

WOMEN'S INVOLVEMENT IN NON TIMBER FOREST PRODUCTS UTILIZATION IN SUPPORT ZONES OF GASHAKA GUMTI NATIONAL PARK

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ABSTRACT

*This study investigated Women's involvement in Non Timber Forest Products (NTFPs) utilization in the support zones of Gashaka Gumti National Park. The use of interview schedule was adopted and questionnaire administered to a random sample of 150 women residents of the support zones. Data collected were analyzed using descriptive statistics. The results obtained indicated that mostly young women (83%) within the age class of 18-45 gathered NTFPs in the study area, and 50% of the women were illiterates. The distribution of respondents in terms of their occupation were; full time housewives 42%, farmers 32.5%, traders 16%, civil servants 7.5%, and cattle rearers 1%. Income earned from the NTFPs per annum ranged from N4,000.00 - N10,000.00. A total of 84% of the respondents were involved in the gathering of NTFPs, among these 97.4% were part time collectors while only 2.6% were full time and 90% of the gatherers collected their NTFPs from the forest areas outside the park, while only 9.4% obtained theirs from within the park. NTFPs were used for food, medicine, handicraft, fuel wood and to generate income. *Vitellaria paradoxa*, *Parkia biglobosa* and *Prosopis africana* were more important for food and income while *Nauclea latifolia*, *Khaya senegalensis* ranked highest for medicine. Woody plants preferred as fuel wood included; *Parkia biglobosa*, *Brachystegia eurycoma* and *Bridelia feruginea*. Community Forest Programmes did not exist in the study area though highly desirable by the respondents. Establishment of community programmes is recommended as a preventive step against trespass on park NTFPs.*

Keywords: *Women, Involvement, NTFPs, Utilization, Support zones.*

INTRODUCTION

Non Timber Forest Products (NTFPs) are a particularly important part of multiple use strategies because they increase the range of income generating options for forest dependent villagers while avoiding some of the ecological costs of timber cutting (Geithner, 1998). NTFPs include a range of products with both subsistence and market value, such as food, fodder, gums and resins, oilseeds, medicinal plants, building and crafts materials.

Women have vast indigenous knowledge on the medicinal, nutritional, spiritual and economic uses of a wide range of NTFPs (Okpei, 1996). This knowledge has been passed down from generations of mothers to daughters. Besides, through their daily work, rural women have accumulated intimate knowledge of their ecosystems, including the development and use of plant and animal

genetic resources. NTFPs based activities involve a range of products, provide supplementary income during lean seasons, are labour intensive, use simple technologies and are accessible to low income and socially disadvantaged groups (Geithner, 1998).

To achieve the goal of biodiversity conservation, a socially equitable system which promotes gender equality and empowers women must be established in the rural areas that live close to conservation areas. The involvement of women in the management of income is increasingly seen as one way of achieving more sustainable development (Sonwa *et al.*, 2001). It is particularly important that there should be a strong balance in the support zones of Nigeria's national parks since women constitute a significant proportion of the population in the support zones (Okpei,

1996). The efficient utilization of NTFPs in the support zones rather than in the parks means that park resources can be saved.

Biodiversity conservation in the park will be a mirage if the natural resources required by women in the support zones cannot be met outside the boundaries. Presently, the extent to which community forests are able to meet the natural resources needs of the people, the quantity of resources harvested from the community forests over a period of time and the sustainable yields are not yet known. No enduring and beneficial resource initiative can be developed without this information. This study was thus conducted to describe the socio economic characteristics of the women involved in the study area, ascertain the proportion of the women involved in the exploitation of NTFPs in the community forests and the park, provide the list of NTFPs exploited and their contribution to the sustenance of the women and their families and evaluate community forestry intervention where they exist and make recommendations.

