ENVIRONMENTAL PRACTICES IN SELECTED COMMUNITIES AND IMPLICATION ON ENVIRONMENTAL SUSTAINABILITY IN A HEAVY INDUSTRIAL
ZONE IN NIGERIA

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Abstract

This research was carried out in the Onne-Okrika heavy industrial zone, to examine selected community environmental practices and the implication on environmental sustainability in a heavy industrial zone in Nigeria. The researcher adopted *ex post facto* approach, which is a non-experimental research approach. This design enabled the researcher to study the participants in their natural condition without any manipulation. A sample size of 250 was used in the study and simple statistical methods such as tables, means, percentages and five-point Likert scale were deployed to analyse and present the results. The parameters of community environmental practices examined were; waste disposal, waste recycling, carbon emission, destruction of vegetation and planting of trees. The outcome of the analysis of the data collected from the field, revealed that community environmental practices, with respect to the parameters of focus is at a low level of, sustainability. Consequently, it is recommended that. Efforts should be made to facilitate adoption and improvement on the environmental practices of the communities. This will include adequate awareness and sensitization of communities on how their practices impacts on the environment and ultimately, on them.

Keywords: Environmental sustainability, Industrial zone, Practices, Community, Implication.

1.0 Introduction

The environment is a source of sustenance for our increasing population, especially in the developing economies, where the communities and rural people largely get their source of livelihood from the primary sector. The adoption of environmental sustainability practices by communities is therefore imperative to preserve the quality of the environment and ensure that it supports the communities that depend on it for their sustenance. Sustainable

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development has been defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." The United Nations World Commission on Environment and Development (The Brundtland Commission, 1987). This definition is applied in defining environmental sustainability at any level.

Ben-Eli (2015) defined sustainability as a dynamic equilibrium in the process of interaction between a population and the carrying capacity of its environment such that the population develops to express its full potential without producing irreversible, adverse effects on the carrying capacity of the environment upon which it depends.

According to Reyes *et al.* (2006) environmental sustainability in community implies management of natural resources and environmental assets, such that their value is preserved, restored and enhanced for present and future generations; and such stewardship complements the community's efforts to foster economic and social health. It implies improving quality of life and standards of living without impairing the natural systems on which the community depends. This definition spots the environmental, economic and social dimensions. It also enhances strong basis for drawing implementation strategies for sustainability.

Community environmental sustainability practices comprises the ways and procedures communities interact with the environment, in the course of engaging in activities that provide their source of livelihood. Sustainability implies and demands that this interaction should be done in a manner that will support the present generation to meet their needs, without putting future generations in jeopardy to meet their own needs. Wolfgram (2006) stated that the sustainability practices of community people are expressed through their traditional modes of agriculture, which is their main source of livelihood.

1.1   Statement of the Problem

The environment has a carrying capacity, consequently, it cannot withstand our current consumption, production and other activities that has implication on the environment infinitely. The world's natural resources support all life and are the basis of all production. Continued growth in our consumption of natural resources is inherently unsustainable. An increasing population, globally, climate change may lead to widespread hardship, species loss and sea-level rise, increase in use of energy mainly gotten from nonrenewable resources such as gas, coal and oil that will continue to create emissions that contribute to global climate change and local air quality problems. There is also the problem of ecological loss in diversity may cause ecological instability and reduce the number of species available for medical, economic or other uses. Economic activities producing economic output of goods

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and services use up most of the earth's natural product Lack of balance will collapse natural and possibly social systems (Reyes *et al*., 2006).

1.2   The Study Area

1.2.1.   Location and Boundaries

Eleme Local Government area is about 120 square kilometers and has contiguous land boundary with Elelewo in the West, Oyigbo in the North, Ogoni in the East and a mangrove swamp boundary with Okrika in the South. Okrika comprises settlements and towns, bordered by Ikwerres in the north, the Ibanis in the south, the Ogonis in South-East, the Kalabaris in the west, and Eleme in the east (Philip, 1989). Elelenwo is bounded on the south by Eleme, on the west by Oginigba and Woji; on the north by Oil Mil Market, and on the east by Iriebe. The coordinates of the area is 4°50′13″N 7°4′12″E.

