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Full length Research

Assessment of Anthropogenic Factors as Drivers of Degradation of Floral Diversity in some Agrarian Communities in Boki, Cross River State, Nigeria.

Okpiliya, F. I., Oka, P. O., Ekong, A. and Ajom, S. K.

Department of Geography and Environmental Science, University of Calabar,Calabar, Nigeria.

Corresponding Author's E-mail: fetiongokpiliya@yahoo.com

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It is understandable that floral diversity is of immense benefits to mankind. Yet it has been squandered in such a magnitude that most of the species are going extinct if not properly managed. The objective of the study was to examine those factors that lead to the degradation of floral diversity in Boki. Three agrarian communities in the unprotected forest area of Boki were sampled for the study. This was based on the nature of the anthropogenic activities that take place in these communities. A total of 150 copies of questionnaire were distributed to each household head in the study area. Each of the communities had 50 copies of questionnaire. The content of the questionnaire was based essentially on the demographic characteristics of respondents, the causes of degradation of floral diversity, fallow period for farming, duration of involvement in fuelwood business. Also, a survey of 5 farms in each of the communities was undertaken with the view to determining the level of damage caused by fire to floral diversity. Descriptive statistics was used for the analysis of this data. The result of the study indicated that logging, farming, fuelwood gathering and bush burning are the major causes for the degradation of floral diversity. It was also discovered that there is high demand for certain floral species for timber and fuelwood owing to their relative scarcity due to over exploitation. There was also a great damage to the morphology of most floral species due to fire incidence.

Keywords: Assessment, Anthropogenic, Degradation, Diversity, Agrarian, Communities.

INTRODUCTION

The sheer variety of life on earth inspires awe. Equally powerful is our concern for those species whose diversities are gradually being reduced. Floral species sporting such a label are the familiars of umpteen television documentaries and public campaigns, yet the term can be indiscriminately used with no precise definition (Jeffries, 1997). It is worth noting that precise definitions are not merely the realms of experts but are important for practical purposes.

The term degradation is widely recognized as an inclusive label for different degrees of danger to a phenomenon. According to the New Standard Encyclopaedia Dictionary (1984), degradation is the state of being reduced in hierarchy, or status. Fact index (1978), conceptualized degradation as the wearing away or reduction in phenomenon that is being observed. Environmentally, the world 'degradation' is applied essentially in relation to the wearing away or reduction in status of the earth's resources-landscape, soil, water, air and vegetation.

It has been realized that floral diversity is of real social and economic value (Okpiliya, 2014). The bewildering question to ask thus is: if floral diversity is so valuable, why is it being degraded at such a fast rate? What are the causes of this floral degradation? According to Flint (1991), some loss of floral diversity is clearly inevitable and justifiable. However, even if this is

the case, it can still be argued with some justification that the rate of degradation is socially excessive.

According to Jeffries (1997), many factors interact to explain the current r2wate of degradation and final extinction of species diversity. Flint (1991), argued that the simple growth of population is not the whole problem. The pressure of production on biological resources is exacerbated by the unequal distribution of agricultural land and by the replacement of traditional common property right by open access regimes. He further reiterated that population growth is nevertheless a powerful force for biotic impoverishment by t the high rate of population growth mean that the pressure on existing and undisturbed land will increase at an unprecedented rate.

All over the world, diversity of floral species have been put numerically at between 2 and 10 million of which only 1.4 million have been described right from the time that the Bible credits Adam with the job of naming species, a fundamental task for the quantification of diversity (Wilson, 1980). It is imperative to note that if the magnitude of the genetic resources is vast, so too is the rate of genetic degradation. Hence, the rate of degradation and ultimate loss of floral diversity has been estimated at approximately 10-20, 000 per year, or between 1,000 and 10,000 times faster than the natural rate prior to human intervention (Wilson, 1988). Whereas, rates of degradation and rate of speciation were roughly equal for most of the history of life on earth, contemporary degraded or loss rate may be one million times faster than rates of speciation (Myres, 1988). Marked variation exists among estimates but it is undebtable that floral species is now being degraded at an extremely rapid rate (Okpiliya, 2004). Rates of degradation are especially high in developing countries and particularly in the tropical rainforest ecosystem where terrestrial diversity is highest

It is in the light of the above that Gentry, (1987) a researcher on tropical forest remarked that the degradation of many species is not only a tragic squandering of the earth's evolutionary heritage but also represents degradation of a significant part of the planets genetic reservoir, a source of immense economic potential. Hence, Briggs (1985) predicted that owing to degradation between 1990 and 2015 about 2% and 10% of the flora of tropical rainforest would have become extinct.

