

## **Environmental Pollution In Abia State Via Indiscriminate Dumping Of Refuse: A Challenge To The Church**

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### **Abstract**

This study focuses on the phenomenon of indiscriminate dumping of refuse into gutters and street corners in World Bank Housing Estate (WBHE), Umuahia and links it with environmental pollution within the estate. Quantitative data collection was carried out in WBHE, Umuahia, to investigate into the level of involvement of Churches located in this estate in ensuring that refuse is dumped appropriately in order to protect their environment. The outcome of the study revealed that many Churches and their members have low level of participation in activities that enhance the protection of their environment, hence an increased level of pollution within the estate. This study recommends a systematic concerted effort between groups of Churches in this estate and Abia State Environmental Protection Agency (ASEPA) towards ensuring that pollution is reduced in this estate. This will ensure a healthy and wealthy environment and concomitantly encourage development in the nation.

### **Introduction**

This study will focus on the need for the involvement of the Churches in the reduction of environmental pollution in Abia State. It will draw attention to the fact that Environmental pollution, through indiscriminate dumping of refuse, is a major concern to the human society at both global and national levels. It will highlight that one of the cardinal teachings of the Church is taking good care of the environment so that life will flourish in it. This necessitates a concerted effort between Church members and relevant agencies in the reduction of pollution in their environment. Questionnaire that was administered to Church members who reside in World Bank Housing Estate (WBHE) Umuahia, Abia State will be analysed in order to determine the involvement of Church members in the reduction of environmental pollution in this estate.

### **Environmental Pollution A Global And National Concern**

The last three decades have witnessed an increasing global concern over the public health impacts attributed to environmental pollution, in particular, the global burden of disease. The World Health Organization (WHO) estimates that about a quarter of the diseases facing mankind today occur due to prolonged exposure to

environmental pollution (Kimani, 2012). Most of these environment-related diseases are however not easily detected and may be acquired during childhood and manifested later in adulthood. Improper management of solid waste is one of the main causes of environmental pollution and degradation in many cities, especially in developing countries. The poor disposal and handling of waste leads to environmental degradation, destruction of the ecosystem and poses great risks to public health (Kimani, 2012).

The need to protect our environment is pertinent and a global concern. This led to the 1992 United Nations Conference on the Human Environment – ‘Stockholm Conference’ - and the 1992 United Nations Conference on Environment and Development (UNCED). The conference came up with AGENDA 21 which spelt out the strategies for improving the quality of the environment. This document emphasized the need for environmental education as a weapon that could be used by all nations to arouse people’s consciousness, positively change their attitudes and instil in them those values and skills that can promote effective environmental management (UNESCO, 1992).

Babalola, et al (2012) has noted that the Nigerian government, through the Federal Ministry of Environment (FMENV) formerly known as Federal Environment Protection Agency (FEPA) and other relevant agencies, has been making efforts to educate the public on environmental issues using both print and electronic media. One of the recommendations of FEPA is that Environmental Conservation Clubs be set up in secondary schools. The agency is in collaboration with the Federal Ministry of Education on the development of environmental Educational Masterplan and Curricula for both formal and informal educational system in Nigeria. In its efforts to provide the public with excellent and up-to-date reading materials on environmental issues, the Agency established an environmental reference Library at its Headquarters in Abuja in 1994 in addition to the existing Library in Lagos office. In spite of the remarkable progress made in providing environmental information, there are still substantial constraints to the effective management and development of the environment. These include uncoordinated policies and legal instruments, weak data base, inadequate enforcement, institutional conflicts, inadequate and untimely funding, and lack of public awareness. The research of Babalola, et al (2012) on environmental pollution shows that environmental awareness is a pre-condition for pro-environmental behaviour and sustainable environmental management. Their study showed that most of their respondents are only aware of environmental problems that directly affect them and their immediate environment and are largely unaware of how their behaviour might contribute to global ecological changes such as global warming and ozone layer depletion.

In line with the above study, Uzokwe (2012), noted that Nigeria is gradually being condemned to desolation and barrenness by sustained and unmitigated pollution of her air, land and sea that sometimes one wonders what the state of the health of Nigerians would be in the next 20 years given the sustained and worsening nature of

this scourge. Well-meaning Nigerians, as well as visitors to the country, have had to complain about this problem and its unbridled onslaught on Nigeria and her people. Scientists in other countries have even linked the level of pollution, in an environment, to mortality rate and life expectancy for that area. While there are currently no hard statistics available, in the Nigerian case, to buttress this argument, it is clear that when people breathe in toxic fumes, eat food laced with toxic chemicals and drink water that has traces of toxic chemicals in it, they are bound to get sick, teeter on the edge of ill health or die prematurely (Uzokwe, 2012).