1.2.2   Ethnic Origin and Culture

Eleme is referred to as Mboli and comprises Nchia and Odibo towns. The language spoken is called Eleme. Koniju and Ekerekana-ama, are Okrika villages of the Ijo (Ijaw) people in the mangrove swamps of the eastern Niger River delta. They are split into Tuboniju, (traders) and Koniju (fishermen). Elelenwo are Ikwerres in Obio-Akpo Local Government Area of Rivers State. Cultural institutions are very strong and headed by a Chief or family head. Traditional activities in the area have a spiritual side that is effected through rituals and sacrifices, performed in sacred places. Cultural parameters also include marriage ceremonies, dressing, language and religion. Mbonu-Amadi (2019), said the Okon-Esaa, or 'Yam Title Festival', is one the identities of Eleme people.

1. 2.4   Commercial Activities

Commercial and industrial activities in the area reflect their occupation, thus people either farm, fish, work for government or do business. Chinda (2017) stated that Eleme traded with Elelenwo at Odulukwu market. The area has various industries and institutions. According to Obele-Oshoko (2017), industries in the study area include; Port Harcourt Refinery, Nigeria Ports Authority, Oil & Gas Free Zone Authority, Indorama (Eleme Petrochemicals Company) and Notore Chemical Industries Plc.

1.2.5   Environmental Condition, Vegetation and Wildlife

The area is not environmentally homogenous due to its topography. There are several outlets, streams, larger rivers and creeks. There are forests along the banks of the rivers, which have grown into secondary 'vegetation of palm oil trees and mangroves, with seaweed and some

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open farmland. Swamp, forest and farmland, offered the area with different economic activities (Megwa, 2007).The study area lies in the riparian lowland forest with a two-layer canopy nature and a low-lying flat terrain that have seasonal flooding. Wildlife in the area includes grass cutter, porcupine, giant rat, snails, squirrels and birds.

2.0   LITERATURE REVIEW

2.1   Conceptual Framework

A conceptual framework, which is the intent of this paper, supports understanding of an issue or area of study, provides structure, communicates relationships within a system for a defined purpose, and supports decision making and action (Phaal, Farrukh & Probert, 2004). The origin of the sustainability concept is traced to the club of Rome report titled "Limits to Growth" published in the early 1970s; the Brunt-land Report titled our common future published in the 1980's and the Agenda 21, a declaration of the Earth Summit held in Rio de Janeiro in 1992 are significant contributions to the development of the subject of sustainable development. Sustainability has become the central focus today. For researchers and policy makers, it has remained a catch phrase. It echoes notes of intergenerational equity in environmental resource utilization (Ogboru & Anga, 2015).

According to Peter, Kazi and John (2008) conceptually, sustainability explores the relationship among economic development, environmental quality and social equity. This concept has been gaining recognition since 1970, when the international community first explored the connection between quality of life and environmental quality at the United Nations conference on human environment in Stockholm.

2.2   Environmental Sustainability

Environmental sustainability entails conscious attitude, behaviour or character and approach towards the self and one's environment (Adebimpe & Kayode, 2001). It takes cognizance of population, sustainable yield, sustainable waste disposal, and competitive development and industrialization. Brennan (2009) citing Dillard *et al*., (2009) stated that "Sustainability is considered to comprise three overlapping goals: (a) to live in a way that is environmentally sustainable or viable over the long term; (b) to live in a way that is economically sustainable, maintaining living standards over the long term; and (c) to live in a way that is socially sustainable, now and in the future.

Schmitz *et al*., (2019) are of the view that community is the focal point for establishing a commitment to environmental sustainability and community is seen as central for environmental sustainability. Sustainability is important in a global context as it helps in

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reconciling the process of consumption and production. Environmental sustainability also opens new approaches to sustainability and potential use of innovations as a way to transform communities through environmental responsibility (Monaghan, 2009)

Stanley and David (1999) stated that sustainability considers the appropriate balance of resource use and renewal within ecosystems as a key aspect. This is because it is not all resources that are renewable. There are limits to the use of resources, such as the amount of water that can be withdrawn from local rivers and aquifers or the amount of pollution that can be absorbed by the local air shed. Maintaining a balance between utilizing and replenishing natural resources ensures sustainability. They often serve to bond residents together and provide the basis for accepting long term solutions over short term remedies which is critical to sustainability. Arora (2018) declared that Environmental sustainability is one of the biggest issues facing mankind at present. Increase in population and anthropogenic activities have raised several questions on the sustainability of natural resources in our society. Kreiner and Franco-García (2019) stated that stakeholders of an industrial zone include the local communities that expect jobs creation, corporate citizenship, social responsibility, and environmentally sound operations.

