# Intergenerational Learning: Eco-Literacy Approach for Preserving Endangered Trees in Onicha Igboeze, Ebonyi State

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## Abstract

The study aimed at how intergenerational learning can be utilized as eco-literacy approach for preservation of endangered trees in Onicha Igboeze, Ebonyi State. Three research objectives and three research questions guided the study. The study was a qualitative research and it adopted narrative inquiry design. The population of the study is forty-one (41) community chieftains and all were sampled for the study. The instrument used for data collection was interview schedule. Data analysis was carried out by transcribing voices obtained from audio-recording into text-based format. Findings reveal that traditionally, tree planting is rooted in the traditional belief system of the people; that respondents were of the view that disappearance of tree is basically due to modernity, western religion; and that the respondents are not adequately environmentally literate. Based on the findings, the researcher recommended that awareness of replanting of trees should be intensified; and that government and other stake holders in the environment should intensify efforts toward provision of eco-literacy programme that is based on intergenerational learning approach at community level.

# 1 Introduction

n most rural communities in Eastern part of Nigeria, trees were formally planted around the home for the purpose of establishing boundaries between households. Others are planted at the center of the compound to indicate the presence of a deity, which protects the household. Some are planted at the village or market square for some significant religious beliefs attached to the trees. Today, the culture of tree planting around the home and community environment has gradually fizzled out due to modernization and ignorance of the people of the intrinsic values of trees around their homes. In most communities in Onicha igboeze, custom mandates every head of household to plant trees such as newbouldia laevis (ogirisi), nymbodia (oboko isi), baphoa nitida, detarium macrocarpum (ofor), crescentia cujet (calabash tress), artocarpus heterophyllus (sycamore tree), artocarpous altilis (breadfruit tree), pentaclethera macrophylla (ugba tree), treculia africana (ukwa), prosopis Africana (achi tree), Uri, camwood or baphia nitida or camwood (ughe), cotton plant (osisi-oghi or apku), and so on around the home environment. These trees are traditionally planted for:

1. Marking boundaries among households; 2. Making fence around their homes; 3. Indicating the presence of a deity reverenced for long life, unity, protection and guidance of members of the household; 4. Medicinal purposes; 5. Storing yam after harvest and prevent it from getting rotten before they are consumed or kept safe for next planting session; and 6. Economic purposes, and 7. Beautification of houses. This traditional importance of trees can be categorized as extrinsic values (external values) of trees to man (anthropocentric perspective), which actually do not reflect the intrinsic values (internal values) of trees to human well-beings (ecocentric perspective).

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Trees are essential to well-being of man on earth because they are primary sources of oxygen and carbon dioxide, they absorb and cleanse environmental contaminants from the air, moderate the climate, conserve water and soil for sustenance of life on earth. Rural community members who plant trees around their homes are ignorant of essentiality of intrinsic values of trees to human well-being and sustenance of life on earth and this has prevented them from continuing to plant trees around their homes in the name of modernity. Most of the trees they plant around their homes are gradually going into extinction due to ignorance of the values of these trees to their live which goes beyond what they originally plant the trees for.

However, reviving the culture of tree planting among the people of Ebonyi state requires the education of the community members on the intrinsic value of trees around their home as distinct from their cultural belief system, which prompted their action of tree planting previously. In oder to bridge the gap of cultural belief of tree planting and the intrinsic value of tree planting, there is need for the community members to be eco-literate through eco-literacy programme. Signal of impacts of gradual disappearance of trees around their environment is obvious to them but due to extreme level of eco-illiteracy inherent in their society, their understanding of the the signals is made difficult, let alone having the means to respond.

The main thrust of the eco-illiteracy inherent in this society is due to supremacy of indigenous knowledge of importance of tree that is rooted in cultural belief system which the people have decided to discard due to "modernity". The continual neglect of these ecological resources will not only affect the health and well-being of the community members, it will also lead to extinction of these tree species which are cultural identity to the people of Ebonyi State due to their peculiarity. Thus, for preservation of these cultural identities, there is need for intergenerational learning. It is based on this that this study is been carried out to examined how these endangered species of trees can be preserved through intergenerational learning approach.

