THE MAJOR SIGNIFICANCE OF NON-TIMBER FOREST PRODUCTS (NTFPs) ON FISHING ACTIVITIES IN OGUN STATE:A NEED FOR ENVIRONMENTAL RESOURCES CONSERVATION

*Akinyemi, A. A. ,**Adekunle, M. F. and *Udolisa, R. E. K.
*Department of Aquaculture and Fisheries Management
**Department of Forestry and Wildlife Management
University of Agriculture, PMB 2240, Abeokuta, Ogun State, Nigeria.

ABSTRACT

An ethno botanical survey of some NTFPs crucial to fish production in some rural areas of Ogun state was carried out. This becomes necessary as a result of the present assault on the natural forest which is a repository of these materials. Data were collected through the administration of pre-tested and structured questionnaires made up of open and close ended questions. They were administered on 500 artisanal fishermen purposively selected among a list of registered artisanal fishermen in Ogun state.

The result showed that 13 species in 8 families were being exploited for different purposes in fish production including obnoxious use which should be discouraged. For instance in canoe building species such as (Orindudu- *Anogessius leocarpus,* Omo *Cola giganticea* and Iroko- *Milicia excelia*) were recorded used by the respondents , some fishes exploited include Mudfish (Abori)- *Clarias sp, Heterobranchus sp,* Tilapia (Epiya)- *Tilapia sp,* and Osan- *Gymnarchus niloticus*. Prominent among the species life forms were climber (7.69%), herbs (30.77%) and trees (61.54%). The environmental implication is that should these species become extinct the resources base of the dependent fishermen could be jeopardized Recommendation were made on some of the strategies to be used to abate the onslaught on the natural forest resources .

INTRODUCTION

Non timber forest products (NTFPs) have been defined by FAO (2001) to include all biological materials other than timber that are extracted from natural or man made forest for human use. They include food, medicine, spices, small wood, fuelwood and with animal products.

These product are extracted by local people using simple technologies in which case they are of immense importance for instance as a basic source of food during critical periods of the year or during farming (Gakou and Force 1996). Their importance as food is also related to the fact that they provide variety and are also available during different periods of the year. Apart from supply of foods, NTFPs also provide other essential products and services of socio-economic significance. Prominent among them is their support for fishing and hunting activities.

Fish supply the greatest quantity of animal protein to diets of both urban and rural populations in Nigeria and else where in West Africa (FAO, 1990). Most of the locally consumed fresh water fish such as Mudfish (Abori) *Clarias sp, Heterobranchus sp,* Tilapia (Epiya) *Tilapia sp,* Osan *Gymnarchus niloticus* are still caught by artisanal fishermen. Since artisanal fishing is rural based the fishermen depend on forest resources for some of their fishing gear (Ita, 1990). Forest resources support fishing activities in many ways. These include

raw materials for boats, nets, traps, poles, poisons and fuelwood for fish preservation.

The most common fishing vessels in West Africa are the dug out canoes (Udolisa *et al*, 1994). For example there are an estimated 4,450 canoes in Cameron and in Sierra-Leone there more than 7,000. In Ghana, dug out canoes are still the main fishing vessels. They have been described as the largest producers of dug out canoes in West Africa sub region. They are usually produced from the trunks of *Triplochiton sclerxylon.*

With these revelations, the importance of forest resources in the support of fish production systems can not be over emphasized. The main objective of this study therefore is to carry out an ethnobotanical investigation of the forest plants that are crucial in fish production systems in the study area. This would provide an additional data base for the decision makers at various levels to assist in

MATERIALS AND METHODS

Data on NTFPs used in fishing practices were collected from registered artisanal fishermen in Ogun State, using structured and pre-tested questionnaires. The questionnaires 500 in number were made up of both open and close ended questions. The respondents were randomly selected from a list of artisanal fishermen provided by Fisheries unit of Ogun State Agricultural Development Programme. These were administered using the snowballing non-probabilistic sampling techniques (Adekunle and Oluwalana, 2000). The information collected include species of plants used in fishing practices, their sources, methods of propagation, families, items produced by them, methods of processing and status of domestication . Knowledgeable informants such as aquaculturists, fish breeders and officials of Fisheries Department in Ogun State Ministry of Agriculture were contacted for relevant information. Taxonomic texts such as Gbile (1984), and Keay (1989) and Ita (1989) were consulted for the scientific names and families of the species recorded.

Data Analysis

The questionnaires were collated and later pooled. Simple statistical tools like frequencies, percentages and means were used to analyse the variables of interest. The results are presented in form of tables for discussion and recommendation.

RESULTS AND DISCUSSION

A list of common plants mostly used in by fishermen to support artisanal fishing activities are shown in Table 1. According to the table about 13 species representing 8 families recorded were exploited by the respondents for fishing purposes. The species were made up of trees which are 8 species or 61.54% of total, herbs 4 species or 30.77% of total, while only 1 species of climber or 7.69% of total was recorded. Of the total species being used, only 1species was found to be cultivated (Table 2). In which case the respondents depend greatly on the wild sourcing of those needed plants. The implication of this is that with the recent upsurge in deforestation and dereservation which has been put at 250 km^2 / per annum in Nigeria (FEPA 1992, NEST 1991, Adekunle *et al*, 2002). The continual availability of these species for fishing and other agricultural activities might not also be guaranteed. It could also be observed that most of the species are represented by only one family. Therefore, should the species go into extinction, the family might be wiped out and will not be available for their uses.

