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### WOMEN CONTRIBUTIONS TO SUSTAINABLE ENVIRONMENTS IN NIGERIA

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#### ABSTRACT

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The number of people on the earth, their distributions across the globe, consumption pattern and technologies they use, determine their relevance on the environment. That is, man uses the environment as a resource bank, a habitat and as a sink for wastes. But to correct the ills of the environment, we need to know and understand the environment. To understand the environment, we need to study it. To study the environment with the required precision, we need effective techniques. However, in the world of finite and non-renewable resources, the need to maintain our environment in a sustainable way cannot be overemphasized. This is even more crucial in settings where poverty, population pressure, vagaries of weather, etc. have meant increasing demand on the environment. In particular, societies, such as Nigeria, women are the traditional custodians of the environment their roles are hardly documented nor appreciated. Consequently, most measures that are designed to ameliorate, mitigate and reverse the deleterious impact of man on his environment tend to by-pass women. The very low level of successes of 'man-centered intervention projects' does not match the resources expended. To succeed, they need to appreciate the important role of gender relations, in particular women, in the maintenance and sustenance of the milieu as the home of man will loom large. This critically demands a radical departure from the current status quo to a system that places women at the nexus of environmentally friendly measures. In this paper; a framework for the documentation and appreciation of the contribution of women to a myriad of environmental problems is put forward. This framework appreciates the 'place' to wit, the socio-cultural and physical milieu that women have to grapple with in foresting healthy environmental management in Nigeria. There is, therefore, need for environmental security for future generations especially as the global environmental change affects the capacity to achieve sustainable development.

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## INTRODUCTION

Empowering women is empowering our future; housing women is housing our future and educating women is educating the next generation (Raimi *et al.*, 2019). Schematically, the world resources are natural treasures with multiple benefits. Unfortunately, centuries of human population inhabitant, technological development, unsustainable exploitation and mismanagement of living and non-living resources has been shaped and reshaped largely by activities of nature and of man and have threatened and degraded the characteristics of the global community. There is a long litany of man's misuse of his environment, rooted in the growing evidence that the situation has deteriorated dramatically over the past decade. The conflict appears to have intensified, creating concern for the environment that we may be pushing ourselves to the brink of a global disaster. Interestingly, the earth is the home of a man and in turn nurtures man and his myriads of activities, which apparently increases the features of life particularly in the latter half of the twentieth century and the growing interdependency of the global village (Raimi *et al.*, 2019). This trend towards a smaller, more accessible and interrelated world which has justifiably led to many different areas of concern, one of which pertains to the environment as a major public issue (Raimi, *et al.*, 2019).

Conversely, the problem of environmental degradation has arisen as a result of lack of discipline in Man. Meanwhile, Nigerian environment is threatened largely by man-made disasters and have seen the recurrent problems of oil spillage, deforestation, desertification, overpopulation, biodiversity depletion, erosion, perennial solid wastes pollution, water pollution, flooding, air pollution, global warming, and salinization, etc. According to professor Petters "our inability to mitigate environmental and man-made ecological problems such as desertification, soil erosion and infertility, crop pests, deforestation, wildlife extinction, flood and destructive storms, water scarcity and waste disposal arises from the fundamental problems of

poverty and poor environmental management" (<https://www.worldwildlife.org/threats/soil-erosion-and-degradation>). However, there is a global belief in many parts of the world today that environmental problems have reached a "crisis level" and have consequently constituted a dangerous threat to human survival and sustainable development (Ayuba and Dami, 2011; Olalekan *et al.*, 2019). Moreover, there is no gainsaying the obvious that uncontrolled human activities are putting significant stress on the earth carrying capacity thereby creating serious environmental problems (Olalekan *et al.*, 2019). Over time humans have always depended on the immediate external milieu for their need for food, shelter, water, air, comfort peace, etc. However, the spiral increase in human population enhanced appetite for consumption and sophistication and unprecedented breakthroughs in science and technology have meant deleterious consequences for the repository environment. This is particularly precarious in developing countries whose environmental problems are compounded by poverty, inequalities, inequities, injustices, ignorance, globalization and skewed gender relations (Ayuba and Dami, 2011; Olalekan *et al.*, 2019).

The boomeranging effects of a denuded environment on the general well-being of the human population are huge and costly. Consequently, there is a growing awareness of the need to depend on the environment in a sustainable manner. However, in Nigeria, the myriad of intervention measures seems to have bypassed over 50 percent of women of the population who are in the traditional environment. The low levels of success recorded do not match the resource expended and the need to appreciate and factor-in women in the conception, planning, implementation and monitoring of environmentally friendly policies measures which can therefore not be overemphasized. In this paper, the role of women in the sustainable environmental drive is put forward. The remaining part of this paper is divided into six sections respectively dealing

with (a) The concept of sustainable environment, (b) The idea of gender relations, (c) Women in Development (d) The structure of environment problems in Nigeria, (e) Contribution of women to sustainable environment, (f) The framework for action and (g) Conclusion.