# 2   a) Statement of the Problem

Trees such as Ogbu, cotton plant (osisi-oghi or akpu) are being regarded as trees of life among the people of Onicha, Igboeze. These species of tree are planted on a land designated for building a living house before one can start erecting the house. Planting of these tree on any piece of land signify ownership of such land for the purpose of building a house but before the building of house, some form of rituals are also performed to signify longevity which the tree stand for. Some other species such as newbouldia laevis (ogirisi), nymbodia (oboko isi), Uri, camwood or baphia nitida or camwood (ughe), and so on are planted for fencing, making of yam barn, beautification, medicine and consumption, (see appendix).

Most of these trees are no longer seen around the communities due to the inability of the community members to replant them after cutting them down. The community members are ignorant of eco-systemic imbalance caused by their actions on the environment. The continual cutting down of these trees without replacement, also leads to the extinction of these trees and the future generation will not experience the unique cultural identity conveyed by them. However, to bridge the gap of ignorance of tree planting impact on the environment and the preservation of the tree species for future generation requires eco-literacy through intergenerational learning approach.

# 3   b) Purpose and Objectives of the Study

The purpose of this study is to determine how intergenerational learning can be utilized as eco-literacy approach for preservation of endangered trees in Onicha Igboeze, Ebonyi State. Specifically, the objectives of the study are to:

1. Identify the significance of tree planting around the home; 2. Find out why trees are no longer being planted around the home environment again; and 3. Find out community members' level of eco-literacy.

# 4   c) Research Questions

Based on the research objectives, the following research questions guided the study.

# 5   Literature Review a) Concept of Eco-Literacy

Eco-Literacy according to Capra (2003) aims at replacing fragmentary thinking with new cognitive and social capacities necessary for the design of sustainable ways of living. Capra (2003) further explained that in order to achieve sustainability of our environmental resources, we need to dig deep into the roots of cultural assumptions and rework the conceptual apparatus of eco-illiterates. Community members are not eco-literate; they lack the understanding and knowledge of relationship and interactions that exists between human and other environmental resources such as trees. Although they have knowledge of traditional medicinal benefits of most of the trees to man's life but this did not stop them from cutting down these trees without replanting them. This is in line with Orr's (1992) warning that there has been a steadily growing void between the control of humanity over its environment and the lack of specific and general knowledge about it among individual resources such as endangered trees.

Eco-literacy on the other hand, promotes sustainable community, and the continual cutting down of tree will result in the extinction of these trees and the future generation will not have the opportunity of experiencing these environmental resources. Capra (1999) emphasized that, being eco-literate goes beyond the mere identification

of plant and animal species to understandings and knowledge of the ecological relationships and interactions and the long-term impact of human action on the environment. In order to further promote the knowledge of cultural environmental knowledge and the need to preserve trees, intergenerational learning approach is required to enable the older generation and younger generation to interact and learn from one another on the beneficial impacts of tree planting and sustainability of endangered trees for the future. Intergenerational learning is a lifelong learning approach that describes the way the older and younger generation can learn together and from each other.

Eco-literacy is the ability to understand the organization of natural systems and the processes that maintain the healthy functioning of living systems and sustain life on Earth. An ecologically literate person is able to apply this understanding to the design and organization of our human communities and the creation of a regenerative culture. Eco-literacy according to Goleman, Bennet and Barlow (2012) provides learners not only with the knowledge but also with the competencies required to address complex ecological concerns in a collaborative way. It also provides students the ability to integrate concepts of sustainability into professional practice issues promoting an ecocentric professional.

Capra (2009) explained eco-literacy as the ability to apply the concepts of sustainability to communities and that it is the knowledge required to understand and apply the principles of ecology.

McBride, Brewer, Berkowitz, & Borrie (2013) asserted that the components of eco-literacy frameworks address effect, ecological and socio-political knowledge, knowledge of environmental issues, cognitive skills, and environmentally responsible behaviours while Locke, Russo and Montoya (2013) emphasised that ecoliteracy is more than having the knowledge required to identify and list components of the environment, it is the ability to participate in informed decision making. In view of this Feeg (2009) observed that: General awareness of the relationship between the environment and human life is the base of the educational process. Building upon this base, the steps overlap in real life but can be integrated into the curriculum. Knowledge and understanding of human systems is critical, but not sufficient as attitudes of appreciation and a concern for the environment must be shaped.

