



**SITUATION ANALYSIS OF THE IMPACT OF FOREST DEGRADATION ON WOMEN:
IMPLICATIONS ON CHANGING GENDER ROLES AND RELATIONS IN EBONYI STATE**

AKPA, E. C.

Department of Sociology Ahmadu Bello University, Zaria

E-mail: ecakpa@yahoo.com

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ABSTRACT

Since the degree of access to and control over resources within a society play significant roles in differentiating members of a society in policy and decision making processes, peoples' lives will be greatly enhanced by clearly understanding how men's and women's subsistence and experiences differ through the roles and responsibilities ascribed to them in their society and the changes brought about by environment and development processes. It is from this backdrop that a situational analysis of the socio-economic impact of forest degradation on gender in Ebonyi State was conducted. Some agrarian communities were sampled from the three Senatorial Zones of the State with both quantitative and qualitative research instruments. Findings show that 70% of the sampled population agrees to decrease of forest resources in the study area, 39.5% believe that there is loss of important plants and herbs and 95.9% opined that men contribute to forest degradation more than women. Further analyses show a significant relationship between the impact of forest degradation and changing gender roles and relation. It is recommended that Local Governments should enforce environmental bye-laws against bush burning, lumbering of trees and these laws should also take care of preservation of reserved forests, plants and herbs.

Key Words: *Gender, Forest, Degradation, Situational analysis, Ebonyi State*

INTRODUCTION

Deforestation is one of the world's most pressing land use problem. According to Dankelman and Davidson (1988) deforestation was caused by selective logging of closed forest, conversion to agricultural land, commercial timber logging, planed irrigation and resettlement, land speculation, large scale construction projects, and expansion of commercial ranches. At a local level, by forest fires, growing demand for fire wood, fodder, and over grazing. Akpa (2000) reported that the type of forests found in some rural communities of Ebonyi State include thick forests housing mix of tall trees 30m high, for example, trees popularly known in Igbol and *asiroko*, '*akparata*' and '*achi*' and other herbaceous plants. The next are evil forests used as burial ground for evil doers, oracular forests housing shrines and utilitarian forests which develop around un-used lands, river banks and around people's compound. Only members of a community are allowed to fetch resources from their neighborhood forests for fear that they might install evil spirit into a forest to torment their owners. The disappearance of forests was investigated by asking respondents to state the number of forests that ever existed and those still existing in their communities, given a time frame of 10 and 20 years. She found out that up to the 1970s, 72% and 80% of respondents from Ishiagu and Uburu/Okposizones, respectively recalled that they had between 4-6 neighbourhood forests. But as at 1996, when the research was conducted 68% of respondents from Ishiagu recalled that there were no more neighbourhood

forests, whereas 88% opined that there were between 1 and 3 still remaining forests. The study revealed that farm clearance, fetching of firewood and commercial lumbering were major causes of deforestation in the research areas. These are common causes of deforestation in farming communities in most countries. The gap in knowledge from that study is the contribution of men and women to deforestation and the effects of deforestation on their gender roles. This work relates the impacts of degrading forests and forests resources in Ebonyi State with changes in gender relations with a view to understanding and improving socio-economic well-being of the people. The objectives are to assess how the people feel and understand issues surrounding forest degradation and to relate these with changes in their roles and the relationships that shape their lives in the society. With these it would be possible to make reasonable suggestions on how sustainable development could be achieved.

Consequences of Forest Degradation

The perception of forest ecosystem as having multiple functions for satisfying diverse and vital human needs for air, food and water have been changed by uni-dimensional 'scientific forestry' i.e. a calculation of timber yields to serve commercial and industrial demands (Shiva *et. al*, 1985). According to their study in India, monoculture replaced multi-species forests. This trend disturbs natural balances and therefore human needs are no longer met. Furthermore, they reported that consequences of forest degradation are shown in rural farm communities, in fact, that bushes they needed are becoming difficult to find due to land clearance. Types of fuel wood needed for cooking are scarce; fish were becoming more difficult to catch because the ponds and rivers are silting up. Too many rodents in fields, and gardens, probably because predators from the forests are disappearing, fuel wood collection are more time consuming.