### **The Concept of Environmental Sustainability**

Sustainability is about increasing opportunities, not limiting them and is a luxury which emerging market cannot afford. It is about ensuring long term business success while contributing towards economic and social development, a healthy environment and a stable society. Sustainability is sometimes described as “people”, “planet” and “profits” or the “social”, “economic” and “environmental” dimensions. The need for businesses to address all three has been encapsulated in the concept of the “triple bottom line”. Addressing environmental and social issues early on can often boost both the profitability and the environmental and social benefits of environmental investments. While there may be many benefits of environmental sustainability in the global community, one of the emerging principal concerns lies in the area of sustaining human health.

Sustainability has recently been viewed as a vital attribute of the environment because of its practical and theoretical ramifications (Baumol and Oates, 1988 cited in Jimoh, 2003). However, no common viewpoint exists amongst environmentalists as to the precise meaning of a sustainable environment (IIED, 1987 cited in Jimoh, 2003). Consequently, the concept of a sustainable environment has proved complex and has often been discussed in vague terms. This seems to be the direct result of our failure to evolve a universally acceptable definition of environment and sustainability in the first instance. However, for the purposes of this paper, it suffices to conceptualize the environment as encompassing the natural, climatic, topographic and biophysical domain which supports human and other life-forms in their efforts to thrive and survive (Pedersen, 1996). For a thorough understanding of the sustainable environment,

this paper draws freely on the sister concept of sustainable development.

According to the Brundtland Report, sustainable development is defined as “development which meets the needs of the present without compromising the ability of future generations to meet their own needs”. Clearly, the concept of sustainable development has implications for the way economic progress is recorded by not just profit and loss but also by resource accounting (Pearce *et al.*, 1988 cited in Jimoh, 2003). The goals of sustainable development critically include:

- [1] Changing the quality of growth so that growth is more sustainable.
- [2] Reviving growth in areas where it is needed
- [3] Meeting essential needs for jobs, food, energy, water, and sanitation.
- [4] Ensuring a sustainable level of population
- [5] Conserving and enhancing the resource base
- [6] Re-orientating technology and managing risks adequately
- [7] Merging environment and economics in decision making (Pearce, *et. al.*, 1989 cited in Jimoh, 2003).

Although the goals are mute on the imperative of gender equity and justice for sustainable development, they are closely related to the concept and ideals of a sustainable environment. For this discussion, “sustainable environment” would mean constructive dependence on the natural climatic, topographic and biophysical domain which support human and other life forms in their effort to thrive and survive without compromising the ability of future generations to meet their own needs (Ayuba and Dami, 2011). Initial environmental management was conceived as a means for dealing with the consequences of man’s exploitation of environmental resources control of adverse human activity on the ecosystem and to optimize human use of the environment. Sustainable development, therefore, demands the harmonization of socio-economic, technological and ecological factors in the process of exploitation of environmental resources. Implicit in this definition are the ideas that humans can

hardly do without the environment. Furthermore, in a world of finite and non-renewable resources and unprecedented consumerism, the real challenge is for a current generation not to do violence to the environment they intend to bequeath posterity (Ayuba and Dami, 2011). This demand the collective efforts of all and sundry, including man and woman.

### **GENDER RELATIONS AND THE ENVIRONMENT**

Sustainable Development Goals (SDGs) could be a turning point for gender equality; While the world is way off track to meet a 2030 deadline for achieving gender equality, with not one country having reached the 'last mile'. Nearly 40% of girls and women of about 1.4 billion live in countries graded "very poor"; another 1.4 billion in countries graded "poor". Only 8% of girls and women live in countries ranked "good". No country including Nigeria achieved an "excellent" score, while the global average was "poor". Critical to this exposition is the concept of gender itself (www.undp.org, www.indiaenvironmentportal.org.in). To wit, the idea that distinctions between masculine and feminine are socially and culturally created and thus subject to change, rather than being immutably based on biological differences (Monk, 1994). Globally, gender distinctions reflect complex interactions of economic, ecological, ideological and historical circumstances particularly in Nigeria, women are the farmers, hewers of fuelwood, water haulers yet they are repeatedly ignored by sustainable environmental projects which assume these tasks are men's work. Consequently development, industrialization, urbanization, etc. often means declining access of women to productive lands. Further, women are excluded from education on modern innovations and technologies. The environment has symbolic and material connotations that are gender-specific. For instance, various backwash effects of a denuded environment impact women profoundly. The many negative effects of development on women have been widely reported (Dankiman and Davidson, 1988 cited in Odoemena and Egwali,

2006). For example, in most parts of the Niger Delta region of Nigeria, the major challenge of survival is the provision of good quality (potable) water because of environmental pollution and degradation. In most cities, towns, and villages in this region, valuable man-hours are spent on seeking and fetching water of doubtful quality to meet specialized needs (Olalekan *et al.*, 2018). Albeit only recently are women's efforts to address environmental deterioration acknowledged (Johnson, 1994). The success stories of Women's activism in the Chipko forest preservation efforts in India, the Green Belt Movement initiated by Kenya's National Council of Women and AFOTEC Projects based in Dakar which used indigenous techniques (Dauber and Cain, 1981 cited in Odoemena and Egwali, 2006), in afforestation, water resource management, health and literacy programs demand the placement of women at the nexus of sustainability environment efforts.

