

Promoting Sustainable Environmental Education through Socio-Cultural Values in Africa

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Abstract- In Africa there is a high dependence on biological resources for survival. Consequently, it is expedient to evolve a means of managing natural resources in a sustainable manner. This paper identified the inadequacy of western model of conservation in the management of natural environment in Africa. It puts in perspective that the African traditional indigenous systems for environment management were appropriate and culture-based. It suggested a system of education packaged within the framework of this indigenous coping strategy that enjoys a higher degree of flexibility and will facilitate understanding of modern and western model of environmental management.

Index Terms- Conservation, Ecosystem, Degradation, Indigenous Knowledge, Livelihoods, Resource Management.

I. INTRODUCTION

The issue of African environments has featured in studies across various disciplines in the natural sciences, social sciences and the humanities. The various natural resource management policies programmes and strategies have marginalised the involvement of traditional institutions and indigenous knowledge systems (Aniah, Aasoglenag and Bonye, 2014), whereas for us to understand the importance of Africa indigenous or traditional knowledge system in contributing to ecological sustainability, we need to have an understanding of the African world views, its cultural heritage, values and ecological construct. We also need to understand African myths that explain the various cultural practices of African people (Obiora and Emeka, 2015). The objectives of management of land, water, and living resources are a matter of societal choice...different sectors of society view ecosystems in terms of their own economic, cultural and societal needs. Indigenous people and other local communities living on the land are important stakeholders and their rights and interests should be recognized. Ultimately, all ecosystems should be managed for the benefit of humans...whether that benefit is consumptive or non-consumptive. Achieving these "societal choices" in terms of the element of biodiversity, calls for the juxtaposition of the different values and interests of the stakeholders, in order to work together to set international concepts.

This underscores values in biodiversity conservation. There is a spiritual, economic, aesthetic, cultural and scientific dimension to how people value biological resources. Biodiversity also has its international, national and local scope. Conservation

of biodiversity is directly relevant to indigenous and traditional people, for whom biological resources often represent their primary source of livelihood and spiritual values. They have cultures that are closely integrated with local nature of environment. These communities have a strong stake in conserving the natural resources around them that sustained their livelihoods and cultures (USAID, 2005). Many traditional societies in Africa fostered belief system as well as social norms which regulate the exploitation of biological resources. Economic change, population growth and other factors, however, have brought far-reaching shift in traditional platforms (Biodiversity Programme, 1995).

The economic and development realities of the day have subjected African ecosystems to intense pressure culminating in rapid degradation. This degradation manifests itself in poor management practices, sometimes to survive from natural desire have engendered the over exploitation of natural resources (indigenous food crops, useful plants, animal, water and land) that form the mainstay of the livelihood of most Africans (Okaba, 2003) this is most noticeable in deforestation, in the loss of productive capacity of soil used for cultivation and pasture, in serious distortions in the hydrological balance and access to water resources and in the continuing loss of plant genetic resources. In Africa, people depend on primary source of biological resources to a far greater extent than most other parts of the world. While ethno ecologists and anthropologists provided detailed descriptions about indigenous groups rich inheritance of environmental knowledge, specific ethnographies of the circulation of local knowledge and of its incorporation in non-traditional settings are relatively scarce (Lanzano, 2013).

Education and Environmental Sustainability Nexus

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II. TRENDS IN NATURAL RESOURCE CONSERVATION

Every human society has its own means of managing natural resources. Social organization for the management of natural resource is a fundamental attribute to human communities (Borrini-Feyerabend, Pimbert, Favara, Kothari and Renard 2004). Traditional ecological knowledge promoted harmony between mankind and the environment and a healthy concept of how to relate to it...a reinvention of past African ecological ethics and the sets of moral order referred to earlier in African society would be necessary in the face of the current ecological crisis