Dankelman and Davidson (1988) wrote on women and environment in the Third World and reported that the fuel wood 'crisis' in developing countries became apparent in 1973-74 when much of the world was gripped by the energy crisis due to the oil price shock, when energy demand outstripped supply and the usefulness of the rural peoples' dependence on biomass was brought to light. It was noticed that even though fuel wood is a renewable resource, it is used at an un-sustainable rate. The rate of felling old trees outstripped the rate of planting new ones. They found that the consequences were heavier for women and children who have the gender role of collecting fuel wood.

Oladipo (1992) writing on the state of women and environment in Nigeria reported that it was common sight in Nigeria to see women hacking at shrubs and dead woods, sometimes with children at their back or crying under a tree. They walk long distances; spend a lot of time before finally coming home with heavy loads of wood.

Deforestation also has great effect on food insecurity. Agrawal (1986) found that lack of fuel wood could cause malnutrition just like lack of food. When women resort to collection of weed, straws, digging out roots and use of animals dung that do not provide continuous heat but increase cooking time, they might be forced to shift to foods that require less time and fuel to cook. By so doing nutritional values are lowered.

Furthermore, energy crisis has great impact on air pollution. The worst is the emissions from biomass fuels which poor rural women inhale while cooking. According to WHO (1984), the burning of cooking fuel envelops the indoor environment with heavy smoke and the women who may be exposed daily to more pollutants than industrial worker. That study attributed respiratory

and eye diseases, which are common among Third World women and children to wood and other biomass burning. Fuel wood crises also affect people's income, crafts and other cultural practices. Businesses involving use of firewood such as, pot firing, salt making and fish smoking also suffer decline. According to Sontheimer (1991) there is a crucial three-way link among cooking, energy crisis, poverty and socio-economic inequalities. This paper is out to pin point the socio-economic implications of the crisis, its complex causes and consequences on gender relations in rural communities.

Gender Issues in Access to and Control over Forest Resources

Forests provide food, fodder, fuel wood, construction wood and organic fertilizer. Going by gender division of labour, men and women have different roles and responsibilities in relation to forest resources. Men engage in physically labourious and heavy work such as felling trees while women engage in collecting and fetching fodder, fruits and fuel wood. Men and women have different rights over forest lands. Even where women have usufruct rights to forestland, their access to forest products may not be guaranteed. This is because forest usufruct right does not mean ownership and control over trees and different forest products. This is confirmed in an FGD report by Okpe (2005) when an old woman compared the old and new patterns of access to forest resources:

“In the olden days, if you gave somebody land, the person owned the trees in it. Today if you give somebody land, the person does not own the trees. When my elder brother was alive, if they gave land to anybody they gave the land with all that was in it. Today it is not like that. Since some other people started coming home in modern days, land has changed. That is what they are telling us now” (Okpe, 2005).

Another woman in the same study reacting to the same issue had this to say;

“when I was a young girl in this village, we went from tree to tree, picking locust beans that had dropped, and you could even use sticks to pluck down the ones that are almost falling. We didn't see anybody asking us questions like: 'is this tree yours?' 'Who permitted you to pick them? Now, even before the bean is ready, the so-called owners will climb the trees and shake it until every single pod has dropped. But I have not heard of anyone who planted any of the trees, they were just there expanding on their own” (Okpe, 2005).

The general trend in forest resource use is that women gather them for food, fuel, fodder, herbs for medicine, raw materials for small scale income generating activities whereas men gather wood for selling and for construction (Jacobson, 1992, WEDNET, 1991). The pattern and intensity of use also vary according to gender roles. While women gather for household use in smaller quantities, but on continuous manner, men's pattern of use even though not as continuous, may have more impact on the forest condition (Byers and Sainju, 1993).