### **WOMEN IN DEVELOPMENT**

The framework was advanced or developed with the sole purpose to advance development in developing countries. However, its subordination concerns remained central to the women's movement in many northern countries. WID had the primary motive of improving the status of women by given attention to their roles and integrating them into the economy. The essence is also to enhance the productive roles and capacity of women. The origin of women's subordination was linked to their exclusion from the marketplace. It was therefore argued that if women were given the opportunity to be actively involved in the productive sphere, they will no doubt, contribute meaningfully to development. By implication, they will make a contribution to positive development and also advance their status in relation to the status of men (Razavi & Miller, 1995). WID refused to accept the restrictive and narrow view of women's roles (as mothers and wives) surrounding most of the development policy in relation to women. Rather than referring to women as mere needy beneficiaries, WID assertions push forward arguments that properly portray women as

inspiring and productive in the societal scheme of things. No longer, therefore, should women be considered as inactive recipients of welfare-oriented programs but rather as active participants and contributors to the enhancement of society economically. This implies that women contribute to the economic development of countries. Women can, therefore, be regarded as a missing link in developmental actions and activities, a hitherto less valued economic resource in the development chain (Razavi & Miller, 1995).

### THE STRUCTURE OF ENVIRONMENTAL PROBLEMS IN NIGERIA

As a prelude to the appreciation of the role of women in fostering a sustainable environment, this section considers the major environmental problems in Nigeria. The presentation though simple focuses on those environmental problems that are difficult to reverse once set in motion by harmful practices. They include Deforestation, Desertification, Soil, Water, Air, Industrialization, Mine, Extraction and Urbanization problems, etc.

**Deforestation:** Are a complex environmental problem and its consequences manifesting themselves in several forms (Bowander, 1986 cited in Odoemena and Egwali, 2006). These include erosion, flash floods, reduced streamflow, drought, fuelwood scarcity, sedimentation, and microclimatic changes. Other effects are the extinction of species, loss of fixed carbon and reduced capability of the soil to store water which makes the farming systems extra sensitive to droughts (Bowonder, 1981, Agarwal *et al.*, 1987a cited in Odoemena and Egwali, 2006). Deforestation is caused by indiscriminate felling of trees for fuelwood, clearing of forests for plantations, shifting cultivation, and lumbering, grazing and importantly poor efforts at forest regeneration (Ayuba and Dami, 2011). Deforestation major environmental problem in many developing countries where up to 11.3 million hectares forests are lost annually (FAO, 1983 cited in Richard and Goodluck, 2003). In Nigeria, fuelwood exploitation in both the rainforest and savanna region is unsustainable as

people do not plant trees to replace those removed. It is intricately tied to poverty and deforestation is at the rate of 500,000 hectares per annum (Akintola *et al.*, 1996). According to the FAO, the average annual production of fuelwood for the period 1987-1973 was 89.5 million cubic meters. Chopping down trees has been considered one of the reasons why lightning strike with fatality. Lightning occurs when electrical charges that form in the clouds build up increasing the attraction between negative charges within a cloud or different clouds.

**Desertification:** This is the process whereby productive arid and semi-arid land is rendered economically unproductive. It is desert expansion, desert creeps and usually end up in aridity. It involves interaction among human being, land and climate (Ayuba and Dami, 2011). UNCCD, 1994 define desertification as land degradation in arid, semi-arid and dry sub-humid area resulting from various factors including human activities and climatic variations or resulting from adverse human impact or is the degradation of land caused primarily by climatic variations and human activities including political instability, deforestation, overgrazing, and bad irrigation practices. All these contributed to decreasing soil fertility and land productivity. It is noticeable that the desert creeps into the land area at the rate of 6 million hectares per year. As a result, one of the alarming features of the last two decades has been the growing desertification of several regions in the developing world, the most noticeable being the Sub-Saharan region (Ayuba and Dami, 2011). While the loss of biological diversity and human suffering are the most apparent manifestations of desertification, there may even be health consequences. Crop failure and loss of livestock often lead to malnutrition. Weakened bodies are then rendered susceptible to the ravages of hunger and disease. Although few diseases are specific to desertification, eye disease such as trachoma and other afflictions like bilharzia may be more prominent under conditions of desertification (Secretariat of the United Nations Conference on



Desertification, 1977 cited in Odoemena and Egwali, 2006). Furthermore, more than 11 million hectares of tropical forests are destroyed yearly in Africa. Although desertification is not the same as drought, it occurs in areas subject to frequent droughts especially in heavily populated areas or in areas where people and livestock cannot move quickly far from the stricken area. Areas that are subject to desertification are at high risk of drought. Since the Sahelian drought in the 1970s, desertification in northern Nigeria has been advancing southwards at an alarming rate (Ayuba and Dami, 2011). The possible role of the much talked about global climate is appreciated. But the impact of humans in accentuating environmental problems in this fragile ecological belt is considerable. This takes the form of overgrazing, over-farming, fuel exploitation, etc. Remarkably, 43% of Nigeria's landmass in the North is under severe desert threat and the Sahara Desert is moving southward at the rate of 1-5km yearly (estimate of the 1990s). BBC now gives the rate of 10km yearly, claiming thousands of square kilometers of arable land. Nigerian forest/vegetation cover is now less than 15% of which United Nations recommended cover is 25% (Raimi *et al.*, 2019).

