

**FOOD SECURITY AND POVERTY ALLEVIATION UNDER THE NATIONAL SPECIAL
PROGRAMME FOR FOOD SECURITY: A PRELIMINARY SOCIO-ECONOMIC
ASSESSMENT OF YAMAMA LAKE, KEBBI STATE, NIGERIA.**

By

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ABSTRACT

The World Food Summit in its meeting in Rome in 1999 estimated that 790 million people in the developing world do not have enough food to eat. This is more than the total populations of North America and Europe combined. Nigeria is one of the developing countries affected by hunger, deprivation and abject poverty by its citizenry inspite of its enormous natural and human resources. To reduce poverty and increase food supplies to the masses the Federal Government of Nigeria embarked on a programme tagged National Special Programme for Food Security (NSPFS) in the year 2002. The programme's broad objective is to attain food security in the broadest sense and alleviate rural poverty in Nigeria. One of the areas of the programme's intervention is in the aquaculture and inland fisheries development because Nigeria imported 681mt of fish in 2003 with a total cost of about N50 million. The paper assesses the socio-economic conditions of one of the selected water bodies (Yamama Lake) with a view to introducing community-based fisheries management plan for the rational exploitation and management of the fishery and other aquatic resources of the water body thereby increasing fish supply and improving the living standard of the fisherfolk in the area. Data were collected using Participatory Rural Appraisal (PRA) tools and questionnaire administration.

INTRODUCTION

Inland Fisheries has always contributed about 44% or 200,000 MT to the total domestic fish production of 450,000 MT in Nigeria. Nigeria is blessed with 14 million hectares of inland waters, rivers and lakes, and yet fish production remains undeveloped in most of these waters, which are often surrounded by poor communities in need of assistance. Nigerians are large fish consumers with a total consumption estimated at more than 1.3 million metric tons. With only some 450,000 MT of domestic catch, Nigeria is one of the largest fish importers with some 800,000 MT annually contributing to a loss of jobs to overseas fishermen and a negative impact on the balance in trade (Miller and Atanda 2004).

Nigeria now seeks import substitution with increased domestic production through aquaculture and culture-based fisheries development, which can increase rural employment, improve food security and reduce rural poverty. This calls for a great increase in domestic fish production from inland waters and aquaculture in the country.

Yamama Lake is a lake created from the Shella River, which sometimes floods into the lake. The lake stretches some 900 m in length and is 195 m wide giving a surface area of 17.5 hectares. This water body at flood stage could be joined with its upper end at Nguwar Nenu village near the Goru Bridge. This could form a lake of 100+ hectares. The five fishing communities bordering Yamama Lake are Yamama, Rungumi, Nguwar Nenu, Janbaki and Yamama Ketare all in Birnin Kebbi Local Government Area

Kebbi State Fisheries

Kebbi State already has an estimated value of some N7,000,000,000 with 35,000 MT of fish catch annually. With a fish production of 35,000 MT (FDF) in Kebbi State, and assuming 1.5 MT average fish catch per artisanal fisherman, Kebbi State has some 23,000 fishermen in the state, with more than 165,000 family members directly dependent on fishing. In considering the entire value chain of fish production (net making, boat building, fish capture, fish processing, fish transport, fish marketing, etc.) there are more than 70,000 more individuals employed indirectly as a result of fishing. This makes a total of 92,000 persons employed in fisheries with dependants totaling more than 650,000 individuals. Thus more than 25% of Kebbi's population of some 2 million is relying on fisheries (Miller and Atanda 2004). Clearly, Kebbi State has significant revenues and livelihoods generated because of its inland fisheries, but more information is required to better understand the present situation in order to plan for future development.

