

Community Experience of Environmental Resource Degradation and Transformation in the Ethiopie Area of Urhoboland: Implications for Sustainable Development

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Abstract

Lay community knowledge of the environment has a major role in the sustainable use and management of natural resources which, though ignored by experts, is increasingly accepted as fundamental to successful implementation of policies and programmes of rural resource management. This paper explores the community experience of changes over time in their environment in the Ethiopie Area of Urhoboland using the relatively novel qualitative/participatory social research technique of group discussion with 31 representative natural resource users from three clans in the study area. Members were engaged in once-only integrated group discussion session during which they reflected interactively on how their natural environment has supported farming, fishing, hunting and forest resource gathering activities. The information elicited was appraised contextually; findings reveal that the area is witnessing rapid resource degradation linked to population growth, modernization influences and social transformation in values with the people increasingly demonstrating greater egocentrism in terms of use and attitude to environmental conservation. There are less altruistic concerns that favour common property resource protection for the future long-term needs of communities. Further, 'biospheric' interests/principles, the concern for protection of nature for its sake, which were widespread in the past have all but been abandoned due to Western-linked modernization influences, population-induced land fragmentation and the intrusion/migration of 'outsiders' into communities with more aggressive unprofessional resource use techniques that were not in tandem with the indigenous resource use norms of the forefathers. The paper recommends a new policy thrust that recognizes the principles of primary environmental care and with stronger focus on agricultural land intensification drawing on natural inputs in order to achieve sustainability.

Introduction

Environmental sustainability is topical issue of contemporary global development and for a long time in Nigeria much concern has been expressed over rapidly vanishing rural resources in developing countries and the efficacy of traditional practices of resource use and conservation in sustaining the development base of rural communities especially in face of rapid population growth and the increasing demand for natural resources (Goodland and Daly, 1993, Ojo, 1987; FEPA 1989, 1992, Aina, 1993, Chokor and Odemerho, 1994;). While colonial and postcolonial norms of development have had their significant influences in Africa, people themselves through non-formal channels could communicate their experience of the environment and the wealth of

information acquired from their forefathers in relating to the environment and therefore play some good role in managing the direction for sustainability and environmental protection (Chokor, 1992, Chokor, 1993, World Bank, 1990, Obadan *et al* 1992, Pearce *et al* 1989, 1990, Chokor and Odemerho, 1994). The necessity for focusing the human dimension in understanding land degradation and environmental policy has also been extensively argued elsewhere (Chokor and Odemerho, 2007; Chokor 2007); the integration of community experience into environmental management strategies has indeed been strengthened by the on-going debate over the effects of projects by Western and multilateral development agencies such as the World Bank on environmental degradation, especially high-cost and capital-intensive projects which often ignore communal ways of doing things. As Dei (1990) long argued Western resource exploitation and development approach is often rooted in the manipulation of the natural environment by the application of inputs in the form of massive doses of capital, sophisticated technology, materials and legislation and which often result in high environmental costs while peoples' living standards are far from being significantly improved (see also Aylward *et al*, 1991).

Undoubtedly, therefore, an important way forward in natural resource and environmental management is in understanding the diverse ways in which ordinary people experience and attempt to forge a link between resource use activities and degradation using diverse methodologies (see Chokor, 1987; McCracken, 1988; Richards, 1999). The primary goal of this paper thus is to explore the environmental sustainability implications of community resource use decisions in the Ethiope Area of the Urhoboland, Delta State, Nigeria, using the group discussion approach. The study will examine the historical and contemporary traditional values towards the environment, particularly amongst the poor, the changes or transformation that have taken place and identify the ways for enhancing development and protecting the environment from the viewpoint of ordinary people.

The Study Area

The Ethiope area is situated in the north central part of Delta State, Nigeria (Figure 1). The terrain is generally flat marshy and low-lying composed of moist lowland tropical forest

which has been depleted in places. It is well drained with numerous perennial rivers, streams and creeks as well as wetlands, making it a prime area for biodiversity conservation, especially along the more pristine Ethiope River with riparian vegetation (Figure 2).



Figure 1: Delta State Showing the Ethiope Drainage Area (from Francis O. Odemerho and Danny O. Ejemeyovwi-Akpobi, 2007)

Figure 2: River Ethiope with High Tourism/Recreational Value but Threatened by Pollution



There are also wildlife and river resources. The major rivers include: the Ethiope River, over which the two local government councils that constitute the area are named, the Okumesi River and River Jamieson; the Okumesi flows into Warri River. The Ethiope River flows southwestwardly to join the Jamieson River on the Northwestern part of the study area. Together they flow into the Benue River which empties into the Atlantic Ocean at the Bight of Benin.

The area is generally lowland of 0-100 meters above mean sea level, thus flooding is common during the rainy season, from mid-March to late October. It has double maxima of rainfall with peaks in July and October and some brief period without rain in August, often described as the August break. The rainfall is much often in the range of 2500 - 3000 mm per annum making the area fully part of the tropical rainforest belt according to Koppen's (1936) classification. Geologically, the area is made up principally of more recent sedimentary deposits of post-Cambrian origin. The lithology and stratigraphical arrangement has given rise to rich seams of oil deposits, the exploitation of which has also resulted in the seemingly lingering problem of oil spillage and environmental pollution.