The forgoing expositions are meant to posit that the differential access to and control over forest and trees can have several negative impacts. For example where women do not have access and control over forestland, their workload and time consumption is more as they have to walk to distant forests to gather the forest products. This, according to Mehta (1991) in her study of

TehriGarhwal India, adds to women's drudgery and puts their security at risk, in unfamiliar forests. Lack of tenure right can also lead to unaccountability due to lack of sense of ownership, which in turn can lead to neglect and degradation of the trees and forests. Again since user rights over trees do not confer automatic rights to the grounds below the trees, this frequently leads to women losing their rights to trees, thus affecting their household's livelihood.

In some parts of Ebonyi State, private ownership of land and purchase of land, confer rights to use the trees on that land. Different members of the community or household may have established usufructory rights to different parts of forest resources. For example, while men tap palm wine from palm trees, women process palm oil from palm fruits. Also, non-timber products from trees are often women's responsibilities, but the trees themselves often belong to men. In Ebonyi State, women comb thick utilitarian forest in search of fallen woods to chop up as firewood and also pick fruits from such forests.

Theoretical Framework

The Social or Constructivist Eco-feminist School is used for analysis and argues that the relationship between people and environment is determined by the way in which production, reproduction and distribution are organized in a society (Thapa, 2005). In so far as there is a gender and class based division of labor and distribution of property and power, there will be differences in people's interactions with nature, the effects of environmental change on people and their responses to it. Agarwal (1992) reported that the idea of women occupying different positions from men is related to their gender roles and not to an inborn affinity with the environment. For example, women support a clean environment because they are concerned about the future of their children as care givers and not because of their biologically determined sex. If men were to fulfill the same role, they would be the ones demanding a clean environment for their children. In Ebonyi State deforestation and the desperation to survive is pushing women into commercial lumbering of firewood which used to be men's role This implies that in attempting to sustain the environment both men and women should learn the feminine virtue of care giving (being good steward of nature) To improve gender relationships, attention must be given not only to physical circumstances (quality and quantity of natural resources) but also to distribution of these resources to social groups (age groups, patrons and clients, landowners and landless) and women themselves. We should always ask the questions, what interests are at stake in relation to a natural resource and what alternatives exist for sustainable development?

By this suggestion, a transformative rather than a welfarist economic development approach is implied. This approach tends to emphasize gender relations rather than biological relations between men and women and the environment. This approach will allow for an identification of differences between groups of women and men, which a focus on women alone could obscure.

Methods

The vegetation in Ebonyi State is characteristically sparse bush with predominantly dwarf shrubs and grass with abundant palm trees particularly in the southern and central zones of the State. A

Community	Mean of the ratios	Coefficient of Variation
UmunagaUburu	0.6	67.2%
IhenuUburu	0.5	37.2%
IshiaguEnyigba	0.8	31.8%
AlibaruEnyigba	0.9	21.8%
OgidigaNdufu	0.8	28.7%
EnyimAgalaguNdufu	0.8	26.5%
Overall	0.7	37.0%

Source: Akpa, 2014

Table 1 shows that there is a general decrease (70%) of forests in the study area. It also shows that the decrease is more severe in the southern part of Ebonyi State (50-60%) than in the central and northern parts of Ebonyi State (80-90%). The table also shows that the number of forests is decreasing in all the communities studied. Apart from the outright disappearance of the forests, there is also the issue of loss of original species of plants and herbs that are important to health and social welfare.

Data from survey also shows that 174(59.8%) were aware that original plants exist in the forests presently and 115(39.5%) believe that the original plants and herbs were no longer available. The key informant interview with a Head of Department of Health and Environment in Abakaliki Local Government Area corroborated this, when he said:

Yes, there used to be forest in almost all the communities. Now we discover that even the timber shops in Abakaliki no longer have wood from this locality. The woods are from other states and even the Republic of Cameroon and the quality of the woods is nothing to write home about. People accept these types of woods now because the old ones are gone. It is difficult to have hard woods and that is the kind of degradation. As I said, there is virtually no community that can boast of a thick forest.