Methods of data collection

Two major methods (PRA tools and structured questionnaire) were applied in data collection. PRA tools applied were:

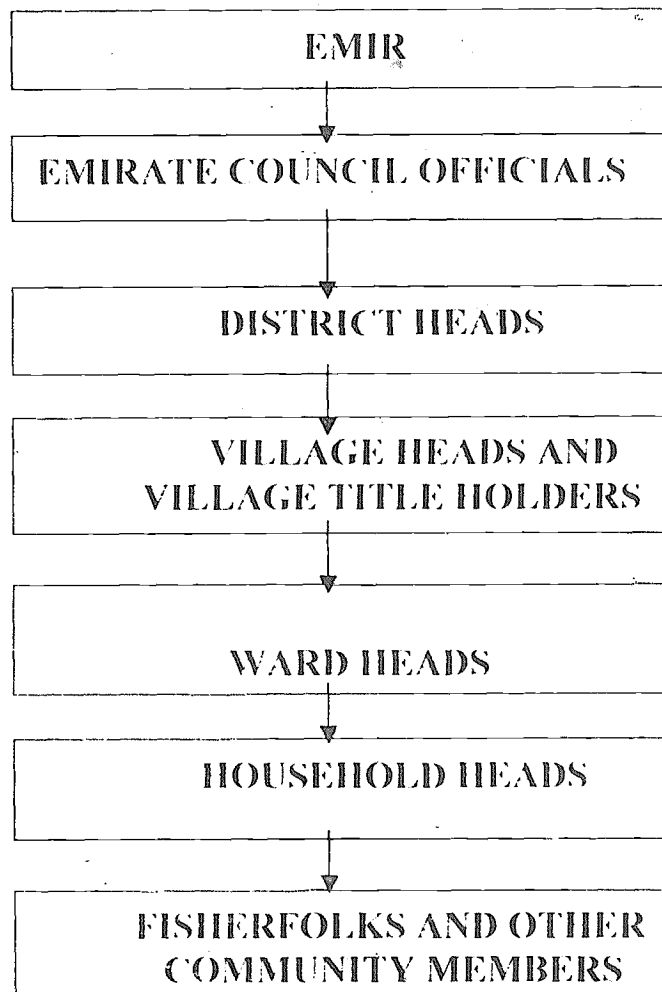
- Seasonal Calendar narrating the economic activities, the type of fishing gears, and the species of fish caught with the gears in twelve calendar months. The calendar also probed into the various social and religious activities the communities engage in during the year.
- Key informant interview for obtaining vital information on the missing gaps in the information collected through the two main methods.

Questionnaires were equally administered for some selected respondents on demographic characteristics, primary and secondary occupation, fishing equipment, migratory pattern, alternative income sources, attitude regarding fishery, impact of extension services and problems regarding fishing activities. To obtain comprehensive socio-economic information about fishing activities in the area, fishermen representatives from the five fishing communities were interviewed.

Institutional Structures at Emirate and Community Levels

There are two separate institutional arrangements in the area. The first is the apex institution arrangement that is responsible for the whole Emirate and it is hierarchically arranged as shown in Figure 1 below:

FIGURE 1: INSTITUTIONAL STRUCTURE AT THE EMIRATE COUNCIL LEVEL



Administration at the Emirate Council Level

At the Emirate Council level, the Emir is the highest authority who is responsible for the administration of the emirate. All other titleholders in the emirate hold their allegiance to him. Immediately under him are the council titleholders who supervise District Heads and the Village Heads including the Village titleholders. Matters relating to taxation, conflict resolution, provision of infrastructural facilities, appointment and coronation of District and Village Heads and all other matters relating to administration at the District and village levels must receive the attention and approval of the Emir and his Council titleholders. It is a top-down type of administration.

Administration at the Village Level

At the village level the Village Head is the highest authority. He is well respected by his subjects and all matters relating to the welfare of the community rest on him and his council of elders.