Areola (1978, 1990), using the FDA genetic classification described the region as consisting mainly of hydromorphic and alluvial soils, although because of the heavy rainfall and leaching the soil is not very favourable for agriculture, supporting mainly root crops such as cassava, yams and palm and rubber plantations. Though the area is essentially rural with no major urban centre, forests have been significantly impacted as a result of human activities especially from semi-urban or 'peri-urban' centres such as Abraka, Eku, Okpara Inland, Kokori and Isiokolo in Ethiope East, and Oghareki, Oghara Junction, Ogharefe, Mosogar and Jesse Town in Ethiope West. .

The area is largely rural and the dominant occupation is agriculture. Apart from land farming, fishing, hunting and lumbering are also commonly undertaken by the people. These activities are largely undertaken on small family scale. In the 1930s, 1940s, 1950s and early 1960s plantation cash-cropping, especially of rubber and to a smaller extent oil palm, brought some prosperity to the people but there was a severe down-turn in 1960s and 1970s until the introduction of Structural Adjustment Programme (SAP) in 1985/1986. The accompanying naira devaluation and foreign exchange scarcity stimulated the revival of interest in the export of rubber and some plantations have been revived and expanded, for example, around Oghara.

The farming is based on bush-fallow, bush burning practices and inter-cropping. Other occupational areas include small-scale traditional fishing and hunting as well as the collection of a range of forest resources including wild palm fruit, herbs, leaves, snail, raffia palm products, timber, etc. Small-scale agro-based and handicraft industries may also be found in most settlements, as avenues for using these resources. Firewood collection, as a major source of energy, especially for domestic cooking, is rife. The 1991 national infrastructure survey showed that there were 102 small oil processing mills, 250 cassava mills, 5 sawmills, 41 rubber processing mills and about 6 local gin processing industries.

The indigenous people of the two local government areas are Urhobo speaking and live in four clans: Agbon, Jesse, Oghara and Abraka. The 1976 population estimate put the population of the two local governments at 351,577 while the 1991 census revealed that

Ethiope East had a population of 108,703 people and Ethiope West 101,588 people. This decline was a result of boundary adjustment in 1989 which excised large parts to Okpe Local Government Area. The 2006 Census puts the population of Ethiope West at 202,942 and that of Ethiope East at 200,792 giving a combined population of 403,734 spread over 916km².

There has been some considerable Christian influence in the area which began with the setting up schools, hospitals and churches several decades ago. However, traditional religion based on the worship of nature spirits and ancestors is also common amongst the people and has infused spiritual life healing practices and as well as social beliefs, especially in relation to land tenure, farming, hunting, fishing and resource conservation norms. Polygamy is also a common practice and may have affected human fertility and population growth in the area. The land area is approximately 916 square kilometers giving a population density of about 441 people per square kilometres which is fairly dense in Nigeria's context. With population growth, poverty and pressure on depleting natural resources, environmental degradation problems have emerged in the area, while community attitudes and values towards natural resources seem to have also altered over the years.

Conceptual Framework

The type and pattern of concern for the environment are vital to understanding peoples' response to and use of their environment at the individual, group or community level. Several studies have in the last decade attempted to elucidate or clarify the phenomenon. First, if there is concern for environment and the integrity of natural resources people will be conscious of actions and activities that degrade them just as they will be concerned with how they affect others and these will in turn be reflected in their expressions or responses. As summarized in Chokor (2004, p. 306), Schultz (2001) had argued that people tend to organize environmental concerns around self, other people and the biosphere; thus the type of concern an individual develops is based on the degree to which they perceive an interconnection between themselves (egocentric) and other people (altruistic) or between themselves and nature (biospheric). Where

people are less concerned about the environment and see less reason to protect common property resources they will tend to be more concerned about personal interests and gains – Tragedy of the Commons as argued by Hardin (1968), which could represent a major source of threat to the environment. In a related vein Hodgkinson and Innes (2000, pp. 292–293) had argued that human interest drives environmental concerns and one reason why the growing support for pro-environmental policy is not reflected in government and individual decisions is because, while individuals believe in the principles of ecology, they do not believe that traditional economic processes that may affect current gains should be interrupted to help save the environment. The ‘self’, ‘community’ and ‘socio-economic’ contexts are thus the undercurrents in the individual’s environmental thinking (Power, 1993, p. 266). It would be desirable to explore how people respond to environmental degradation challenges and perceive their causes; whether they see any link between their actions and degradation and whether forces have shaped their traditional conservation values in the use of the environment.

Research Methodology

The major goal of study is to appraise the nature of relationship between people, environmental resource use and sustainability. To achieve this, group discussion sessions on topical environmental/developmental themes, especially those emanating from preliminary questionnaire responses and interviews were organized at three selected locations using community leaders, questionnaire respondents and as well as field research assistants. This was designed to explore at a greater depth and with anthropocentric/ humanistic focus community environmental and developmental challenges. Group discussion and participatory field research methods are cross-cultural, they establish context for dialogue and provide much scope for empathetic understanding of environmental and social issues (see Chokor, 1987). The efficacy of the approach has been aptly demonstrated in the Nigerian context in respect of land degradation assessment (Chokor and Odemerho, 1994).

Overview of Group Discussion Approach

Group discussion is a form of qualitative research which has gained ground in the social sciences including geography and environmental studies. As Burgess *et al* (1988a) long pointed out, in qualitative research one explores the realities of everyday life as they are experienced and explained by the people who live them. This approach yields rich and complex linguistic data in which subjective experience and social action are 'grounded' in the contexts of both time and place (P. 310). The method has long been found to be highly beneficial in environmental contexts, especially in relation to discovering feelings and views of ordinary people in planning and redevelopment schemes (Hedges, 1985, see also Little, 1975, Harrison *et al*, 1986, Burgess *et al* 1988a, 1988b, Mostyn, 1979).

