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# Evaluating indigenous environmental consciousness with residents of Ogbomoso in Nigeria

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**The study assessed the level of indigenous environmental consciousness and education in Nigerian cities using Ogbomoso as a case study. It identified the level and limitations to the consciousness of environmental issues; it also evaluated the presence and level of indigenous environmental consciousness; examined the forms of indigenous environmental education prevailing in the city, how it is acquired, and their relevance to environmental management. It also assessed the effectiveness of this indigenous environmental consciousness and relayed the outcome of the survey for further work, by the incorporation of indigenous knowledge into the educational curriculum. The study elicits various indigenous educations relating to the environment, the level of awareness as regard such and the effectiveness. Data for this research were obtained mainly from a comprehensive questionnaire survey, which were administered to 3,000 (10%) households from the total of 30,020 households in the study area. The data collected were analysed using simple statistical techniques such as frequency table and percentages. Simple linear regression was used to explain the relationship between education, level of environmental consciousness of the people, income level and level of consciousness to environment. The study observed that the level of education is negatively related to the level of environmental consciousness and the level of income is directly related to environmental consciousness. The study shows that traditional and indigenous education are the avenue through which indigenous knowledge is passed to people through gradual socialization of youths in a society into its norms, religious beliefs and moral values.**

**Key words:** Indigenous knowledge system, environmental consciousness, education.

## INTRODUCTION

The problems of world environmental degradation and depletion have been focused upon especially in the past two and a half decades. The increasing global awareness of environmental problems after the 1972 Earth summit held 42 years ago in Stockholm. The event launched thousands of grassroots conservation groups around the world and spurred environmental agencies, media houses, educational institutions and ministries in more than 115 nations of the world into action (Risiro et al., 2013).

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Nigeria and other West African Countries have come to recognise that problems of environmental degradation are not restricted to the developed countries alone. Developing countries have had to battle with environmental problems like flooding, deforestation, soil erosion, refuse and sewage disposal, population congestion due to urbanisation etc. In this wise, the number of agencies dealing with environmental issues in developing countries has also increased. Egunjobi (1993) noted that the number of these agencies have increased from eleven (11) in 1972 at the Stockholm Conference to eighty seven (87) seven years later. In realisation of these problems, the United Nations organised another Earth summit in June 1992 in Rio de Janerio, titled 'Environmental and Development'. This also seeks to heighten awareness of the global ecological crisis that offers opportunity to persuade countries to look beyond national interest, and agree to some basic changes in the way they treat the environment. The growing awareness on environmental issues also gives the impetus to the government in Nigeria to solve the country's environ-mental problems. It seems apparent that the effort of the government is not yielding the desired results. This is due to the non-involvement of the people in the management of the environment, the seeming low level of awareness, and ineffective education of Nigerians about their environment (Agbola and Mabawonku, 1994).

This is further explained by Chokor (1988) that assessment of public awareness of environmental problems in Nigeria is at best incoherent and incomplete. Two schools of thought were discovered on the issue of public awareness of environmental problems in Nigeria. First, there are those who speculatively believe that the vast majority of people are unaware of the magnitude of environmental problems confronting them and that only the better educated and high income groups seem to be able to make a connection between the health of their family and environment in which they live (Onibokun, 1992). Secondly, there are those who through direct research survey, have come to some form of conclusion that ordinary people possesses a substantial knowledge of the complexities of environmental problems besetting them and indeed make efforts to articulate and adjust favourably to them (Chokor, 1988; Egunjobi, 1983). Whatever conclusions may be reached from those opposing views, one thing is certain and that is consciousness of environmental issues, especially pollution, which is low and least, understood in Nigeria. Several facts may be adduced to support this claim and provide underlying reasons for this low public consciousness. First, there is dearth of environment pressure groups in the country, only in riverine areas, adversely affected by oil pollution, resource depletion and the consequent onset of hunger, have community groups arisen to oppose excuses of private, public and multinational exploitation. A second major factor accounting for low public environmental consciousness stems from our national education system, which places a low priority on environmental education (Onibokun, 1993). Warren et al. (1996) based this on the fact that the earliest Nigeria educational system was introduced by the colonialists with the initial concern for the maintenance of law and order. The system was essentially meant to produce interpreters, teacher, pastors, clerks, administrators and policemen. Thus, one major weakness of the system, however is that it failed to appreciate the fact that there was an indigenous foundation upon which the Western type could have been built (Rusinga and Maposa, 2010).

There has therefore been a near total neglect of traditional system of learning, teaching, communication, research and experimentation. This situation has a negative effect on development in all ramifications and also on people's creativity, ingenuity, novelty, technology and skill. Furthermore, since knowledge that is indigenous can be traced to the grassroots, the people at the grassroots will have the opportunity for the first time to contribute significantly to the contents of the curriculum. This will create a sense of honour and participation at the planning stage, which will in turn promote a sense of belongings in the people, which is also a good one to further campaign for public participation and self-reliance. As a growing army of persons began recording indigenous knowledge systems in many parts of the globe, it became apparent that the country's indigenous knowledge was invariably over looked as a national resource that could facilitate development efforts and enrich educational curricula in a country (Warren et al., 1996).

Thus, it is against this background that this study surveys the indigenous environmental consciousness and education of the residents of Ogbomoso city in one of the Nigerians cities as of great importance.

## THEORETICAL ISSUES

Efforts hitherto and concurrently put forth in combating the urban environmental yielded limited success or have in most cases ended in total failures. In this regards, it is contended that prescribed solutions which so far centred on more planning technology, restructuring the administrative frame work and enlarging the budget, have not produced the desired results, partly because the solutions have been based mainly on the values and understanding of the elite decision makers. They are prone to assume a monopoly of diagnosing the problems, prescribing and administering antidotes. The assumed monopoly is also taken, as given and therefore unchallenged by the general public. Thus, a gap does exist between decision makers on one hand, and those whose lives are supposed to be affected by the decision on the other (Egunjobi, 1993).

Gaye and Dialto (1997) are of the belief that within this bleak picture of inadequacy of public service to 70% of

urban dwellers in Africa and also a sense of powerlessness of not being able to address such problems, there are some elements of hope. Whereby, alternative approach is slowly emerging in answer to the urban challenge. This new approach sees protecting the environment as an integral part of development rather than an obstacle to economic progress, which stresses that local problems can be solved by local communities, by all groups in the community, including women and young people working and taking decisions together. There is nothing isolationist about this approach, bringing us back to public preference and participation. This is supported by Eyong (2007) who believes that increasing demand for public participation in planning has resulted from the failure of planners to intuitively recognise the preference of the public, for proper implementation of environmental development plans (Nakashima and Rou´e, 2002).

In the same vein, Brush and Stabinsky (1996) emphasised that public preference elicitation, however, would seem to be of greatest value for urban planning. It is difficult to argue against the view point that on ethical grounds, people have the right to be consulted about plans and decisions which not only may profoundly affect their way of life, but which they are also paying for through public funds. On the other hand, effective lay participation often requires some understanding of the concepts and methods by which production decisions can be made. Thus environmental awareness proposes to stimulate interaction between community participations from lay or professional positions. Thus, successful policy on environmental control therefore hinges on exigencies of politics and demands effective articulation of public opinion and supports; while the degree of support of the public for environmental problems should be enhanced. Hence, there is an urgent need for public consciousness education and participation in solving environmental problems in Nigerian cities (Chokor, 1988).