Some of the species were found to be

multipurpose in use. These include *Elaeis guinensis, Terminalia ivorensis and Calamus sp* Over-exploitation always result where plant species were found to be of multipurpose use (Ola Adams 1996). In that wise demand might be greater than the rate of supply. The likely reasons why the species are not cultivated could be because they are slow growing and research have not been intensified into their ecology and silviculture. Gakou and Force (1996) suggested that foresters and biologist need to continue to learn about the performances of native species that are adapted to local ecological conditions and uses. This becomes necessary so that they can be effectively managed in plantation. This would enhance the sustained use of these species. Also the indigenous knowledge of the local fishermen is a valuable resource in identifying research priorities. Thus the need to include fishermen in research planning activities. However, the obnoxious use of forests products should be strongly discouraged as this may lead depletion of genetic resources.

CONCLUSION

This study have shown that beyond timber, the forest also provide some other goods and services towards the enhancement of peoples lively hood in Ogun state. It has also been observed that farming and fishing activities are related to forest and plant resource use. This shows that the

Table 1: Summary of plants used in fish production systems in the study area

Local/ Species/ Family Name	Plant Type	Part Used	Form Used	Sources	Mode of Use	Processing	Uses
Ako **Rafia looperii** Palmae (uncultivated)	shrub	branches	seasoned	High forest	fish trap	soaked in water, sun dried, carved and weaved	fish harvesting
	shrub	branches	seasoned	High forest	damming of stream	staked in water and overlaid with clay	water reservoir and fish harvesting
	shrub	Leaves	seasoned	High forest	fish basket	soaked in water, sun dried and weaved	fish collection/ packaging
	shrub	branches	seasoned	High forest	paddle	soaked in water	water transportation
Oparun *Bamboosa vulgany* Graminae (uncultivated)	shrub	Stem	seasoned	High forest	fish trap	soaked in water, sun dried, carved and weaved	fish harvesting
	shrub	Stem	seasoned	High forest	needle	carved and sun dried	weaving and mending fish nets
	shrub	Stem	seasoned	High forest	Fish enclosures	staked in water	fish harvesting and predation control
	shrub	Stem	seasoned	High forest	damming of streams	staked in water and overlaid with clay	water reservoir and fish harvesting
	shrub	Stem	seasoned	High forest	paddle	soaked in water	water transportation
Teak *Tectona grandis* (cultivated)	tree	Stem	seasoned	High forest	needle	soaked in water and sun dried	weaving and mending fish nets
	tree	Stem	seasoned	High forest	paddle	soaked in water, sun dried and carved	water transportation
Orindudu *Anogessius oucarpus* (uncultivated)	tree	Stem	seasoned	High forest	needle	soaked in water and sun dried	weaving and mending fish nets
	tree	Stem	seasoned	High forest	Canoe	soaked in water, sun dried and carved out	water transportation
	tree	leaves	fresh	High forest	Fish kill (poisoning)	dropped in water	fish harvesting
	tree	Stem	fresh	High forest	Fish kill (poisoning)	dropped in water	fish harvesting

Omo *Cola gigantica* Steculiaceae (cultivated)	tree	Stem	seasoned	High forest	paddle	soaked in water, sun dried and carved out	water transportation
	tree	Stem	seasoned	High forest	needle	soaked in water and sun dried	weaving and mending fish nets
	tree	Stem	seasoned	High forest	Canoe	soaked in water, sun dried and carved out	water transportation
Iroko **Milicia excelia** (cultivated)	tree	Stem	seasoned	High forest	paddle	soaked in water, sun dried and carved out	water transportation
	tree	Stem	seasoned	High forest	needle	soaked in water and sun dried	weaving and mending fish nets
	tree	Stem	seasoned	High forest	Canoe	soaked in water, sun dried and carved out	water transportation
Idigbo *Terminalia ivorensis* (cultivated)	tree	Stem	seasoned	High forest	paddle	soaked in water, sun dried and carved out	water transportation
	Tree	Stem	seasoned	High forest	needle	soaked in water and sun dried	weaving and mending fish nets
	Tree	Stem	seasoned	High forest	Canoe	soaked in water, sun dried and carved out	water transportation
Palm tree *Elaeis guinensis* (cultivated)				High forest			
Epepen *Acasia ataxatanga* (uncultivated)	climber	Stem		High forest		tighed around pot	fish harvesting (*Chrysichtys nigrodigitatus*)
Pankere *Calamus spp* (uncultivated)	shrub	branches	seasoned	High forest	fish trap	soaked in water, sun dried, carved and weaved	fish harvesting
Osibata Araceae (uncultivated)	aquatic weed	Whole plant	fresh	Riverine	Food		feeding herbivorous fish
oju oro Araceae (uncultivated)	aquatic weed	Whole plant	fresh	Riverine	Food		feeding herbivorous fish
water hyacinth Araceae (uncultivated)	aquatic weed	Whole plant	fresh	Riverine	Food		feeding herbivorous fish
Andropogon gayanus Graminae (uncultivated)	grasses	Whole plant			nesting (kakaban)	weaved by fish e.g. *Heterotis niloticus*	fish breeding (natural)

Table 2: Table showing the life forms of the plants

Plant life forms	Number of species	Percentage	Number cultivated / Percentages	Number unc ultivated / Percentages
Trees	8	61.54	1 (12.5%)	7 (87.5%)
Climber	1	7.69	Nil	1 (100%)
Herbs	4	30.77	Nil	4 (100%)

local people especially the fishermen are interested as ever in forest and actually have appropriate ideas and values to add to the decision making process about the future of forests in Nigeria, though its obnoxious use should be discouraged. A partnership between fishermen and foresters is hereby suggested in line with Gakou and Force (*Loc cit*). This becomes essential for the protection and long term survival of the people, forest and the environment in general.

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