To **??**apra in Smith (2007), a level of eco-literacy is critical before sustainability can be considered and responsibility for the earth's health be assumed. Thus, to be eco-literate, it requires an understanding of three fundamental ecological principles which are:

A recognition that life's basic pattern of organisation is the network; Matter cycles continually through the web of life; and All ecological systems are sustained by the continual flow of energy from the sun. Smith-Sebasto in Capra (2003) emphasized that though eco-literacy requires a degree of awareness of the physical environment, it has gone beyond the mere identification of plant and animal species; to understandings and knowledge of the ecological relationships and interactions; and the long-term impact of human action on the environment. Eco-literacy thus provides a value system that promotes environmental understanding and respect for a relationship between humans and their surroundings that does not give primacy to human existence over its environment.

# 6    b) Concept of Intergenerational Learning

Intergenerational learning is a learning approach that cut across generations. Generation according to Liebau in Franz and Scheunpflug ( **??**016) is a concept that can be explained in three different ways which include that generation is genealogical, pedagogical and historical-sociological. Generation defined as genealogical implies genetic succession of related family members such as grandparents, children, and grandchildren; Generation defined as pedagogical characterises generations as learning connections where generations come together for learning purposes. One generation takes over a teaching role, while the other generation acts as learners. Generation defined as historical-sociological refers to different groups in a society as generations. Proponent of this perspective argued that generations are categorised by their collectively shared political and cultural experiences. In view of the explanations of different definitions of generation, it will be deduced that Intergenerational learning is not a new learning approach. In Nigeria, it predates history because transmission of knowledge from old to young and young to old is embedded in Nigerian culture.

In most cultures in Nigeria, intergeneration learning takes place in form of moonlight stories where the old impact knowledge to the young through storytelling and the young ones also reciprocate by telling the old one some of their observations as it relates to the present situation. This is an informal approach of intergeneration learning. However, intergenerational learning can be defined as informal passing down of culture and knowledge between the older and younger generation in a given society. Through intergenerational learning, older generations are regarded as "productive aging group" because it is assumed that the elderly are valuable intellectual resources not burden to the society. In view of this, Meese (2005) pointed out that intergenerational learning involves three conceptual approaches to the learning process between different generations, which are that:

1. Generations learn from each other: This approach highlights the fact that one generation is able to inform and support another generation. 2. Generations can learn with each other: The participants are working and learning together on topics that are new to the whole group.

# 7   Generations can learn about each other. Learning about each other means focusing on the historical and biographical living conditions and experiences of another generation

Intergenerational learning is a learning approach that enables the transmission of knowledge, skills, competencies, attitudes, and habits from the younger generations to the older ones and the other way round. This learning process provides avenue for 1.

# 8   2.

# 9   3.

generations to learn more from each other and also to understand perspectives of other generations without necessarily adopting them. Boström, Hatton-Yeo, and Ohsako (2000) asserted that intergenerational learning programmes are channels in which purposeful exchange of resources and learning among the older and younger generations can be achieved. While **??**ewman and HattonYeo (2008) observed that the goal of intergenerational learning programme is to create opportunities, where interactions between the young and old promote social growth and learning in informal settings. In support of this, Tuijnman and Boström (2002) pointed out that informal learning occurs when people learn from one another, which includes values, attitudes, knowledge and skills.

# 10   c) Trees and Home Environment

Trees provide numerous economic and ecosystem services that produce benefits to a community, but also incur various economic or environmental costs. Through proper planning, design, and management, trees can improve human health and well-being in urban areas by moderating climate, building energy use and reducing atmospheric carbon dioxide (CO2), improving air quality, providing an aesthetic environment and recreational opportunities, mitigating rainfall runoff and flooding, lowering noise levels and producing other social/environmental services. Nowark, Hirabayashi, Bodire and Hochin (2013) pointed out the following as importance of trees to the environment:III.