bedeviling the entire universe (Obiora and Emeka, 2015). It is also an established fact that local people have a rich and detailed knowledge of local plants, animals and the ecological relationships known as Traditional Ecological Knowledge (TEK) or Indigenous Knowledge System (IKS) (Alcorns, 1997). The application of this knowledge system in natural resources management culminates in Indigenous Resource Management (IRM) system. It is an indisputable fact that indigenous African communities had evolved a well-developed traditional indigenous knowledge systems; an institution for the management and environment properties and resources with coping strategies. Everyone had access to these resources, though limited because of traditional taboo, beliefs and customs. Institution were organized in a manner that management of resources was in harmony with the environment they live in. these indigenous institutions like which had evolved out of local traditions were part of the community, the resources, users and the decision makers were one and the same working and collaborating in partnership for the common good of their communities (Okaba, 2003). The system also put in place laws and norms that were enforced with potent and unquestionable authority coupled with generally acceptable checks to prevent and avoid the unsustainable exploitation of natural resources. These communities can easily identify with this knowledge while it facilitates their understanding of the contemporary modern scientific environmental management system.

III. FEATURES OF WESTERN CONSERVATION METHODS

Western model of conservation has its root in colonialism, because it was introduced into Africa with the advent of colonialism. Adams (2003) quoted in Murombedzi (2003) argued that colonialism can be seen as an outworking of bureaucratic rationalisation and that this rationality has four dimensions, all of which were features of colonial states. They are:

- The development of science and technology and its deployment to manipulate nature
- The expansion of capitalist economy
- Formal hierarchical organisation (the creation of executive government, transforming social action into rationally organised action)
- The elaboration of formal legal system

Thus, it presupposes that cultural and the social could be uncoupled from nature, since reason had allowed humanity to escape from nature and to remake it (Murombedzi 2003). “ The acquisition of colonies was accompanied by, and to a large extent enabled by, a profound belief in the possibility of restructuring nature and re-ordering it to serve human needs and desires” (Adams (2003) quoted in Murombedzi 2003). Science was the mechanism by which this could be achieved, and science and conservation developed hand in hand

It thus becomes incontrovertible to agreed that European colonization colonised not only humans, but nature as well (Plumwood, 2003; Grove, 1995; MacKenzie, 1991 cited by Murombedzi (2003). In direct contrast to the African intuition regarding the unity between nature and society, colonial ideas about nature were based in the European Enlightenment's

dualism between humans and nature. In this construction, nature is seen as a resource for human use, and wildness as a challenge for the rational mind to conquer (Adams, 2003 cited by Murombedzi (2003). European colonization itself was based on the application of rationalist ideology to both humans and nature. In this ideology, indigenous peoples and their lands are portrayed as areas of rational deficit - unused, empty, and underused. Thus the imposition of European rationality on this irrational landscape is justified through a form of anthropocentrism which sees indigenous cultures as primitive and less rational. The colonization of nature thus relies on a range of conceptual strategies that are employed also within the human sphere to support supremacism of nation, gender (the white male) and race (Plumwood, 2003 cited by Murombedzi (2003). These human/nature dualist anthropocentric conceptual strategies which exaggerate differences while at the same time denying commonalities between humans and nature, include):

•Radical exclusion : This functions to mark out the 'Other' for separate and inferior treatment. Nature is treated as Other, and humans are separated from nature and animals. Nature is a separate lower order, lacking any real continuity with the human. At the same time, the colonizing groups associate themselves with mastery of nature.

•Homogenization/stereotyping : The Other is not an individual, but a member of a stereotyped class, thus making it interchangeable, replaceable and homogenous. Nature is treated as interchangeable units, as resources. Radical exclusion and homogenization work together to produce a polarized understanding in which human and non-human spheres correspond to two quite different substances or orders of being in the world.

•Polarization: Radical exclusion and homogenization work together to produce a polarised understanding in which overlap between the human and non-human spheres are denied and discouraged. Nature is only nature if it is 'pure', uncontaminated by human influence, as untouched 'wilderness', while human identity is separate from and outside of nature.