The Village Head is assisted in the administration of the communities by the following professional and religious titleholders

Sarkin Fawa: (Head of butchers): Sarkin Kasuwa: (Head of market matters): Sarkin Ruwa: (Head of fishermen): Liman (Head of religious matters): Sarki Aski (Head of local barbers): Sarki Daji. He is in-charge of hunting, conflicts between farmers and herdsmen, and any other issue relating to the forest.

The above professional and religious heads constitute the administrative and decision making body in Yamama community. The council is charged with the day-to-day administration of the village with the Village Head as the overall leader.

Results and Discussions on the administered Questionnaires

1. Demographic characteristics

1. 1 Age distribution

Figure 2 shows the age distribution of the respondents. Those within the active labour age group i.e. between the ages of 20 years to 39 constitute 50% of the respondents while above 40 years form 50%. This indicates that those in the active labour force is half of the respondents and are engaged in fishing activities in Yamama and the surrounding villages.

1. 2 Marital status

In Figure 3, 95% of the respondents are married while 5% are single. The implication of this for fisheries management is that the fishermen are not likely to be migrating frequently to other water bodies because of their attachment to their family members.

2. Fishing activities information

2. 1 Fisherman's identification

Figure 4 indicates that there are two categories of fishermen in Yamama, full-time (60%) and part-time (40%). Having more than half of the respondents as full-time is an indication that fishing is the main source of livelihood for the inhabitants of Yamama and the surrounding villages.

2. 2 Years in fishing profession

The years in fishing profession are spread as indicated in Figure 5, those who have spent less than 15 years constitute 25% of the respondents, 15-24 years 25%, 25-34 years 30% and 35 years and above 20%. The situation in Yamama shows that the inhabitants have been in the fishing profession for a long period of time. This is because the lake is not a recent creation. It has been in existence for a very long period.

2. 3 Profession before entering fishing

According to Figure 6 farming and livestock keeping were the professions the people were engaged in before entering into fishing with 80% and 20% respectively. This indicates that most of the respondents were initially farmers and livestock keepers.

2. 4 Fishing equipment

During the survey, 14 canoes were recorded. Of the 14 canoes only 6 were physically seen at the lakeshore during the survey. Gears used are gillnets, castnets, longlines, clapnets, fish trap (*ndurutu*) and Malian traps. Most of these gears are small mesh sizes (< than 2 inches) and this is accountable for the cropping of juvenile species of fish. A fisherman does not acquire more than 2-3 gill and cast nets at a time.

2. 5 Migratory pattern

It is a common phenomenon in the fishing profession that fishermen always relate with their colleagues in other water bodies to know the situation of catches. Where fish is in abundance, they try to migrate there to tap from the "common" pool. The water bodies they migrate to are Warra and Yauri in Kebbi State, Lake Chad, Saminaka, Maiduguri and Gashua.

2. 6 Destination of catch

According to Figure 7, the respondents indicated that 10% of their catches are for home consumption, 80% sold to fish traders at the beach, 5% sold to consumers at the beach while 5% are transported to Birnin Kebbi, Kalgo, and Argungu especially when they record "big" catches. The same problem of lack of bargaining power is operative in Yamama. The catches are so small that only two fishmongers deal in fish business in the village.

2. 7 Relationship with fish traders

In Figure 8, 90% of the respondents claimed that they only sell fish to the traders without any obligations rendered while 10% that they obtain loan from the traders to procure fishing equipment or to settle family expenses. The implication for those who obtain loan from traders is that until that debt is settled the fisherman cannot sell his catch to another trader.

2. 8 Attitude regarding fishery

Figure 9 shows the attitude of the respondents to fishery. 75% indicated their intention to stay in fishery while 25% said if they get a better option they would change occupation. This is a pointer to the fact that if the Lake is properly managed most of them would prefer to remain in the fishery for their livelihood.

2. 9 Problems regarding fishing activities

The problems highlighted with reference to fishing activities are represented in Figure 10. The responses indicate that 75% have problems exorbitant prices of fishing gears and insufficient money to invest in fishing, 45% said the catches are too low, 25% have problem of irregular catches, 15% said they many mouths to feed. Other problems enumerated are instability of crew (10%), and fisheries administration (10%).