**Soil Problems:** Three major types of soil-related environmental problems have been identified (Areola, 1990 cited in Ayuba and Dami, 2011, 2006). They are namely, soil deterioration, soil desiccation and accelerated soil erosion. Soil deterioration refers to the general lowering of natural fertility and consequently the productivity of the soil. In the Nigerian setting, it is brought about by repeated cropping, bush burning and exposure of the soil to intense insolation and heavy rains as a result of various human activities. Soil desiccation refers to a progressive drying out and hardening of the soil. It is an irreversible process manifested by the development of hard iron concretions, massive lateritic crusts and hard clay pans (Areola, 1990 cited in Ayuba and Dami, 2011, 2006; Henry *et al.*, 2019). However, soil erosion refers to the actual removal of soil particles by agents of denudation. In Nigeria, the

activities of water and wind in the removal of the topsoil and development of spectacular gullies have created serious environmental problems. Almost everywhere in Nigeria, human interaction with soil has led to one form of environmental problem or another. Importantly, their severity and spatial pattern tend to be the function of the intensity of population density, land use, and soil management practices in vogue.

**Air Pollution:** Air pollution is another serious environmental factor that can impact adversely on human health. Although it is dealt with as a national and global problem, it can quite easily pose transboundary problems, especially in areas of concentrated air pollution. Though pollution, much like wealth, is not distributed equally globally and it has enormous and widespread impacts on our health, and 7 million dies prematurely from air pollution every year; that's 18,000 deaths daily (www.who.int/news-room/detail/02/05/2018).

What's worse, 92% of people around the globe don't breathe clean air which is driven by fossil fuel usage that simultaneously drives climate change and contaminates our air. Nine out of ten people breathe polluted air daily (WHO, 2016). In 2019, air pollution is considered by the WHO as the greatest environmental risk to health. Microscopic pollutants in the air can penetrate respiratory and circulatory systems, damaging the lungs, heart, and brain, killing 7 million people prematurely yearly from diseases such as cancer, stroke, heart and lung disease. Around 90% of these deaths are in emerging countries, with high volumes of emissions from industry, transport, and agriculture, as well as dirty cookstoves and fuels in homes (Raimi *et al.*, 2018). The primary cause of air pollution (burning fossil fuels) is also a major contributor to climate change, which impacts people's health in different ways. Between 2030 and 2050, climate change is expected to cause 250 000 additional deaths per year, from malnutrition, malaria, diarrhea and heat stress (WHO, 2016; Raimi *et al.*, 2018). Furthermore, air pollution caused an estimated 8.8 million extra deaths in 2015, almost double previous estimates, and

more than the 7 million that the World Health Organization blames on smoking. The scientists used new data to estimate that nearly 800,000 people die prematurely each year in Europe because of dirty air and that each life is cut short by an average of more than two years. The health damage caused by air pollution in Europe is higher than the global average. Its dense population and poor air results in exposure that is among the highest in the world. Though, the estimates of early deaths varied significantly between countries (WHO, 2016; Raimi *et al.*, 2018). In Germany, there were 154 early deaths per 100,000 people, with an average reduction of 2.4 years in life expectancy. In the UK, there were 98 deaths per 100,000 and a cut in the lifespan of 1.5 years. Air Pollution from industries and automobiles (UNEP 1982, WHO 1984; Raimi *et al.*, 2018) is becoming severe in Nigeria. In particular, lead pollution from auto exhausts is very severe in most of our cities that are characterized by traffic hiccups. Although, researchers called for legislators in Europe and across the globe, where the death rate is higher than average, to focus on reducing the use of fossil fuels. "When we use clean, renewable energy, we are not just fulfilling the Paris agreement to mitigate the effects of climate change, we could also reduce air pollution-related death rates by up to 55%," says atmospheric chemist Jos Lelieveld.

**Industrialization:** The process whereby industrial activities comes to play a dominant role in the economy of a nation or a region. In economics, it is a condition marked by an increase in the importance of the industry to an economy. It describes the transition from an agricultural society to one based on industries. During this process, per capital income raises and productivity levels increases. The process of industrialization usually includes a movement from rural to urban living and a shift from home to factory production. Like many other human activities, industrialization makes a great demand on the environment, especially in terms of resource extraction and emission of wastes (Ayuba and Dami, 2011). The three elements of

the environment that industries have degraded especially land, air, and water through industrial wastes, fumes, smoke and noise (Egunjobi, 1993). The situation is compounded by the concentration of industrial establishments in few zones such as Lagos, Port Harcourt, and Kano (Segynola, 1988 cited in Ayuba and Dami, 2011).