# 11   Methodology

This study is a qualitative research and the research design adopted for this study is narrative inquiry. Narrative inquiry according to Clandinin and Connelly ( **??**000) is an umbrella term that captures personal and human dimensions of experience over time, and takes account of the relationship between individual experience and cultural context. They further explain that narrative inquiry is a means by which we systematically gather, analyse, and represent people's stories as told by them, which challenges traditional and modernist views of truth, reality, knowledge and personhood. It reflects memorable, interesting knowledge that brings together layers of understandings about a person, their culture and how they have created change. The researchers adopted this design because of the historical base of the importance of trees in the area of study.

The population of the study is forty-one (41) community chieftains, which include thirteen traditional Prime Ministers of the thirteen autonomous communities in Onicha Igboeze (Eziga, Okpoma, Anike, Isiama, Ugwu-odida, Ezekporoke, Anwutu, Amanator, Umubo, Umudomi, umu-ezuvbu, Amata, Amakporo), thirteen Chairmen and thirteen Vice-Chairmen of Town Unions of these communities, and two Traditional Rulers that govern the two major clans. The entire population was sampled and used for the study. The instrument used for data collection was interview schedule. The researcher adopted a face-to-face interview with each of the respondents. The narrative inquiry method was employed and each of the respondents narrates the stories relating to the planting of the trees being studied. Guiding questions were drafted prior to the interview to ensure that the respondents cover the key areas under investigation in this study when telling the stories and the interview was audio-taped. Data analysis was carried out by transcribing voices obtained from audiorecording into text-based format.

IV.

# 12   Results and Findings

The text-based format transcription was interpreted based on deductive approach of theme analysis, this approach collects stories and sort them by their attributes into etic taxonomy (Etic analysis is the 1. Air Temperature: trees transpire water through leaves and shading surfaces, also reduce air temperature. Reduced air temperature can have a direct impact on human health and also reduce emission from various sources such as power plants, which will consequently affect human health. linking of concepts to behaviour and to outcomes). They were analysed under three distinct themes, which are:

1. Significance of Tree planting around home; 2. Reasons for disappearance of trees around the home environment; and 3. Community members eco-literacy level.

The results and findings were summarized as follows: a) Significance of Tree Planting Around Home Majority of the respondents narrative corroborates same stories concerning the origin of planting of trees such as Ogbu tree which signifies authority and long-life for members of household; cotton plant (osisi-oghi or apku) for unity; newbouldia laevis (ogirisi) is chosen as special god called chi,(the personal god of the individual); crescentia cujet (calabash tree) which serves as traditional container for fetching water, and so on. (see appendix for pictures of the trees). The traditional ruler corroborates the stories of the community representatives as follows:

"Ogbu tree is a significant tree in the history of Onicha-Igboeze because houses cannot be built on any without the ritual of planting of ogbu tree. Ogbu tree signifies ownership and authority over any piece of land it is planted on. When ogbu tree is planted, leaves of cotton plant (osisi-oghi or akpu) is usually cut and squeezed in a local calabash as recitation of unity are pronounced that everybody that will dwell on the said portion of land will be united. These trees are significantly important due to the cultural belief attached to them and they are Onicha-Igboeze unique cultural identity".

The second traditional ruler narrated the stories of how people of Onicha-Igboeze were known for their traditional medicine for treating ailment such as rheumatism, burns, snake bite, bone fracture, and so on, from the extraction of the leaves and bark of trees such as nymbodia (oboko isi), abosi tree, and so on. His story goes thus: When any member of the community suffered from any of the ailment above, he or she is referred to the family known for the treatment of that particular disease and they utilise the by-products of these trees to cure the patient but this form of traditional medicine is fast disappearing due to non-availability of the trees and also the neglect of our tradition.

# 13 Another respondent narrates his experience as:

"Yam cultivation was formally the core occupation of a typical Onicha-Igboeze man, a wealthy man is known by the length and breadth of his yam barn. We plant new bouldia laevis (ogirisi), nymbodia (oboko isi), baphoa nitida and Abosi to construct barn for storing our yams. We also use them as fence around our home to demarcate one household from another. These are our historical identity that is gradually facing out.