One of the reasons for reserving forests in the past is to preserve medicinal plants and herbs, and to serve as protection during war. A sign of decline in the quality of the forests is the decreasing awareness of existence of original plants and herbs used by the people in the community for various purposes.

From the FGD, and Semi-structured Interview it was gathered that most of the forests now contain secondary vegetation made up of herbs and plants that do not have the original values that people derive from forests.

Causes of Forest Degradation

The respondents were requested to rank their views on reasons for forest degradation, in a four point Likert response scale as shown in Table 2 shows that most of the respondents, 188(64.6%)

strongly agree that bush burning is responsible for forest degradation. This is followed by commercial logging of wood, 125(43.0%), clearing of forests for farming, 109(37.5%), clearing forests for building homes, 94(32.3%) and fetching of firewood, 43(14.8%) is least on the scale.

Table2: Ranking of respondents' views on causes of forest degradation

Reasons	Strongly Agree	Agree	Disagree	Strongly Disagree	Total
Bush Burning	188(64.6)	87(29.9)	8(2.7)	8(2.7)	291(100.0)
Commercial Timber Logging	125(43.0)	108(37.1)	36(12.4)	22(7.6)	291(100.0)
Clearing of Forests for farming	109(37.5)	118(40.5)	29(10.0)	35(12.0)	291(100.0)
Clearing of Forests for Settlement	94(32.3)	97(33.3)	55(18.9)	45(15.5)	291(100.0)
Fetching of Firewood	43(14.8)	130(44.7)	75(25.8)	43(14.8)	291(100.0)

Source: Akpa, 2014

Establishing the causes of forest degradation is a central factor in determining the solution to the problems and in mitigating the consequences of such degradation. Data on the number of alternative reasons for forest degradation given by the respondents were presented in Table 2. In addition, the open ended question on the causes of forest degradation shows that bush burning is again the single largest cause of forest disappearance in the communities under study. Bush burning is not only a traditional method of clearing bushes for farming in various communities in Ebonyi State, hunters also set forests ablaze in search of games thus making bush burning a single most important cause of forest degradation. This has implications on deforestation as well as land degradation because it kills microorganisms in the soil and exposes the land to erosion and heat.

Engendering the Causes of Forest Degradation

The data on causes of degradation of the forests were disaggregated. The opinions of the respondents as to whose (gender) activities degrade the forest more are presented in Table 3. This is with the view to elucidate the gender whose activities should be targeted in mitigating deforestation problems in the area

Table 3: Who contributes more to forest degradation?

Major contributors to forest degradation	Frequency	Percent (%)
Men	279	95.9
Women	9	3.1
No Response	3	1.0
Total	291	100.0

Source: Akpa, 2014

Table 3 presents men's activities as contributing more 279(95.9%) to forest degradation than women 9(3.1%). This is because men engage in more physically demanding activities than women in the forest. Activities like timber lumbering, clearing farmland through bush burning; clearing forests for settlement and for setting up development projects are often initiated and carried out by men. These activities have more degrading effects on the forest than mere gathering of firewood, food or fodder that women engage in for subsistence. Environmental degradation is often accompanied by changes in gender roles. Speaking on changes in gender roles, especially on the involvement of men in fetching firewood, a retired police officer from Ogidiga in Ikwo Local Government Area said in a semi-structured interview:

...men will enter forest to cut logs, chop them into firewood which they in turn chartered lorries to collect all these things. There is change, the change is really exposing the forest, reducing the forest, men do that, but women only go there to fetch firewood. Men really cause that degradation.