**Mineral Extractions:** The problem of mineral extraction divides into (a) Solid mineral mining and (b) petroleum exploration/exploitation. In Nigeria, harmful mining practices of open cast mining such as what obtains in the coal and iron ore mining belts of Enugu and Jos has led to the large expanse of land lying waste. Even more worrisome is the impunity with which oil-related activities are being carried out in the Niger Delta. For instance, between 1976 and 1988 agricultural and fishing activities have adversely affected a total of 2,000 reports of oil spillages were recorded with the discharge of two million barrels of oil into the environment (Ikporukpo, 1988 cited in Richard and Goodluck, 2003). The damage to soil, vegetation, water, aquatic life forms, and biodiversity are unquantifiable yet costly (Odu, 1977 cited in Odoemena and Egwali, 2006). The flaring of gas further compounds this problem. Environmental agitation is clearly at the heart of the endless conflicts in the crude oil-producing region of Nigeria. In the situation of environmental problems, the impacts are not equally felt by all population groups. Indeed, women and children tend to bear a disproportionate share of such humanly induced environmental problems.

**Water Pollution:** The poisoning of existing water bodies is fast becoming a major environmental and health hazard in Nigeria. Water Pollution may result from the discharge of harmful substances and effluents from industries. However, the pollution of water occasioned by oil spillages and oil exploration activities is the most important and damaging in the affected region (Niger - Delta). Some of the recent water quality studies include: "Digging deeper" evidence on water crisis and its solution in

Nigeria for Bayelsa state: a study of current scenario by Olalekan *et al.* (2019); 21<sup>st</sup> Century Emerging Issues in Pollution Control by Raimi (2019); an assessment of trace elements in surface and ground water quality in the Ebocha-Obrikom oil and gas producing area of Rivers State, Nigeria by Raimi and Sabinus (2017); Morufu and Clinton, (2017), water-related problems and health conditions in the oil producing communities in central senatorial district of Bayelsa State by Raimi *et al.* (2017), Bacteriological Assessment of Selected Hand Dug Wells in Students' Residential Area by Henry *et al.* (2019); The sources of water supply, sanitation facilities and hygiene practices in oil producing communities in central senatorial district of Bayelsa state, Nigeria by Olalekan *et al.* (2018); The Sources of Water Supply, Sanitation Facilities and Hygiene Practices in an Island Community: Amassoma, Bayelsa State, Nigeria by Raimi *et al.* (2019). The socio-economic and health implication are vast and staggering (Abu, 2002; Morufu and Clinton, 2017; Raimi and Sabinus, 2017; Olalekan *et al.*, 2018). Furthermore, the recurring incidence of acid rains in the Niger Delta due to gas flaring compounds the problem of water pollution in the region. Another major source of water pollution is the impoundment of rivers for development projects such as hydroelectricity and irrigation schemes. Besides the land and vegetal resources lost, such huge and stagnant water pool so impounded leads to change in water regime downstream and exacerbates the prevalence of parasitic and vector-borne diseases (Raimi *et al.*, 2017). Similarly, around the world, freshwater is fast becoming a dangerously scarce resource, driving a surge in fights to secure supplies and fears over rising numbers of deaths in water conflicts. Also, more and more people are dying from contaminated water or conflicts over access to water. But water shortages are likely to lead to a growing death toll in coming decades, as farmers struggle to access enough water to grow crops and families tends to turn to riskier water sources to slake their thirst.

**Urbanization:** This is the process whereby a shift of population from rural areas to cities and the resulting growth of urban areas. It is the process of becoming urban; in general usage, it refers to the relative concentration of a territory's population in towns and cities. It is also the removal of the rural character of a town, or area, a process associated with the development of civilization (Ayuba and Dami, 2011). Worldwide, some 29% of the population was living in urban areas in 1950; these figures were 43% in 1990. It was projected up to 50% by the year 2005. The trend continues like this without any serious change. Additionally, Nigeria has in the past three decades or so witnessed an unprecedented increase in urbanization. Indeed, Onerhoraye, (1984) predicts that 50 percent of the Nigerian population will be living in urban areas by the year 2000 with serious environmental consequences. In the country, most of our urban centers are the physical expressions for filth, decay, chaos and grime, slum and squalid environmental conditions. The huge mountains of solid wastes that dot the streets, congested living, noise, and unhygienic squatter neighborhood's constitute health hazards (Olalekan *et al.*, 2018; Raimi *et al.*, 2019). The resulting proliferation of diseases such as malaria, cholera diarrhea and respiratory diseases affect women and children in peculiar ways (Raimi *et al.*, 2017).