•Denial, backgrounding: Once the Other is marked as separated and inferior, there is strong motivation to represent them as inessential. In ecology, the colonised are firstly denied as uncivilised. Their prior ownership of the land is denied, and their land is seen as terra nullius - with no pre-existing regimes of rights to it. Nature is seen as a basically inessential constituent of the universe

•Assimilation: The colonized are devalued as lacking the colonizer's essential quality - reason. Differences are judged as deficiencies, and therefore as grounds of inferiority. The order of the colonized is represented as disorder. Thus the colonized and their disorderly space are available for assimilation and use by the colonizer. Similarly, the intricate order of nature is presented as disorder, to be replaced by human order in development.

•Instrumentalism: The colonised Other is reduced to being a means of the coloniser's ends. The extent to which indigenous peoples were ecological agents who actively managed the land is denied, and they are presented as largely passive in the face of nature. In ecology, nature's agency and independence are denied, subsumed in, or remade to coincide with human interests. Since the non- human sphere is empty of purpose and devoid of agency of its own, it is appropriate that the human colonizer impose his

own purposes. Thus, it is significant that the definition of places as wild played an equally important part in pre- and post-colonial conservation. While pre-colonial notions of 'wild' were applied to abandoned places or places untouched by human use, the same notion was used in colonial conservation through the suppression of knowledge of the extent and scope of human occupation in a process of creating ideologically significant landscapes (Adams, 2003). In colonial conservation, ideology replaced religion as the basis of conservation practices. "The colonial period saw a distinctive pattern of engagement with nature: a destructive, utilitarian and cornucopian view of the feasibility of yoking nature to economic gain" (Adams, 2003 quoted in Murombedzi (2003).

Western Model of conservation was introduced during the colonial period, when selected sites were set aside and most human exploitation within them was prohibited. The loss of power of local communities has corresponded to a rise in power of national, states and private individuals and corporations. New bureaucracies, economic enterprises, associated with monolithic views of progress and rational order, have expropriated from indigenous and local communities many of the decisions and privileges that used to be their own. This led to a situation where many customary and community-based natural resources management systems were over-looked, negated and simply crushed in the name of modernization and development... Their viable, relatively simple model to operate, modest and time tested solutions to natural resources management problems, embedded in unique local knowledge and skills, are substituted by powerful and locally untested foreign solutions (Okoba, 2003). It is germane therefore to devise means by which cultural practices and values systems that fostered conservation in pre-colonial Africa can be encouraged, strengthened and replicated and incorporated in present day conservation initiatives.

IV. AFRICAN INDIGENOUS AND WESTERN CONSERVATION METHODS

It has been realized that the adoption of Western Model of conserving biodiversity in the trickle-down fashion has failed to yield reasonable result. Lack of recognition, understanding and use of Africa indigenous knowledge, technology and practices have contributed to environmental degradation and to biodiversity loss. The knowledge and skills developed by Africans in many millennia of adaptation to, and manipulate of their land, flora and fauna constitute an invaluable largely untapped resources. The use of African knowledge together with input from modern biological science is required in order to realize the goal of sustainability in biodiversity and development programs (Biodiversity Support Program, 1995).

Research works across Africa has indicated that the pre-colonial natural resources management systems were usually more sustainable in natural resources and biodiversity terms than the system imposed in colonial and post-colonial times (Leach and Mearns, 1996). The survival of African's in the pre-colonial period and even in contemporary world depends on free access to a variety of biological resources for food, fuel, housing materials, medication and economic security.

It is observed that African traditional religion is a religion with environmental characteristics, features and symbolism; but the proponents and propagators of Christianity saw the African traditional religions, belief systems, worship and practices as rather inimical to the growth, unity, peace and cohesion of our communities, whereas, this is exactly what the African traditional religion stands for in every society or community (Appiah-Opoku, 2007 quoted by Eneji, Ntamu, Unwanade, Godwin, Bassey, Williams and Ignatius 2012)