Agbola and Mabawonku (1994) are of the view that environmental awareness and education of the public can be best achieved through the incorporation of environmental concerns into our educational content and methodology as well as in mass media programmes. Educating the public through mass media is dependent upon the literacy of a population. Saveland (1974) proves the use of environmental education in Nigeria is likely to fail, as majority of Nigerians are not literate. Accordingly, the larger segment of the nation cannot readily become environmentally conscious through the formal and to a less extent the non-formal education systems. This is to say that, were formal environmental education incorporated into the school curriculum today, it would leave a substantial number of Nigeria out (Agbola and Mabawonku, 1994).

The study looked at the existing gap, regardless of the various developments on indigenous knowledge system (IKS), since its inception and observed that only few researches have been devoted to environmental education and sanitation globally, which is the main reason for this research into the city of Ogbomoso so as to evaluate the consciousness of the masses on indigenous knowledge and its applicability. Therefore, mentioned area of focus justifies the reason for incorporating indigenous consciousness and education into environmental programmes. This research was therefore tailored towards examining the level of indigenous environmental consciousness and education of Ogbomoso people, hitherto and presently verifies its usefulness in communicating environmental programmes to the masses in future.

## LITERATURE REVIEW

Two interrelated concepts have been chosen as the anchor for this study. These are the citizen participation concept and the indigenous knowledge concept.

**Citizens participation:** The present passion for citizen involvement at various stages of the planning process has US (United State) origin and in an attempt to improve their capability in strategies of citizen participation, many British Planners have avidly turned to US pronouncements and case studies. This research into American planning literature has brought to the attention of British practitioners the work of Arnstein (1969), and according to Fagence (1973), public participation as an integral part of planning that has been adopted in England and wales since 1968. The concept of citizen participation has become a widely accepted principle, and the definitions vary as much as there are scholars. Participation can be viewed as consultation with decision makers and a two way information flow. The new theory of democratic government has been stated as being one, which defines participation as the central right of all citizens. This means the involvement of individual in the design and policy processes of organization to which they belong as well other policy processes, which affect his or her future regardless of formal memberships (Fagence, 1973).

Nakashima and Rou´e (2002) are of the view that citizen's participation means more than consultation; it necessarily involves a transfer of power from professionals who have technical skills deemed appropriate for dealing with problems and from politicians whose function is to determine the use of which these skills are put in public interest. Eyong (2003) defines participation as the process by which individuals' households understand their situation better, and are motivated to solve their own problems. In doing this, they become agents of their own development and not passive recipients. Lanconte (1976) believes strongly that constructive citizen participation is a systematic process which provides an opportunity for citizens, planners, elected representatives and members of relevant agencies to share their experience, knowledge

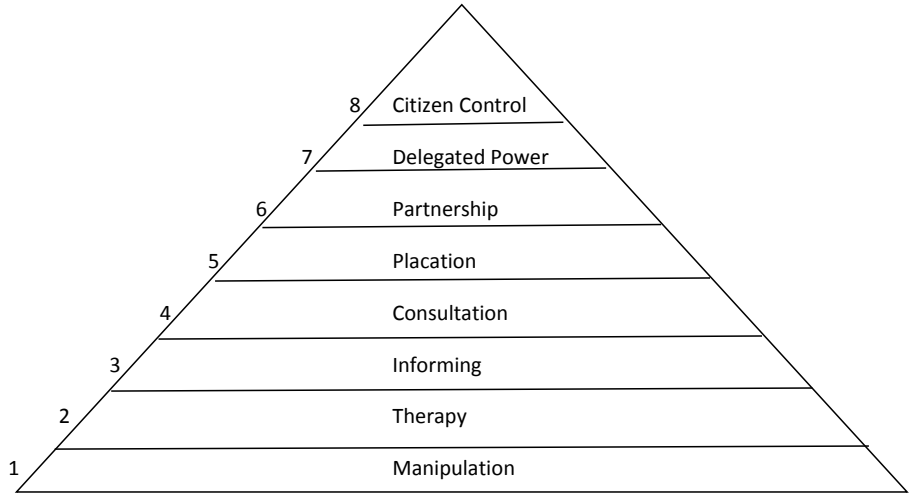


**Figure 1.** Ladder of citizen's participation. Source: Arnstein (1969).

and goals and to combine their energy plan in order to participate in the socio-cultural environment. This plan can then reflect their knowledge and best judgement at the time and will be understood and actively supported by most of those affected by it.

Conceptually, judging from Lanconte's definition and his works constructive citizen's participation is not: selling predetermined solution by public relations techniques; planning behind closed doors when information can be shared; one way communication e.g. planners telling people what is best for them; public confrontation between "people power" and the bureaucracy; by passing elected representatives or impairing their freedom to exercise their decision making responsibilities. but constructive citizens participation is: decision makers listen to residents; citizens find early and convenient opportunities to make positive contributions; citizens learn from planners and others, a broader and deeper knowledge and understanding of their environment;

individuals, interested groups and agencies are identifying with each other; the organizational activity and analysis will be collegial, non – hierarchical, face to face problem solving group that is large enough to include perspective and expertise necessary with the problem at hand, but small enough to assure each participant that his / her contribution is substantially meaningful and is indispensable to the process. This is further proven by a British practitioner, Arnstein (1969), who categorically summarized various terms thought to be participation, which are not. This is shown in his ladder for citizen participation (Figure 1).

The ladder shows various ways of involving citizens. But according to Arnstein (1969), participation must be above all these processes; though each level has precedence over the previous process. The concept of citizen participation has come to be an important principle in planning. The spirit is that it ensures success in planning projects. More so, it cuts across other areas other than planning. Thus participation has reaching advantages; these include: political advantage that it is democratic in nature. People listen to you and you listen to them as a leader and know their cultural background before decision could be taken together. Secondly, economic value which was based on resource pools and resource sharing which will make the planner not to be the only one to be responsible for projects, but the community at large; and also, there are social values which show citizen participation that gives participants a sense of ownership. Other values are the psychological one and a sense of identification (Arnstein, 1969).

Hence, there is an urgent need for public consciousness, education and participation in solving environmental problems. But, creating awareness in the public is dependent upon the literacy of a population. Saveland (1974) proves that the use of environmental education in Nigeria is likely to fail as a larger percent of the populace are far from being literate. Significantly, formal environmental education incorporated into the school curriculum today leave a substantial number of Nigerians out (Agbola and Mabawonku, 1994). Thus, the aforementioned areas of focus justify the reason for the suggested incorporation of the indigenous knowledge concept into the next stage of the global environmental management strategy especially in the third world countries.

The second concept used for this research is indigenous knowledge system /concept (IKS).

## The Concept of Indigenous Knowledge System (IKS)

The term indigenous knowledge system is also referred to as: Indigenous Technical Knowledge (ITK) by Kolawole (2001), Local Knowledge by Brush and Stabinsky (1996);

Traditional Knowledge by Horsthemke (2004) and also referred to as Community Environmental Knowledge and Folk Science by Kallard (2000). Furthermore Eyong (2007) described it as Village Science while Khan et al. (2008) described it as Ethno Botanical Knowledge System.

Warren et al. (1996) defined IKS as the systematic body of knowledge acquired by local people through the accumulation of experiences, informal experiments and intimate understanding of the environment in a given culture. IKS rests on a validated assumption that an indigenous community is guided by those principles and practices which they have developed from many years of experiences and from generation to generation often based on the oral tradition (ISDR, 2008). It could also be defined as 'Local knowledge that is unique to a given culture or society. It is the information base for a society, which facilitates communication and decision making (Warren et al., 1996).