Yet, too large a number of urban dwellers, the dream of a better life in the city is dashed on the garbage-filled streets of shanty towns and slums. Some 500 people in cities and towns throughout the world are either homeless or live-in life-threatening poverty. Overcrowding in cities also causes problems with waste disposal, health, and pollution, etc. Other salient urban problems are violence, crime, drugs and the overconsumption of energy and other resources. However, studies have shown that up to 600 million people in urban areas in the developing region (nearly 28% of the developing world's urban population) cannot meet their basic needs for shelter, water and health from their own resources (Olalekan *et al.*, 2019; Raimi *et al.*,



2018). Globally, 100 million people are homeless and up to a billion may be living in inadequate housing. This condition has prompted the prediction of urban doom. Similarly, women and children have been known to be among the poorest people in the world. The world health organization estimates that there may be as many as 100 million street children worldwide. From the foregoing, it is clear that environmental problems are not only many and complex but also vary by geopolitical and ecological regions. They may also be classified as those caused by under-development and problems caused by activities aimed at economic development. The areal variability in their genre and severity cannot be missed. Most importantly, the emerging problems and paradoxes of synergistic deterioration of economic and environmental conditions stand to profit immensely for gender-sensitive intervention projects.

#### **SKETCHES OF CONTRIBUTION OF WOMEN TO SUSTAINABLE ENVIRONMENT**

A review of the policy document (Baumol and Oates, 1988 cited in Ayuba and Dami, 2011) reveals a growing recognition of environmental problems and the need to reverse the trend. However, the launching of the National Policy on Environment in 1989 heralded this growing environmental awareness in this country. This policy document derives much of its strength from global concern at ensuring sustainable development anchored on prudent management of the environment. Besides, major international agencies have been involved in mitigating a wide range of environmental problems. One commonality in this respect is their total neglect (in the past) and passive recognition (presently) of the fact that women can play a pivotal role in sustaining the environment. The Nigerian woman is known to be very enterprising and the traditional custodian of the environment (Monk, 1994). Women have also borne the huge burden of a denuded environment. Yet her role is hardly ever considered when planning and implementing measures aimed at enhancing the sustainable environment. The number of failed

attempts and projects that have so far ignored women makes a compelling case for gender-balanced policies.

In Nigeria as in most settings in developing countries, it has its origin in gender location and allocation of labor (Knopp and Lauria, 1987 cited in Odoemena and Egwali, 2006). Over time, wood hewing, load haulage, provision of household sanitation, family hygiene and sundry chores metamorphosed into feminine specialization in virtually all over the different ecological and socio-cultural settings. For instance, in the ecologically devastated lands in the Niger Delta, women have been known to be involved in the clearing up of farmlands and water bodies after cases of oil spills. Furthermore, Gbadegesin (1996) has documented the contribution of women to the restoration of soil fertility in Olokemeji forest reserve.

In the savannah belts of Nigeria, women are actively involved in such activities as mulching, collection and application of pants and animal remain including cow dung to restore soil fertility, productivity, and stability. In spite of the tardiness in reporting, the contribution of women to the prevention and mitigation of soil erosion in different parts of the country is considerable. In addition, in our cities, because women are traditionally expected to ensure hygiene and cleanliness, they can be seen often with babies tied to their backs and refuse on their heads en-route waste dumps especially at night or early mornings. Women have been the traditional custodians and managers of water. The current emphasis on large scale hydroelectricity and irrigation projects that are mostly fraught with the problem of Salinization are negations of this role. Clearly, no man can claim to know more about the sustainable environment in perspective of posterity than the Nigerian woman who has been managing the same for centuries. Yet when cities are been considered, large scale water projects, farming in fragile ecosystems, oil exploration, and exploitation, mining of solid minerals, toilet and waste sites are to be selected and when policy instrument to reverse the trend,

etc. are been crafted no one talks to this specialist (Murshid, 2000).

In addition, women through their roles as farmers, collectors of water and firewood, have a close connection with their natural environment and often suffer most directly from environmental problems. Most studies on women and environment have revealed that women are significant actors in natural resource management, and they are major contributors to environmental rehabilitation and conservation (Raimi *et al.*, 2019; Aditya, 2016). Throughout history, women have been immortalized as powerful symbols of nature: Mother Earth, Earth Goddess, and Artemis in Greek mythology, and Mother River (the Yellow River) in Chinese history. In addressing most of the current environmental issues such as climate change, ozone depletion, environmental pollution and environmental degradation it has been reported that women play a major role (Wendle, 2016). Women because of their direct interaction with the environment have made them have deep knowledge about the environment (Glazebrook, 2011). Thus, making women serve as agriculturalists, water resources managers and traditional scientists among others. According to Shettima (1996) reveal that Women are not only Knowledgeable about the environment, they are also protective and caring towards the environment.