The Ethiopia East and Ethiopia West project adopted once-only group discussion sessions with selected members of various backgrounds who met once to reflect on community development and environmental issues. The once-only group discussion was convenient and cost-effective. The approach is also known to be popular because it allows people to express their views in their own language and to determine the levels of emphasis they themselves wish to lend to areas under discussion, hence indicating the importance with which they regard them (see Glen, n.d.; Burgess *et al* 1988a, P. 31). As Burgess *et al* concluded, the use of once-only group is valuable to qualitative research because they provide a forum in which people can share and test out their views with others rather than responding in an isolated interview (*ibid.*).

Finding the Group to Discuss Environmental Matters

Initially, it was anticipated that a group discussion session would be held in each of the four clans that constitute the area, namely, Agbon, Jesse, Oghara and Abraka; but after much repeated trials the session scheduled for Agbon clan could not be held. The field assistants/coordinators were requested to list a fairly high number of about 30 potential group members from those already interviewed, cutting across gender, age and the five occupational groupings and who were articulate on community issues and played some community

leadership roles. Finally, after series of contact the list of prospective volunteers was reduced to about 15 for each clan. The final list of actual 31 participants was much smaller being 10 for Abraka, 12 for Jesse and 9 for Oghara clan. This is considered a manageable number; and excluded the researcher who acted as a conductor with at least two field assistants for each clan who acted largely as observers and at times also helped to facilitate discussion of issues. In spite serious efforts, only one middle-aged woman was able to participate in mixed discussion; this was at Jesse. Domestic pressure and the fact that women were generally kept at the background in discussing community issues precluded meaningful participation.

On the average, discussion sessions took about four hours and all sessions were conducted in Urhobo. The researcher usually arrived the agreed avenue at about 12 noon with recording devices, cameras and gifts. The field assistants were given one to two hours to assemble the people. The session began with the researcher presenting kola and drinks as well as money to 'wedge' the kola from 'rolling' as done in any formal gathering in Urhoboland. Thereafter the researcher initiated discussion by introducing the various themes that included farming, hunting, fishing and forest collection activities and practices as well as the use of these resources obtained from the natural environment. People generally found the sessions stimulating and relevant to the environmental and developmental challenges facing them.

4.2 Group Members and Discussion Themes

The characteristics of the group members are in Table1 while the major content of issues discussed are in Table 2. As may be seen the groups were highly mixed but with farmers predominating. The major environmental and developmental issues discussed were topical and relevant to the challenges facing the communities, particularly the poor. They included land degradation, soil fertility, traditional resource use practices, cost of living and community land and environmental ethics.

Table1: Characteristics of Group Members

Characteristics		Abraka	Jesse	Oghara
		Clan	Clan	Clan
		Group	Group	Group
<u>Gender</u>				
Male		10	11	9
Female		—	1	—
<u>Age</u>				
20 - 34		2	2	1
35 - 50		2	3	3
50 - 65		4	5	3
65 +		2	2	2
<u>Education</u>				
		5	5	4
none		3	5	3
primary		2	2	2
secondary				
<u>Occupational Group</u>				
		3	4	3
Farmers		2	2	1
Fishermen		2	2	2
Hunters		1	2	1

Handicraft/Forest Resource collectors	2	2	2
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Length of Residence in Area

<10 years	10	12	9
>10 years			

Table 2: Major Themes Discussed.

Resource endowment	Logging
Farmlands	Firewood
Soil fertility	Resource degradation signs
Traditional conservation principles	Modern resource management practices
Farm yields	Erosion and flooding
Fallow periods	Use of natural resources
Transportation	Poverty
Household Income generation	Inflation
Farming practices	Government policy and Assistance
Fishing methods and catch	Future of Resources
Hunting practices	Community ideals and development
Resource depletion	Survival Efforts and challenges
Bush burning	Women and development

Results

The results of the group discussion sessions in the Ethiopie area were analyzed in context of perceived sectoral socio-economic activities, changing agricultural practices and social values and the effects on environmental degradation as experienced by the people over the years.

Results of the sectoral themes and various perceptions of the causal factors of human activities are presented below.

The Emergence of Unproductive Land in the Ethiopie Area

There was a high consensus that farmlands have generally become unproductive in this part of Urhoboland, a phenomenon which most community members now battle with as they seek avenues to improve yields since falling yields have direct bearing on household income and quality of life. The oldest man in the Abraka discussion group aged about 75 years, who though an experienced hunter, provided some explanations for decreasing yields. He began with the argument that land has suddenly become unproductive these days when compared to the past because in older times there were a number of things forbidden in most communities which people adhered to. For example, a woman in her period does not enter the farm. A woman does not also squat to urinate in the farm rather she goes outside the farmland. Moreover, after land preparation a chicken was often sacrificed and passed round the boundaries of the farmland to ward off all misfortunes, evil spirits and influences before planting. In the process, soil fertility and productivity was guaranteed. He concluded by saying that since the departure of the forefathers, people no longer adhere to these practices and so soil fertility has reduced considerably. This view was corroborated by discussants in both Oghara and Jesse clans. However, a 50-year old man in Abraka who had some basic training in agriculture argued that we need to look beyond things forbidden in order to understand the fundamental issues involved in falling yields. He drew on his own experience as a young boy when he used to accompany his father to the farm. As he argued, in those days, after a farmland has been cultivated it was left to fallow for a period of 10-15 years and during which soil fertility was replenished through

decaying and dried leaves which were also burnt to enrich the soil. These days, however, fallow is less than 3-4 years and therefore there are no sufficient decaying organic matter accumulated before the next planting or soil use. The main reason for shortened fallow he pointed out was increased population and pressure on land resources. Because of the phenomenal rise in population in the community where about 3 people farmed in the past has been taken over by 10-15 people and yet land is not enough. The result is reduced farmland, shortened fallow, farmland fragmentation and conflict and fighting over land. In some cases people farm the land all - year round. The pattern of demand for land is such that community farmland is no longer sufficient and many have had to look for land in Benin territories, especially those in Jesse and Oghara clans.