METHODOLOGY

The Study Area

Gashaka Gumti National Park (GGNP) covers an area of approximately 6670 square kilometers. It is the largest national park in Nigeria. Located in the North Eastern part of the country, it represents an area of significant national and international conservation priority. From the edge of the plateau in Taraba State, GGNP stretches northwards along the international border with Cameroon and on into Adamawa State as far as the small town of Toungo. It lies between latitude $6^{\circ}55'$ and longitude $8^{\circ}5'$ North, between latitude $11^{\circ}11'$ and longitude $12^{\circ}13'$ East (Fig. 4)

The combined and long term effect of fire, farming and grazing practices have significantly altered much of the original natural vegetation of the region (Dunn, 1993). Now there are seven habitat types found within GGNP. Lowland gallery forest, riparian forest, montane forest, derived savanna, southern and northern guinea savanna and montane grassland. The Northern Gumti sector is more of woodland, characterized by tall grasses and trees with short boles and broad leaves. Akinsoji (1994) reported some of the commonly occurring tree species in the sector to include *Acacia spp*, *Azelia africana*, *Khaya senegalensis*, *Daniella oliverii*, *Isobertina doka* and *Vitellaria paradoxa*. In the southern Gashaka sector, southern guinea savanna predominates and the dominant tree species include; *Albizia gummifera*, *Azelia africana*, *Symphonia globulifera*, *Mallettia spp.*, *Triplochytton schleroxylon* and *Aubrevillea kerstingii*. Trees are often engulfed by woody climbers that are a substantial food source for primates.

GGNP is an ecosystem of exceptionally high biodiversity. Its intricate vegetation mosaic supports over 100 species of mammals. The region's forest harbours species like Chimpanzees (*Pantroglodytes vellerosus*), Giant Forest Hog (*Hylochoreus meinertzageni*) and Golden Cat (*Fellis aurata*) (Dunn, 1993). The savanna fauna species include a variety of antelopes such as Kob (*Kobus kob*), Waterbuck (*Kobus ellipsipryminus*), Reedbuck (*Reduna reduna*), Derby's eland (*Auratragus debianus*), African Buffalo (*Syncerus caffer*), Blue duiker (*Cephalophus monticola*) as well as predators such as Lion (*Panthera leo*), Leopard (*Panthera pardus*) and Wild Dog (*Lycaonpictus spp.*) (Dunn, 1993).

The park is generally located in an area of low human density. There are about 25 communities in and around the park; 5 outside, 11 on the periphery and 9 inside, including 6 enclaves. (Fig.5). Hoyle (1995) puts the population density at 52 people/km² based on the 1991 census figures. The tribes occupying the surrounding of the park are recent immigrants comprising of Jibawa, Dakka, Ngoro and Chamba. Most of them are pastoralists found in the grazing enclaves of Falinga, Mayo Sebore, Chappal Tale, Chappal Hendu, Chappal Shingu and Nyumti. In addition, they also practice subsistence farming (Dunn, 1993).

Data Collection

Data for the study were obtained from two sources: primary and secondary. The primary data were obtained through the use of structured questionnaire while the secondary data were obtained from printed materials such as journals, textbooks, periodicals and conference proceedings.

The multi-stage and purposive sampling methods were used in collecting data for this study. Fifteen (15) out of the existing twenty five (25) communities in and around the park were randomly selected. In each community, 10 housewives were randomly selected. A total of 150 respondents were thus sampled for the study. However, only 120 questionnaires were filled and returned.

Data Analysis

Descriptive statistics were used to analyze the data. These include frequency counts and percentages.

RESULTS AND DISCUSSION

Socio-Economic Characteristics of

Respondents

The results of socio-economic characteristics of the respondents in the study area is shown in Table 1. It showed that most of the women involved in the gathering of Non-Timber Forest Products (NTFPs) were young as 83% of the collectors were below the age of 46, while the remaining 17% were above 46 years. This result no doubt reveals high productivity of the women in the lower age bracket which could be linked with vigour at that age. This agrees with the findings of Giroh (2007) who reported high productivity among young rubber tappers within the age of 18-46. A breakdown of NTFPs collectors on the basis of religion as presented in Table 1 showed that 37.8% and 62.2% Christians and Muslims respectively; an indication that religion played no role in the collection of NTFPs. Educationally, results showed that 50% had varying forms of education, and only 5.4% of this figure attained tertiary level education. It could be inferred from this result that attainment of higher levels of education did not constitute a hindrance to NTFPs collection so long as the women lived in the support zones and enclaves. Table 1 further gives a breakdown of the women's occupation as; full-time housewives 42.5%, farmers 32.5%, traders 16%, civil servants 7.5% and cattle rearers 1%. The implication of this result is that NTFPs collection in the area was mainly done on part-time basis. The income generated by this activity as shown in Table 1 indicates that 87.5% of the respondents earned between N4,000 and N6,000 annually, 30% between N6,000 and N8,000 per annum, 24.2% between N8,000 and N10,000 while only 12% earned above N10,000 per annum. This conforms to the report of Geithner (1998) that income from NTFPs only supplements household income and tends to empower

women economically.