Average life expectancy for males and females in Nigeria is about 55 years and has not shown any upward swing in recent times as is the case in places like the United Kingdom and United States where average life expectancy has pushed beyond the mid seventies. This leaves one groping for answers as to why, on the average, male and female Nigerians die young and in many instances from respiratory, gastrointestinal or other inexplicable ailments. Often the superstitious Nigerian would attribute the many untimely and inexplicable deaths to the handiwork of witches and wizards and enemies of one's progress, but anyone with a scientific or modern mind must face the true realities on the ground and conclude that even though there are other reasons why average life expectancy is low in Nigeria, pollution cannot be discounted as a major contributory factor.

In 2011 the Minister of Environment, Hajia Hadiza Maila-fiya, noted that human activities and failure to adhere to regulations were responsible for the high level of environmental problems facing the country. The minister, speaking in Abuja at the federal/states regulatory dialogue on the implementation of environmental regulations, organised by the National Environmental Standards and Regulations Enforcement Agency (NESREA), said that for the country to achieve its developmental agenda, there must be 'a deliberate effort towards the actualisation of environmental sustainability' (Kolawole, 2011).

NESREA among other things is empowered to enforce all environmental laws, guidelines, policies, standards and regulations in Nigeria, as well as enforcing compliance with the provisions of all international agreements, protocols, conventions and treaties on the environment to which Nigeria is a signatory. The vision and Mission of NESREA is 'to ensure a cleaner and healthier environment for Nigerians' and 'to inspire personal and collective responsibility in building an environmentally conscious society for the achievement of sustainable development in Nigeria' (NESREA, 2013). The practical realisation of this vision is a driving force for this study.

### **Indiscriminate Dumping Of Refuse In Abia State And Its Impact On The Environment**

In order to realise the above Vision and Mission of NESREA, many states in Nigeria have regulations and agencies for the management and disposal of waste as

well as the protection of environment from various forms of pollution. In Abia state, the agency that is responsible for waste management and environmental protection is Abia State Environmental Protection Agency (ASEPA). This agency designates areas for the collection of refuse within the urban centres in order to increase efficiency in waste management. The expectation is that people will dispose the refuse that they generate in their households at these designated places while the agency disposes the refuse that are collected at these designated places to the dumping sites designated for waste disposal. It is common for one to see some refuse from households being dumped indiscriminately inside the gutter and/or street corners instead of them being taken to the designated places. This implies that some people do not take their refuse to the designated areas for refuse disposal. This constitutes illegal dumping of refuse of which perpetrators could be prosecuted by the ASEPA.

In 2012 the General Manager of ASEPA, Iyke Apugo, issued a warning to residents in Aba, the commercial city of Abia State over their indiscriminate disposal of refuse and the concomitant environmental pollution. He warned that the government can no longer condone a situation where residents of the city prefer to dump refuse at non-designated places, defecate indiscriminately and urinate everywhere without regard for their health and those of other people. He said that he will introduce Mobile courts and that enforcement officers will be sent out to monitor the situation. Anybody caught for any of the offences on environmental pollution will be given appropriate punishment because the agency has given enough sensitisation (Duru, 2012).

The indiscriminate dumping of refuse is not only restricted to Aba. Other cities in Abia State experience this ugly phenomenon. Illegal dumping of refuse is a growing phenomenon within WBHE, Umuahia. This estate was created in 1991 in order to provide affordable accommodation to a variety of people ranging from low income earners to those in the middle class. Although there are many designated areas for refuse collection within the Estate, yet one finds refuse dumped indiscriminately in gutters and various street corners. When it rains, those who live close to the drains will notice packs of household refuse being carried by the flood. Eventually most of these refuse block the drainage thereby increasing the amount of flooding in some areas within the estate. Also, after the rains, some of these refuse are littered on the streets where the flood has carried them to. What this implies is that some people dump their refuse inside the gutter with the hope that while it rains the flood will carry them away. Such people do so without bothering that these refuse may end up in front of the house of another person, on the road or block the drainage.