Jesse discussants particularly complained that their land is no longer fertile as vast areas have become 'grassland' and wasteland and in the absence of modern methods, for example, use of fertilizers to 'revive' the soil. In the past, community land was enough and at the time there were quite a number of reserves and forest areas which had not been cleared which sustained community fallow practices and land demands. In those days many agreed, population had not reached the current level as to constitute real pressure on available land; but today there is less food to eat and because of increased population, conflict and fighting over land has become a phenomenon. To elaborate, when population was less and land abundant, a family may have 5-10 children and each could have access to a strip of farmland, but now a polygamous father may have up to 5 'gates' to feed or service with land with each gate representing a wife and 5 or more children. In the process, land scarcity and fragmentation results, continuous cropping is adopted and land is no longer productive. In several cases the children can no longer have access to farm in their father's land and so many migrate to adjoining Benin. Population-land resource ratio was recognized by some as critical. A younger farmer, for example, contrasts neighboring Benin land which is vast and where they now search for land, to those of the Urhobo which is small relative to the population. Because of this, they argued, community land has been 'overworked' and has

become 'old', infertile and tired. Thus, no matter how the people try, it would remain unproductive due to overuse.

Another consensus view pertains to what was perceived as the adverse effects oil exploration activities. Oil drilling drains soil nutrients some argued, making them less productive; more so, as no soil regeneration and land reclamation programmes are embarked upon by oil companies. A number of farmers in Abraka also expressed concern over the high rate at which rubber plantations have been converted to farmlands. Lands around the village to the Ethiope River have been put under cultivation and yet people are still in search of farmland. Deforestation is on and yet farmlands cannot find 'rest'. So, as most of them concluded, with population increase and farmland scarcity what they now require is access to fertilizers and other modern inputs. Fertilizer has restorative value and as one said, "it can wake up a sleeping soil or farmland."

Economic Pressures in the Ethiope Urhobo Area

From discussion, land scarcity is not the only problem facing farmers today. Declining farmland and productivity which are the major issues affecting rural survival and quality of life, are heightened by a number of related issues that were largely economic. A 68-year old Jesse farmer that had some minimum training in farming practice argued that finance or capital could be a major obstacle on the way of the farmer. For example, he had sought loan from various sources to improve on his farms to no avail, while the small cassava farm owned by the wife also suffered because of limited capital. The problem of capital has also been heightened by modern-day inflation and cost of living. According to some discussants, in the olden days money had real value and with little money the family could be maintained. But today inflation is a major problem and a source of pressure on the family. The 68-year-old farmer reflected on older times and pointed out that in the past they had joyous times with their parents and forefathers, but today that joy has disappeared; the major reason being cost of living, especially in terms of maintaining the family. People are now worried and really scared about the future because of

economic uncertainties and downward trend in living standards. The impact of limited capital, inflation and cost of living is such that the farmer has little room to manoeuvre to increase his income through the farming. As one group member eloquently summarized, if you consider the cost of farming from the stage of land preparation to harvest and the efforts required, it is a great deal of money, time, physical exertion and the increased distance to be covered which the poor and physically weak and aged can no longer afford. Also, the younger ones cannot undergo the drudgery and he retorts; how do we succeed?

The inflationary pressure is very adverse for farming activities. The cost of labour has within a short period gone up three-fold, and yet the farmer has to contend with cost of hiring an acre of land in government forest reserves which has also moved up. The second major constraint pertains to receding forests and farmlands and the increasing distance to access farmland. For people in Jesse and Oghara clans whose major source of land is now in Benin territories, geographical distance is now a major issue in terms of physical exertion and transportation costs, since many have to cover as much as 20 -25 kilometres or more. Bicycle, which is the major means of transportation and also for conveying farm products and labourers, has suddenly gone out of the reach of farmers. As the 68-year-old farmer in a pensive mood aptly put it, "the critical question now is if it is only the rich that can do farming, what of the poor; what else will they do; it is such a serious thing if the poor cannot farm to feed the family".

Structural Adjustment Programme and Urban Invaders

In spite of the challenge facing farmers in terms of access to land, capital and inflation, additional pressures have come by way of migration. In the past, rural-urban migration was the common pattern of movement because of the depressed economies of rural areas. However, with the onset of Structural Adjustment Programme (SAP) from 1985, urban economies have equally been depressed, and high unemployment has resulted, to the extent that as many group members recognized, there is now some considerable invasion of rural lands and forest resources by urbanites. Thus an area previously noted for out-migration because of the poor status of soil

resources and land scarcity is now witnessing some significant in-migration as the indigenes of the area in towns return home to seek survival in the land. As an older farmer in Abraka Clan explained, more demand for farmland even by 'non-farmers' has arisen in the community. All professionals now have farmland, including teachers!; whereas in the past, teachers did not go to farm (laughter). White and blue-collar people in towns don't go to farm but now its no more so (laughter). Everybody has embraced farming and so it is the limited farmland that everybody is competing and struggling to gain access to; so what has been farmed this year is farmed again successively.