The characteristic features of IKS as given by ISDR (2008) are that IKS is unique to a group of people; serve as a spring board to technological development; dynamic rather than static, oral (not formerly documented); experiential; and highly accessible. Other characteristics of IKS as noted by Horsthemke (2004); Thrupp (1989) and Khan et al. (2008) are that: IKS is not only possessed and practiced by men, but also by women; IKS is of great relevance to all cultures especially in the developing world and the traditional societies; enhances the social psychological value of a people; it promotes meaningful communication between extension agents and their clientele; also, is particularly relevant as a springboard to technological development and improvement especially in the less developed societies and is also increasingly regarded as an 'intangible resource' which is highly vulnerable to commercial exploitation (Warren, 1995).

**Indigenous Knowledge System (IKS):** The unfortunate relegation of our known practices constitutes the IK system and the need to integrate IK system into the school system. Indigenous knowledge system (IKS), though a relatively discipline, is an important areas of human endeavour which has been part of traditional society from time past (Maila and Loubser, 2003). Warren et al. (1996) defined IK as the systematic body of knowledge acquired by local people through the accumulation of experiences, informal experiments and intimate understanding of the environment in a given culture. IKS rests on a validated assumption that an indigenous community is guided by those principles and practises which they have developed from many years of experience and from generation to generation often based on oral tradition (Chatty and Colchester, 2002). IKS could be defined also as 'local Knowledge' that is unique to a given culture or society. It is the information base of a society, which facilitates communication and decision making (ISDR, 2008).

**Relevance of IKS:** It promotes the full and active participation of local people in their own affairs in all ramifications as science itself. IK is capable of being integrated into modern science; it is resource conserving, environmentally; it is a tested and accepted local knowledge and easily adaptable; it can help people learn how to live in harmony with nature and the entire human settlement; it can reduce dependence on foreign and often time inappropriate solutions to local problems; also it promotes greater participation of local people in the prioritization of their needs and decision making. IK promotes greater understanding of various forces shaping the built environment, the consequences of human activities, and the indigenous methods or approaches to achieve sustainable development (Wahab, 1984).

**Application to Nigeria:** A growing awareness of the values of IKS national development became evident in Nigeria in 1993 through the Nigeria University Development Linkage Project (UDLP). IK has potential value for sustainable development, and it can help people learn how to live in harmony with nature and the environment. Although, IK has been recognized as a necessary spring board for technological improvement in a society, this has thus far been neglected in Nigeria's education system (Warren et al., 1996).

**The Environment:** The environment is emerging as one of the major issues confronting planners and the nation during the current decade and by the turn of the century the crescendo will build up, spilling over to the beginning of the 3rd Millennium. To further expatiate on this, it will be expedient to define the term environment. The environment is the physical environment which encompasses land, water and air, nature and its habitat, the ecosystem and all the factors and facets which constitute the living environment. It is both man-made and natural. It is an environment that is subject to stress and is vulnerable to different types of pressures with adverse results such as degradation, pollution, erosion, over flooding and desertification. It is also an environment that responds to improvements thereby resulting in beautiful and surroundings assuring for the citizen a better quality of life (Agbola and Mabawonku, 1994)

**Environmental Problems:** Duri and Mapara (2007) assessed the relationship between economic growth, technological advancement and environment problems in the developed countries. He noted that while a number of people are benefiting from various countries, economic growth and technological advancement, the society as a whole has continued to suffer from increasing pollution and environmental problems resulting from intensive industrialization and breakdown of ecological balance. Carew (1991) specifically gave illustration of countries, development and corresponding degradation of the

environment. The United States of America for example has 5% of the world population, as 25% of the world's energy, emits 22% of carbon dioxide, produce and account for 25% of the world gross national product. Adedibu and Okekunle (1983) further gave insights into the attitude of developed countries towards environmental degradation and they observed that the developed countries are soliciting for the world to tolerate the environment, while they enjoy shooting up income and employment. All these are on the global scenes.

The African part of the environmental problem cited by Gaye and Dailto (1997) was on the acute problems of inadequate provision of waters, sanitation, drainage and disposal of garbage all over the continent regardless of the fact that the urban population is growing at a rate of over 5% a year. In another development, Adedibu and Okekunle (1983) presented the environmental problems resulting from the present growth rate. They noticed, that of a particular significance is the observation that the rate of housing construction falls short of the rate of urban growth, which implies increased densities that actually lead to overcrowding.

Egunjobi (1993) dealt specially on the functional, aesthetic and sanitary deficiencies of the buildup environment in Nigeria. This he attributed to the sanitary condition in and around the houses that are already overcrowded. The mixed attitude of the third and advanced world cities was cited by Onibokun (1993); where the advanced countries seeing the critical financial situation and growing environmental problems besetting many cities as moving towards 'inexorably towards disaster' or even death. But many people of the third world cities see cause for hope rather than despondency. These and many others have led to the various environmental strategies.

**Environmental Management:** The ardent need for urban management, as noted is often argued that urban problems in Nigeria have reached such alarming proportion because of the lack of effective urban management. Furthermore, it is argued that urban government is ineffective because they are poor and management and technical personnel are in short supply which complicates the issue. The general usage of the term environment management system shows that it refers to the various mechanisms put in place to prevent, minimize, rectify, reduce or eliminate on a continuous basis, the impacts of environmental deterioration. In this case such things as impact assessment, mitigation and compensation are some of its component activities and programmes (Onibokun and Faniran, 1995).

**Waste Management:** The heavy problems created by solid waste generated has more or less outweighed the technology available to cope with the disposal in most developing countries; thus resulting in other environmental problems like; flooding and epidemics. Wrong solutions are accorded to urban solid waste problems, in which all efforts to solve the problems of waste crisis in Nigeria have failed, as the efforts were directed towards instant cleaning rather than programmes to cope with problems associated with environmental sanitation (Adedibu,1984). On this note, Ebert and Niser (1986) gave guidelines for solving the problems caused by environmental pollution in general, that is, there is a need to create awareness of individuals, communities and government about the problem of environmental pollution. The Federal government needs to promulgate an environmental protection decree, the state also needs to enact related edicts. Federal and State Legislation should be backed by mutually consistent action programs on local governmental pollution problems. Lastly, there is need for continuous research to enlighten individuals, countries, and government about the nature of environmental pollution problems and about the best ways of coping with it. But all these were not effectively carried out leading to campaign on sustainable approach to management.

**Sustainable Development:** The term sustainable development is concerned with the environment, development, and conservation and planning. It refers to specific developments which are related to environmental terms and which are sustainable. The definition according to the governing council of the United Nations Environmental Programme (UNEP) in 2008 is the development that meets the needs of the present without compromising the ability of the future generation to meet their own needs. Therefore, ecologically sustainable industrial development will be the out fall of a well-managed and regulated industrial process that contributes to economic and social benefits for the present without impairing basic ecological processes. Meaning that over time, economic development will hinge on efficient utilization of non-renewable resources conserving reasonable resources and not exceeding the waste assimilative capacities for our ecosystems (Agbola and Mabawonku, 1994). Despite the promising note surrounding sustainable development, it is quite obvious that the general masses cannot comprehend the complexities, it carries along with it. Most especially in developing countries, it is quite hard to differentiate between the national economic growth and development, nonetheless, relate it to distinct industrial revolution. There might be much to sustain, most of the strategies are still been argue as far as developing countries are concerned. Towing from this fact, government and environmental agencies sought a better embracing approach (Eyong and Mufuaya, 2004).