Women Involvement in the Gathering of NTFPs in the Study Area

Results of involvement of women in the gathering of NTFPs in the study area are presented in Figures 1, 2 and Table 2. Figure 1 showed that 84.2% of the respondents were involved in the collection of NTFPs. Analysis of the status of the respondents involved in this indicated that 97.4% were part time collectors while 2.6% collected on full time basis (Fig. 3). Further more, Figure 3 showed that 76.1% of the respondents did their collection from outside the park, 14.5% from the within the enclaves while 9.4% obtained theirs from within the park. The high percentage of women involved in the collection of NTFPs conforms to the reports of Okpei (1996) and Geithner (1998) that NTFPs collection was dominated by women. The part time nature of the collections was also in line with the observation of Geithner (1998) that the products only provide supplementary income to the households.

Utilization of NTFPs in the Study Area

Tables 2–7 showed the purposes for which the NTFPs were being collected. However, in all the purposes of utilization and for all the products utilized as indicated in this study, only those forest products indicated by five or more respondents as being utilized were ranked to show their relative importance. Lists of plants collected for food and for financial purposes are presented in Tables 2 and 4. There were 16 plants collected for food with *Vitellaria paradoxa*, *Parkia biglobosa* and *Prosopis africana* ranking first, second and third respectively. NTFPs collected for revenue generation were 18 with *Vitellaria paradoxa*, *Parkia biglobosa* and *Prosopis*

africana ranking first, second and third in that order. Results also showed that 7 forest animals and their parts were used for food with fish, bush rat and cane rat ranking first, second and third respectively. Table 5 showed the list of NTFPs used for medicinal purposes. There were 17 with *Nauclea latifolia*, *Khaya senegalensis* and *Vitellaria paradoxa* ranking first, second and third. List of NTFPs used for handicraft is presented in Table 6. There were 3 in all, with *Elae guineense* topping the list. Twenty four (24) woody plants were collected for fuel wood. *Parkia biglobosa*, *Brachystegia eurycoma* and *Bridelia feruginea* were the most preferred (Table 7).

One could infer from these results that the inhabitants of the study area relied on NTFPs for most of their daily needs. This agrees with the findings of Arnold (1995), who reported that rural dwellers in developing countries depend on NTFPs for various levels of use. This situation suggests that the park is already under threat as the support zone women will most certainly turn their attention on the park once the supply from the support zones is depleted.

Results of community forest initiatives in the support zones and enclaves showed that there was no community programme in the study area. Interestingly however, all the women interviewed indicated interest in community forest initiative and willingness to support the programme if established. The women's disposition to support any community forest programme should be seen as a conservation tool whose advantage should be seized by the National Park Authorities.

Reasons for Collection of NTFPs from the Park and Mitigating Measures

Tables 10 and 11 showed the reasons adduced by the residents of the support zones for collecting NTFPs from the park and possible measures of controlling such collections. Among 13 reasons given for the collection, abundance within the park, ranked highest while poverty, unemployment and accessibility of the products in the park were next. There were 11 measures suggested by residents of the support zones as possible control measures against collection of NTFPs in the park. Among these, establishment of community forest initiative was most preferred, followed by increase in surveillance and improvement on their standard of living. This agrees with the findings of Arnorld (1995), who reported that involvement of rural dwellers in the management of protected areas will help in controlling exploitation of resources from such areas.

CONCLUSION AND RECOMMENDATION

Majority of women in the support zones and enclaves are involved in the gathering of NTFPs because the business empowers them economically, thus enabling them to continue to contribute to the up keep of their households in particular and their social system in general. NTFPs are also used for food, medicine, handicraft and fuel wood. The depletion of forest resources around the park occasioned by this activity may appear insignificant at present, but advancement in depletion in due course will culminate in encroachment into park resources.

