

MARKETING OF FISHING GEAR MATERIALS AND FISHING GEAR MAKING IN PARTS OF KAINJI LAKE BASIN

By

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ABSTRACT

The importance of fishing gear in fishing cannot be over-emphasized; as without it fish cannot be obtained enough. The method used to catch fish affects the condition in which the product is landed. This means that a bad-catching method would produce bad fish to the consumer. To achieve the goal of self sufficiency in fish production in Nigeria, there is need to address the lingering problems of fishing gear and craft technology, especially in terms of availability of materials and their cost. The sale of fishing gear materials and the making of fishing gears are two areas of fisheries, which are yet to be exploited by the general public as forms of businesses for livelihood. The study conducted in villages around the lower part of Kainji Lake, towards the dam, including New Bussa, reveals that only the fishermen themselves are involved in making their own fishing gears, while those involved in the selling of fishing gear materials like the sheet netting, ropes, twines, floats, sinkers etc are simply business men and women who may not have any experience of fishing. Also considered in the study is the art of making fishing crafts like the canoe and gourd. Very few entrepreneurs are involved and they are so skilled that each is specialized in the making of only one kind of craft or gear.

Keywords: *Fishing gear, craft, gear materials*

INTRODUCTION

Kainji Lake, the largest man-made lake in Nigeria, was formed by damming the River Niger at Kainji Island, North-West Nigeria (du Feu 1993). The lake was completed in 1968 and is used to generate electricity (Bidwell, 1976). A lot of fishing activities have been taking place on the lake since then and this has made Kainji Lake one of the important inland fishing areas in the country (Ita 1998).

According to Bidwell (1976), the lake is characterized by a high annual draw down of water (8m) that exposes vast areas of flood plains and islands, particularly at the east central banks. During this time the lake area decreases by 28%

The catchments area of the lake is supplied by two sources. The first originates around the headwaters of River Niger and flows into the lake from December to March. This is called the "black flood". The second water supply comes from local run-off carried by the Sokoto, Melando, Swashi and Moshi rivers. The water has a very high silt load (called the white Flood) and flows from June to October.

Du Feu (1993) noted that the varying lake topography, the annual draw down of water and the differing flood regimes in the lake give rise to a variety of environments that favors the use of different fishing gears. The changes of season often necessitate an almost complete switch-over to different types of fishing gears, at least, two times a year.

The use of different types of fishing gears in a year makes the sale of gear and gear materials and the making or construction of fishing nets an important trade around the lake.

OBJECTIVE OF THE STUDY

The study is an attempt towards identifying fishing gear and gear materials market around the area of study and also to

- Determine the availability of these materials
- The cost of each material
- Gather information on the source(s) of the fishing gear and craft around the lake

The purpose of the study is to provide detail information on the sources of fishing gear materials to Kainji Lake and understand who is involved in the art of construction and the making of the lake fisherman's gear.

Most of the information resulted from personal observations and by questioning.

AREA OF STUDY

The study area is the lower part of the lake. Ten fishing villages, Monai, Yada, Yuna, Kwata wara, Bakin Dam II, Kaya, Kindawa, Tunga Gora, Tunga Alhaji Musa, Anfani and New Bussa, were visited. Lack of fund could not allow for more coverage of the lake.

METHODOLOGY

The study took place from 20th – 30th September 2004 when fishermen would more likely be present in their villages. The ten villages were visited by road. The aim was to enquire of the artisan fishermen's source(s) of fishing inputs, particularly the gear and craft. A questionnaire was prepared and administered to every fisherman sampled from each of the villages.

Another group of entrepreneurs sampled were those dealing in fishing gear materials. The selling price and source of these materials were enquired.

RESULTS AND DISCUSSION

Fishing Craft

97% of the crafts in the area of study are canoes made from wood planks. They are not motorized mainly because of the poverty level of the entrepreneurs and because of their noise, which is capable of scaring the fish. Paddles or poles are usually used. The dug-out type of canoes is locally built by almost every fisherman around the study area. The plank types however, are made by specialized builders from Malale village, which is north of the study area. The mean total length of the canoe is 7metres and cost between N 4,000 and N 5,000 depending on the number of planks used. Only 2.2% of fishermen do not own a canoe.

Another craft used by fishermen less frequently is the gourd or calabash. This is a plant material which fruit is harvested when fully mature. It is processed by opening a hole into it and emptying its contents (seeds) after keeping in water for 2 to 3 weeks. The calabash is sun-dried. These easily float on water while the fishermen lie or sit on top while doing their work. Longlines and clap nets are usually operated on the calabash. A big size processed calabash sells for N 800

Fishing Gears

Quite a number of fishing gears are used within the study area. The major ones are; gill net, drift net, beach seine (illegal according to the Niger State Fisheries Edict (1985)), cast net, longline (baited and foul hooking), and traps (wicker traps(gora) and woven grasstraps (n'durutu)).

All the fishing gears are locally made by the fishermen. Materials for making them i.e. sheet-netting, ropes, twines, floats and sinkers, are obtained from shops in New Bussa and the local markets. The fishermen are so skilled that each is specialized in making only one kind of

net, particularly the one he uses. This can be compared with Fridman (1992) when he stated that in principle, to design and construct a fishing gear, it is important to have practical fishing experience. It was observed that it is very difficult to make a fishing net that is successful at a trial. Net making and construction especially by non-fishermen is therefore, on a trial and error basis but experience goes a long way in helping the net maker do a better job. With difficulties like these, it was not possible to find a ready-made fishing net for sale. Special request have to be placed to acquire one, however, a ready-made could be obtained at a cost of ₦5,000 – ₦ 15,000 for a gill net depending on the size and strength which determines if it could catch big and strong fish like the Lates. A beach seine costs as much as ₦ 30,000, while a cast net will cost ₦10,000.