Other income Generating Activities

3. Farming Activities and Livestock keeping

3. 1 Farming

Full-time fishermen practice farming on a subsistence level in Yamama and the surrounding villages. As the situation in Tsbu, the respondents own 3 fields and cultivate between 1-3 acres on

the average. Crops grown include guinea corn, millet, cowpea and sorghum in order of importance. Farming is practiced on subsistence level. Additionally, the plots they cultivate are family lands and migrants normally obtain the approval of the Village Head for land acquisition, which is freely given.

3. 2 Livestock keeping

Another important source of income for the fishers in Yamama is animal husbandry. They keep cows, goats, sheep, donkeys, chicken, ducks and guinea fowl. The animals and ruminants are kept for meeting accidental expenses, home consumption, marriage and naming ceremonies and for festivals. Animal husbandry should be promoted to serve as an additional income source.

4. Fisheries Extension Activities and fishermen's association

The situation in Yamama is quite different with reference to extension service. Those practicing farming said that extension staff do visit them occasionally especially during farming season.

There exists an Association of fishermen established about one year ago. 30 fishermen have joined and meetings are held every Friday. It has not been registered with the State government at the time of this survey.

5. Educational facilities

The community was provided with a primary school that serves Yamama and the other villages. The school was constructed in 1976. The population of pupils is 122 broken down as follows:

Table 1: Pupils admission record

Class	Boys	Girls	Total
1	26	4	30
2	34	4	38
4	24		24
6	24	6	30
Total	108	14	122

The statistics shows that 88. 5% and 11.5% of the pupils are boys and girls respectively. Furthermore, more than half of the pupils do not attend lessons especially during the raining season because their parents withdraw them for farming activities.

The school building has been abandoned because of the dilapidated structures and it is now a home for a lunatic woman. Pupils take lessons in the entrance to the Headmaster's quarters. The staff strength is 3 male teachers

6. Women's role and status

All the women interviewed in this community are married. All women interviewed are Muslims as such they follow all the Islamic injunctions strictly.

In any event, the women are allowed by their husbands to engage in petty trading inside the fenced compounds. The women are involved in sewing men's caps, knitting, spinning, hair plaiting, weaving and mat making as well as processing of farm produce.

None of the women is allowed to fish or even procure fishing equipment.

6. 1 Qualitative participation

Since there is no organized group among the womenfolk, except what they call **Yamama Fish Processing Group**, which is yet to take off fully, considerations as to women's participation in elections, decision making, etc. do not arise.

7. Calendars of production, social and religious activities

The economic, social and religious activities engaged in by Yamama people are reflected in the seasonal calendars (Tables 2 and 3). Fishing as an activity is practiced throughout the year and in between this are social engagements such as marriage, naming ceremony, religious festivals, wrestling and boxing. Another seasonal calendar shows the fish species caught and fishing gear used during particular periods of the year.

8. Fish marketing

Organised fish market where fish traders could display fish (fresh or processed) either in the open or inside stalls is non-existence in Yamama and the neighbouring fishing communities.

The reason for this is not unconnected with the low catch experienced by the fishers in the area. Throughout the one-week we spent in the community we were able to spot only one fishmonger although we were informed that they are two. This monger is always at the beach early in the morning to buy whatever fish is available for the day. The fishmonger takes the fish to Birnin Kebbi for sale to retailers and consumers. Other areas where fresh and processed fish are transported to include Kardi, Kalgo, Birnin Kebbi, Bunza, and Jega.

Summary

The survey has identified and documented the socio-economic characteristics of the fishing communities with a view to fashion out a management plan for the rational and sustainable exploitation of the fishery resources.

If a sound management plan is implemented, the lake can sustain a limited number of fishermen that can lead to raising the living standard of the beneficiaries and equally have a multiplier effect on the other adjacent fishing communities.