Dumping refuse indiscriminately in WBHE, Umuahia makes it difficult for ASEPA to effectively dispose the waste that is generated within the estate as the refuse that should have been taken to the designated dumps are littered arbitrarily around the estate. These refuse give a bad sight to the environment. They also produce a bad and uncomfortable smell, aid the breeding of mosquitoes as well as pollute the

environment. The activities of those who dump refuse indiscriminately demonstrate the fact that in order to reduce the pollution within any environment, the residents would need to play a very active positive role. This necessitates the co-operation of various organisations that the people are affiliated to.

Against this backdrop is the need for religious organisations to play a key role in sensitising their members on the dangers of environmental pollution through indiscriminate dumping of refuse. If every adult Church member ensures that the refuse generated in their household are disposed at the designated places, this will drastically reduce the amount of refuse that are disposed illegally within the estate. Concomitantly, this will reduce environmental pollution within the estate. This forms the goal of this study.

### **The Church's Stance On Environmental Pollution**

Missiology is the ordered study of the motivations and approaches to the mission of the Christian Church (Bosch, 1991, Kirk, 1999). It is a discipline within theology, incorporating a number of strands. Biblical study investigates the basis of the church's mission in the *mission Dei*, the calling of Israel to be a light to all nations (Is. 49:6) and Jesus' commission to his disciples to be his witnesses to the ends of the earth and the end of time (Mt 28:18-20; Acts 1:8) (Marshall, 2004; Onwubiko, 2001). Because of the wide scope of missiology, it has an important role to play in the integration of other areas of theology. Put another way, every aspect of Christian theology cannot escape from reflecting on missiological dimension, for each one exists for the sake of the Church's mission.

Lausanne Covenant stipulates that the stewarding of the material resources of creation should form a cardinal aspect of missiology in the following terms:

Mission is to be involved in taking care of the material resources of creation. This means encouraging a wise and harmonious use of the natural order created by God, by engaging in the numerous aspects of conservation and the elimination of pollution. The Church will point to the creator's gift of life for all which implies renouncing greed, and a restrained enjoyment of material goods by all in such a way that future generation will find life sustainable on earth (Ferguson & Wright eds. 1991, 435)

This study focuses on this cardinal aspect of missiology - the stewarding of the material resources of creation through elimination of pollution. This study opines that this stewarding involves encouraging residents in WBHE Umuahia, who are mostly Church members, to be involved in the elimination of pollution through the sensitisation of their members on the need to dump their household refuse at the designated areas for refuse dump within the estate. This will make the estate a cleaner and healthier place to live in.

The need for the Church and mosques to be involved in the reduction of pollution in Nigeria has been buttressed. For example, in 2009, the Lagos State Environmental Protection Agency (LASEPA), with specific regard to noise pollution, demanded the co-operation of Churches and mosques to control the noise emanating from their worship centres to nationally acceptable limit of 55 decibels, (db) during the day and 45 db at night (Contra Culture, 2012; Uzondu, 2012). This demand was based on scientific evidence that continuous exposure to noise level above 85 db in the day can lead to hearing impairment and other health problems. Experts say it can raise blood pressure, increase heart beat rates, result in headaches, loss of concentration and reduce quality of work and service (Contra Culture, 2012; Uzondu, 2012). In more advanced countries, 45 db is the highest acceptable level. Anything beyond 45 decibel is loud and therefore unacceptable. Unfortunately, in Nigeria, noise level reaches as high as 90 db and beyond, even in residential quarters. This value is not only unbearable, but constitutes a grave environmental pollution.

The order was however not obeyed, forcing the Lagos State government to sign a memorandum of understanding (MoU), with the Christian Association of Nigeria, (CAN), Lagos State branch in July 2010. Following this MoU, Churches and mosques in the State were directed to remove all external speakers from their worship centres. In February 2012, LASEPA shut down seven Churches and two mosques for violating the law on environmental pollution. (Uzondu, 2012; Ndikanwu, 2012). The action of shutting down Churches over noise pollution generated reactions in favour and against the move of LASEPA. While some Church leaders and members commended the stand of LASEPA, others condemned it.

The above proceedings show that Churches are involved in environmental pollution. It also shows that the co-operation of Churches is needed for a reduction of some aspects of environmental pollution. This study encourages a pro-active involvement of the Church towards reduction of environmental pollution. Many notable Church leaders have encouraged Church members to adjust their lifestyles in order not to foster lifestyles that encourage environmental pollution. On this issue, Benedict XVI, comments as follows: ‘Today the great gift of God’s Creation is exposed to serious dangers and lifestyles which can degrade it. Environmental pollution is making particularly unsustainable the lives of the poor of the world ... we must pledge ourselves to take care of creation and to share its resources in solidarity’ (Pope Benedict XVI, 2009).