This finding is different from Agrawal (1986) where drought and wood fuel crisis were presented as reasons for deforestation in India. That study adopted the Women in Development (WID) and Women and Development (WAD) approach to addressing environmental problems which emphasizes women's managerial roles and closeness to nature to the neglect of men's roles. That singular finding informed the formation of the Chipko movement in India and green belt movement in Kenya by women. In this work, forest protection cannot be left to women alone because women's activities contribute less to deforestation. This being the case, the eco-feminist argument that men and women should get interested and actually work assiduously to protect the forest is pertinent.

Impact of Forest Degradation

To investigate the impact of forest degradation on the people in the research area, the respondents were asked to rank some selected impacts of forest degradation. The result of this ranking is presented in Table 4.

Table 4: Respondents' ranking of impacts of forest degradation

Impacts	Strongly agree	Agree	Disagree	Strongly disagree	No response	Total
Disappearance of timber	88(30.2)	160(55.0)	15(5.2)	24(8.2)	4(1.4)	291(100.0)
Increasing erosion	69(23.7)	147(50.5)	39(13.4)	33(11.3)	3(1.0)	291(100.0)
Lack of shade	68(23.4)	160(55.0)	35(12.0)	28(9.6)	0(0.0)	291(100.0)
Loss of medicinal herbs	68(23.4)	155(53.3)	31(10.7)	34(11.7)	3(1.0)	291(100.0)
Difficulties of getting fire wood	63(21.6)	138(47.4)	61(21.0)	24(8.2)	5(1.7)	291(100.0)

Source: Akpa 2014

Table 4 shows that disappearance of timber 88(30.2%) is a strong impact of forest degradation. However, increasing erosion 69 (23.7%), lack of shades 68(23.4%), lack of medicinal herbs 68(23.4%), and difficulties in getting firewood 63(21.6%) are equally impact of forest degradation. There was general agreement that all the suggested impacts are felt in the study area.

Socio-economic Impact of forest degradation

Most of the respondents agreed that the disappearance of timber and lack of shade aresocio-economic impacts of forest degradation. Others identified the loss of medicinal herbs, increasing erosion, difficulties in getting firewood as other impacts of forest degradation. When thick forests are degraded, one can hardly get strong trees for timber, there will not be enough shades, making the environment hot especially during dry season. There will be increased erosion of top soil and flooding of rivers. Erosion of top soil nutrient and depletion of underground nutrient give rise to low crop yield and increase in poverty. Loss of medicinal herbs affects people's health, because in rural communities, people depend on medicinal herbs for their health care. Finally, when firewood becomes difficult to get, it will influence the people's income, time and nutrition. All these in turn affect gender roles and relations in the area.

To analyze the impact of forest degradation on gender roles, a cross tabulation of the two variables is presented in Table5. Difficulty in getting firewood (forest degradation) was chosen as the dependent variable because use of firewood is a basic need in a rural community. Logging wood for sale (gender role) was chosen as independent variable because it is regarded as both male and female role in the research area.

Table 5: Cross-tabulation of difficulty in getting fire wood on the responsibility for commercial logging of wood

Responses	Responsibility for commercial wood logging							
	Male		Female		Both		Total	
	Count	Exp.	Count	Exp.	Count	Exp.	Count	Exp.
Strongly agree	35	26.2	20	22.2	8	14.6	63	63
Agree	58	57.3	47	48.6	33	32.1	138	138
Disagree	21	24.5	17	20.8	21	13.7	59	59
Strongly disagree	4	10.	16	8.5	4	5.6	24	24
Total	118(42%)		100(35%)		66(23%)		284(100%)	

Source: Akpa, 2014; Pearson ² = 22.119, df =6, p=0.005

The chi-square analysis shows a statistical significant relationship between impact of forest degradation (difficulty in getting firewood) and gender role (responsibility for commercial logging of wood). The calculated chi-square value of 22.119 is greater than the table value of 18.548. This implies that because of the difficulty in getting fire wood which arose as a result of deforestation, women now venture into commercial wood logging as additional responsibility. Related to this is the fact that the changing role of women in the study area has also placed financial burdens on the women as “bread winners” which is perceived to be the traditional role

of men as against “housekeepers” which was the traditional role of women. As a result of the financial burden and the lucrative nature of wood logging, women are now engaging in commercial wood logging as a way of respite for their financial pressure.