Religion is part and parcel of human existence as such religion constitutes a key to natural resources management and conservation. Traditionally, religion plays an integral role in linking people to the natural, imbuing them with the knowledge and values that make caring for the environment a priority (Obasola 2013). African traditional religion has been latently been discovered to be one of the efforts geared towards the preservation of both forest and other natural resources. African traditional religion has inherent environmental resources conservation and management principles (Eneji, Ntamu, Unwanade, Godwin, Bassey, Williams and Ignatius 2012). African traditional religion began as a set of code of conduct and ethics guiding the activities of man in his society. In an attempt to enforce the precepts of this new ethics and code of conduct, the community members charged with the enforcement of these rules, code and ethical behaviour formed themselves into association, where the rules, code and conduct and membership was widely jealously and accepted (Eneji, Ntamu, Unwanade, Godwin, Bassey, Williams and Ignatius 2012). Thus, most traditional African practices were consisted with modern day conservation ethics. The assumption of supernatural and psychic power to a portion of the environment and protecting such resources through taboos, laws and totemic belief helped in conserving and protecting the environment and its resources (Eneji, Ntamu, Unwanade, Godwin, Bassey, Williams and Ignatius 2012). Indigenous people utilise natural resources in quite systematic ways and with deep observance of a 'rich tradition' of norms, taboos system and assorted practices that are grounded in the religio-cultural milieu. This body of belief system shapes local people's perception of the accessibility and utility of the available natural resources (Rusinga and Maposa 2010). For example the African people in Nigeria have been involved in religious practices that engendered biodiversity conservation. There are many sacred sites scattered all over the area. The sites are traditionally protected for their spiritual value. They include forests that harbour trees, rivers and mountains. Some serve a variety of purpose ranging from burial grounds for kings. People who die of abominable diseases are believed to have been killed by gods of retribution and as such they are buried in groves deep in the forest. Some of these groves serve as habitat of local gods and deities or other forms of fetishes. These sites are large expanse of lands that are protected and conserved. Even though these groves were established, overtly, for religious and cultural belief purpose, they have covertly enhanced biodiversity conservation through a combination of taboos, restrictions, prohibitions and beliefs. No livelihood activities are allowed to take place in these groves. Burning, hunting, firewood gathering, tree felling, even farming proximate to these groves are forbidden. The African people are fond of traditional religious practices that attach strong spiritual meanings to the

components of the ecosystem and the environment. They believe that natural endowment need to be made sacrosanct and as such there must be harmonious continuity and relationship of mutual obligation between and natural resources. This found expression in conservational activities like protection of water and streams, in this case, there are some streams where fishing must not take place, in some washing is forbidden and in some fetching of water is not allowed. Both tamed and wild animal found around some particular rivers are forbidden from being hunted. Sands must not be mined around such rivers for building purpose. These restrictions are based on the belief that such rivers housed some gods and goddesses or some form of spirits that are of value to the communities, as such their abodes must be revered.

Land was held in communal tenure with chiefs being responsible for allocating each family grazing and arable land. Each community therefore has full property rights, making decisions on how land could be used sustainably in the long-term interest of the community (Okaba, 2003). African indigenous conservation culture presupposes that the community to whom the resources belong include the ancestors, the spirit, and the unborn as well as the living people, these resources are part of a unit that include living things, air, water, land, forest, reefs and the sub-surface space. Rituals often mark boundaries of the lands and waters belonging to the community (Alcorn). This promotes common care and management – pasture, forests, fisheries, wildlife and wetlands including lakes and rivers. Such communal resources are subjected to a variety of rules and regulations devised by the community themselves, and usually embedded in institutions that prove their worth through centuries of trial and errors (Borrini-Feyerabend, Pimbert, Favar, Kothari and Renard 2004). Potent as the indigenous African conservation practices seem to be, critics of the ‘cultural’ or ‘religious turn’ in conservation practices insist on the lack of precise and universal rules that would allow interpreting sacred sites as institutions explicitly aimed at the preservation of biodiversity. The lack of internationality, it is argued, necessarily invalidates the comparison between sacralisation and-modern result-oriented – conservation (Lanzano, 2013). Furthermore, by adapting ‘conservation’-defined through criterion that originated in western intellectual history and scientific thought-as a benchmark on which to evaluate non-western cultural practice, scholars and development actors might end up promoting the integration of bits of ‘other’ knowledge into framework still heavily dominated by mainstream techno science (Lanzano, 2013). Traditional conservation ethics are capable of protecting biodiversity species in particular and the environment in general as long as the local communities have a stake. In fact, Traditional ecological Knowledge systems are infused with practices and concepts and modes of teaching and learning can be related directly and indirectly to resource stewardship and conservation at different scales. However, despite considerable attention directed towards documentation of these systems and approaches to conservation, we still have limited understanding about their development, evolution and transmission overtime and space (Rim-Rukeh, Irehievwie and Agbozu, 2013).