### **Methodology**

Survey research design was used to ascertain the effects of indiscriminate dumping of refuse in gutters and street corners in WBHE, Umuahia, Abia State and the involvement of Church leaders and members towards this phenomenon. The target population for this study was all the identified Churches within WBHE, Umuahia, namely – Assemblies of God World Bank International Church, the Presbyterian

Church World Bank Parish, Seventh Day Adventist Church World Bank, All Saints Anglican Church World Bank and Christ the King Catholic Church World Bank. The average numbers of worshippers at these Churches on a Sunday/Saturday are as follows: Assemblies of God Church - 650, the Presbyterian Church - 500, Seventh Day Adventist Church, 300, All Saints Anglican Church -1000 and Christ the King Catholic Church, 800, making a total of 3300 worshippers. About half of this number, that is 1650 of worshippers are adults, including youths, while the remaining are children. The above information was obtained from the priests of these Churches during inquiry from them. With the above statistics, the target population for this study is 1650 worshippers.

Stratified random sampling was employed to select 900 subjects from the target population of 1650 worshippers, which is 54.55 % of the projected number of adult worshippers and youths. The Questionnaire constituted the fundamental instrument for the collection of information on the effect of indiscriminate dumping of refuse and the Church's involvement in this activity in WBHE, Umuahia. This questionnaire was made up of 20 items that highlighted the research questions. These questionnaires were distributed proportionately to the members of the Churches according to their number of worshippers. Hence, the numbers of respondents are divided as follows: Assemblies of God Church - 189, the Presbyterian Church - 138, Seventh Day Adventist Church, 83, All Saints Anglican Church -273 and Christ the King Catholic Church, 217, making a total of 900 respondents.

The items in the questionnaire were constructed around three options – Yes, No and Not Sure. Two items that did not follow this three option pattern was included in order to give further information on two questions that have been already patterned in the three option responses.

The research questions are as follows:

1. Dumping refuse indiscriminately into gutters and street corners in WBHE Umuahia contributes to environmental pollution in WBHE, Umuahia
2. Environmental pollution in WBHE, Umuahia will reduce if the residents in the WBHE, Umuahia disposed their refuse appropriately
3. Church members are involved in environmental pollution in WBHE, Umuahia through indiscriminate dumping of refuse
4. The co-operation of Church leaders and members is needed for a reduction in the level of environmental pollution in WBHE, Umuahia.

Data from the questionnaire was coded and the responses from the subjects were analysed. Percentages and mean was utilised in this research in analysing the responses of the respondents.

### **Results, Analysis And Discussions**

This aspect indicates the result of the data collected and analysed in this research.

The responses are grouped under the three options – Yes, No, Not Sure. Percentages and mean scores aided in organising, arranging and summarising the data.

Research Question 1

Dumping of refuse indiscriminately into gutters and street corners in WBHE Umuahia contributes to environmental pollution in WBHE, Umuahia

Table 1

s/n	ITEMS	Frequency and percentage of respondents														
		Yes	%	No	%	N/ S	%	TOTAL								
1.	Dumping of refuse into gutters and streets corners blocks the drainage and hence contributes to flooding in WBHE	858	95.3	12	1.3	30	3.4	900								
2.	Dumping refuse in gutters and street corners makes the environment stink and contribute to the breeding of mosquitoes and pollution	900	100		0		0	900								
3.	Those who dump refuse in the gutters and street corners in WBHE normally do so in the night, early mornings and when it is raining	828	92	24	2.7	45	5.3	900								
TOTAL & AVERAGE %		2586	95.8	36	1.3	96	2.9	2700								
	ITEMS	Civil servant	%	Big Trader	%	Petty Trader	%	Transporter	%	Professional	%	Politician	%	All groups	%	TOTAL
16	Which two of the following class of households do you think normally dump their refuse in the gutter	42	4.6	54	6	420	46.7	126	14	0	0	112	10.6	408	45.3	900