Some of the conditions identified and are favourable for community-based fishery management plan in Yamama Lake is similarities in terms of social, economic and religious (all respondents are Muslim) affiliations. Other factors identified during the survey and which could assist in drawing up a management plan for the Lake basin include homogeneity of the fisherfolk linguistically (all respondents are Hausa speaking), the cohesiveness of the social relations, the display of a good sense of value in terms of respect for elders and commitment to the belief system as well as the existence of a powerful and respectable traditional authority.

9. Recommendations

Based on the findings the following recommendations are put forward for consideration:

- Since Yamama Lake is an open access water body it is necessary to identify full-time fishermen around the water body who would be responsible for proper management. The great task is to find alternative income sources for the part-time fishers from Yamama and the neighbouring villages in order not to put pressure on the lake fishery resources that could lead to overexploitation;
- To diversify economic activities among the identified full-time fishermen it is necessary to incorporate them into the SPFS programme so that they would be earning additional income from irrigation farming during lean fish catch period. Already, the SPFS programme has started in Kardi and the gesture should be extended to Yamama and the other four fishing villages;
- There is one borehole in the village purported to have been rehabilitated by **Tulsi Chanrai Foundation** but is non operational. Sinking of boreholes to provide potable water for the community, as the Lake water is not hygienic for drinking, because of the presence of snails that cause bilharzias (river blindness).
- The only Primary Health Centre in the village is deserted and there is no staff to attend to patients. The staff posted there said that he could not stay in the village because he was not provided with the drugs to treat patients. It is necessary to renovate and resuscitate the centre, equip it with drugs and other facilities. The staff who is a graduate of Health Technology should be given all incentives including necessary equipment and drugs;
- The newly formed fishermen's association should be reorganized and upgraded to meet with the standard of a modern cooperative society that would make it qualify to attract loans from financial institutions to enhance fishing activities and other sources of income for members;
- Training and posting of extension staff to the area will assist in the enlightenment and monitoring of fishers to comply with agreed rules and regulations for effective management of the fishery resources;
- The primary school should be renovated to allow pupils study under a conducive environment. The present system of running the primary school and the Koranic school concurrently in the morning sessions should be looked into. It is advisable for the primary school to run in the morning hours and the Koranic school in the evening. This would allow more pupils to attend the primary school;
- To meet the practical and strategic gender needs of women the following should be considered as a matter of priority: formation of women groups/associations, resuscitation of old and abandoned crafts such as pottery, spinning, weaving, mat making, jewelry making, etc. Processing of soya beans for chips, milk, cake, cheese as well as rearing improved cockerel to enhance their economic potentials. It is suggested that posters be developed on health and nutrition programmes such as compound cleaning, personal hygiene, environmental sanitation etc;

All these activities could be practiced indoor and would not infringe on the Islamic injunction of purdah.

- Kebbi state has passed into law fisheries rules and regulations operative in all water bodies in the State. It is the responsibility of the Fisheries Department of the Ministry of Agriculture and Natural Resources to enforce it. For success to be achieved, the rules and regulations should be implemented and enforced;
- For women to be represented on the management unit, it is advisable to select, through the village committee, women household heads (widows and/or divorcees) that are not constrained by religion to meet and mix with men and have freedom of speech, association and decision making and taking;