In any case there can be very few people who are not aware that the floral diversity of the tropical rainforest ecosystem is in danger (Okpiliya *et al,* 2013). This has become one of the clarion calls of environmentalist, a call which is now echoed in the statement of political leaders in both the developing and the developed world. It is one of the main issues identified in the report of the World Commission of Environment, the Brundtland Commission. One thing that stands out clearly here is that there is still much misunderstanding about the nature and scale of the problem and above all what should be done about it.

The Study Area

Boki Local Government Area lies between latitude $5^{o}45'$ North of the Equator; and longitude $8^{o}25'$ and $9^{o}21'$ East of the Greenwich meridian. It occupies an area of $344.95km^2$ and is bounded to the North by Obudu and Obanliku, to the south by Ikom, to the west by Ogoja and to the east by Cameroon Republic. Boki has a tropical climate typified by distinct wet and dry seasons. It has a mean annual temperature range of about $5^{o}C$, annual rainfall of between 2000mm to 3,500mm and an average humidity of well over 80%. Rainforest and wetland soils parallel the underlying geology of the area. The soils are composed essentially of sand, sandy loam, loamy sand clay loam. All these environmental conditions have interacted to produce luxuriant vegetation which characterizes the area.

METHODS

First and foremost, a reconnaissance survey was done in the area. This provided a base for the acquisition of relevant data relating to the study. Fundamentally, Boki has two clearly demarcated forest status – protected and unprotected forest areas. In order to obtain representative data in the study area, three settlements were sampled from the unprotected forest area. They include Borum, Kanyang and Isobendeghe. The choice of the three settlements emanated from the fact that these settlements are heavily involved in farming and other activities like plantation agriculture which has to do with interacting with the forest ecology directly.

A total of 150 copies of questionnaire were distributed to the three communities. The estimated number of households in the three communities were 300 and 150 household heads were interviewed. Each of the communities had 50 copies. The houses were numbered and copies of questionnaire were distributed at random (every second house) to the household heads. Two sets of questionnaire were used for the data collection. The first was on demographic characteristics of respondents which include name, sex, age and occupation. The second set of questionnaire was on the causes of floral degradation generally. In each settlement, five farmers were surveyed bringing the total to 15 farms altogether from the three communities. The essence was to examine the different characteristics possessed by the floral species owing to the impact of fire on them seeing the bush has to be slashed and

Table 1: Distribution of Respondents by Communities

Communities interviewed	Estimated household heads	Sample size
Isobendeghe	102	50
Kanyang	100	50
Borum	110	50

Source: Author's Field Survey, 2004

burned before farming takes place. Descriptive statistics was used for the analysis of this research (table 1).

DISCUSSION OF FINDINGS

Table 2 shows that respondents in the age bracket of 20-30 years were 40 (27%), 31 – 40 were 80 (53%), above 40 were 30 (20%). The ages of individuals determine the degree of dependence and interaction with floral diversity for various purposes. Younger and older generations cut down less trees in the forest than those in the productive ages of 40 and above who constitute collectively 20% of the total sampled population.

Table 2: Age

Age (Years)	Frequency	Percentage
20 – 30	40	27
31 – 40	80	53
Above 40	30	20
Total	150	100

Source: Author's Field Survey, 2004

The major occupations of the respondents are farming, logging, fuelwood gathering and hunting among others. Seventy (47%) of the respondents indicated farming as their major occupations, logging 60 (40%), fuelwood gathering 10 (7%), hunting 5 (5%), civil servantry 5 (5%). When majority of the people living in an area are farmers, it has the implication that large area of land may be needed for cultivation. In this manner, the forest and its rich floral species may be cleared for this purpose. In South-eastern Nigeria, land is generally inadequate and the available land is fertile. So there is pressure on the remaining forest for farming, thus resulting in reduction in floral species richness. In the same manner indiscriminate harvesting of high-priced floral species for logging purposes affects in non-small measure the abundance of such species.