Furthermore, logging of wood for sale is a modern male gender role, because of the physical strength required for this activity. For women to get involved in logging wood for sale and not only the traditional gathering of dead branches for domestic use is a serious change in gender role. It may be that the deforestation observed in this study area has increased the commercial values of firewood and has pushed women into logging wood for sale.

Impact of deforestation on gender relations

Gender roles may not have changed in principle according to the quantitative data, but some excerpts from qualitative data indicate that women are bearing more burdens of responsibility and this gives rise to some conflicts in their gender relation with their husbands. From the qualitative data too, it was found that while some people, linked changes in gender roles and relations to men's apathy to farm work, others linked it to modernization and civilization, yet others saw a direct link between changes in gender roles and relations and environmental degradation. The contradiction between the qualitative and quantitative data on the nexus between environmental degradation and changing gender relation is due to the insidious nature of the degradation in the area. At the face value quantitatively, there is no link but only in-depth interaction with the people revealed the nexus. The qualitative data revealed that since women cannot abandon their children and their natural environment, they take on more family responsibilities than men do as their desperate measure to survive. Whereas, men do not contend the changing roles of women, they argue that it is natural, and they take it for granted.

This further buttresses the Cultural Eco-feminists argument about women's closeness to nature, because women are more closely connected to nature through their reproductive potentials, they are better placed to care for the environment in Ebonyi state. Women tend to have a greater involvement in environmentally sustainable activities and environmental management than men, but may incur certain costs or lack the required resources and decision making powers to command control over resources. This is similar to the finding from a study of four communities in three Latin American countries by Paolisso and Gammage (1996) which indicated that women make significantly larger contributions to managing the negative effects on family welfare of natural resource decline and environmental pollution. That study found that women's time and task allocations change in response to environmental degradation and women's environmental task represent an important part of the household's first line of defense against environmental degradation. It can be argued therefore that environmental tasks impose additional burdens on women, in part because their existing productive and reproductive activities are not easily transferred to other household members, whereas women can take on additional responsibilities to ensure that the family is sustained.

Again one would argue with Agrawal (1997) and Thapa (2005) and like the social eco-feminists, that the link between people and environment is determined by the way in which production and distribution in a society is carried out. That as far as there is gender and class division of labour,

property and power, there will be differences in people's interaction with nature, effects of degradation on people and their responses to it. This line of thought is corroborated by the report of Skinner (2011) where she indicated that there are various gender implications to the rising threat of food shortages, with both the production and consumption of food being highly gendered. The implication on gender is that as agricultural production becomes more labour intensive, in many cases women will increasingly carry the burden of the additional work and have least access to necessary inputs. Also with increasing crop failure, women often face the worst negative economic implication as they have fewer assets on which to rely and limited access to alternative sources of income and livelihood (Blackden and Wodon, 2006).

CONCLUSIONS AND RECOMMENDATIONS

This article has presented an empirical report on the nature, causes, impact of deforestation and its implications on gender roles and relation in Ebonyi state. It has particularly revealed the insidious nature of gradual environmental degradation which might not be glaring if data is sourced quantitatively only. It is therefore recommended that:

1. The Local Government should enforce environmental byelaws against bush burning, lumbering of trees, and these laws should also take care of preservation of reserved forests, plants and herbs

Legal rights and economic opportunities for men and women must go hand-in-hand, thus empowering them for greater participation in meaningful and rewarding work.

People should make use of alternatives to fuel wood or improved fuel-efficient systems to reduce dependence on firewood.

There is need for greater attention to women's needs and contributions to the environmental capital. This is because both women and environment are shadow subsidies that enable profits to be made, which most of the time are taken as free goods. Methods of valuing women's work as well as environmental goods need to be incorporated into approaches to solution of environmental problems.

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