Since collection of NTFPs by women in the support zones and enclaves cannot be possibly prevented, and since the women have shown their willingness to support and participate in any community forest programme, the Gashaka Gumti National Park Management should without delay initiate community forest programmes in the area.

Table 1: List of Plants Gathered by Women for Food

S/No.	Scientific Name	Parts of Plant	Frequency	Ranking
1	<i>Maesopsis eminii</i>	Fruits and Leaves	27	6
2	<i>Elaeis guineensis</i>	FronDs, Seeds, Leaves	18	9
3	<i>Brachystegia eurycoma</i>	Seed	30	3
4	<i>Parkia biglobosa</i>	Seed	39	2
5	<i>Vitellaria paradoxa</i>	Fruits, Seeds	44	1
6	<i>Borassus aethiopum</i>	Fruits, roots	10	12
7	<i>Senna singueana</i>	Seed, Fruit	11	11
8	<i>Bombax costatum</i>	Fruits and Flowers	9	13
9	<i>Annona senegalensis</i>	Fruits	11	11
10	<i>Vitex doniana</i>	Fruits	10	12
11	<i>Prosopis aficana</i>	Seed	29	4
12	<i>Adasonia digitata</i>	Leaves and Fruit	28	5
13	<i>Detarium microcarpum</i>	Fruits	19	8
14	<i>Khaya senegalensis</i>	Seed	14	10
15	<i>Tanarindus indica</i>	Fruits	25	7

Source: Field Survey, 2008

Table 2: List of Forest Animals and Animal Products gathered by Women and Used as Food

S/No.	Common Name	Frequency	Ranking
1	Fish	50	1
2	Bush Rat	19	2
3	Monitor Lizard	7	5
4	Tortoise	9	4
5	Cane Rat	12	3
6	Frog	7	5
7	Honey	5	6

Source: Field Survey, 2008

Table 4: List of NTFPs Used for Medicine

S/No.	Scientific Name	Frequency	Ranking
1	<i>Vitellaria paradoxa</i>	17	3
2	<i>Parkia biglobosa</i>	12	4
3	<i>Annona senegalensis</i>	5	8
4	<i>Nuclear lotifolia</i>	25	1
5	<i>Pilostigma Thonningii</i>	7	6
6	<i>Crossopteryx febrifuga</i>	6	7
7	<i>Bombax costatum</i>	5	8
8	<i>Peeudocedra kotshyl</i>	5	8
9	<i>Boswellia dalzielii</i>	21	2
10	<i>Ziziphus mauritiana</i>	5	8
11	<i>Daniellia olivera</i>	10	5
12	<i>Prosopis africana</i>	10	5
13	<i>Pterocarpus erinaceus</i>	5	8
14	<i>Sterocarpus setiqera</i>	12	4
15	<i>Kigelia africana</i>	5	8
16	<i>Khaya senegalensis</i>	21	2
17	<i>Anogeissus leiocarpa</i>	10	5

Source: Field Survey, 2008

Table 5: List of NTFPs Used as Handicrafts

S/No.	Scientific Name	Parts Of Plant	Frequency	Ranking
1	<i>Elaeis quineense</i>	Palm fronds & Leaves	29	1
2	<i>Borassus aethiopum</i>	Fruits	7	2
3	<i>Adansonia digitata</i>	Bark, Roots	5	3

Source: Field Survey, 2008

Table 6: List of Plants gathered and Used as Fuel (Fire wood)

S/No.	Scientific Name	Frequency	Ranking
1	<i>Maesopsis eminii</i>	27	7
2	<i>Elaeis guineensis</i>	18	11
3	<i>Brachystegia eurycoma</i>	30	4
4	<i>Parkia biglobosa</i>	39	2
5	<i>Vitellaria paradoxa</i>	44	1
6	<i>Afzalia Africana</i>	10	15
7	<i>Senna singueana</i>	11	14
8	<i>Bombax costatum</i>	9	16
9	<i>Annona senegalensis</i>	11	14
10	<i>Vitex doniana</i>	10	15
11	<i>Prosopis Africana</i>	29	5
12	<i>Adonsonia digitata</i>	28	6
13	<i>Detarium microcarpum</i>	19	10
14	<i>Khaya senegalensis</i>	14	13
15	<i>Tanarindus indica</i>	25	8
16	<i>Crossopteryx febrifuga</i>	16	12
17	<i>Erythrophleum suaveolens</i>	9	16
18	<i>Anogeissus leiocarpa</i>	5	19
19	<i>Hymenocardia acida</i>	10	15
20	<i>Burkea Africana</i>	7	17
21	<i>Isoberlinia doka</i>	6	18
22	<i>Combretum molle</i>	20	9
23	<i>Bridelia ferruginea</i>	34	3
24	<i>Ficus spp</i>	9	16

Source: Field Survey, 2008.