Morelli (2011) stressed that a sustainable environment is a necessary prerequisite to a sustainable socioeconomic system, then it also should make sense that the actions we take to remove threats to and foster environmental sustainability should contribute to such a system. He described sustainability as a condition of balance, resilience, and interconnectedness that allows human society to satisfy its needs while neither exceeding the capacity of its supporting ecosystems to continue to regenerate the services necessary to meet those needs nor by our actions diminishing biological diversity.

2.3   Adoption of Environmental Sustainability Practices

Practices which are effective in improving and changing society and quality of life and which are socially, economically and environmentally sustainable are defined as 'good practices' (Chinapah & Blom, 2013). In any initiatives for rural transformation and as a criterion, a 'good practice' must consider whether the practice is environmentally, economically and socially sustainable; "A good practice, in addition, must meet the criterion that: equity and sustainability be mutually reinforcing, while supporting human capabilities; the transformative process of rural life and people to be in the path towards empowerment and agency; and ultimately, to overcome poverty and improve the quality of life and environment (Chinapah & Grinberg, 2015).

Mazmanian and Kraft (2009) echoed the importance of community participation in pursuing sustainability. They submitted that community sustainability requires a "community of communities." This also implies that collaboration is needed to enhance attainment of sustainability. According to Amechi (2010) a high proportion of poor population live in the rural areas which has the largest biodiversity of the Nigerian environment. This puts the environment under pressure from people who are themselves too impoverished to protect and adopt   sustainability practices as they engage in their activities of sources of livelihood. Unfortunately, the environmental degradation that results from such unbridled usage, as a result of poverty, becomes a factor of poverty itself. This is because environmental degradation and poverty are intrinsically intertwined. The consequence of this linkage is the vicious circle in which poverty causes the degradation of the environment and the resulting degradation in turn causes poverty.

Hynes and Wang (2012) opined that sustainability practices have potential economic and social impacts that are very imperative for mitigating the extent of environmental degradation and natural resources usage, especially in developing countries. They stressed the need to embrace practices that promote environmental sustainability. It is on this premise that the concept of sustainability practices emerged, as a new paradigm to reframe the usual operational pattern, which places so much emphasis on economic gains, without considering the environment.

3.0.   METHODOLOGY

3.1   Materials

The research instrument used to collect primary data for this study is structured questionnaire. A total of 250 copies of the structured questionnaire were administered by the researcher and his research assistants. The data collected were presented and analysed with table, simple percentage, mean score and five-point Likert scale.

3.2   Research Design

The researcher adopted *ex post facto* design in this research. This research method is suitable for this study, as the study does not require any experimentation or manipulation of the participants, but   examine them in their natural condition.

3. 2.1   Population and Sampling

Participants covered in this research, were drawn from the population of the host communities in the heavy industrial zone. The immediate communities comprise; Onne, Alode, Agboncia, Alesa, Aleto in Eleme local government area, Koniju, Ekerekana-ama and

Abam in Okrika local government area and Elelenwo in Obio-Akpo local government. The researcher obtained their respective census figures as at 1991 (NPC, 1996) from the National Population Commission and projected same to 2020, using the widely accepted geometric approach. given as $P = P_o \; x \; (1+r)^t$.

Table 3.1:   Population of the Communities

Table 3.1 shows results of the population project from 1991 to 2020, using the geometric approach. However, there was no record of Koniju and Ekereke -Ama population figures.

S/N	Communities	LGA	Population (1991)	Projected Population (2020)
1	Agbonchia	Eleme	9,327	36,818
2	Akpajo	Eleme	5,196	20,511
3	Aleto	Eleme	6,376	25,170
4	Alesa	Eleme	7,508	28,277
5	Onne	Eleme	11,829	46,694
6	Alode	Eleme	6.060	22,822
7	Elelenwo	Obio-Akpo	3,275	12,928
8	Abam	Okrika	2,665	10,036
				203,256

Source: *National Population Commission (1996)*

3.2.2   Sampling Technique

The Eleme industrial zone which is the study area in this research is a heavy industrial zone, with many host communities. In pursuant to the aforementioned, the researcher used multi stage sampling technique that also involves purposive sampling and random sampling techniques. According to Tashakkori and Teddlie (2003) purposive sampling technique enables researchers to achieve representativeness in research.