V. ENVIRONMENTAL PRESERVATION AMONG AFRICANS

Among the African people some plants, trees, and animals are accorded spiritual reverence which forbid unrestricted interference and utilization by man. Such objects or animals must not be ordinarily utilized by man so that society does not incur the wrath of the gods. Trees like “Omeghen” nuclear afroensis, “Opepe”, Cedar, “Ikogo”, “Iroko”, “Ose”, “Aseren” and others are forbidden from being felled indiscriminately. Their felling required some rituals meant for appeasing the gods. Animal like antelope (igala) chameleon, wall gecko, sheep and duck must not be killed at will because of their spiritual implications. In the real sense of it, the covert reasons behind this restrictions is conservation of these natural resources, human utilization of them have been moderated. Some of these animals are slow moving and can be killed by man if not protected. This is applicable to the chameleon, wall gecko, duck and sheep.

Land is sacred as well as rivers among the African people. It is believed that land has the power to sustain and consume man, therefore human beings are forbidden from utilizing land and water in manner that will displease the gods who may remove the fertility in land. Pollutant must not be introduced into either land or water. In fact sexual intercourse on bare ground is a serious desecration that attracts grave repercussion. All these activities are geared towards natural resources conservation.

The traditional profession of Africans is agriculture (farming and fishing). They had well developed traditional knowledge system for sustainable agriculture and environmental management. Farmers in Colonial Africa practice shifting cultivation in order to prevent exhaustion of soil nutrient. Lands were left to fallow for multiple years. In the process of cultivation, certain seedlings of trees were not weeded or cut so that in the long run they will nurture into maturity. For instance palm seedling must be spared during cultivation of land. Pastoralists migrate through distant area to avoid erosion and overgrazing. In the riverine area, fishing activities were being regulated at interval. In some areas, every two years while in some every three years. In some occasions fingerlings caught in net would have to be released so that they could grow into maturity and reproduce before being harvested. Hunting of birds and animals were also regulated; hunters were forbidden from killing young and immature animals, females in gestation should not be hunted. The use of poisonous materials for fishing was outlawed.

There is an avalanche of traditional media used to disseminate environment issue and conservation. Among the Yoruba’s in Nigeria there are proverbs, idioms and slangs used to propagate responsible environmental behaviour e.g. the river, that forgets its source will dry up. The use of town criers in disseminating environmental information like sanitation around streams/rivers that provide portable water. There are festivals that have environmental messages embedded in them. Local folklores warn of the misfortunes that befall those who fail to respect the earth, water, wildlife and trees. These values and beliefs are learned from relatives and neighbours as part of childhood experience (Alcorn, 1997).

VI. THE WAY FORWARD

Africa has been described as a festival continent; the various annual festivals that border on natural resource conservation should be accorded prominence nationally and world-wide. The type of prominence “Osun Osogbo” festival enjoys by showcasing the oral groove and biodiversity conservation the festival enhances must be accorded other festivals of its sort in other parts of Yoruba land and in the country as a whole. These festival sites will then be made conservation sites and tourist centres that can indirectly facilitate the acceptability of features of natural resource management and enhance the emergence of environmentally responsible citizens.

Traditional rulers, priests and other custodians of culture should be carried along in the nation’s quest for coming up with policies on environmental protection. This indigenous knowledge and wisdom is germane for natural resources conservation and environmental protection. Efforts geared towards conservation of water, animal, forest, land, air and aquatic organisms should include people who are knowledgeable and have spiritual understanding of the environment. These custodians of culture should be mobilized to utilize the indigenous mode of communicating with the people in disseminating resource conservation and environmental protection messages.