Table 7: Existence of Community Forest Initiative in the Communities

S/No.	Community	Yes	No.
1.	Selbe	4	-
2	Mayo Selbe	9	-
3	Njaram	4	-
4	Serti	10	-
5	Adagoro	10	-
6	Turkurwa	3	-
7	Goje	9	-
8	Gashaka	6	-
9	Nymti	6	-
10	Laggasso	9	-
11	Mayo Bakari	10	-
12	Mayo Butali	10	-
13	Mbala	10	-
14	Dalasum	10	-
15	Mai Idanu	10	-
Total	=	120	0.00
Percentage	=	100	0.00

Sources: Field Survey, 2008.

Table 8: Willingness of Respondents to Support the Establishment of Community Based Forest Initiatives

S/No.	Community	Yes	No.
1.	Selbe	4	-
2	Mayo Selbe	9	-
3	Njaram	4	-
4	Serti	10	-
5	Adagoro	10	-
6	Turkurwa	3	-
7	Goje	9	-
8	Gashaka	6	-
9	Nymti	6	-
10	Laggasso	9	-
11	Mayo Bakari	10	-
12	Mayo Butali	10	-
13	Mbala	10	-
14	Dalasum	10	-
15	Mai Idanu	10	-
Total	=	120	0.00
Percentage	=	100	0.00

Source: Field Survey, 2008

Table 9: Reasons for Collecting NTFPs from the Park

S/No.	Reasons for Collecting NTFPs from the park	%
1	The one outside the Park has been destroyed	7.2
2	We don't have it outside the park	7.2
3	Because of the shifting cultivation, farmers have destroyed most of the product outside the Park	1.5
4	The product is no more in the enclave	7.2
5	Forest Conservation programme	1.5
6	It is due to poverty and unemployment	15.9
7	It is easily gotten from the park	15.9
8	The park is our inheritance	1.5
9	It is Found in larger quantity in the park	26.1
10	Readily available in the Park	2.9
11	Always available in the Park	5.8
12	I am not collecting from the park	2.9
13	Baboons feed on it and people are afraid	4.3

Source: Field Survey, 2008

Table 10: Measures to be used to stop the Collection of NTFPs from the Park

S/No.	Measures that will stop Collection of NTFPs from the Park	%
1	Establishment of community forest initiative in our community	56.7
2	Educate people on forest conservation	1.0
3	Increase surveillance in the Park	17.5
4	Creation of more Parks	1.0
5	Provision of job opportunity for indigenes of the local community especially women.	3.1
6	Its harmful or injurious to our area	4.1
7	Improve our standard of living with the provision of social amenities in the community	1.3
8	Communication around the Park should be increased and encouraged	1.0
9	Part of the income generated should be given to the community	1.0