The level of educational attainment of individuals may influence the degree of interaction or exploitation of floral species. A community with most of its people having high level of educational qualification tends to have little or nothing to do with the forest and its rich diversity. It is assumed that individuals with high level of formal education may have alternative jobs apart from faming, gathering of fuelwood and logging.

Table 3: Occupation

Occupation	Frequency	Percentage
Farming	70	47
Logging	60	40
Fuelwood gathering	10	7
Hunting	5	3
Civil servants	5	3
Total	150	100

Source: Author's Field Survey, 2004

Table 4 indicated that 64 (43%) of the respondents had no formal education, while 50 (33%), 30 (20%), 6 (4%) of the respondents have secondary school, OND/NCE/HND/B.Sc and Post-graduate certificates respectively.

The sex of individuals in any location has impact on the floral diversity in that area. Table 5 indicated that 146 (representing 97%) of the respondents interviewed in the study area are male while 4 (representing 3%) are female. Both the male and female are involved in farming, fuelwood gathering and other activities that result in the degradation or reduction in richness of floral species. This high percentage of the male is an indication of the likelihood for expansion of farmland and logging activities in the study area, which has to do with the cutting down of floral species.

The result shows that, 150 respondents (representing 50.00%) attested that the major cause of degradation of floral diversity in the study area was farming. Also 100 respondents (33.3%), 30 (10%), 10 (3.3%) and 10 (3.3%) were of the opinion that indiscriminate logging activities, fuelwood collection bush burning and other factors were among others the possible causes of degradation of floral diversity.

Having seen the distribution of respondents by factors that causes the degradation of floral diversity above, it becomes imperative to take a closer look at the workability of these factors in the study area (table 6).

Table 4: Education

Education	Frequency	Percentage
No formal education	64	43
GCE/WAEC	50	33
OND/NCE/B.Sc/HND	30	20
Postgraduate	6	4
Total	150	100

Source: Author's Field Survey, 2004

Table 5: Gender

Gender	Frequency	Percentage
Male	146	97
Female	04	03
Total	150	100

Source: Author's Field Survey, 2004

Table 6: Distribution of Respondents by Factors that Causes Degradation of Floral Species

Causes	Frequency	Percent
Farming	80	53.00
Logging	50	33.33
Fuelwood collection	15	10.00
Fire	5	3.33
Total	150	100

Source: *Author's Field Survey, 2004*

Farming

The mere fact that farming activities rank the highest among the causes of degradation of floral diversity in the study area is no surprise. From all indications, majority of the people in the study area are farmers. And farming activities in this area cannot occur falling short of a direct interaction with the forest and its rich diversity. In the rainforest ecosystem of Boki, the traditional system of farming adopted by man has contributed greatly in accelerating the rate of degradation of floral diversity in the area. A plot of a person's farmland may be cleared of any form of tree or vegetative cover and cultivated for about 2 or 3 years and left as fallow for another plot. After about four to five years he returns to the original plot again. This idea of farmers hopping from one piece of land to the other results in complete damage to the vegetation because majority of the floral species are cut down in the process. This collaborates with Aweto, A. O. (1981); study of species diversity in agricultural communities drawing a comparison of fallow communities of different ages within mature forest in South West Nigeria reveals that the number of species in the 10 years fallow was not as high as in the mature forest. Similarly, Mabberley (1992) observed that a great variety of the Mount Athos area in Greece was exposed to some 947 peasant farmers and their 30,000 beast for two years in which case all of them were browsed and twelve of the endemic plant species there have become extinct.

As table 7 indicated majority of the farmers about 80 (53.4%) abandon their farms for only 2 years before returning to it, 45 (26.6%) farmers abandon for 3 years, 30 (10%) for 4 years and only 10(6.7%) for five years (Table 2). It could be inferred from the analysis above that there has been generally a decrease in fallow periods in Boki. And observations in the field have revealed that this may be due to increase in population due to return migration from the cities and the zeal to acquire more hectares of land leading to land shortages.

