2% of the sample population followed by community service 16.7%. While imprisonment with option of fine accounted for 16.7% of the sampled population and other act of violation accounted for 10% which may be inform of confiscation of property.

POLICY IMPLICATION

The results of this study indicate inadequate sanitation in the study area resulting to ill health. It also reveals that the majority of the householders in the study area lack basic facilities that make living conducive. It also exposes the fact that government action and policies have not been effective in improving sanitation in the study area. Therefore the government of Ondo State should give a keen attention to enforcing provision of modern toilet facilities in every house, providing good water supply and modern waste disposal facilities as these will help to reduce morbidity which invariably will reduce outbreak of diseases. This is so sure because areas with better provision of the aforementioned have lower epidemic than other areas with poor housing/environmental qualities. The government of Ondo State should try to make modern toilet facilities cheaper and affordable for a common man to have. The predominant use of pit latrine, dunghill and short put, especially in the Low Class Residential Areas of Akungba should be discouraged because of its unhygienic nature. Moreover, people should be discouraged from throwing solid wastes in the drainages as these serve as breeding places for mosquitoes and block the free flow of water and waste products. Serious laws should be enacted in the State against improper refuse disposal. The government should also make the use of modern toilet facilities compulsory for each household while the use of pit latrine and dunghill should be totally prohibited as serious laws should be enacted where offenders against this law will be prosecuted and seriously dealt with if found guilty.

CONCLUSION

From the above exposition and analysis, the paper indicates that sanitation in the study area is inadequate and there is no strong policy for violators. People have a non-chalant attitude towards sanitation. Sanitation condition in Akungba is not up to expectation, people have poor attitude towards sanitation which could be reasons for ill health among residents. The paper recommended that government should engage in vigorous environmental sanitation education and implement the environmental sanitation bye-laws.

REFERENCES

- Afon, A.O (2006), The use of residents' satisfaction index in selective rehabilitation of urban core residential areas in developing countries. *International Review for Environmental Strategies*. Vol 6:pp137-152
- Amoaning, R. (2006). Sanitation-our collective responsibility. Presentation at CONIWAS-DANIDA. *In Workshop November* (Vol. 16, p. 2006).
- Benneh, C. O. (2007). Deeds of distinction: the story of Madam Agnes Adwoa Afra. *Studies in Gender and Development in Africa*, **1**(1), 120-131.
- Cosgrove, W. J., & Rijsberman, F. R. (2000). World water vision: making water everybody's vision. *London, Earthscan*.
- Gomez, J. D., & Nakat, A. C. (2002). Community participation in water and sanitation. *Water international*, **27**(3), 343-353.
- Herman, G. V. (2008). Quantitative Distribution of Human Settlements in Somes Plain. *Analele Universității din Oradea, Seria Geografie*, **18**: 144-149.
- Herman, G. V. (2009). *Omul și modificările antropice din Câmpia Someșului [The man and anthropogenic changes in Somes Plain]*, Editura Universității din Oradea, 227 pag., ISBN 978-973-759-981-0, Oradea.
- Herman, G. V. (2010). Ways of anthropic intervention in the Someșului Plain, *Analele Universității din Oradea, Seria Geografie* **20**(1): 120-126.
- Ianoș, I., Peptenatu D., Zamfir D. (2009), Respect for environment and sustainable development. *Carpathian Journal of Earth and Environmental Sciences*, **4**(1): 81-93.
- Lawal, O., & Bashorun, J. (2015). Access to Safe Water in Akure: A Paradox in Nigerian Urbanized Regions. *International Journal of Emerging Knowledge*, **3**(3), 39.
- Mac, I. (2003). *Știința Mediului*, Editura Europtic, Cluj-Napoca.
- Madise, N. J., Ziraba, A. K., Inungu, J., Khamadi, S. A., Ezech, A., Zulu, E. M., ... & Mwau, M. (2012). Are slum dwellers at heightened risk of HIV infection than other urban residents? Evidence from population-based HIV prevalence surveys in Kenya. *Health & place*, **18**(5), 1144-1152.
- Sadalla, E., Jackson, A., Oki, K. (2001), *Decision center for a Desert city residential water use sustainability*.
- Schertenleib, R., Forster, D., & Belevi, H. (2002). An integrated approach to environmental sanitation and urban agriculture. *In International Conference on Urban Horticulture* 643 (pp. 223-226).

- Smith, S. E., Marin, L. E. (2005). Water and the rural poor in Latin America, The case study of Ilamacazapa Guerrero Mexico. *Hydrogeology Journal* **13**(1): 346-349.
- Vodounhesis, A. (2006). *Financial and institutional challenges to make fecal sludge management integrated part of ecosan approach in West Africa. Case study of Kumasi Ghana*, UNESCO Institute for water education.
- *** (2005). United Nations Children Fund (UNICEF), National rural water supply and sanitation investment programme.
- *** (2006). National Population Commission, (NPC). Population estimates.
- *** (2009). United Nations Development Programme (UNDP) Access to safe water and sanitation programme.
- *** (2010). World Health Organization (WHO), Meeting the MDGs drinking water and sanitation target: a mid-term assessment of progress. [www.who.int/water sanitation health /monitoring/](http://www.who.int/water_sanitation_health/monitoring/)
- *** (2012). World Health Organization (WHO), Progress on sanitation and drinking water update. WHO Press Geneva.

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