The table above indicates the link between indiscriminate dumping of refuse into gutters and street corners and pollution in WBHE, Umuahia. Analysis of item 1 show that 95.3 % of the respondents agree that dumping of refuse in undesignated places contribute to environmental pollution in WBHE Umuahia. Analysis of item 2 show that 100% of the respondents agree that this inappropriate dumping of refuse make the environment to stink, aid the breeding of mosquitoes and increase the level environmental pollution in the estate. Analysis of item 3 show that 92% of the respondents agree that people who dump refuse in undesignated places normally do so in the night, early mornings or while it is raining. This implies that such people know that it is inappropriate and socially unacceptable to dump refuse in



undesigned places. Yet, such people choose to do what is wrong, perhaps, for the sake of convenience or because of negligence. Such people pay no attention to the consequences of their activities to those who live around them and to themselves. Such fail to realise that if every one in the estate dumped their refuse in gutters and street corners there could be an impasse in refuse management within the estate. Analysis of item 16 shows that 46.7 % agree that petty traders are the highest culprits in illegal dumping of refuse within the estate while 45.3% agree that people from all groups perpetrate this crime.

### Research Question 2

Environmental pollution in WBHE, Umuahia will reduce if the residents in the WBHE, Umuahia disposed their refuse appropriately

Table 2

s/n	ITEMS	Frequency and percentage of respondents						
		Yes	%	No	%	N/ S	%	TOT AL
4	A good number of people in WBHE dump refuse in gutters and street corners instead of taking them to the designated refuse dumps	582	64.7	108	12	210	23 .3	900
5	If every household in WBHE took their refuse to the designated refuse dumps, WBHE will be a cleaner place to live in	828	92	0	0	72	8	900
14	Do you know where some of the refuse dumps for WBHE are located?	600	66.7	162	18	138	15 .3	900
15	Do you ensure that those who dispose refuse from your household or organisation take them to refuse dumps rather than throw them into gutters or street corners?	588	65.3	96	10.7	216	24	900
17	Do you think that the Police and ASEPA should prosecute those who dump refuse in gutters and street	600	66.7	156	17.3	144	16	900

	corners?							
	TOTAL & AVERAGE %	3198	71.1	522	11.6	780	17.3	4500

Table 2 above indicates the link between taking refuse to the designated area of collection by residents and reduction of environmental pollution in WBHE, Umuahia. Analysis of item 4 shows that 64.7 % of the respondents agree that a good number of people dump their household refuse into gutters and/or street corners, thereby increasing environmental pollution in the estate. Analysis of item 5 shows that 92 % the respondents agree that environmental pollution in WBHE, Umuahia will reduce and that the estate will be a cleaner place to live in if every household dumped their refuse appropriately. Analysis of item 14 shows that 66.7 % of the respondents agree that they know where refuse dumps are located in the estate. This shows that ASEPA has actually provided dumps for refuse collection in the estate and that many of the residents are aware of this. The remaining 33.3 % do not know or are not sure of where these dumps are located. The implication is that these residents may not have bothered to take their household refuse to refuse dumps within the estate. Analysis of item 15 shows that 65.3 % of the respondents agree that they ensure that refuse from their household are disposed appropriately at the designated refuse dumps within the estate. The remaining 34.7 % do not ensure that refuse from their households are dumped at the designated dumps within the estate. If refuse from 34.7 % of residents in WBHE, Umuahia are thrown into the gutter, or dumped at the street corners of the estate, this will lead to environmental pollution in the estate, which will be detrimental to those residents who dump their household refuse appropriately.

Analysis of item 7 shows that 66.7 % of the respondents agree that appropriate law enforcement agencies for illegal dumping of refuse should be used to ensure the compliance of those who do not dispose their refuse in the appropriate manner. 33.7% are not in support of the prosecution of defaulters. The result shows that majority of residents in the estate will be happy with the prosecution of those who perpetrate environmental pollution in the estate. It also shows that majority of the residents will take their refuse to the designated dumps if they know that they will be prosecuted for dumping their refuse inappropriately.