Table 7: Number of Years of Fallow Land in Boki

No. of Years	No. of Farmers	Percent
2	80	53.4
3	40	26.6
4	20	13.3
5	10	6.7
Total	150	100

Source: *Authors Field Survey, 2004*

Table 8: Tree Species Family Felled for Timber

Year	Caeselpin	Ulma	Melia	Thymele
1991	340	363	356	336
1992	414	386	512	363
1993	479	372	563	463
1994	456	381	463	356
1995	475	386	423	511
1996	359	389	357	516
1997	331	356	334	535
1998	332	356	332	563
1999	317	343	322	572
2000	312	334	313	585

Source: Forestry Department, Boje, Boki 2004

And from all indications the more the population growth and the zeal to acquire more land, the more the impact on the forest and its rich diversity.

Timber Exploitation

The forest main product in Boki is timber. Other products of the forest are fibre, ropes, fruits and animals. In addition, the forest provides various advantages to man. These advantages of the forest have been so abused in recent time. The indiscriminate and illegal exploitation of the natural high forest in Boki without a compensatory regeneration programme is contributing in no small measure to the degradation of floral species. In spite of the production of iron and steel and other metal materials for construction purposes, timber still retains its importance as a construction material. The rate of timber exploitation unlike in the past is now very high. The reason being that some timber dealers fell without permission. In Borum, Isobendege and Kanyang where there is little or no restriction on the use of the forest, the rate of timber exploitation is very high. Timber poachers in these places involve themselves in illegal exploitation to the detriment of the villagers as well as forestry division. As a matter of fact, Whitmore (1986), pointed out that besides damaged to the residual stand, the logging operations totally remove the floral species from the substantial fraction of the area. His study in Ulu Gombak revealed that repeated logging has made the area to be progressively poorer in timber floral species. Similarly, Hall and Swaine's (1981), study of the distribution and ecology of vascular plants in the tropical rainforest of Ghana found that Ghana has a low mean basal area compared to the world mean standard of $32m^2ha-1$. This is attributed to the high incidence of disturbance by farmers and loggers.

Generally in the study area, it was realised that during exploitation, some timber species were more preferred to others. This situation is reflected in excessive demand for such species that are in dire need. Table 8: shows species family felled for timber at Boki. From the analysis of the data collected on commercial timber exploitation, it indicated that four specific timber species families are in great demand. The data also shows a reduction of some of these families due to exploitation. The families include *caeselphinaceae, ulmaeceae, melianceae and Thymeleaceae.* The family of Meliaceae in which Milicia excelsa (Iroko) belongs, which originally abound in the high forest of Boki and which also is in great demand had indicated a reduction in its existence (figure 1).

The reduction in the family of Meliaceae due to exploitation has led to the demand of the family of Thumeleanceae in which Terminalia superba and uapaca are members. The graph also indicated a