It was observed that pieces of polystyrene are used as floats; while stones and pebbles are used as sinkers instead of the conventional cork and lead materials respectively. This has contributed in saving the cost of the nets

Other fishing gears are long lines and traps, which the fishermen generally use along with the ones above. The longlines are either baited or foul hooking. The foul hooking is similar to the baited except that more hooks are used and they are set closer together. Hence, the cost of production is higher. Foul hooking long lines are usually bottom set while the baited long lines could be set either on the bottom or surface. The main line of a baited long line therefore, is either weighted with stones or floated with polystyrene. Generally, long lines cost between ₦ 1500 – ₦ 2,500

Trap materials are usually obtained from the wild. These are sticks/canes, with which the frame is made, and grasses or one inch stretched mesh size netting material is also used. An average size Gora trap cost ₦ 300 while the n'durutu cost less.

Gear Materials

Fishing gear materials like sheet netting, ropes, twines, floats, sinkers, hooks, etc are always bought singly and assembled by the fishermen to form a useful fishing gear. All round the study area, the only identified markets are;

1. 3 permanent shops all located along Ibadan Way in New Busa. These however, are not named but the shop owners and their addresses are.
 - a) Alhaji Shuaibu
No. 42, Ibadan Way, N/Busa.
 - b) Alhaji Audu Abdullahi
No. 91, Ibadan Way, N/Busa.
 - c) Mal. Alfa Muda
No. 34, Ibadan Way, N/Busa
2. There are other retailers who sell on any of the villages' market days. However, the only market identified within the study area is New Busa and Anfani, which usually hold on Mondays and Thursdays respectively. Other fishing villages have no market of their own, fishermen therefore have to travel to these or other markets for their materials.

The study revealed that 91.1% of the respondents buy their materials from New Busa, both from the permanent shops and from the market. 6.6% of respondents buy their materials from other villages' market and 2.2% bring in their materials from other parts of the country.

The study revealed that the retailers get their supplies from markets in Onitsha and Lagos.

The sheet netting is usually obtained in bundles. The specification of the type of material in each bundle is clearly stated on a label that is attached to the bundle so that whenever one buys the material, he/she can identify or choose the characteristics of the material he/she requires. Coche et al (1998) identified several methods by which netting materials can be

designated to include the Tex system, International titre system, R-tex and the Runnage system.

All materials found in the shops and markets visited were found to use the R-TEX system. A typical example of a specification of a netting material found with one of the traders includes the following information:

- a. Kind of twine: Monofilament (i.e. made of one yarn only)
- b. Twine size: 0.16MM (thickness of yarn in millimeters)
- c. Mesh size: 3" (stretched mesh size in inches)
- d. Length of material: 100yds (in yards)
- e. Depth: 400MD (number of meshes)
- f. Color: White

A bundle of netting material cost between N2,000 and N 4,000 depending on the specification.

The same specification also applies to twines and ropes. One specification that is common with them is the number of ply. Hence, it is common to see the label 210D/3 which imply the number and thickness of the individual threads in the twine. For example, according to Coche et al (1998), a netting twine with R280 tex made of 12 threads of 23-tex size each, it is specified as 210D/12 twine i.e. made of 12 yarns of 210 deniers each.

Most kinds of netting are made with netting twine, which nowadays is usually made with synthetic fibers. Single fibers are assembled into single yarns. Several such yarns are then either twisted or braided together to produce the netting twine.

Hooks are sold in packets of hundreds. They are usually labeled with specifications indicating size number and whether they are eyeless or not. All the hooks identified in the shops and markets are manufactured by the same company these are the Kirby Sea Hooks. Hook size range from number 1 to 18 i.e. from the biggest to the smallest.

Other gear materials like floats and sinkers are generally improvised by the fishermen. Hence, marketers in this area hardly sell the conventional types that are made of plastic, cork or lead, except on special request. Pieces of polystyrene material are used as floats. The pieces are cut from a bulky one, which is sold as an empty box measuring 100cmX50cmX50cm. One of which cost N 300.

Lead is also hard to come by because fishermen don't patronize it. Alhaji Shuaibu had some pieces of 20cm x 20cm which he sold for N 250.

CONCLUSION AND RECOMMENDATION

Fishing nets, long lines and traps are better made from a good experience of fishing. No net maker or designer can succeed without such an experience. An experienced person is therefore better advised to go into such a business.

The numbers of marketers trading in fishing gear materials have been found to be grossly inadequate. This makes fishermen to travel long distances to acquire them. More entrepreneurs are therefore required in this area.

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FISHING GEAR MATERIALS MARKETING SURVEY FORM-FGMMS-1
 (Questionnaire for Fishermen)

1. Name of village/Camp _____
2. Name of Fisherman/Respondent _____
3. Years of fishing experience _____
4. Source, Type and Cost of Inputs

<u>Input</u>	<u>Type</u>	<u>Source</u>	<u>Cost</u>
(a) Fishing boat/canoe			
(b) Gourd/calabash			
(c) Gill net			
(d) Drift Net			
(e) Beach Seine			
(f) Cast net			
(g) Trap			
(h) Long line			

FISHING GEAR MATERIALS MARKETING SURVEY FORM-FGMMS-2
 (Questionnaire for Gear Materials Traders)

1. Name of Village/Camp _____
2. Name of Trader/Respondent _____
3. Years of Trading experience _____
4. Source, Type and Cost of Material

<u>Material</u>	<u>Source</u>	<u>Description</u>	<u>Cost</u>
(a) Hook			
(b) Ropes			
(c) Net			
(d) Floats			
(e) Sinkers			