Although the images associated with farmers and farming have been enhanced by the coming of these various social groups into the occupation as some farmers themselves believed (previously farming was associated with poverty, lack of advancement and low status), part-time farming by 'non-farmers' and invaders has had serious negative social, cultural and environmental impacts which combined with other factors have led to series of transformations and changes in communities.

The Great Transformation

Group discussion results revealed a number of changes that have taken place in communities. These changes have been felt particularly in the pattern of cropping, land and resource conservation ethics, as well as general attitude to resource and its exploitation and use. Most of these changes people were apt to ascribe to 'migrant' outsiders and modernization influences. In the attempt to survive people, particularly newcomers from the towns, no longer discriminate between sustainable and non-sustainable farming practices. As one young farmer and forest resource collector in Abraka acknowledged, soil fertility loss, land scarcity and shortened fallow are not the only issues, our society has changed, as ignorance and lack of adoption, on the part of many farmers, of age-long and established (appropriate) community methods of cropping have led to decreased yield. This ignorance is, for example, evident on the part of 'non-professional' newcomers. As he explained, ideally if you plant deep-rooted crops

they are followed by shallow - rooted crops, but many people do not follow this principle these days; so some plant the same crop year in, year out. A 50 - year old farmer agrees with this point and illustrates with cassava as a deep-rooted crop which consumes considerable soil nutrient and which ideally should not be planted alongside yam. In fact, in olden days separate lands were made for both crops but today because of hunger and ignorance people hardly observe these practices

An elderly farmer in this regard pointed out that previously, in Abraka communities, they had a concept of 'old' and 'young' soil and people knew that 'non-matured' soil which was only recently used or not fallowed, is not good for cropping. But now with many people into farming in order to survive and "with no distinction between John and Paul," things have changed. He who is Paul wants to be John and vice versa, both professional farmers and 'non-farmers', including mechanics, now struggle for land to farm which is now a major problem for sustainable utilization of available land for farming. As he asked, how can things be good; we have school leavers, teachers, civil servants, town dwellers, etc. all aiming to farm and in the process bad practices have crept in and the land can no longer find rest. This transformation was recognized as applying to other occupations, for example, hunting where professional hunters and 'non-hunters' compete for wildlife resources. In the process, non-sustainable methods, for example, bushfire, are employed in the hope of eking a living from the wild.

Thus as apparent from the discussion, the 'non-professionalization' of rural economic activities with free access is now a major source of concern to experienced resource users who witnessed the sustainable practices of the forefathers. Overall, natural resource quality is now increasingly affected. Not only has natural resources witnessed a more intense exploitation activities from the range of 'free' seekers, but conservation principles having been abandoned, environmental degradation has become more rapid with the confused and diffused pattern of exploitation. In effect, the conservation ethics that ought to be passed on professionally are gradually being lost while the efficiency in resource use that should go with specialization is also lost.

There was some strong consensus that traditions have broken down because of civilization and the acquisition of modern technologies and new ways of doing things. Also, because of Christianity and modern religion, many traditional beliefs and practices are no longer adhered to. This was the case with the conservation principle of guaranteeing fertility by sacrificing chicken and using it to ward off evil influences round the farm. Such practices are now largely viewed as ungodly. This view was aptly captured by a retired teacher turned farmer who quoting from Chinua Achebe's 'Things Fall Apart', argued that previously the people had belief systems which helped to preserve forests and natural resources which they strictly adhered to. For example, the 'evil forest' was a place where entry was forbidden, where witches and evil people were taken to on their death. Over the years the Whiteman who was assigned such forests to preclude the intermingling of their culture with those of the locals survived and completely disproved the myth of 'evil forests'. This point symbolized the significant impact of westernization and modernization on local customs and values, for the people realized that beliefs and practices which they had adhered to could be broken without visible consequences and so began the era of exploitative and aggressive attitude towards natural resources. Reserved forests thus could no longer be preserved according to local customs and norms.

The Fire that is Burning

The use of bush fire as a means of land preparation and for hunting wildlife symbolizes a major aspect of the survival strategy that is affecting the quality of rural life and resources but whose control has become problematic following the socio-economic and cultural transformations that have taken place in communities. In the olden days, as already argued elsewhere, bush-fire was not a major issue because of the traditional means of control by clearing and wetting around demarcated plots, and people stayed around to monitor burning fire. As one old hunter from Oghareki pointed out, these days have become evil and people have become greedy; there are not many disciplined people around; the mere search for rabbit can enable a youngster to set fire on land without thinking of the adverse impacts on forest resources, crops

and wildlife. In this same vein a young man can throw half-smoked cigarette stick still lit on dry forest or bushes without thinking of the wider consequences. Such practices were not common in those days, he argued, and many agreed, as the use of fire was considered a sensitive community matter. Whereas in the past fire was set towards the evening when it was less windy and hot to limit its spread, today many young farmers and hunters are less concerned, setting fire in the hot dark light. Some consensus was reached that migrants and outsiders were largely responsible for these evil practices. Rather than the community announcement and fixing of time which preceded the setting of fire on farmland, these days a lot of individual effort and secrecy surround bush burning especially by those who desire to 'reap' wildlife first or the 'gains' of farming. In those days, many argued, there was a common worship of ancestors, people feared doing evil or going against established community practices because they could easily be searched out by oath taking or swearing on various actions that may have been carried out by unknown persons. But these days because of Christianity and modernization influences, there is even now a proverb or adage that the power of sworn words generated in one place cannot be effective beyond one family or ethnic group from which it originated. Moreover, "ancestors cannot understand or respond to English" and as a consequence, actions taken under their names cannot be potent, especially amongst migrants from different places or regions.