**Research Question 3**

Church members are involved in environmental pollution in WBHE, Umuahia

Table 3

s/n	ITEMS	Frequency and percentage of respondents						TOTAL
		Yes	%	No	%	N/ S	%	
13	Majority of those who live in WBHE belong to the Christian faith	738	82	24	2.7	138	15.3	900
18	Do you think that your Church	876	97.3	12	1.3	12	1.3	900

	should tell their members to help keep the environment clean by dumping their refuse only in the designated places?									
19	Will you support the Police and ASEPA to prosecute members of your Church who continued to dump refuse in gutters and street corners after they have been warned to stop doing so?	642	71.3	144	15	114	12.6	900		
20	Do you believe that some members of your church dump refuse in gutters and street corners instead of taking them to refuse dumps?	438	48.7	126	12	336	37	900		
TOTAL & AVERAGE %		2694	74.8	306	8.5	600	16.7	3600		
		<b>90-100</b>	<b>%</b>	<b>70-90</b>	<b>%</b>	<b>50-70</b>	<b>%</b>	<b>20-50</b>	<b>%</b>	<b>TOTAL</b>
7	Those who belong to the Christian faith may be up to the following percentage of the entire residents in WBHE (tick one)	<b>384</b>	<b>42.6</b>	<b>414</b>	<b>46</b>	<b>90</b>	<b>10</b>	<b>18</b>	<b>2</b>	<b>900</b>

Analysis of table 1 above demonstrated that indiscriminate dumping of refuse into gutters and street corners in WBHE, Umuahia are done by the residents of this estate. Therefore it is necessary to ascertain whether the residents are Church members or not. Table 3 above is meant to discover whether residents of WBHE, Umuahia are Church members and then make a link between the percentage of the residents who are Church members and the pollution of the environment. Analysis of item 13 demonstrates that 82 % of respondents agree that majority of the residents in WBHE, Umuahia belong to the Christian faith. Further on this, item 7 demonstrates that 88.2 of the respondents agree that Church members make up 70-100% of the residents of WBHE, Umuahia. The implication is that Church members are involved in the dumping of refuse illegally in WBHE, Umuahia. Hence Church members contribute to environmental pollution in WBHE, Umuahia. Analysis of item 18 shows that 97.3 % of respondents support the view that Church leaders should instruct their members to keep the estate clean by dumping their refuse at designated refuse dumps. Analysis of item 19 shows that 71.3 % of the respondents will support the police and ASEPA to prosecute those who are caught dumping refuse illegally if they continue to do so after warning. This implies that many residents of WBHE, Umuahia would like their environment to be clean and healthy. Analysis of item 20 shows that 48.7 % of the respondents associate their Church members with the dumping of refuse in the estate. 34 % of the respondents claimed not to be sure, to be on the safe side. These high figures show that actually a good number of Church members dump their household refuse indiscriminately in WBHE, Umuahia and hence contribute in the environmental pollution within the estate. Since Church members are involved in environmental pollution in WBHE,

Umuahia, then their co-operation is needed for a reduction in environmental pollution in this estate.

**Research Question 4**

The co-operation of Church leaders and members is needed for a reduction in the level of environmental pollution in WBHE, Umuahia.

**Research**

s/n	ITEMS	Frequency and percentage of respondents						
		Yes	%	No	%	N/S	%	TOTAL
6	Churches in WBHE has not really emphasized to their members that dumping of refuse in gutters and street corners is sin against God and other people	534	59.3	102	11.3	264	29.3	900
8	People take issues seriously when they are emphasized in their Churches	660	73.3	54	6	186	20.6	900
9	If the Churches in WBHE formed groups that helped to ensure that refuse are dumped only in the places provided for it, this will reduce the amount of refuse dumped in gutters and street corners in WBHE	780	86.7	12	1.3	108	12	900
10	If Church leaders in WBHE reminded their members every Sunday not to dump refuse in the gutters and street corners, the amount of refuse dumped in gutters and street corners in WBHE will reduce	732	81.3	60	6.7	108	12	900
11	The Church always makes a positive contribution towards the development of the community and society	768	85.3	11	2	114	12.7	900
12	The Church should be part of the campaign of ensuring that refuse are dumped appropriately in WBHE since it promotes the wellbeing and development of the people	798	88.7	61	6.7	41	4.6	900
	<b>TOTAL &amp; AVERAGE %</b>	<b>4272</b>	<b>79.1</b>	<b>307</b>	<b>5.7</b>	<b>821</b>	<b>15.2</b>	<b>5400</b>