Indigenous resource conservation methods and the overt and covert meanings of the taboos and restrictions should be packaged and mainstreamed into the formal school curriculum from nursery to tertiary levels. Pupils in primary schools should be made to imbibe and practice and adhere to such taboos and restrictions, given the reality that this is character formation period.

Foreign religion leaders should establish and emphasise relevant links between indigenous environmental protection and natural resources management elements and those in their Holy Books. For example, prohibition on cutting down trees during wars and the jubilee years in the Bible. Environmental issues/themes should also feature in their sermons and publications, like what the Jehovah Witness sect have been doing in publishing environmental issues like water, climate change, global warming, and forest management in their popular international magazine “Awake”.

Custodians of tradition should be consulted in carrying out ‘Indigenous Environmental Impact Assessment’ of proposed projects of governments and private concerns. This will entail consulting the deities on the appropriateness or otherwise of the projects to the sacredness of the natural resources that will be affected, be it water, forest, land or mountains. This will minimize wanton degradation of the natural environment and prevent the wrath of the gods and goddesses that can occasion natural disaster.

Environmental Education curricular need to be revisited with a view to aligning them to the needs of Africa in genera and Nigeria in particular based on the resources available at hand. A progressive and robust and approach to the transformation of education to address the crucial issue of the disparity in the utilization of traditional knowledge systems is critical to the process of emancipating traditional knowledge in both the African and international perspectives. The uncertificated and illiterate rural women and men need to be viewed only as illiterate in so far as the western education paradigms are the

standard of evaluating their knowledge, because an African perspective tends to be used to measure what the so called illiterate, rural person knows in his or her cultural and historical setting, the result that a so called intellectual might find him/herself wanting in this regard (Mutekwe, 2015).

VII. CONCLUSION

It can be seen that Africans had evolved excellent time tested and effective environmental management systems that ensured a balance between people and environment. Environmental management was practiced, though rudimentary to ensure sustainability of resources. Any violations of community taboos were dealt with in a way to deter others from breaking them. Community leaders played fundamental roles in safeguarding their subjects’ access to resources. Customary role of community ownership and allocation of use of right to community member served communities well as they were participatory. Traditional tenure system ensured the appropriate conservation of the common resources. It is when these traditional institutional arrangements were undermined that the process of resources degradation sets in (Okaba, 2003). The emergence of nation-state, expropriated from indigenous and local communities many of the decisions and privileges that use to be their own (Borrini-Fayeraband, 2004). This epoch led to crisis in taboos, customs and institutions. Traditional resources management systems were discouraged thus creating disconnect between resources users and overall decision makers, consequently, hindering the sharing information and relevant norms (Okaba, 2003).

Natural resources management is conceptualized in the context of Western and Indigenous Models. Operated in different cultural setting, traditional indigenous knowledge systems for environmental management and coping strategies in Africa had and still have a higher degree of acceptability among the people. This enhances their grasp of the components of modern environmental management system and facilitates their identity with this modern trend in environmental management. On the other hand, western model of conservation was introduced through colonial period when protected site were established. Rather than being an integral component of the existent social system, these protected areas were externally imposed.

Neither the traditional nor western model is potent enough to abate the myriad of environmental problems and challenges of the twenty first century. In isolation, indigenous conservation method is shrouded in mystery and superstition. It is also largely informal in its modus operandi. Many of its features are not explicitly meant for environmental purpose. Rather they are embedded in other components of culture (social organization, magic and religious belief prevailing values) but have a significant impact on the interaction between a human community and environment (Borinni-Fayeraband, 2004). The Western Model is elitist, exclusive, isolated from the socio-cultural setting of its operation and characterize by top-down approach. Both have their strength and weaknesses, which can be integrated to involve a model that will promote environmental sustainability. This calls for a blend approaches and methods from modern scientific approach to environmental protection and from indigenous resource management system.

Indigenous natural resources management system should not be easily circumvented as the people are well disposed to it. People do not utilize resources haphazardly as they are adapted to the norms and mores relating to resources conservation as opposed to the nonchalant attitude towards Western Conservation Methods that seem coercive in nature.

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