3.2.3.   Selection of respondents

In line with the design chosen for this study, the sampling method considered suitable for this study was the multi stage sampling and the random sampling techniques. The first stage was the purposive selection of the host communities to the heavy industries in the zone; this was followed by the random selection of respondents from the host communities. The above selection method ensured that the researcher covered the diverse elements in the communities that will reflect maximum variation in the sampling process.

3. 2.4   Sample Size

The communities covered were spread in three local government areas of River State. The actual sample size for this study was a total of 250 respondents from the communities. . There is no generalisation of what the sample size would be (Ede, 2009). The sample size for this study was determined with Cochran's formula as follows;

Sample size = (Z-score)^2 x Std Dev x (1- Std. Dev) / (Margin of error)^2

$$n_o = \frac{Z^2 pq}{e^2}$$

3.3   Data Analysis

3.3.1   Data Analysis and Results

Data analysis enabled the researcher to go from a mass of data and arrive at meaningful insights (Bhatia, 2018). The data collected, were analysed with suitable statistical tools that produced accurate results that supported authenticity and made the research findings usable, insightful and actionable. Consequently, the researcher used; tables, averages, percentages and five -point Likert scale.

Table.3.2   Community Questionnaire Distribution & Retrieval

Table 3.2 shows number of questionnaires distributed communities and retrieved.

Communities	Distributed	Distributed Percent	Retrieved	Retrieved Percent
Agboncia	25	10%	24	9.6%
Akpajo	25	10%	20	8.0%
Alode	25	10%	24	9.6%
Alesa	25	10%	24	9.6%
Aleto	25	10%	21	8.4%
Onne	25	10%	25	10%
Elelenwo	25	10%	24	9.6%
Abam	25	10%	23	9.2%
Ekerekeama	25	10%	25	10%
Koniju	25	10%	24	9.6%
	250	100%	234	93.6%

Source: Field Survey, 2021

The table shows that a total of 250 questionnaires were distributed equally among the 10 host communities covered. A total of 234 out of the questionnaires distributed were retrieved for analysis. This implies that the researcher achieved a retrieval rate of 93.6%.

Table 3.3:   Waste Management Practice by   Communities

Assessment of waste management (disposal) practices by the respondents in the communities is shown in Table 3.3 below.

Waste Management	Frequency	Percent	Cumulative Percent

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Dump by the road	32	13.7%	9.0%
Bag and drop at dumpsite	135	57.7%	69.8%
Bag for waste collectors	38	16.2%	86.9%
Dump in river, stream or drainage	19	8.1%	95.5%
Segregate and dispose	7	3.0%	98.6%
No Response	3	1.3%	100.0%
Total	234	100.0%	

Source: Field Survey, 2021

Assessment of the waste management practices adopted by communities shows that 32 (13.7%) of the respondents dumped their waste by the road, 135 (57.7%), bagged and dropped at dumpsite, 38 (1)6.2% bagged their waste for waste collectors, while 19 (8.1%) dumped their waste in the river, stream or drainage. About 7(3.0%) segregated and disposed their wastes. However, 3 of the participants did not respond.

Table 3.4: Recycle or Reuse of Wastes (Community)

Assessment of waste recycling and reuse practices by the communities was conducted and shown in Table 3.4

Option	Frequency	Percent	Cumulative Percent
Yes	64	27.4%	27.5%
No	168	71.7%	99.1%
No Response	2	00 9%	100.0%
Total	234	100.0%	

Source: Field Survey, 2021

Assessment was done with simple Yes or No question. The response indicated that 64 (27.4%) of the respondents recycle or reuse wastes, while 168 (71.7%) do not recycle or reuse the wastes they generate. However, 2 (9%) did not respond. Some of the items recycled or reused were; plastics, papers, waste oil, glass, aluminum/metal containers.

Table: 3.5 Likert Analysis of Community Environmental Practices

Table 3.5 below shows five-point Likert scale analysis of environmental practices in the communities.