Source: Field Survey, 2008

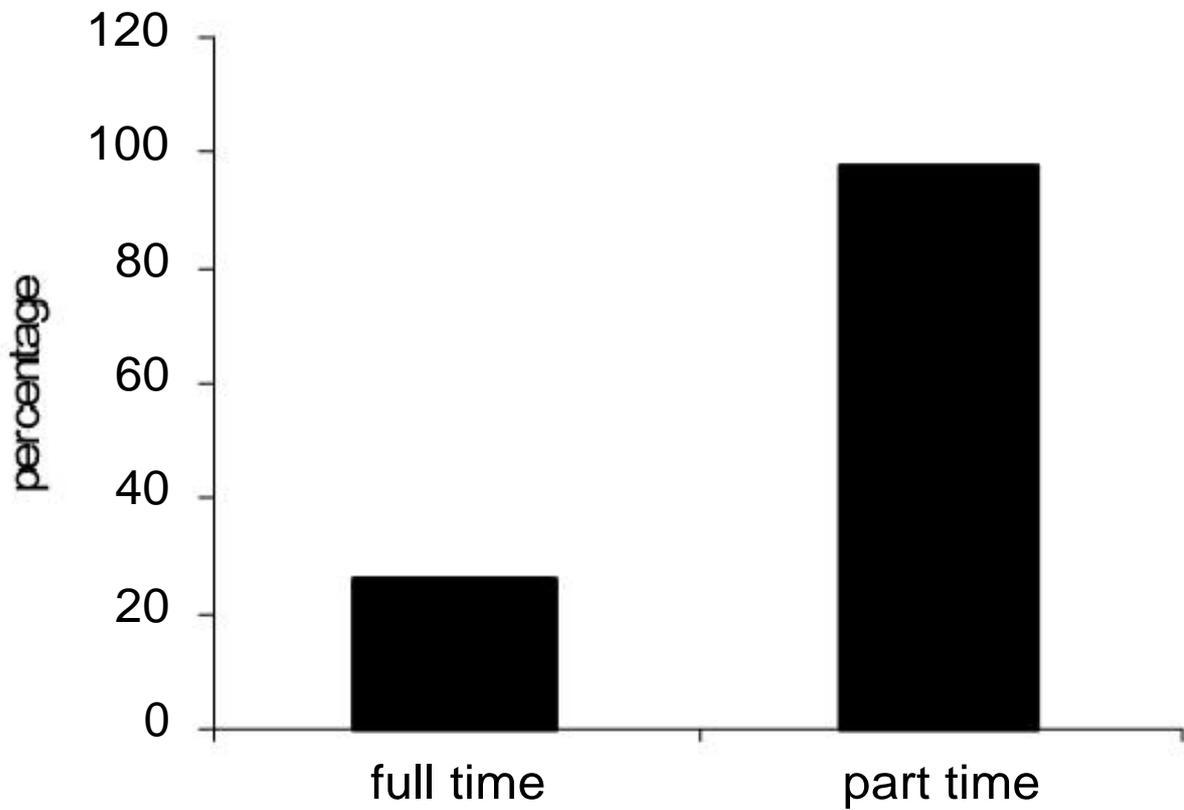


Fig. 1: Status of NTFPS in the study area

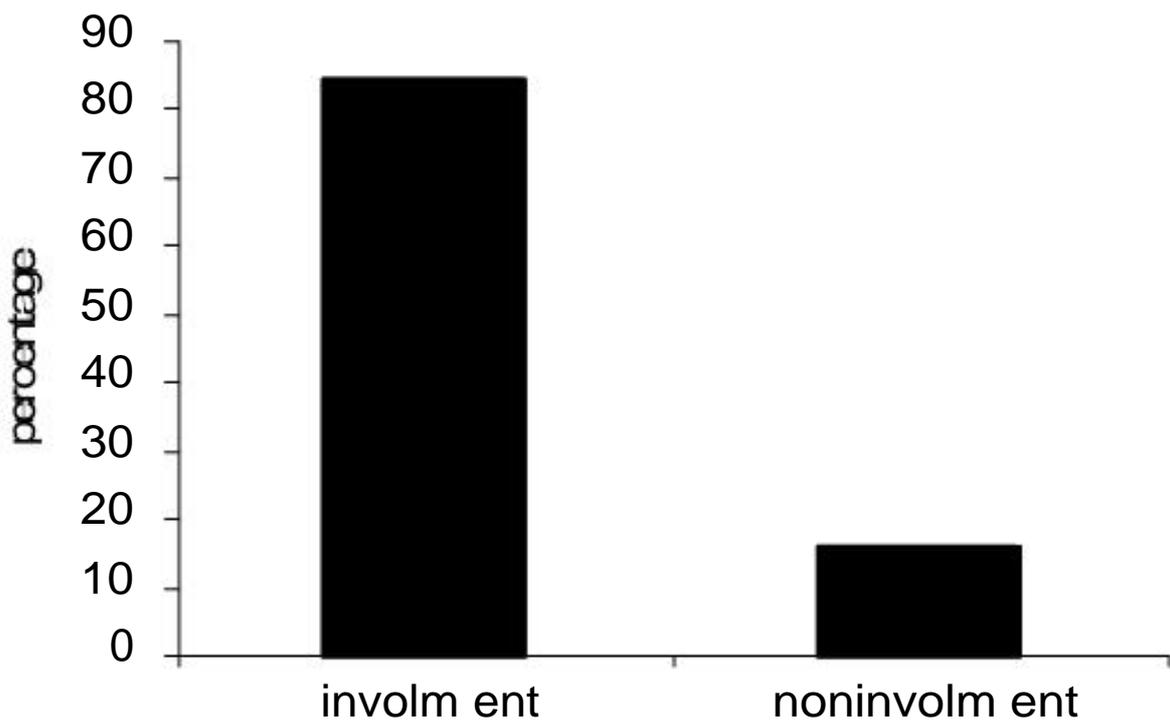


Fig . 