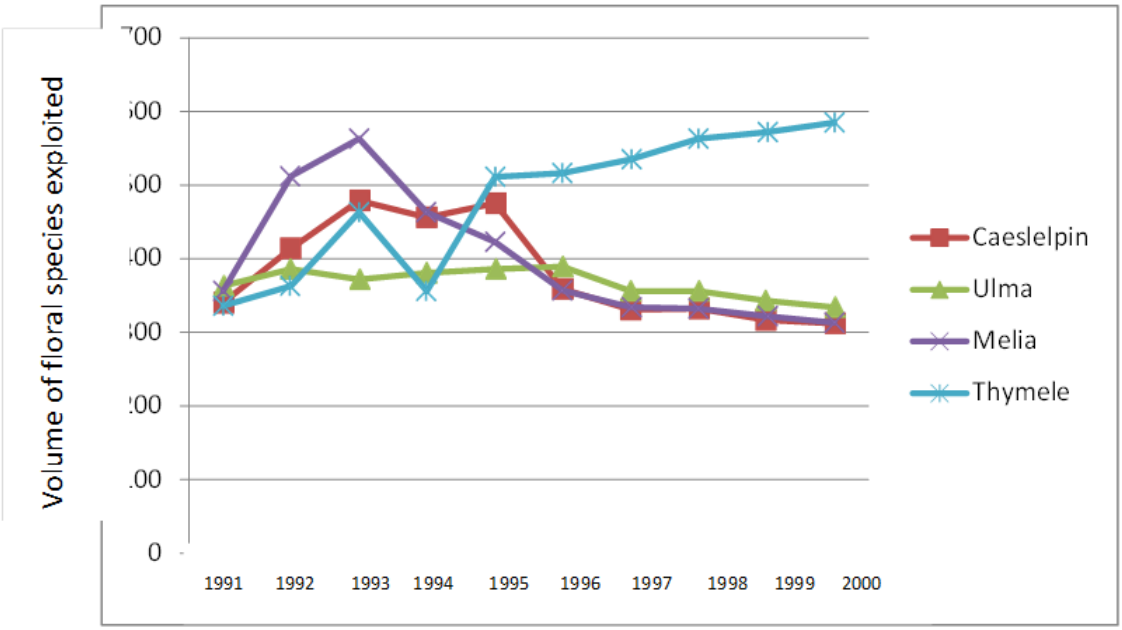

Figure 1: Graph of Floral Species Families felled in Boki

Table 9: Monthly Timber Exploitation in the study Area

Communities	Average no. of trees felled a month per sawyer	Average monthly income per sawyer	Average monthly income before becoming a sawyer
Borum	68	81,600	9,000
Isobendege	50	60,000	7,300
Kanyang	42	50,400	6,000

Source: Author's Field Survey, 2004

steady exploitation of meliaceae family from 1997 – 2000 where the exploitation of the family falls sharply due to scarcity of the family. This has resulted in the change in exploitation of the meliaceae family to thymeleacae family as seen in figure 1.

The exploitation of thymeleaceae family which is also a durable timber species rises from 1991, which is the base year and falls temporarily in 1994 due to a fall in price of the species for the year as was observed in the field. Again, there was a rise up to 2000. Information gathered from the field revealed that this family is under great exploitation. There were evidences of floral species of this family such as *Terminalia superba and Uapaca* dominating the timber markets in Borum, Isobendege and equally the village of Okundi, Okubusyhuyu and Okwabang. If this sort of change in exploitation from one species family to another family due to the exhaustion continues unabated, there is the tendency that in the nearest future Boki will be in great need of timber for construction. Due to this exhaustion, the prices of various species of timber have gone up sharply.

Table 9 indicated a drastic timber exploitation in Borum (68) trees a month per sawyer followed by Isobendege (50) and Kanyang (42). The case of Borum having a high incidence of timber exploitation is worthy of note. Observations in the field revealed that the Borum traditional Rulers Council request for a minimum charge from the timber dealers before trees are harvested in the area as compared to the other areas. Also, the area is accessible. These factors have guaranteed continuous exploitation of the forest for timber. On the other hand, Kanyang is very inaccessible and so have tend to slow the rate of exploitation of timber in the area.

Table 9 also shows that income derived by sawyers while engaged in the business is higher than what use to be the case before involving in timber business. From

Table 10: Timber-Related Business

Communities	Local sawmills	Carpentry/Furniture's
Borum	4	18
Isobendege	2	12
Kanyang	1	6
Total	7	36

Source: Authors Field Survey, 2004

Table 11: Prices of Fuelwood in Naira per Bundle in the Study Area

Year	Prices (N) Per Bundle
1990	1 kobo
1991	1 kobo
1992	4 kobo
1993	6 kobo
1994	N1.00
1995	N4.000
1996	N13.00
1997	N10.00
1998	N20.00
1999	N35.00
2000	N30.00
2001	N40.00
2002	N70.00
2003	N90.00
2004	N120.00

Source: *Authors Field Survey, 2004*

all indications, this seems to be one of the major factors for the continuous involvement in the timber trade. And unless of course alternative source of income which may be higher than that derived from timber trade is provided, there is the likelihood of continuous devastation of the forest and its rich floral diversity.

In Boki there are other timber related businesses which act as stimulus for further exploitation of timber floral species. Table 10 indicates some of these local businesses. Table 10 shows that there are 7 sawmills and 36 carpentry/furniture firms in the sampled villages. As a matter of fact, in order to sustain these businesses, there must be continuous supply of timber resulting on much pressure on the species richness in the area.