However, a consensus arose that bush-burning is relevant to farming because of the potash from burnt matter which enriches the soil. What was seen as particularly wrong is the annual burning of the same piece of land. In the past it was not so; it took 5-7 years interval before returning to burn as a result of long fallow. There must be continuous piling of dried leaves on one another in layers; and the farmer raises the pile and listens to the cracking sound to determine whether it is ripe to burn.

Gender, Materialism and Social Justice

One notable issue in farming in Urhoboland is that it is characterized by some gender delineation of role. Traditionally, the men basically prepare the land while the women undertake

the planting. For example, in yam cultivation, the man digs the ground and sets the yam seedlings while the woman covers up the mound. When the yam springs up the man cuts the stakes and sets them. Apart from yams, most other items such as melon, corn, beans, vegetables etc. are planted by women and they belong to them. In addition to the preparation of land for women, the harvesting and putting of yams in bans are men's duty. So while yams are men's crops, cassava, corn and vegetables are women's crops.

However, in the last decade or so, the consensus opinion amongst group members including the woman in the Jesse group is that there has been some significant shift in roles, and women now undertake land preparation, and in several cases separate ownership of farmland has emerged, a phenomenon that has had wide implications for the women and the pattern of social and family life. In the opinion of most men, what has happened is that in modern times, things have got so difficult economically, and if the women were to rely on what men can do for them, it cannot sustain them and so the division of role has changed. In their own argument, women have so much material desires and family obligations to meet in terms of clothing, social clubs and children for which they can no longer rely entirely on the men to fulfill; and this is one reason for further land fragmentation and continuous cropping now experienced as all aspire to have their own piece of land for cropping.

In the opinion of the men this development may be seen in context of civilization also, as women strive to match up to the men and to achieve greater autonomy, economic security and personal well-being; it is a reflection of the material culture that has supplanted the community ideals of the forefathers. As one middle-aged man in Abraka pointed out, "only yams belong to men in a family farm and the rest to the woman for upkeep of the family but yet they are not content." They still want something extra and this is what is pushing them into preparing land by themselves or hiring labour to achieve it. As one said: "if you observe closely, this competition is on; even children now own their own farm instead of working for the parents and so it is a kind of competition in the family unit", which was not there in our culture. When the men were asked whether these developments were not overstretching the women who have to contend with

bringing up children, household chores and shopping, one male group member retorted that "yes", they are working extra hard and they are being tasked, but it is for their own pocket; because they now want to be equal to or even exceed the men. Women didn't use to do land clearing but now they do, wearing shorts and trousers, and so we don't know who is who, this is the jet age; we have lost our culture."

However, a strong clarification emerged from the female member from Jesse clan. In her opinion it is desirable for men to render more help to the women because the suffering has become too much and whatever the women do is primarily a struggle to improve the welfare and livelihood of the family. As mothers they are very concerned about the survival of the family, especially the future of their children, hence the extra mile. Those days men did most things for them including in particular, forest clearance for new farmland, bush clearance for existing farmland and bush burning but these days women have to go through so much drudgery and suffering to maintain the farm. They are increasingly unable to generate capital to hire the necessary labour and there is little money to cater for children whose responsibilities and upkeep are also falling on them. The decline in women's income affects children's welfare. While both men and women agree that the search for material welfare constitutes the root of the new agenda, it was also obvious that men have abandoned aspects of their traditional responsibilities towards the women while women have taken up the challenge of material survival. A greater level of social justice is desirable to address the issue of roles and responsibilities between men and women in the household or family scale.

Who Will Rescue the People?

The problems of farming and the environment and the survival of the family are indeed critical, and the future looks uncertain because of poor yields, scarcity of farmlands and the breakdown of community system of social beliefs and traditional control. In face of these, the people saw the need for more assistance from the state government and its agencies in providing inputs such as fertilizers to revive the soil, as well as credit/loans and machinery to aid farming

activities. Another major avenue people felt would reduce pressure on land and forest resources was for government to develop industries to provide employment for people. The private sector and wealthy class could also take on the challenges, although little has come from this latter group.

As a way of containing population pressure which is building up, people stressed the need for public education to promote some population control. The stress on social and environmental education was a positive one, especially those bordering on land care amongst the youth and urban newcomers or the adoption of appropriate planting methods. As one group member stressed, many farmers are today not enlightened on desirable practices; it is therefore necessary to educate them on sustainable farming practices. People also generally endorsed community banking institutions and the need for government and non-governmental organizations to support traditional credit institutions.