Women are also actively involved in other agricultural activities like livestock and fish farming. Within pastoralist and mixed farming systems, livestock plays an important role in supporting women and in improving their financial situation and women are heavily engaged in the sector. An estimated two-thirds of poor livestock keepers, approximately 400 million people, are women (Thornton *et al.*, 2002). They share responsibility with men and children for the care of animals, and particular species and types of activity are more associated with women than men. For example, women often have a prominent role in managing poultry (Tung, 2005) and in caring for other animals that are housed and fed within the homestead. When

livestock enterprises scale up, the control of decisions and income and sometimes of the entire enterprise often shifts to men. This is not a universal phenomenon, but it is common and can be explained by the limited access that women have to land and credit.

Similarly, women wealth status is also another major determinant of the role of the women in farm management decision-making; more affluent women being more involved than their poorer counterparts. Women in the Anambra State of Nigeria contribute more than the men in terms of labor input in farming and are solely responsible for household management duties (National Agricultural Extension Research Liaison Services (Naerls), 2000). A survey of peasant agricultural women in northern Nigeria also revealed that rural women take part in income-generating activities, particularly in the processing of agricultural produce. It was observed that 90% of the women in three villages in Zaria were involved in at least one food processing activity or the other (Ogunlela & Mukhtar, 2009).

It is therefore not surprising that most projects and measures that have been put in place were doomed to fail right from the outset. For the most part, they typify the usual albeit notorious Nigerian approach to problem-solving by way of throwing money at the same rather than a carefully thought-out plan of action. Today, there is ample evidence that the results do not match the resources expended in any form. In spite of these failures, there have been instances though few and far apart, when government and in particular development partners i.e. donor agencies appear to be seriously committed to the ideals of the sustainable environment (Olalekan *et al.*, 2019). The problem is how to get to the "real people" who not only carry a disproportionate burden of a denuded environment but are actually involved in environmental management on a daily basis such as women.

#### **FRAMEWORK FOR APPRECIATING THE DISTRIBUTION OF WOMEN TO SUSTAINABLE ENVIRONMENT**

The following framework which derives a lot of inspiration from the “Gender Challenge” would be in place to this exposition. It is a conspectus of issues deemed relevant to the recognition of women in a sustainable environment. The presentation is not necessarily in order of importance. It should be clear that the items are not mutually exclusive. We now take them in turn albeit very briefly.

**Creation for Gender-Specific Data Base Collection:** Writing 25 years ago, the economist Beneria noted that survey data systematically underestimated women’s contributions to the economy because the production of use-value, such as in food processing and water carrying, as opposed to of exchange value, was invisible. Firstly, we need to create a flexible geo-referenced database for the documentation of types and areal extent of environmental problems in the extant 10 ecological zones in Nigeria. That way, a foundation will have been played for a fruitful appreciation of the importance of women in fostering sustainable environment.

**Gender Disaggregated Information on Existing Environmental Management:** Closely related to the creation of the database is the very pressing need to desegregate the data along gender lines. No doubt there are a lot of activities in Nigeria that are intended to ensure a sustainable environment. Their specific gender component and the levels of women’s involvement remains largely an unexplored black box. This is of particular relevance in a patrilinear society where women are relegated to the background and their efforts taken for granted.

**Documentation of Women Indigenous Knowledge (IK):** Women have been involved in environmental management for centuries. They have evolved context-specific skills that have made it possible for them to elk out a living for the entire family and community over time. Besides, knowledge of indigenous knowledge would provide immense insights to appreciating women’s coping mechanisms in the face of massive environmental problems and poverty. It implies that in the process of policy formulation,

conscious efforts should be made to create an understanding of the knowledge and particular roles of women and subsequently to make effective use of their specific role and knowledge (Van de Molen, 2000).

**Gender Equity in Decision Making Process:** For the contribution of women to be appreciated in the drive for a sustainable environment, there is a pressing need for their active and visible participation in environment-related decisions. Usually, when major decisions that can have serious ramifications on the environment and by extension health and living conditions are to be taken, women are hardly ever represented. The so-called glass ceiling is particularly impervious in the environment sector. Indications are that strategic positions where major decision are taken are almost without exception strongly dominated by men. We contend that there is an immediate need for taking steps to boost women’s participation in influential decision-making organs in order to accomplish a sustainable environment. We must hasten to add that mere participation by women in management positions is not analogous with mainstreaming gender throughout environment polices. In addition, the under-representation of women is not only restricted in management and decision-making at higher levels but at community levels as well (van der Molen, 2000). In many settings in Nigeria attending meetings is viewed as a masculine job. Beyond the rhetoric of women empowerment, there is a need for proportionate representation of women at all levels of the decision-making process on issues that have to do with the environment.

**Women Capacity Building:** We appreciate the role of women in environmental ‘management right from our historical past. However, their time-tested skills are been increasingly stretched beyond their capabilities due to the share magnitude of contemporary environmental problems in Nigeria. This demand the education of women on new technologies and approaches that have been limited to men so far. Such capacity-building initiative should recognize the

peculiar circumstances cocooning the Nigerian woman at family and community levels.