The conclusion is that traditionally, tree planting is rooted in the traditional belief system of the people of Onicha-Igboeze and because of their cultural belief system, they developed much interest in the planting of trees around their home but this unique aspect of their historical life is gradually disappearing.

# 14 b) Reasons for Disappearance of Trees around the Home Environment

The respondents were of the view that disappearance of trees around their home can be traced to the movement from mud houses to brick houses. They narrated their experiences of how leaves of Uri, and baphia nitida or camwood (ughe) was the paint they used in beautifying the mud houses. They were also used as adornment of beauty by women. A respondent specifically gave this narrative:

In the olden days, our women use to beautify themselves with the products of these trees around our home. Our women are known for their natural beauty derived from these trees' products but today, they adorn their body with foreign beauty products and neglect their cultural identity. The quest to be modern has truly relegated our cultural heritage and trees significance attached to these trees due to their customary importance have been replaced.

# 15 Another respondent said:

Christianity has upturned our culture and categorized it as fetish. The culture of planting ogbu tree and cotton plant (osisi-oghi or akpu) for long-life and unity has been replaced with Christian faith. Today instead of our people planting ogbu tree and cotton plant (osisi-oghi or akpu) on the land they want to build on, they call pastors to pray on the land. The culture of ogbu tree and cotton plant (osisi-oghi or apku) is now regarded as primitive culture and fetish.

# 16 Another respondent narrates that:

Trees were formally planted around our homes but these trees became so big that the branches are encroaching and are destroying the roof cover (zinc) of our building. We decided to cut them down and some that were not close to the building shed much leaves and leave the compound always littered with too much leaves.

The narratives above, shows that respondents were of the view that disappearance of trees is basically due to modernity, western religious belief and to safeguard their modern buildings that have replaced the mud houses from been destroy by the over grown trees.

# 17 c) Community Members Eco-Literacy Level

Majority of the respondents narrated their experiences on how tree parts are used for treatment and cure of different ailments such as rheumatism, arthritis, bone setting, and treatment of burns. Some of the respondents also narrated their experiences of how they use to enjoy fresh air from trees around their homes.

# 18 A respondent explains that:

Formerly, we use to feel the fresh breeze from the trees around our home and when we want to rest well, we do go under the tree canopies to rest and even sleep. When trees are around our home environment, we sometimes kill bush meat that comes around them. Today, we hardly find any of these animals around us again.

The narrative above implies that the respondents are not adequately environmentally literate. They possessed the knowledge of extrinsic value of trees to man not its intrinsic value that is rooted in ecoliteracy principles.

V.

# 19 Discussion of Findings a) Significance of Tree planting around home

Respondents' narrative on the significance of tree planting around their homes is rooted in their cultural belief system and custom. This practice distinguishes a typical Onicha-Igboeze community member from another ethnic group. Community members culturally depend on the protective power they accord to some of these trees. Culture of people is their identity that needs to be sustained for the future generation to experience. The culture of planting trees such as Ogbu plant, newbouldia laevis (ogirisi), nymbodia (oboko isi), baphoa nitida, detarium macrocarpum (ofor), crescentia cujet (calabash tress), artocarpus heterophyllus (sycamore tree), treculia africana (ukwa), prosopis Africana (achi tree), Uri, camwood or baphia nitida or camwood (ughe), cotton plant (osisi-oghi or akpu), and so on, are cultural identity of the people of Onicha-Igboeze that need to be cherished and sustained for the future generation not only to be told as stories but for them to experience such trees.

Lustig (2013) observed that cultural identities are central to a person's sense of self because cultural identities "are central, dynamic, and multifaceted components of one's self concept. Therefore, people should internalise the beliefs, values, norms, and social practices of their culture and identify themselves with that culture. This will make their culture to become a part of their self-concept.