Hunters and Rappers

Hunting is an occupation which provides 'free' and reasonable source of income to rural people in Urboland. Being a low tropical forest area, wildlife abound. However, because of forest clearance, wildlife, people agree, is increasingly becoming scarce. They now have to move longer distances to find bush animals, which in the past could be found around their settlements. In a Jesse village, one group discussant gave an example of how in 1980 they saw a male and female 'bush big' coming into the village and how they pursued and used only hands to catch one. But for the past decades there has been no such incident. Members from Abraka also disclosed how much of trapping activities took place within a few meters of the village a decade back and how a trapper could reap close to 40 antelopes in one outing, but that is all gone. As they point out, if you don't go deep into the forest particularly, Benin forest reserves, you cannot have reasonable harvest and apart from antelope and grasscutter which may still be found around, most wildlife have retreated to the reserves. The animals that are no longer seen around include lion, elephant, gorilla, Rhone antelope and leopard. Three major factors of wildlife loss were generally identified. These included forest land destruction and farmland expansion; the

use of bushfire and pressure from hunting and the demand for bush meat. Most hunters emphasized the impact of cultivation as a driving force behind the depletion of wildlife not only through forest clearance but through the range of human noise generated which send the animals further away into the forests with the extension of cultivable land. The motor-saws used in forest harvest and logging activities also provoke animals into retreat.

Bush-fire aroused so much conflict between farmers and professional hunters. Professional hunters in the clans will not agree that they were the ones responsible for setting fire on forestland. When questioned who does, they replied that farmers and non-professional hunters from outside, particularly the unemployed youths, were largely responsible. Their argument was that the professional hunter is one that uses largely guns and trapping devices and not fire and they hunt mainly in the night while the unemployed hunter does his burning and searching during the day. While farmers agreed that the sudden surge in the number of non-professional groups of young men from towns who may not have mastered the skills of hunting may be partly responsible for the present state of wildlife, they were not convinced that professional hunters were entirely free of the use of bush fire.

Apart from employing hunting as an avenue for economic survival, materialism was also generally recognized as a source of threat to wildlife. As a farmer who has been observing the scene concluded, greed and materialism are affecting animal stock because the desire to make money fast pushes people into endless quest for wildlife. "The animals have retreated and they are still searching them out, so the footprints of animals we used to see around our settlements and farms in those days are no more". Worst still, because of growing economic difficulties, hunger and greed, hunting activities these days have become indiscreet with a whole colony of animals, young and old, being harvested so replenishment of future stock can no longer be guaranteed. This pattern of harvesting is certainly not sustainable and is certainly not akin to the customs of the people where care for young animals was deep rooted in the past. As the middle-aged farmer in Abraka concluded: "people these days not only hunt the young animals but also shoot those that are pregnant, whereas in those days hunting the young was forbidden and those

trapped were released. What we now have is a situation where people are hunting 24 hours, whereas in those days hunting was done in the night. This development is a major source of threat to our wildlife.

Community members in the course of discussion also decried a number of other unacceptable practices that have crept into the hunting of wildlife. These include the use of chemicals to achieve 'mass harvest' as well as 'juju' to attract animals. As one member in Jesse Clan acknowledged, impatience, greed, profit, and materialistic motive as well as hunger have pushed people into unorthodox means of killing animals which themselves are harmful to community members. However, people still felt that government should do something about unemployment, inflation and poor living standards that are at the heart of these developments. However, an old hunter at Abraka ended with a hyperbole. In his opinion before bush animal stock will disappear altogether, women will no longer be delivering. As women give birth to babies so also do animals conceive and deliver, so there will be no scarcity of wildlife. Even some animals such as grasscutter do a lot of havoc to farm crops and ought to be reduced through hunting.

The Ways of the Fisherman.

A major question that was posed to discussion groups in Abraka, Jesse and Oghara clans was what has made fishery stock to change over time since not too long ago there were good reserves of a variety fishes. A middle-aged farmer in Abraka summarized the reasons for these changes. According to him in those days fishing methods were sustainable, but no longer so. They now bring 'dynamite' and chemicals, especially gammalin 20, trawlers, etc. to harvest fishes which wipe off all stock. The middle-aged farmer gave the example of the Abraka Inland fishing festival which is now more or less gone. In those days the Okumesi stream, a tributary of the Warri River used to be natural fishing pond of the Abraka people. Fishing on the stream was done annually at a fixed period of a few days during which the fish stock has sufficiently replenished. The announcement of the period of fishing was often preceded by traditional rites

involving the gods and ancestors and usually the movement of a tortoise on the stream signified the ripe day for the fishing festival which involved the whole Abraka Clan. Now that is all gone and people no longer adhere to the custom; usually before the fixed day or period, people have already gone there and done the fishing, and it is no longer possible to preserve or build up stock.

Gathering from the Forests

People who make a living by gathering from the forests depend essentially on the processes of natural replenishment of natural resources. Virtually all the resources gathered, including timber, firewood, charcoal, leaves, fruits, shoots, fibre, etc. are renewable. Because of the growing number of gatherers, however, scarcity has emerged and there is growing competition for forest resources. The resources are invaluable as sources of medicine, cosmetics, dye, seasoning, packaging, preservatives, gun, handicraft, fodder and food. In the opinion of one established collector at Oghara, young and educated men have gone into palm fruit collection from the wild and this has been a positive boost for the image of the trade encouraging women to support their husbands. However, the consensus was that too many people have gone into the profession of gathering from the forests and because of the free-for-all access, conflict and competition are beginning to emerge. Even in the logging business where concessions are supposed to be granted, illegal logging activities abound and there has been no strict enforcement on the part of forestry officers, who are viewed as corrupt.