Communities Practice Destroy Vegetation						
Likert Scale	1	2	3	4	5	6
Frequency	17	22	27	99	62	3
Percentage	7.3%	11.1%	11.5%	42.3%	26.5%	1.3%
Community not interested in Tree Planting						
Likert Scale	1	2	3	4	5	6
Frequency	5	18	34	112	62	2

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Percentage	2.1%	7.7%	14.5%	47.9%	26.5%	1.3%
Community Aware of Energy Saving Appliances						
Likert Scale	1	2	3	4	5	6
Frequency	13	53	54	83	28	3
Percentage	5.6%	22.7%	23.1%	35.5%	12.0%	1.3%
Use of Energy Saving Devices by Communities						
Likert Scale	1	2	3	4	5	6
Frequency	11	57	53	80	29	4
Percentage	4.7%	24.4%	22.6%	34.2%	12.4%	1.7%
Community Practice Open Bush Burning						
Likert Scale	1	2	3	4	5	6
Frequency	14	20	31	102	61	6
Percentage	6.0%	8.5%	13.2%	43.6%	26.0%	2.6%
Use of Poorly Maintained Engines/Equipment by Communities						
Likert Scale	1	2	3	4	5	6
Frequency	11	45	42	100	30	6
Percentage	4.7%	19.2%	17.9%	42.7%	12.8%	2.6%

Source: Research Survey, 2021

Table 3.6: Interpretation of Likert scales

The table below (legend) interprets the five-point Likert scale.

Likert scale	1	2	3	4	5
Interpretation	Strongly disagree	Disagree	Neutral	Agree	Strongly agree

Source: Research Survey, 2021

Decision Rule; factor whose mean falls between 1.0 – 1.79 is strongly disagree, 1.80 – 2.59 is disagree, 2.60 – 3.39 is neutral, 3.4 – 4.19 is agree and 4.2 – 5.0 is strongly agree.

Table 3.5 illustrated the result of five-point Likert scale assessment of community practice on preservation of natural vegetation. The table shows 17 (7.3%) of the respondents strongly agree that communities destroys the natural vegetation, 26 (11.1%) disagreed that they destroy the natural vegetation, 27 (11.5%) are neutral, while 99 (42.3%) agreed that communities destroy the vegetation. In addition, 62 (26.5%) strongly agreed that communities destroy vegetation, about 3 respondents did not respond. The factors' mean for the analysis was 3.71, thus from the decision rule, majority of the respondents agreed that communities' practices in the communities destroys vegetation.

Table 3.5, illustrates results of Likert analysis, to determine if communities practice planting of trees. From the results obtained, 5 (2.1%) strongly disagreed that communities plant trees except crops, 18 (7.7%) disagreed that communities plant trees to preserve vegetation, while

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34(14.5%) respondents were neutral In addition, 112 (47.9%) respondents agreed that communities plant trees, to preserve the natural vegetation, while 62 (26.5%) strongly agreed that communities were not interested in planting trees. except such trees are crops. However, 3 respondents did not respond. The mean of the factors of 3.90 and the adopted decision rule of the analysis indicates that communities in the study area are not interested in planting trees to protect the vegetation.

Analysis to determine energy saving practices in the communities shows that 13(5.6%) strongly disagreed that they were aware of energy saving appliances, 53(22.7%) disagreed that they had awareness of energy saving appliances, while 54 (23.1%) were neutral and 83 (35.5%) agreed to have awareness of energy saving appliances. In addition, 28 (12.0%) strongly agreed that they were aware of energy saving appliances. However, 3 respondents did not pick any option.

The factors of 3.26 and the decision rule adopted indicates that communities were neutral on awareness of energy saving appliances. Assessment on use of energy saving devices by the communities 3.1 showed that 11 (4.7%) strongly disagreed to using energy saving devices, 57 (24.4%) disagree to using energy saving devices, while 53 (22.6%) participants were neutral. Similarly, 80(34.2%) agree that they use energy saving devices and 29(12.4%) strongly agree that communities used energy saving devices. However, 4 of the respondents did not respond. The mean of the factors of 3.26 and the decision rule adopted indicates that communities in the study area were neutral on practicing use of energy saving appliances.

Assessment on emission control was carried among the communities and illustrated in Table 3.1. The results suggested that 14 (6.0%) strongly disagreed to practicing open bush burning, 20 (8.5%) agreed that they practice open bush burning, while 31 (13.2%) were neutral and 102(43.6%) agreed to practicing open bush burning. In addition, 61(26.0%) strongly agreed that communities practiced open bush burning. However, 6 (2.6%) respondents did not indicate any choice. The mean of the factors of the Likert Scale was 3.83 and from the decision rule, the communities agreed that they practiced open bush burning, which is a source of emission to the environment.