2 : Involm ent of wom en in gathering of NTFPS in the study area

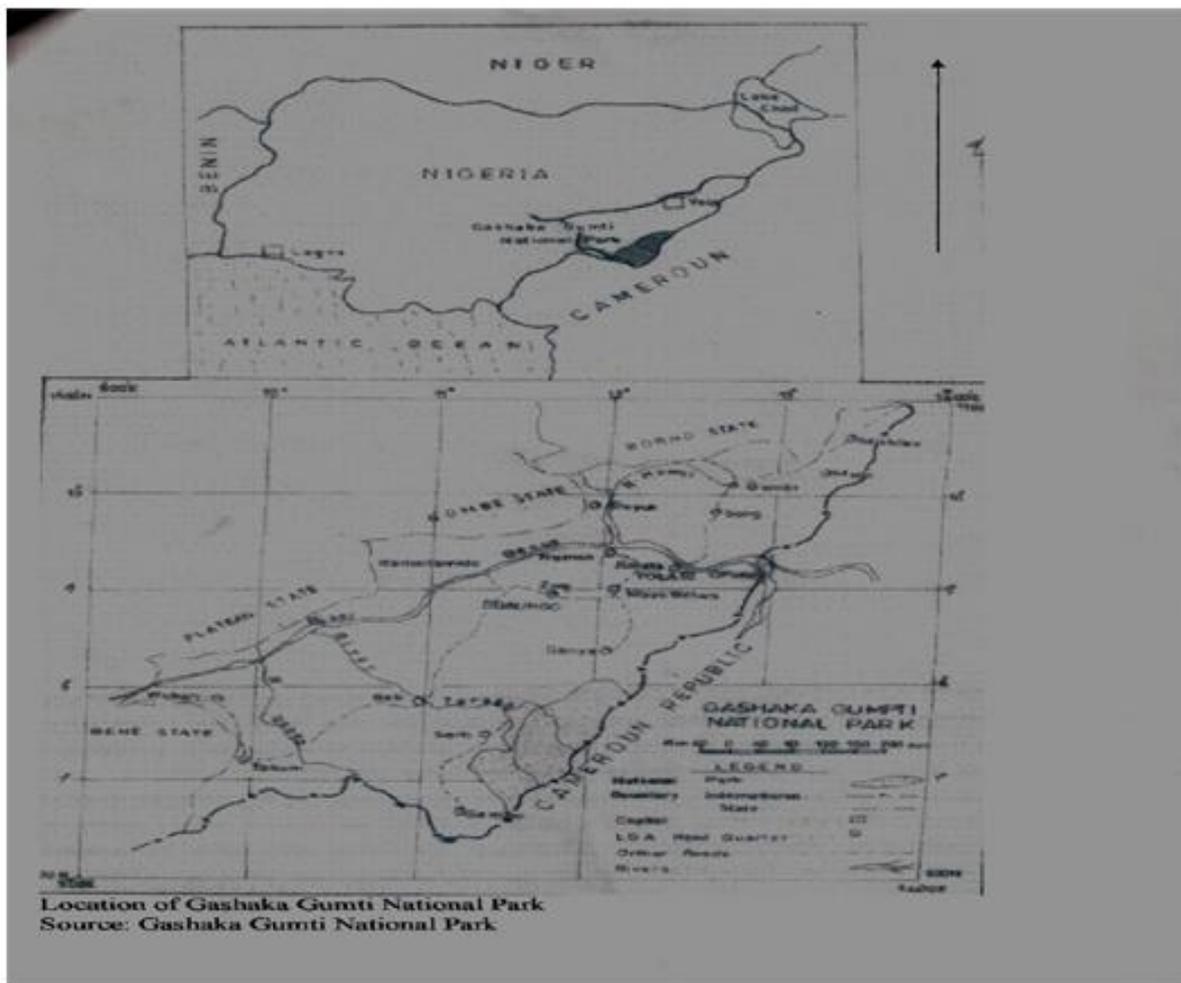


Fig. 4: Location of Gashaka Gumti National Park Source: Gashaka Gumti National Park

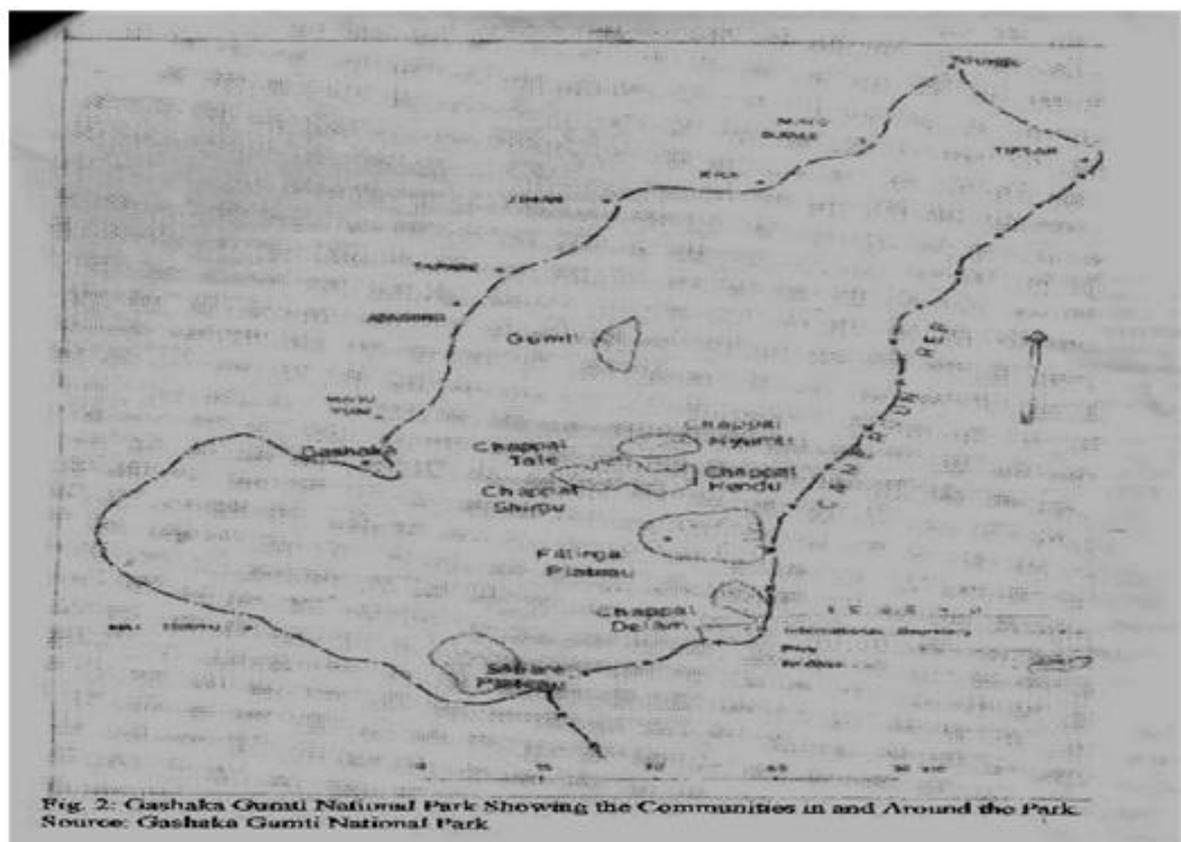


Fig. 5: Gashaka Gumti National Park Showing the Communities in and Around the Park Source: Gashaka Gumti National Park

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