**Healthy City Approach to Management:** The next move in planning generally was that of the social approach to urban health. The point being further emphasized here is that although health for all, which implies equity, requires coordinate action of all sectors concerned; nevertheless,

a greatest responsibility falls on the people themselves to improve their well-being. This should be done by changing their individual altitudes, beliefs and habits which are injurious to health. This of course calls for effective enlightenment programme aimed at educating the public about their individual responsibility to health (Aregbeyen, 1993).

**Environmental Consciousness and Awareness:** Chokor (1988) proves that awareness has been evaluated to be low. He ascertained that consciousness of environmental issues is low, based on facts such as dearth of environmental pressure groups in the country and only in riverine areas adversely affected by oil pollution, resource depletion and the consequent on set of hunger have community groups arisen to oppose excesses of private, public and multinational exploitation. It is our national education system, which places low priority on environmental education beyond scholars of physical low priority on environmental education. Beyond scholars of physical / biological sciences in higher institutions, few people have access to technical information on environmental problems Furthermore, Chokor (1988) also reflected on the clear alienation of people through public policies, and the poor rate of public response to environmental issues. When he noted, that rather than be stimulated to have a say in environmental matter, people are rather conscious of being found wanting, fined or prosecuted under the circumstance, the environment and public feeling over its control becomes an issue of terror and fright for the people. Environmental consciousness is important and the media must be tasked, this is because media have the capacity to inform, to educate, to arouse and to create awareness and when imaginatively used, they do serve as effective channels of communication (Duri and Mapara, 2007).

**Environmental Education:** To unravel the blame apportioned to environmental education as the root cause of low environmental awareness, a review was done with the following findings. Onibokun (1993) related the history of environmental education in Nigeria, in which she stated that although environmental problems have been part of us since time immemorial the need for environmental education in Nigeria started in 1988 when the Nigeria Conservation Foundation prepared national strategy on conservation education aimed at arousing interest of people in environmental education. According to Adedibu and Okekunle (1983), environmental education can be defined as teaching from the environmental, about the environment and for the environment. The objectives and principles guiding environmental education, according to Carew (1991), is to educate the younger generations as well as adults about environmental matters, so that they could learn how to protect and improve their environment. Onibokun (1993) further stressed that if the objectives of environmental education are met, the following should result, which are: people awareness, which is the acquiring a consciousness and sensitivity to the environment; also citizen knowledge that involve acquiring basic understanding of the environment.

Furthermore, the issues of people attitude which involved acquire social values, strong feelings on concern for the environment in motivation for participating in its protection. Others are citizen skills, which involved acquired skills for solving environmental problems and evaluation ability of the people that involved ability to be able to evaluate environmental measures and education programmes in terms of ecological, political, economic, social aesthetic and educational factors. Also community participation which helps individuals and social groups develop a sense of responsibility and urgency regarding environmental problems (Onibokun, 1993).

Environmental education is frequently both inadequate and inefficient, as little attention is paid to the outside influences of its cultural, scientific and political context. It will be inadequate that ecological politics, research and education concentrate almost exclusively on manifestation of environmental damage, with little attention to human behavior as the main cause. Intellectual activities neither really accepts responsibilities for social development nor work towards improvement of the psychological and behavioural evolution of man (Schleicher, 1986). From Western Europe and Federal Germany, great attention has been paid to politics and public opinion to environmental damage since 1970s the main focus however, is more on symptoms than on human behaviour and behavioural changes which are the causes. And although, great doubt exists as to whether politics is really able to cope with ecological challenges, environmental protection is expected more from administrative measures than from education (Schleicher, 1986).

The argument, on educating citizens on environmental issues, is that formal education system can play an important role in Africa, but such a system to meet the cultural, social, moral and intellectual, as well as political and economic needs of African, needs to be domesticated and indigenized. And it is here that indigenous forms of education becomes crucially important. The philosophy, methodology and content of schooling in African need to be shaped and reframed, not exclusively but to a far greater extent, by indigenous perspectives. This means those that operated before the arrival of the western and Islamic education systems need to be look into and the consideration, views, opinions, assessments of past. The contemporary African educationists who through researches and experiences have become aware of the needs and goals of African Societies and that no serious educational planning can be undertaken without identification of the specific needs and goals of particular African societies (Adedibu and Okekunle, 1983).

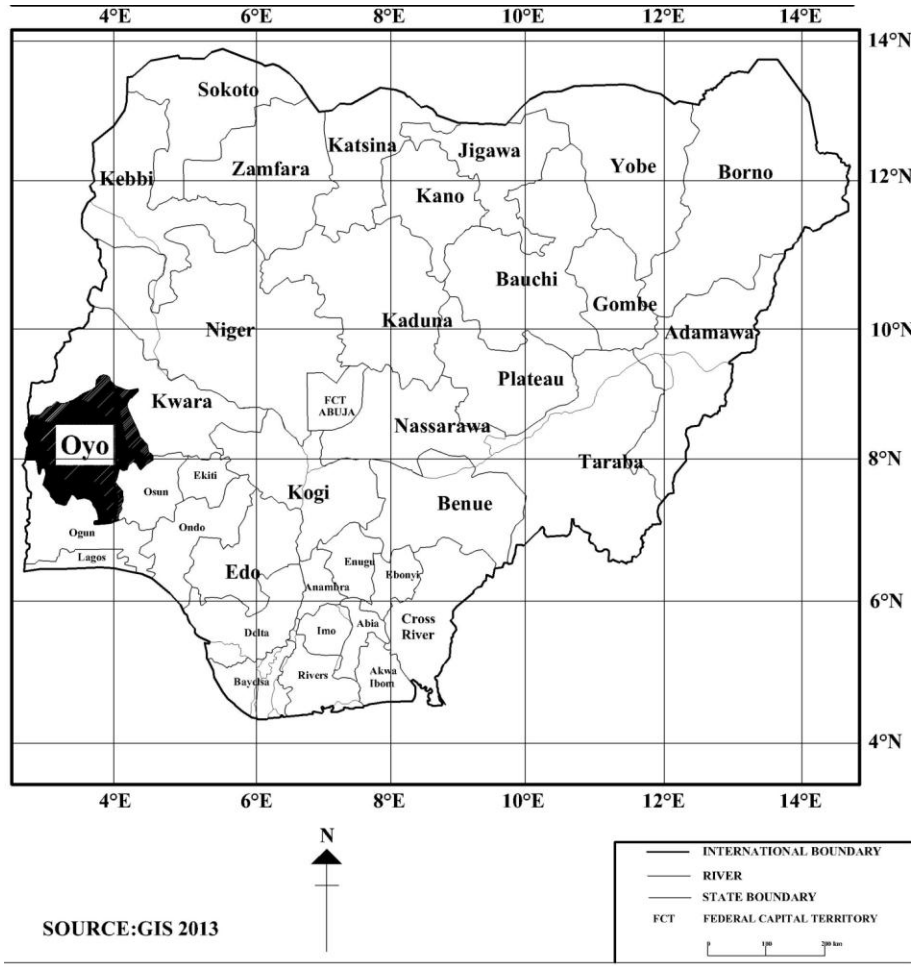


**Figure 2.** Map of Nigeria Showing Oyo State.

## THE STUDY AREA

Ogbomoso lies at approximately $8^0$ 07' North of the equator $4^0$ 15' East of the Greenwich meridian. It is one of the most important cities of Oyo State and in fact Nigeria. The town now lie within the derived savannah region and is approximately midway, forming the gateway to the northern part of Nigeria from the South. Ogbomoso is 57 kilometre South West of Ilorin (capital of Kwara State), 53 kilometres North East of Oyo, 58 kilometres North West of Osogbo (capital of Osun State) and 107 kilometres North East of Ibadan (capital of Oyo State). Ogbomoso is situated on an important road link between the Northern and Southern parts of Nigeria. The Lagos – Ibadan – Ilorin North Bound trunk A road passes through Ogbomoso, so also is the proposed Ibadan – Ilorin express way still at designed stage.