Table 3 associates Church members with environmental pollution. Table 4 will therefore make a link between the co-operation of Church leaders and members towards proper disposal of refuse in WBHE, Umuahia and the reduction of environmental pollution within this estate. Analysis of item 6 shows that 59.6 % of the respondents agree that the Church leaders do not emphasize to their members that dumping household refuse into gutters and street corners is illegal and hence a sin against God and humanity. If this is the case, it implies that Church members will likely stop dumping refuse into gutters or street corners in order to avert God’s displeasure towards them. If they know that they will likely attract God’s blessings

if they dumped their refuse appropriately, then such residents will do it. Analysis of item 8 shows that 73.3% respondents agree that many people take things seriously when they are communicated through their Churches. This justifies the need for Churches to be involved in the campaign for appropriate dumping of refuse in designated dumps. Those who will not take heed of repeated media advertisements against illegal dumping of refuse are likely to do so if their Church told them this repeatedly. Analysis of item 9 shows that 86.7 % of the respondents agree that illegal dumping of refuse will reduce drastically in WBHE, Umuahia if the churches in the estate formed groups that ensure that refuse are dumped appropriately. This high percentage confirms that majority of the residents of WBHE, Umuahia are Church members and that a good number of them are involved in illegal dumping of refuse within the estate. It also confirms that the co-operation of Church members is needed for the control of illegal refuse dumping in WBHE and the concomitant pollution of the environment. Analysis of item 7 shows that 81.3 % of respondents agree that a practical way to get the residents to dump their refuse appropriately is by telling them repeatedly to do so in their Churches. This demonstrates the need for Church leaders to keep telling their members not to dump refuse in gutters and street corners. Analysis of item 11 shows that 85.3 % of the respondents agree that the Church normally makes a positive contribution to the development of the society. This means that Church leaders and members can be involved in the reduction of the level of environmental pollution in WBHE, Umuahia as part of their positive contribution to the development of the society. Analysis of item 12 shows that 88.7% of the respondents agree that the Church should join in the campaign for stopping illegal dumping of refuse in WBHE, Umuahia since the Church promotes the wellbeing of the people. The whole items in this table point out the need for the co-operation of the Churches for the reduction of indiscriminate dumping of refuse in WBHE, Umuahia and concomitantly the reduction of environmental pollution within this estate.

### **Recommendations**

Based on the above findings and discussions, the following recommendations are made for the reduction of indiscriminate dumping of refuse in WBHE, Umuahia and concomitantly a reduction in the environmental pollution within the estate:

- Officials of ASEPA need to discuss issues of illegal dumping of refuse with Church leaders in WBHE, Umuahia and encourage them to be actively involved in the campaign for appropriate refuse dumping at the designated areas by residents of the estate.
- Church leaders need to teach their members that dumping of refuse in the gutter is illegal and hence a sin against God and humanity.
- Handbills on appropriate dumping of refuse produced by ASEPA need to be distributed in the Church by both officials of ASEPA, Church leaders and Church members so that Church members will know and appreciate

the need for both the Church and ASEPA to work towards reducing environmental pollution in their estate.

- A period of about three months should be set aside by the Churches and ASEPA officials for sensitisation of the residents on the need to dump their refuse legally. During this period, ASEPA officials could be allowed by the Church leaders to address their members on this issue. After ASEPA officials have addressed the members, Church leaders need to continue to remind the members in the subsequent Sundays of their need to comply with appropriate dumping of refuse in the estate.
- Those who dump refuse in gutters and street corners or other areas which are not designated for dumping refuse should be prosecuted if they continue to do so after the period of sensitisation for appropriate dumping of refuse.
- ASEPA officials need to ensure that they regularly carry away refuse dumped in the designated refuse dumps in order to encourage those who take their refuse to these designated areas to keep doing so.
- The Churches can form groups that evaluate the compliance of residents to dumping of household refuse in the designated areas as well as the prompt carrying away of these refuse by members of ASEPA. This way, both residents and officials of ASEPA will be encouraged to perform their duties

### **Conclusion**

This study demonstrates that indiscriminate dumping of refuse into gutters and street corners in WBHE, Umuahia contribute to environmental pollution within the estate. Those who do not dispose their household refuse in the ASEPA designated areas for refuse dump within this estate are breaking the environmental law and hence their activities are both inappropriate and illegal. Residents of this estate, who are mostly Church members, are the perpetrators of this inappropriate behaviour. This study demonstrates that Church leaders have not emphasised the dangers of inappropriate dumping of refuse to their members. There is therefore need for a co-operation between ASEPA officials, Church leaders and their members for an effective sensitisation of the residents of this estate on the need to dump their refuse appropriately. If this co-operation is achieved, the level of illegal dumping of refuse will reduce and hence this estate will be a cleaner and healthier place to live in.

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