The growing scarcity and increasing distance to resources are common issues of concern. An old palm wine tapper at Oghara recollects that those days *`ed_o* or edible worms used to be readily available in raffia palm which people exploited freely and ate but now it has been monetized and become expensive. Timber was also acknowledged as being readily available in the study area previously, some 15 years ago, but now has become scarce. Herbalists in the discussion pointed out that they have to walk longer distances into forests to search for herbs which in the past were found around the settlement. The female 60-year old member at Jesse said also that in the past, firewood was surplus and nobody sold it but now it has become scarce

and is offered for sale. For households without stove, finding firewood to cook has become a drudgery for women who have to move further, greater distances into the bush to fetch firewood.

Policy Implications and Recommendations

This research has focused on the employment of small group discussion sessions as basis for a more in-depth exploration of community environmental and developmental issues. The results show that the diversification of socioeconomic activities and the embracement of several natural resource exploitation in the bid to survive have had major implications for community natural resource base and environmental degradation in the Ethiopie area. Majority of these activities either derived from or are based directly on the exploitation of available common property resources: land, forest, wildlife and water resources. While degraded forests, land, and rivers remained the supportive base for the communal economy, further pressure on the fragile resource base has come through the onset of alien exploitation techniques and principles which run contrary to the accepted community norms of resource exploitation which were sustainable. Thus significant aspect of the research finding was the emergence of non-professional pool of resource seekers who have little experience in age-long established community resource use principles and with singular need of survival within nature. The activities of these emergent groups, the people perceived, were highly detrimental to resource preservation and community ethics. It was therefore not surprising that the people recognized a range of environmental problems that were related to changing patterns of resource exploitation and use that were not so significant a decade or so but which have become serious. These included: shortened fallow period, increased distances to farmland, poor crop yields, wildlife and fisheries scarcity, forest resources losses, bush burning, land fragmentation, land scarcity, land/soil degradation, scarcity of firewood as well as crime/insecurity. Although over the years the people have evolved traditional land and environmental resources management practices which were sustainable, for example, declaring evil forests to preserve resources, most of these practices based on traditional institutions of control have been abandoned in face of modern pressures and demands. By

extension, the people evidently are more concerned with self (egocentric) rather care for others and community common needs or conservation of natural resources. In effect altruistic and biospheric concerns have all but been abandoned. This portends a major threat to environmental sustainability and protection that was the heart of the past way of life in the Ethiopie area.

The study has a number of policy dimensions. First, there is need for a conceptual appreciation of the interface between material resource and immediate needs for human survival. Traditional view of sustainability seems to place environmental sustainability before human sustainability; the present generation cannot be talking of environmental protection when its own existence and survival are seriously threatened because of the lack of basic wants; the people themselves must be taken care of before environmental protection can be guaranteed and sustainable resource ethics promoted. Although there is undoubted relationship between environment quality and human survival, the relationship is valid in so far as the present generation has been sustained with minimum needs to be encouraged to sustain the environment for the future generation. For, on the one hand, poverty with several causative factors such as population/household size, poor access to resource and inflation constrain people to adopt a range of aggressive non-sustainable methods to exploit for lean natural resources away from the conventional and community established practices because, in the short-term, they are economically expedient and meet social survival instincts. On the other hand, these social mechanisms of survival which fail to build on the traditional environmentally friendly technologies, ethics and community principles contribute significantly to natural resource depletion and environmental degradation, thereby worsening the scale of poverty. In the process the poor are caught in a cycle and trough of declining and far receding opportunities, a poverty-resource web from which they can find little escape.

The study has also shown an important dimension to rural resource degradation for which policy is now required to stem the tide of degradation. The breakdown of community principles and social customs, the weakening of traditional channels of social control with the onset of christianity, western precepts and values, add to the complexity of resource use values and

control. Furthermore, although women were not sufficiently represented in the study, particularly in the group discussion session, it was obvious, even from the lone voice, that women in the area, in addition to domestic chores, now play increasing role in farmland clearance, planting and harvesting as well as gathering other forest resources such as firewood, snail and palm fruits for sustenance of the family, particularly children; yet these women have little access to community decision making processes which determine access to land and forest resources and remain thus at the background of the social process. The major implication is that women need to be empowered both economically and socially if increased production for household poverty alleviation and sustainable use of natural resources are to be achieved.

Finally, the study has also revealed the desirability of community environmental education and awareness programmes in attaining the primary goal of sustainable development. The people need to be mobilized to develop greater consciousness of environmentally harmful practices in order to enhance prospects for sustained economic growth and environmental development (see Chokor, 1992). Further, in order to reduce aggregate uncontrolled and uncoordinated pressure on the stock of natural resources in the area, and enhance household income, employment generation opportunities should be explored, particularly in the area of non-farm jobs. It is recommended that a model agro-based, small-scale processing industries developed as cooperative schemes and supported by government and non-governmental agencies could provide viable avenues for stimulating sustained and integrated community development. Agricultural mix and intensification are desirable for leveraging declining yields and land scarcity even though controversy still surrounds contents and impacts of intensification (see Lele and Stone, 1989) An example is the integrated development of modern fish ponds along the Ethiopie River which cuts across the study area but one which utilizes droppings from associated poultry, duck farms, etc. In the process, pressure on wildlife could be reduced while greater access to income and protein is guaranteed with monitoring of effects (see McCracken *et al*, 1988; International Institute for Environment and Development, IIED (1992). There is also need for focuses on Primary Environmental Care, visualized as a process by which local communities,

with varying degrees of external support, organize themselves to apply their skills and knowledge for the care of the environment while satisfying livelihood needs.

In terms of future research, the study has not been able to handle with sufficient depth the gender issues that have arisen in the course of the research and as they affect rural development. Future studies may address this area by focusing specifically on the experiences of women in production and access to resources.

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