The population of Ogbomoso, according to 2007 National Population Census, is 166,034. Male members accounted for 80,356 while female accounted for 85,678. Compactly developed residential zones characterize the existing land use in Ogbomoso. The land use distribution is typical of any urban settlements where a large proportion of the developed land is devoted to residential use and only a small proportion is used for commercial, industrial and other uses (Figures 2 and 3).

### MATERIAL AND METHODS

Data for this research were obtained mainly from a comprehensive questionnaire survey. This was supplemented with survey of the existing formal environmental curriculum and intensive literature review. For the questionnaire survey, the local government political authority ward units of Ogbomoso were used. According to the local Government Authority, Ogbomoso is made up of twenty (20) wards. Altogether, each of Ogbomoso North Local Government and South Local Government were having ten (10) wards each. Since it is impossible to achieve a total coverage of the household within Ogbomoso, 10% representing 150 household in each of the wards were selected randomly and a total of 3,000 households were administered with questionnaires from the twenty (20) wards in the city. Subsequently, the questionnaires were administered to 3,000 (10%), of households from the total of 30,020 households in the study area. This infers that a total of 3000 households were sampled in the 20 wards. In each of the housing unit the household heads were be questioned. The data collected was analysed using

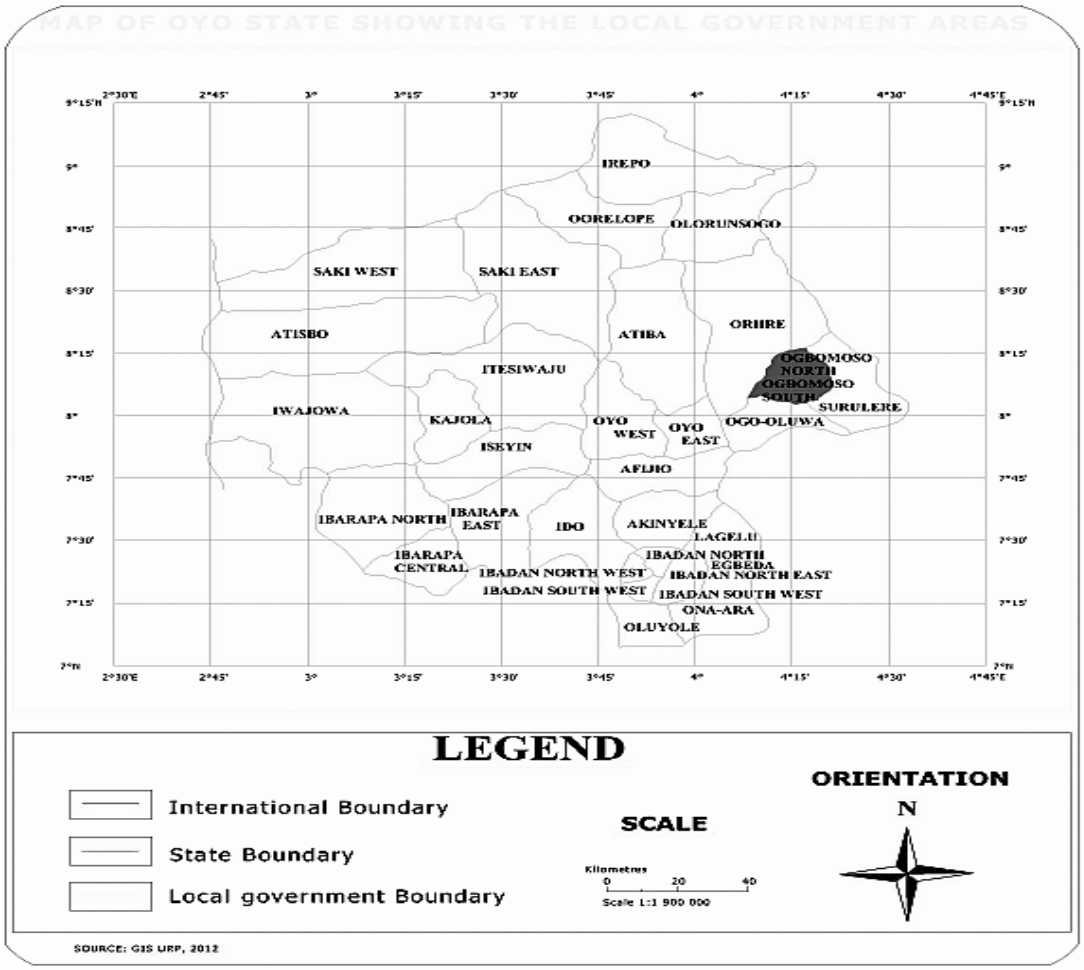


**Figure 3.** Map of Oyo State showing Ogbomoso.

simple statistical techniques such as frequency table and percentages. Simple linear regression was used to explain the relationship between education, level of environmental consciousness of the people, income level and level of consciousness to environment. This helped to determine whether education level and income levels of people determined their disposition towards the environment.

## DATA ANALYSIS AND DISCUSSION

The analysis of the result obtained from the questionnaire on the perception and level of environmental education and awareness of Ogbomoso residents were based on the 3000 questionnaires administered within Ogbomoso.

### Analysis of socio-economic characteristics of respondents

The analysis in this section includes sex composition, age composition, marital status of respondents, their educational level, occupation and monthly income level.

In the 37 localities chosen, the males constitute the larger percentage of the respondents with 66 percent while the remaining 34 per cent were females as shown in Table 1. The highest proportions of respondents were between the ages of 20 – 30 (64%). Revealing that a high percentage of the residents are youths that really need to be mobilized and serve a human resource for environmental management campaign; towing too from the fact that the city is the seat of a tertiary institution. The next group, which forms the second largest per cent of those interviewed, is those within the age of 31 – 40 forming 22 per cent. The other group is those within 41 – 50 (8.3%) and those over 51 being 5.7%. The respondents in these age groups are less than those that really exist in the town. But due to the fact that most of the aged were really old and cannot in most cases go through the rigors of being interviewed; but a high percentage of the old ones are quite enlightened and exposed since Ogbomoso people travel a lot to places like Ghana, Northern States etc.