Fuelwood Gathering

The cutting and collection of fuelwood (firewood) by people living near the rainforest have been identified by Routledge, (1979) as a major cause of degradation of the species diversity in the tropical rainforest. It is estimated that in developing countries about 80% of the floral species use it for fuel (Exkholm *et al*, 1984). And because of the preferences attached to different floral species in the utilization as fuelwood, most of these 'victim' species are fast reducing in status. In India for example, MacDicken et al (1990) noted that there is so much premium placed on '*Acacia nilotica'* that in recent times, this floral specie is becoming difficult to find. In Nigeria, the same situation has been observed of Ironwood, camwood and umbrella tree. Generally, it must be realized that these pressures change the composition of the vegetation towards increasing inferior species and qualities (Ecxholm, 1984).

In Boki, a substantial proportion of the rural household use fuelwood. Although urban residents have fuelwood substitutes such as kerosene and electricity, these substitutes are not always affordable. This means that firewood continues to be the major sources of energy in both the rural and urban areas.

In recent times, it has been discovered that the prices of petroleum products have continued to be high. This is seen to have overall effect on the use of fuelwood. In 1973 the prices of petroleum products which are alternative energy sources were less than N5.00 per litre and people in the study area could afford to buy them. However, with the prices of petroleum products rising between N17.00 and N21.00 per litre by the year 2000, and even more presently, the people especially those in the rural areas could not afford to buy these alternative sources of energy for cooking and heating. The resultant effect is pressure on various kinds of floral species from the forest. Given this situation the prices of fuelwood has risen considerably in the study area.

From Table 11, it could be seen that the prices of fuelwood have risen sharply from 1 kobo in 1999 to about N120 and even more in 2004. This may be due to

Table 12: Duration of involvement in Fuelwood Collection

Years	Communities		
	Borum	**Isobendege**	**Kanyang**
1-2	1	1	1
3-4	1	1	1
5-6	1	1	1
7-8	3	2	1
9-10	5	3	2
Total	10	8	6

Source: *Authors Field Survey, 2004*

Table 13: Ranking of Common Fuelwood Species in Order of Preference.

Species	Ranking
Pterocarpus osun	1
Lovoa tricliodes	2
Aubaka aubrevillea	3
Milicia excelsa	4
Brachystegia spp	5
Loghira alata	6
Holotelea gradis	7
Invingingabonensisi	8
Petacletra macrophylla	10
Daniella ogea	11

Source: *Author's Field Survey, 2004*

the excessive demand for it, which has ultimately led to its relative scarcity. Because of the increase in prices of fuelwood over the years due to the demand for it from even the neighbouring areas, most rural people in the study area have held on to the business for a long time now.

As indicated in table 12, about 16 respondents (64%) attested that they have been in the fuelwood trade for a longer period of between 7-10 years; whereas only 9 (36%) were in the business for a period of between 1-6 years. The table also shows that as the years roll by the number of people involved in fuelwood collection has increased in the study area. This may be due to the lucrativeness of the business in the area. And from all indications the longer the years people in the study area engaged in this fuelwood trade, the more the pressure on the floral species used for fuel.

Moreover, in the study area, it is not every floral specie that is being utilized as fuelwood. Table 13 shows the choice of common fuelwood and the rankings in order of preference. From the analysis above, it is glaring that *Pterocarpus osun* ranks the highest in the choice of floral species used as fuelwood for the 11 common species. The lowest ranking is *Daniellia ogea*. Thus, it can be inferred that there is pressure on the above floral species used for fuelwood in the study area. This is further supported by the fact that in the study area women trek for not less than 8km in order to lay hands on these species. As observed in the field, the distance for the fuelwood species is seen to be increasing with increasing years which is an indication of the relative scarcity of these fuelwood species in the study area. These fuelwood apart from their usage locally and also sold for money in the neighbouring markets of Chidi, Kakwagoru, Ntamante and Okubushoyu.

Fire

Fire is the dominant fact of forest history. The great majority of forest ecosystems of the world have been burned over at more or less frequent intervals for many thousands of years. Even under present day conditions, marked by a great awareness of forest fires and forest fragmentation by intervening tracts of farmland, settlement, roads and trails, fire continues to be a major disturbance factor in the forest. Before man started burning the forest, fires were the result of lightening (Mabberly, 1992). Today, fire is caused principally by the activities of man. And fire has been found to have disastrous effect on the ecosystem. According to Pears (1985), the ecological impact of fire is partly determined by its frequency. Thus, if fire is common and regular, the ecosystem over a long period tends to become adapted to the pattern. And it is obvious that certain floral species