**Gender-Sensitive Strategy Formulation:** Most of our planners who incidentally are men probably go to the planning and implementation table with their cultural and societal bias and the natural subordination of women (Iyun, 1989 cited in Odoemena and Egwali, 2006). However, the emergent paradigm that emphasizes planning with the people instead of planning for the people has a great potential for incorporating gender consideration as men alone do not constitute people (since women constitute at least 50% of the population). To this end, strategic planning would entail involving at least 50% of women in the peopling of their projects at every stage of conception, EIA, implementation, monitoring, and evaluation.

**Resource Mobilization and Allocation:** This presentation will be incomplete if the issue of funding of environmental projects that deliberately bypass women is not visited. Such insensitivity (Iyun, 1989 cited in Odoemena and Egwali, 2006) is not only restricted to government-funded projects. In fact, the worst culprits tend to be international agencies such as the World Bank, USAID, etc. According to Stamp (1989), “externally funded agricultural technology can be said to have the most profound negative impact upon the ability of women to maintain not only their responsibilities as food producers but also their position within the village and family”. According to Standt 1985a, cited by Odoemena and Egwali, (2006) the specific project for women or those with gender components accounted for 4.3% of total expenditure in Africa. This has created a principal arena for gender conflict. While copious efforts are being made to correct this error in spending, a policy of the genre of affirmative action in favor of gender-sensitive environmental projects to assuage for past neglects would be a wise course of action.

**Good Governance:** Good governance is a major incentive that can boost women’s active participation and visibility in environmental issues. Democratic governance and its associated

liberation have a great potential for the increased participation and recognition of women in sustainable environment effort. It allows for constructive co-operation between the public and private sectors of the economy as well as networking with development partners i.e. non-governmental organizations (Olalekan *et al.*, 2019).

#### **THE CHALLENGES AHEAD:**

In the face of rapid population growth, economic emergency, and climate change, the environment is going to be greatly assailed. It will be too simplistic to assume that the adoption of this agenda is a panacea to the problem of gender inequities and injustices in fostering sustainable environment. Some of the problems which took centuries to crystallize won’t just go away like that. They include unfair gender division of labor, societal expectations from women, poverty, inertia, conceptuality, conflicts and sundry others. But we are supremely confident that track records of gender-blind effort and the growing appreciation of the fine point of gender perspective would make this framework an invaluable toolkit in promoting a sustainable environment.

#### **SUMMARY AND CONCLUSION**

The battle to achieve a satisfactory standard of adequate sustainable environment and health in the global commons is a continuing one with perhaps greater implications for the emerging world particularly the Nigerian environment, which is at the throes of major crisis due to years of disruption, eutrophication, abuse, exploitation, and neglect. The debt to posterity and the challenge of bequest which makes it compelling for us to leave the environment better than we met the same demands a radical departure that would ensure sustainable development in a healthy environment (Mabogunje, 1988 cited in Ayuba and Dami, 2011), In spite of growing awareness on mainstream environmental issues in Nigeria, intervention measures that are aimed at improving human-environment relations tend to have by-passed or at best glossed over the most strategic cohort of the population women. Yet



there is ample evidence of the distinct niche that women occupy in environment-related matters in different ecological, socio-cultural settings in parts of in Nigeria. The records of measured levels of success of men-centered projects make a case for the incorporation of women at every stage and step in sustainable environment drives. This presupposes the existence of a system or conceptual basis for the factoring and appreciation of the role of women gender in the first instance.

This paper in putting forward ideas for the appreciation of the role of women in a polity dominated by men such as Nigeria recognizes the importance of place. In doing this, tacit recognition is given to the socio-cultural and ecological milieu that Nigerian women have to grapple with in fostering sustainable environment. It especially argues that to succeed, intervention programs should transcend the rhetoric of women empowerment and liberation to the active and visible participation of women right from the conception of projects, through implementation, monitoring, and evaluation. This way the time tested and trusted the expertise of women in environmental management would be properly harnessed to mitigate the deleterious effects of our dying earth. Sadly, man's efforts to protect the earth's resources are often hampered by regulations that favor economic growth over environmental concerns and by the inherent greed and selfishness of impacted humankind.

In this connection, the participation of women in decision-making in environmental issues is vital. The point is that women and men seldom have similar roles in environmental exploitation and maintenance. Therefore, gender sensitivity and responsiveness is a *sine qua non* for a sustainable environment. In this context, recognition of the socio-cultural, economic and ecological milieu (place) that are asymmetrically distributed in Nigeria is equally of strategic value. This paper has been the animated by a fundamental concern with social inequity and the need to show that women contribute to a sustainable environment. It is therefore clear that to succeed in maintaining the environment at

times of scarcity, policies and projects should include men and women but especially gender relations. It, therefore, calls for New coalitions and new forms of governance in achieving societal goals, more action is needed from governments, which have the responsibility to create and maintain framework conditions for a business that offers maximum stability and create the right incentives. However, capacity limitations will be an ongoing constraint, while the social, economic and political context in a given country will also continue to influence the environment positively.

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