**Table 1.** Socio-economic characteristic.

| **Sex composition** | **Frequency** | **Percentage** |
|---|---|---|
| Male | 1980 | 66% |
| Female | 1020 | 34% |
| Total | 3000 | 100% |
| **Age Composition** | **Frequency** | **Percentage** |
| 21 – 30 | 1920 | 64% |
| 31 – 40 | 660 | 22% |
| 41 -50 | 250 | 8.30% |
| 51 – Above | 170 | 5.70% |
| Total | 3000 | 100% |
| **Marital Status** | **Frequency** | **Percentage** |
| Single | 1860 | 62% |
| Married | 1090 | 37.30% |
| Widowed | 50 | 0.60% |
| Total | 3000 | 99.90% |
| **Educational Level** | **Frequency** | **Percentage** |
| Normal formal education | 120 | 4% |
| Primary education | 120 | 4% |
| Secondary education | 520 | 17.30% |
| Polytechnic / University education | 2000 | 66.70% |
| Postgraduate education | 240 | 8% |
| Total | 3000 | 100.00% |
| **Occupation** | **Frequency** | **Percentage** |
| Student/apprentice | 1380 | 46% |
| Public service | 410 | 14% |
| Private employee | 610 | 20% |
| Self-employee | 540 | 18% |
| Unemployed | 0 | 0% |
| Retiree | 60 | 2% |
| Total | 3000 | 100% |
| **Income Level** | **Frequency** | **Percentage** |
| Below N18,000 | 910 | 30.30% |
| N18,000 – N50,000 | 800 | 26.70% |
| N51,000 – N150,000 | 340 | 11.30% |
| N151,000 – N300,000 | 500 | 16.70% |
| Above N300,000 | 450 | 15.00% |
| Total | 3000 | 100% |
| **Indigenous Composition** | **Frequency** | **Percentage** |
| Indigenes | 1880 | 62.70% |
| Non – indigenes | 1220 | 37.30% |
| Total | 3000 | 100.00% |
| **Residential Duration** | **Frequency** | **Percentage** |
| 5-Jan | 1020 | 34.00% |
| 6 – 10 | 470 | 15.70% |
| 11 – 15 | 420 | 14.00% |
| 16 – 20 | 510 | 17.00% |
| 21 – 30 | 150 | 5.00% |
| Above 30 | 430 | 14.30% |
| Total | 3000 | 100.00% |

The singles carry the highest proportion of 62%, the married carrying about 37.3% and the widowed and separated carrying 0.6% of the respondents, as shown in Table 1. This implies that greater percentages are still parenting and can pass on informed form of environmental education to the children. While the largest percentage of youths can still be influenced by the incorporation of informal environmental education into the curriculum or rather by being exposed to these informed environmental educations which they can carry on and use to influence greater grass root participation. As can be seen in Table 1, those who have attained Polytechnic / University education training level had the highest proportion of 66.70%. These are followed by those with secondary school certificate being 17.3%, the secondary degree holders are 8.0%, while primary school certificate holders amount to 4%, while those with no formal education were above 4%; this indicates that 96% were partially educated.

From the survey, students / apprentice carried about 46.0%, followed by the private employed; having 20 %, while the self-employed had 18%. The public service followed with 14%; the retirees were just 20% with no one claiming to be employed. Respondents with monthly income less than ₦18, 000 formed 30.3% followed by those income falls between ₦ 18,000 – ₦ 50,000, then those with ₦ 51, 000 – ₦ 150, 000 followed by those above ₦ 300, 000. Those within ₦ 151, 000 – ₦ 300, 000 were the least with 11.3%.

According to the survey 62.7% claim to be indigenes while 37.3% are not indigenes, but from similar indigenous neighbouring towns of Ibadan, Oke-Ogun, and Ilorin etc. A total of those who have stayed in Ogbomoso for 15 years above are just 26.3%. Having those who have lived 16 – 20 years to be 7.0%, while 21 – 30 years, had 15%, above 30 years to be 14.3%, while majority have only spent 1 – 5 years in Ogbomoso, as they amount to 34.0%. Those who have just lived 5 years are actually more than those that should have enough indigenous knowledge. This shows that mainly urban travellers, who either come for business and other transaction, dominate Ogbomoso and thus devoid of local traditional knowledge. Though those with good knowledge indigenously are significant, they could be soon extinct, if many of this knowledge are not transferred.

## Analysis of perceptions of respondents on environmental issues

In the survey conducted as shown in Table 2, 71.6% were able to perceive the presence of environmental problems, but half of this percentage further explanation has been made for them to understand what is meant by environmental problems, 19% could not perceive such environment problems. Those respondents that agreed that there were no environmental problems were also

**Table 2.** Perceptions of respondents on environmental issues.

| **Environmental problems** | **Frequency** | **Percentage** |
|---|---|---|
| Poor waste disposal | 92 | 30.7 |
| Bad drainage system | 64 | 21.3 |
| Water shortage | 36 | 12 |
| Pit latrines | 29 | 9.7 |
| Smelling abattoir | 28 | 9.3 |
| Erosion | 20 | 6.7 |
| Lack of toilets | 19 | 6.3 |
| Over crowding | 5 | 1.7 |
| Sewage disposal | 3 | 1 |
| Poultry dumping | 2 | 0,7 |
| Water pollution | 1 | 0.3 |
| Noise pollution | 1 | 0,3 |
| **Perceptions of Environmental Problems by Respondents** | **Frequency** | **Percentage** |
| Yes | 215 | 71.60% |
| No | 57 | 19.00% |
| Not some | 28 | 9.30% |
| Total | 300 | 99.90% |
| **Perception of Offensive odour around Homes** | **Frequency** | **Percentage** |
| Yes | 185 | 61.70% |
| No | 115 | 38.30% |
| Total | 300 | 100% |
| **Major causes of Offensive odour as perceived by Respondents** | **Frequency** | **Percentage** |
| Polluted streams | 20 | 10.80% |
| Domestic refuse | 51 | 27.60% |
| Abattoirs | 12 | 6.50% |
| Poultry | 6 | 3.20% |
| Pit latrines | 60 | 32.40% |
| Traffic fumes | 18 | 9.70% |
| Unkempt drainage | 18 | 9.70% |
| Total | 185 | 99.90% |
| **Medium of Information on Environmental Problems** | **Frequency** | **Percentage** |
| Newspaper | 5 | 1.70% |
| Television | 37 | 12.30% |
| Radio | 46 | 15.30% |
| School | 62 | 20.70% |
| Personal contact | 133 | 44.30% |
| Church/ Mosque | 17 | 5.60% |
| Total | 300 | 99.90% |
| **Major Areas of Environmental Pollution** | **Frequency** | **Ranks** |
| Sabo | 120 | 1 |
| Laka | 52 | 2 |
| Atenda | 45 | 3 |
| Oja Igbo | 25 | 4 |
| IsaleOra | 40 | 5 |
| Oragada | 22 | 6 |
| Kara ( Vetenary) | 16 | 7 |
| Taki | 10 | 8 |
| Masifa | 10 | 8 |
| Stadium | 9 | 9 |

**Table 2. Cont'd**

| Adult Influence on Respondents Environmental Awareness | Frequency | Percentage |
|---|---|---|
| Father | 77 | 25.70% |
| Mother | 163 | 54.30% |
| Elder sister | 0 | 0% |
| Elder brother | 0 | 0% |
| Grandfather/mother | 5 | 1.70% |
| Television | 31 | 10.30% |
| Radio | 12 | 4.00% |
| Government | 12 | 4.00% |
| Total | 300 | 100.00% |

quick to identify or list several problems in the areas as shown in Table 2. This ranged from poor waste disposal or refuse disposal which was about 30.7%, followed by bad drainage system having 21.3%; water shortage problem was next in line having about 12%, pit latrine problem, 9.7%, smelling abattoir 9.3%, erosion 6.7%, lack of toilet consisting 6.3%, with traffic fumes, overcrowding, noise pollution, poultry dumping, water pollution are taking very minute percentage which shows that people do not seem to regard air pollution, noise pollution and flooding as major hazards. It also indicates the limit to people's awareness of environmental problems. But it shows that refuse disposal and drainage problems are predominant and were the main problems the people identify as treats in Ogbomoso environment. Greater hazards of pollutants in air are unknown to majority. As shown in Table 2, as regards offensive odours, 61.7% perceived it to be in existence while 38.3% agreed to its non-existence. The main causes being attributed mainly to smell from pit latrines (32%) followed by smell from domestic refuse (27.6%) and polluted stream and rivers. While traffic fumes and unkempt drainage took 9.7% each; Abattoirs ranked last with 6.5% with addition of sawdust burning fumes as others.