Table 14: Distribution of Response of Farmers Involvement in Bush Burning

Communities	No. of Farmers	Percentage
Borum	50	16.6
Isobendege	50	16.6
Kanyang	50	16.6
Total	150	100

Source: *Authors Field Survey, 2004*

Table 15: Number of Floral Species Possessing Different Damaged Characteristics

Communities	Number of Floral Species Possessing Different Damaged Characteristics				
	Dead top	**Forking**	**Kinking**	**Total**	**Percentage**
Borum	16	8	14	38	45
Isobendendege	10	6	6	22	26
Kanyang	6	5	4	15	18
Total	32	19	24	75	100

Source: *Authors Field Survey, 2004*

will be eliminated; others will adjust more gradually to the fire disturbance even though with some form of deformity such as gnawled bark as evident in the forest of Indomelesia and Thailand (Pears, 1985). Marbberley's (1992) observation in indomalesia also revealed that bush burning causes a change in the composition of floral species as seen where 'lalang (*imperata cyclindrica)* dominated an area that was previously composed of a great variety of floral species. Similarly, Stocker's (1981), study in Beaufort, Sabah of the ecological implication of fire revealed that both crown and ground fire eliminated most of the endemic floral species, the mortality of the large species being in inverse proportion to their girth. He concluded those two years later, the whole area was invaded by weedy Linanes and ferns. In a supportive statement, Zedler (1977) emphasized that fire is a key factor in the ecology of some endemic floral species. His study in the Southern Mediterranean Mountain of California revealed that 'curpressus' forbesis is gradually being eliminated due to frequent fire.

In Boki, fire is essentially being used to clear the underbrush for farming activities as well as hunting. Fire has done much harm to floral species and animals of alike. For instance in the field observation in 2001 farming season in Borum, the whole of Njua forest was under forest fire caused by native farmers. This uncontrolled fire destroyed a lot of plant species and equally paved way for farming.

Table 14 shows that almost all the farmers in Boki are involved in burning the forest before farming. Given this situation, it therefore means that the rich floral diversity of Boki is under serious threat by fire. It is a common scene in the study area that majority of the floral species have witnessed degradation not only in their richness but also in their morphological characteristics.

Table 15 shows some of the features of morphological change and the number of species that are involved. The analysis in the table revealed that the death of floral species tree top whereby the terminal buds were destroyed and the tree ceased to grow ranks the highest with 32 trees suffering from this form of degradation of morphological diversity. This was followed by the kinking of trees where 27 floral species were recorded. Here, due to the influence of fire the main trunk twists or kinks instead of growing straight. Finally, 19 floral trees were observed to have been in a forking condition where the main trunk branches out perhaps repeatedly, instead of continuing to show monopodial or single stem growth.

Based on the magnitude of the three forms of degradation of morphological diversity it was discovered that Borum has the highest morphological diversity. It was discovered that Borum has the highest incidence with 38 (45%) of such cases. This was followed by Isobendege 22 (26%), Kayang 15 (18%).

CONCLUSIONS

The degradation of floral diversity and their resultant scarcity are usually symptomatic manifestations of larger problems, which have accompanied the process of man and the forest which is a facet of human ecology. In most cases, these proces6s of degradation of floral diversity are often poorly understood and over simplified. These mechanized form of degradation of floral diversity as seen in this study can be viewed in several spheres such as cutting and collection of fuelwood by people

inhabiting the area, forest fire by farmers or hunters, farming activities and logging which involves the cutting down of a great variety of valuable floral species. Finally, the dimensions of the problems of degradation of floral diversity are made more complex because of the changing aspirations and expectations which have accompanied economic development. In this respect, population growth is being seen as a major driver of the degradation of floral diversity in conjunction with its relationship to agricultural, technological change and the alteration in the socio-economic structure of rural societies.

Contributions/Originality

The role of man in destabilizing the ecosystem cannot be overemphasized. This study therefore, documents the various ways in which man has interacted with the rich floral diversity in some selected communities in Boki Local Government Area of Cross River State. It was discovered that man's action by way of logging, bush burning, fuelwood gathering and farming has resulted in wantom destruction of the rich flora in this tropical rainforest ecosystem in the area. This study was also able to identify some species of flora that are in high demand either as fuelwood or timber.

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