# 20 b) Reasons for Disappearance of Trees around the Home Environment

Respondents' narratives reveal that modernization and Christianity contributed greatly to the abandonment of their culture of tree planting around the home. That due to shift from mud house structures to block houses roofed with zinc roofing sheets, the trees are been cut down for it not to destroy their new modern buildings. This response is based on the ignorance of the people that trees around the home do not destroy buildings if properly managed. It also shows that respondents are ignorant of the relationship that exist between humans and plants, and the idea of tree planting being fetish due to religious belief, is rooted to western domineering attitude over our culture. This is in line with Lent in Graham's (2018) argument that the peculiar character of Western religious and scientific thought, that has come to dominate the rest of the world, has pushed both human civilization and the rest of the living world to the brink of collapse, and that to change our behaviour, Lent suggested that humans need a culture shift that redirects humanity's path to a flourishing future. In view of this, Lent in Graham (2018:2) maintains that: "Each culture tends to construct its worldview on a root metaphor of the universe, which in turn defines people's relationship to nature and each other, ultimately leading to a set of values that directs how that culture behaves. It's those culturally derived values that have shaped history.

He further explained that nature is not new. It has simply been ignored by our western culture. Domination and control of Nature is the westerner's idea of existence. But nature according to Lent in Graham (2018) operates in a harmony created by interconnection and interdependence that is necessary for life's critical energy to flow between and through all forms of life. It is this unwillingness of the western humans to accept the physical reality of how nature operates that could ultimately destroy our race. Nature can live without humans, but humans cannot live without Nature.

One perspective of this crisis comes from the concept of deep ecology which suggests that we humans should free ourselves from behaviours based on outmoded notions of our separateness from Nature. This explanation is rooted in deep ecology assumptions which are:

1. All life has value in itself, independent of its usefulness to humans. 2. Richness and diversity contribute to life's well-being and have value in themselves. 3. Humans have no right to reduce this richness and diversity except to satisfy vital needs in a responsible way. 4. The impact of humans in the world is excessive and rapidly getting worse. 5. Human lifestyles and population are key elements of this impact. 6. The diversity of life, including cultures, can flourish only with reduced human impact. 7. Basic ideological, political, economic and technological structures must therefore change.

Those who accept the forgoing points have an obligation to participate in implementing the necessary changes and to do so peacefully and democratically.

# 21 c) Community Members Eco-Literacy Level

Findings revealed that community members are not adequately eco-literate, they possessed traditional eco-literacy knowledge and skills that did not stand the wave of modernity. Community members need to be equipped with requisite eco-literacy in order to promote sustainable community. They need to recognise that the earth is an

intricate system of relationships that we are part of, and to live accordingly. Eco-literacy is concerned with the understanding of principles of organisation of ecosystems and their potential application to understanding how to build a sustainable human society. Wolfe (2001) observed that the guiding principles of eco-literacy is provision of a framework that is relevant to the health and creation of sustainable communities in which human ideology, activities and technologies do not interfere in the natural capacity of the eco-system to sustain life. Thus, the cycle of valuing and appreciation of importance of trees to community members begins with the development of knowledge and understandings and continues to grow as people learn about what they value and value what they know.

However, the development of knowledge and understanding and its continued growth among the community members depends on the eco-literacy approach. Intergenerational learning opens up a space for generations to learn more about each other, to understand perspectives of other generations without necessarily adopting them. However, promotion of continuous planting and preservation of endangered tree species in community through intergenerational learning will result in the old and the young generations learning more about the endangered trees during their own generation and about trees' benefits to man from present generation.

# 22 VI.

# 23 Conclusion

The culture of tree planting around the home environment among the people of Onicha-Igboeze, which is gradually eroding, can be revived through provision of adequate eco-literacy programme that will be based on intergenerational learning approach.

VII. Recommendations 1. Awareness of replanting of trees should be intensified in order for community members to be more informed of essence of tree planting around the home environment; 2. Due to ignorance of other values of trees, that is beyond community motives, they cut down trees, this scenario needs to be bridged through adequate eco-literacy programme; and 3. In order to promote community eco-literacy level, government and other stake holders in the environment should intensify efforts towards ecoliteracy programme at the community level.

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Figure 1: Figure 2 :

Figure 2: Figure 3 :

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