Table 2 shows the medium of information on environmental problems**.** On being asked, of the medium through which they got know about the environmental problems, the major response got was through personal contact (44.3%). This could imply that people are aware but not necessarily educated; as there is not much personal contact can do in giving one accurate gold mine information as being the cause of environmental problems by mere seeing. People still need to be taught and educated, not left to their own judgement alone which is not enough.

When asked of problematic areas in Ogbomoso as regard environmental pollution, the places mentioned are high density areas inhabited mainly by low income earners. There is further proven by the fact that 90% of the areas are commercial centres. Places where business transaction, marketing process takes place. The main problems sited were bad refuse disposal, none kept drainage, oil spillage, and lack of toilet and overcrowding. It is quite clear that the people here lack much consciousness and care of environmental cleanliness and management. Though they are aware of these problems, they are not seeking earnestly for ways of solving them. In essence the low income earners living there are not aware of the dangers and ways of alleviating the problems. Thus, the core areas, mainly inhabited by low income earners which form major per cent of the town are filled with environmentally uneducated people. The places mentioned in order of frequency are Sabo,.Laka, Atenda, Oja Igbo, Isale Ora, Oragada, Kara, Taki, Masifa and Stadium. It is obvious that women and mothers have more influence on youths in teaching them environmental matters. As mothers received 54.5% of the responses as to who has influenced them most in the teaching of environmental management.

## Analysis of findings on indigenous environmental education

This section deals with analysis of data on the available and level of indigenous form of environmental education in Ogbomoso town. As obtained in Table 3, respondents who learnt indigenously about the environment from elders in their pre-school age are 74%, while those who did not are 26%. This shows that indigenous forms of educating children are still prevalent and valued.

As shown in Table 3, the categories of respondents who learnt environmental sanitation through folklores were 1.9%, those through folk drama form 2.2%. Folk stories took 24.2%, folksongs form 13.8%, village meetings were also used and amount to 15.6, while the commonest form which is through the use of taboos is 42.2%. Folk songs are generally through oratory skills composed as poem and chants. Village meetings are those summoned by elders for passing out information about projects or the town itself. Taboos are prohibitions or strongly forbidden acts by social customs of the people. Taboos are the commonest forms adopted in

**Table 3.** Findings on indigenous environment.

| Presence / absence of childhood indigenous learning | Frequency | Percentage |
|---|---|---|
| YES | 222 | 74% |
| NO | 47 | 26% |
| Total | 269 | 100% |
| **Major Forms of Indigenous Methods Used** | **Frequency** | **Percentage** |
| Folklores | 5 | 1.90% |
| Folk drama | 6 | 2.20% |
| Story telling | 65 | 24.20% |
| Folksongs | 37 | 13.80% |
| Village meetings | 42 | 15.60% |
| Taboos | 113 | 42.00% |
| Total | 300 | 100.00% |
| **Effectiveness of Indigenous Methods** | **Frequency** | **Percentage** |
| Very effective | 47 | 32.60% |
| Not effective | 25 | 17.40% |
| Slightly effective | 72 | 50.00% |
| Total | 144 | 100.00% |
| **Perception of Women's Role in Environmental Awareness** | **Frequency** | **Percentage** |
| Yes | 228 | 76% |
| No | 72 | 24% |
| Total | 300 | 100% |
| **Women's Contribution to the Environment** | **Frequency** | **Percentage** |
| Cleaning of Environment | 132 | 44% |
| Caring for Children | 90 | 30% |
| Washing | 78 | 26% |
| Total | 300 | 100% |
| **Suggestion for Better Women's Participation** | **Frequency** | **Percentage** |
| enlightenment and education for women | 114 | 38.00% |
| provision of cleaning facilities | 69 | 23.00% |
| giving of incentives by government | 59 | 19.70% |
| encouragement and appreciation from men | 58 | 19.30% |
| Total | 300 | 100.00% |
| **Who to Be Blamed For Filthy Condition** | **Frequency** | **Percentage** |
| The people | 12 | 37.30% |
| Government | 88 | 29.30% |
| Waste disposal workers | 42 | 14.00% |
| Television stations | 0 | 0% |
| Radio stations | 3 | 1.00% |
| Market women | 43 | 14.30% |
| Others (Everyone) | 12 | 4.00% |
| Total | 300 | 100.00% |

passing indigenous education, as it amounts to 42%. They are usually embedded in the folklores. The major ones sited are either related to the general cleaning of the environmental, disposal of refuse and eating. Some of which include among others that: It is forbidden in the traditional Yoruba setting to stand at the entrance of the house while eating. The consequence being that spirits will empty contents of the offenders' stomach, hence he/she will not be satisfied. The real reason being to avert food passing through the wrong passage, as the person will be forced to answer people at the door. It is prohibited for a Yoruba person to knee on refuse heaps, as it is said that infection on the knee call 'kunle katan' could afflict anyone doing that. Also leaving of melon chaffs until the following morning, as this will cause the housewife to have bad dreams; others is that it is

prohibited by anyone to sit on the mortar, as one can develop backache, but is really meant to prevent polluting the utensil used for pounding food. Furthermore, anyone carrying refuse with bare hands will develop shaky hands, but this is to avert diseases such as cholera and dysentery when the same hand is used for eating without being washed.

The survey from Table 3 shows that the indigenous methods have been effective but not so effective. In essence, it still has impacts on the people, and would only need polishing and reconstructing to be more effective. From the research, the most effective role in environmental management has been attributed to women, as 76% of the respondents believe women are more concerned with the cleanliness of the environment than men. Though 24% are of the view that everyone is involved and that most times women generate more dirt than men as regard marketing. Also women contributed greatly to the environment as observed by the respondent in Table 3 which shows that women participated actively in terms of cleaning of environment (44%), caring for children (30%) and washing (26%).

Regarding suggestion for better women's participation, it was suggested by respondents that there is need for enlightenment and education of women having (38.0%), provision of cleaning facilities (23.0%), giving of incentives by government (19.7%), encouragement and appreciation from men (19.3%). But either way, it is significant to note the pivot of the community development there is need to plans to educate the women. The people see themselves as the major cause of the environmental problems in Ogbomoso, but seem not to be able to help themselves. They believe a large percentage of the blame goes to the government and waste management workers too, for not rightly mobilizing and helping them out of their predicaments by doing their job. Though a large percentage of the people from the survey seems to be conscious of environmental problems, it is obvious that majority are not in the best frame of mind as regards proper knowledge of handling the situation, as it is the case generally with many Nigeria cities. It is obvious that government will have to put in a lot in area of educating them and making extra effort to carry them along through the various systems that have been quite effective on them indigenously. To bring out the best, it is only then that effective environmental management can occur. In other words, attention should be on people since they are the main problem.

## Evaluating regression coefficients of resident's environmental consciousness

The standard coefficients (Beta) give a picture of the relative importance or influence of the independent variables on resident's level of environmental consciousness. The higher the magnitude of Beta, the more the influence of the variable is. Tables 4 and 5 show the overall statistics of the results obtained from the regression equation between resident's level of environmental consciousness and socio-economic characteristics. From Table 4, the regression analysis reveals that only variables such as income level (0.285), level of education (0.180), hours spent during the day (0.655), residential duration occupation (0.287), length of residency (2.238), medium of information on environmental problems (0.228), childhood indigenous learning (0.344), forms of indigenous methods used (0.202), women's contribution to the environment (0.110), environmental problems (1.974), offensive odour around homes (0.285), and adult influence on respondents environmental awareness (1.229) are found to be related to resident's level of environmental consciousness, while variable like sex composition, (0.243), age (1.349) and indigenous composition (0.302) are not related to resident's level of environmental consciousness. The analysis of variance test yielded an F- value of 114.07, while the R-squared ($R^2$) value indicates that 46.1% of the variation in resident's level of environmental consciousness with socio-economic characteristics is determined by the explanatory variables (Table 3). The Simple linear regression in Tables 4 and 5 explained the relationship between education, level of environmental consciousness of the people, income level and others. This shows that education level and income levels of people determined their disposition towards the environment and on the relevance and extent to which level of environmental consciousness is determined by the socio-economic characteristics in Nigeria.