The researcher investigated the use of poorly maintained engines and equipment by the communities in the study area, as a possible cause of gas (carbon) emission in the zone. From the Likert scale analysis carried out as presented in Table 3.1, 11 (4.7%) strongly agreed that they used poorly maintained engines and equipment, while 45 (19.2%) agreed that they used

poorly maintained engines and equipment. The result also shows that 42(17.9%) were neutral, while 100 (42.7%) agreed that they used poorly maintained engines and equipment. In addition, 30 (12.8%) strongly agreed that communities in the study area use poorly maintained engines and equipment, while 6(2.6%) respondents did not respond to this assessment. The mean of the factors of the Likert analysis is 3.41. The decision rule suggests that poorly maintained engines and equipment, which were sources of gas emission, were predominantly used by communities in the study area.

3.3.2. Results and Discussions

The parameters of community environmental sustainability practices considered in this study were; waste disposal, emissions, energy reduction, destruction of vegetation and use of poorly maintained equipment. The researcher collected, analyzed and presented data on the community practices on these parameters. The outcome of this object shows that;

The waste management practices adopted, showed majority of people in the communities as accounted for by 57.7% of the respondents, bag and drop their waste at dumpsite, 16.2% use waste collectors, 8.1% dumped in river, stream or drainage, while 3.0% segregate and dispose their wastes. The communities do not practice substantial level of waste recycling, as only 27.4% of them recycle or reuse wastes, such as; plastics, papers, waste oil, glass, aluminum and metal containers. The results suggest that some people in the communities, dumped their wastes in open water bodies and drainage. Very few people practice the use of waste collectors, to dispose their household wastes. Also, the practice of recycling and reusing household waste is still very poor among the communities. This implies that large quantity of household waste still enters the waste stream.

Finding on destruction of vegetation, showed that communities engage in practices that destroyed the natural vegetation in the study area. This was usually done for development purposes; they sell a sizeable proportion of their forests and vegetation to industrial and domestic developers. There is high rate of land take in the area. This finding agrees with Obayelu (2014) citing Nest (1992) stressed that there is loss of forest cover due to activities such as farming, construction, and reckless destruction of forests). According to him, this also causes scarcity of natural resources from environmental degradation, with loss of habitat as the major factor contributing to the depletion of these natural resources.

In addition, communities in the area do not practice planting of trees, except some who plant economic trees and cash crops. Most people in the communities are not aware that vegetation has carbon sink value. This result corroborates Onyekwelu (2017) in his finding that people

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in semi-urban areas are interesting in planting fruit trees. Onyekwelu further buttressed this finding by avowing that in the semi-urban areas, planting of trees for food/cash crop was overwhelming.

On assessment of energy saving practices in the communities showed that the communities were neutral (average) on both having the awareness and adoption of energy saving practices. The practices considered were use of energy saving (LEDs) devices and putting off energy appliances, when not in use.

The researcher found that communities engage in practices that cause carbon emission in the zone, as there is predominance of open bush burning and use of poorly maintained engines among the communities. These practices cause emission of carbon and oxides of carbon to the environment. This finding aligns with Israel, Amikuzuno & Danso-Abbeam (2020) who implied that bush burning as part of land preparation and tree cutting were the most common emission practices among households in community. Also, it was inferred from Enemari (2001) that maintenance is crucial to efficient engine performance and well-maintained engine is fuel-efficient and generates minimal emission. Sustainability practices among the communities are poor and low. This finding agrees with Waziri, Yusof and Osmadi (2015) who avowed that 'sustainability practices' adoption in Nigeria falls below international standard.

CONCLUSION

This research was carried out to examine selected environmental practices of community people in the heavy industrial zone, with the intent to spotlight the implication of these practices on the sustainability of the environment. in the area. Some key parameters of environmental sustainability practices such as; waste management (solid waste disposal), Tree planting, destruction of vegetation, carbon emission through open bush burning and use of poorly maintained equipment/engine, energy consumption etc. The results revealed that environmental sustainability practices on the selected activities by communities is inadequate and needs improvement. Following the results and findings of this study, the following recommendations are made as follows; communities should be adequately sensitized on the implication of their activities and practices on the environment and man, including them. They should be educated on environmentally sustainable options and practices. It is also recommended that incentive should be introduced to encourage the adoption of environmental sustainability practices by communities. This becomes imperative to ensure an environment that can support the present and future generations.

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