## Discussion of findings

The basic aim of this study was based on the fact that education of people and raising their level of consciousness will effectively help participation, which is the latest resort to sustainable environment management. The general outcome from the research has been that some efforts have been made by the government through the media and schools, to stimulate the people. But the majority who live in the core areas, centre of problems are left out. The little awareness or perception they have does not make much difference, they are only being sustained by the traditional knowledge they have acquired form the community. The formal school curriculum on the environment is good and a force on its own, but has not totally been effective and all embracing, while the indigenous methods have neither be accorded the value it carries in sensitizing the people to proper understanding and motivation.

Furthermore, the potential of women's contribution to the environment as the major forces of community development have not been tapped. If the focal forces which are women are the less enlightened sex, left out

**Table 4.** Regression coefficients of level of resident's environmental consciousness and socio-economic characteristics.

| S/N | Variables | B | Std error | Beta | t | Sig (P) |
|---|---|---|---|---|---|---|
| | (Constant) | 1.568 | 0.141 | | 3.869 | 0.960 |
| 1 | Sex Composition | 0.243 | 0.460 | 0.100 | 5.317 | 0.250 |
| 2 | Age | 1.349 | 1.501 | 0.098 | 0.899 | 0.371 |
| 3 | Income Level | 0.285 | 1.014 | 0.031 | 0.281 | 0.001 |
| 4 | Level of education | 0.180 | 1.090 | 0.018 | 0.165 | 0.026 |
| 5 | Hours spent during the day | 0.655 | 0.460 | 0.433 | 5.229 | 0.000 |
| 6 | Residential Duration | 0.287 | 0.032 | 0.228 | 4.761 | 0.000 |
| 7 | Occupation | 2.238 | 1.287 | 0.243 | 1.738 | 0.042 |
| 8 | Indigenous Composition | 0.302 | 0.029 | 0.322 | 5.028 | 0.889 |
| 9 | Medium of Information on Environmental Problems | 0.228 | 0.027 | 0.214 | 8.284 | 0.004 |
| 10 | Childhood Indigenous Learning. | 0.344 | 0.048 | 0.377 | 3.668 | 0.000 |
| 11 | Forms of Indigenous Methods Used | 0.202 | 0.035 | 0.226 | 5.018 | 0.012 |
| 12 | Women's Contribution to the Environment | 0.110 | 1.246 | 0.011 | 0.088 | 0.000 |
| 13 | Environmental Problems | 1.974 | 1.305 | 0.191 | 1.513 | 0.000 |
| 14 | Offensive odour around Homes | 0.285 | 1.014 | 0.031 | 0.281 | 0.023 |
| 15 | Adult Influence on Respondents Environmental Awareness | 1.229 | 0.032 | 0.128 | -2.761 | 0.001 |

P significant at P≤ 0.01.

**Table 5.** The overall F-test value from the regression of resident's level of environmental consciousness and socio-economic characteristics.

| Simple R | R-square | Standard error | Analysis of variance | Sum of squares | Df | Mean square | F | Sig. (P) |
|---|---|---|---|---|---|---|---|---|
| 0.679 | 0.461 | 0.865 | Regression | 1280.94 | 15 | 85.396 | 114.013 | 0.000 |
| | | | Residual | 3990.18 | 5330 | 0.749 | | |

P significant at 0.01.

and not recognized as shown from the research, not much would be achieved as it is evident. Generally, the government has not really made real strategic plan towards accurately sensitizing the masses and their ultimate in environmental management participation. They have inevitably shown they left the people to their own fate by not taking extra measure to inculcate in them, the necessary knowledge that would prevent them from environmental dangers. The little done were passed across in the language majority did not understand, thus hindering enough educative information about environmental problems.

The Indigenous Learning Process; In line with the study, the ways by which indigenous education was passed to the people are through folklores, fold drama, storytelling, folk songs, village meetings and taboos. While folklore is the traditions, customs and beliefs of a community; Folk songs or music are the chants embedded in the traditional life style while folk stories are the various tales popular with traditions, beliefs and customs passed on from generation to generation. All these forms to bring about proper socialization of a child into the community to which he / she is born, that must be done during the early childhood stage or pre-school phase to abide and form the background of their life successfully.

## RECOMMENDATIONS

An all-embracing education system should be focused on in motivating the masses. Without this the people would be like unsharpened axe which will take 100 years to fell a single tree. But when sharpened, will make work faster, effective and possible. It is clear from the survey data that the indigenous forms of education need to undergo major reforms in goals and methods, if they are to perform their educative role effectively. Thus by introducing effective and workable indigenous methods in conjunction with the formal education method through either the mass media or schools, will build a very strong society that is environmentally conscious and sustainable. Women's forum should be organized to specially train women. More programmes on radios, television and village meetings should be more targeted towards building a problem and pollution free environment Indigenously, stage dramas, play lets and films in traditional forms should be produced and freely distributed through community organizations

and local government to various settlement matters, with the ultimate goal of enlightening them towards environmental matters and threatening issues.

Penalties should also be incorporated and be implemented through the local chiefs and obas (king). This is because of two advantages: laying hold on traditional heads will lead to effective and comprehensive hold on the little settlements under them. In all, many settlements can be effectively taken care of this way without much burden on the central government and state government and secondly the closeness and the understanding that exist between these chiefs and their people will lessen the job to be done and make it easier. It is an acceptable fact by now, that the better the people's understanding of the environment, the more effectively, it can give support to development. Hence, planners will need to venture outside their 'sphere of influence' and moved from the era of "blue prints" to the height of citizen participation. A general awareness of the environment and its associated problems is however required among policy makers and the public for better integration of environmental concerns into development planning. A planner's education ought to include exposure to the ways of life and attitudes of mind of the whole range of people he is to serve Also, as noted earlier, these in need for continuous research to enlighten individuals, communities and government about the nature of the environment problems and the best ways of coping with them.

For planners and architects to design and plan a better environment devoid of pollution and other environmental problems there is need to incorporate environmental concerns into our educational curriculum as well as in the programme of public information and awareness. This implies that environmental problems are essentially, people centred. Participation and support are therefore necessary in solving these problems.

## Conflict of Interests

The author has not declared any conflict of interests.

## Conclusion

The argument of this paper is that since the advantages of this informal learning system have been known, it should be incorporated into the nation's learning system for the overall benefit of the environment and the people that live in it. Until we know our individual and or joint responsibilities to our environment, we will not be able to relate much more intimately and effectively with the environment. But we will not know these responsibilities until we are adequately sensitized through the various learning systems and especially by capitalizing on the informal which is the most enduring and the most pervasive of these systems. It is now time to formalize this hitherto informal learning system through its integration into the curriculum for sustainable health of the Nigerian environment and its people. Government should acknowledge public's substantial power to slow or stop regulatory or permit activities. Once this is done, a reduction in community resentment is guaranteed for government policy. Thus, people and the type of education given to them should be major agenda on environmental management issues now, for all to be well.

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