REFERENCE

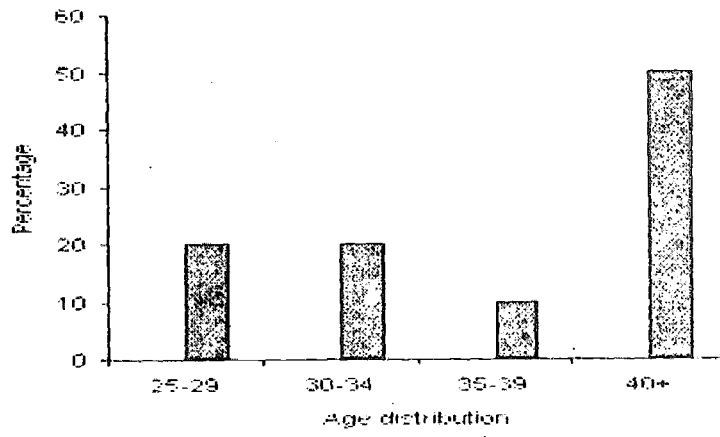
Miller, J. and Atanda, A. N. (2004). Exploiting Fisheries Potentials in Kebbi State Using Simple Techniques. Paper presented at Argungu International Fishing and Cultural Festival during the workshop on Investment Opportunities in Kebbi State.

Table 2: Seasonal Fisheries Activity Calendar for Yamama Lake, Kebbi State

Activity/Fishing	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
1. Gill Net	x	x	x	x	xxx	xxx	xxx	x	x	x	x	x
2. Cast Net	xxx	xxx	xxx	xxx	x	x	x	x	x	x	x	x
3. Fish Trap-Mali	x	x	x	x	x	xxx	xxx	xxx	xxx	x	x	x
4. Fish Trap-Ndurutu	x	x	x	x	xxx	xxx	xxx	xxx	xxx	x	x	x
5. Long line/hooks	x	x	x	x	xxx	xxx	xxx	x	x	x	x	x
6. Clap Net	x	x	xxx	xxx	x	x	x	x	x	x	x	x
Fish Species												
1. Tilapia sp.	x	x	x	x	xxx	xxx	xxx	xxx	xxx	x	x	x
2. Heterotis	x	x	x	xxx	xxx	xx	x	x	x	x	x	x
3. Bagrus sp.	x	x	x	x	x	x	x	xxx	xxx	x	x	x
4. Clarias sp.	x	x	x	x	x	x	xxx	xxx	xxx	x	x	x
5. Alestes sp.	x	x	x	x	xxx	xxx	xxx	x	x	x	x	x
6. Ctenopoma	x	x	x	x	xxx	xxx	xxx	xxx	x	x	x	x
7. Polypterus	x	x	x	x							x	x
8. Ophiocephalus	x	x	x	xx	x	x	x	x	x	x	x	x
9. Mormyrus	xxx	x	x	x	x	x	x	x	x	x	x	xxx
10. Heterobranchus	xxx	x	x	x	x	x	x	x	x	x	xxx	xxx
11. Synodontis	x	x	x	x	x	x	xxx	xxx	x	x	x	x
12. Citharus	x	x	x	x	xxx	xxx	x	x	x	x	x	x
13. Distichodus	x	x	x	x	xxx	xxx	x	x	x	x	x	x
14. Auchenoglanis	x	x	x	x	x	x	xxx	xxx	xxx	x	x	x
15. Gymnarchus	xxx	x	x	x	x	x	x	x	x	x	xxx	xxx
16. Schilbels	x	x	x	x	x	x	xxx	xxx	x	x	x	x
17. Lates niloticus	xxx	x	x	x	x	x	x	x	x	x	x	xxx
18. Snake head	x	x	x	xxx	xxx	xxx	x	x	x	x	x	x
19. Labeo	xxx	x	x	x	xxx	x	x	x	x	x	x	xxx

Table 3: Seasonal Calendar of Economic, Social and Religious Activities for Yamama Lake, Kebbi State.

Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
1. Irrigation Farming	x											
2. Rained Farming		x										
3. Fishing			x	x	x	x	x	x	x	x	x	x
4. Fish Processing			x	x	x	x	x	x	x	x	x	x
5. Livestock			x	x	x	x	x	x	x	x	x	x
6. Poultry			x	x	x	x	x	x	x	x	x	x
7. Trading			x	x								
Artisanal Crafts												
8. Blacksmithing				x								
9. Weaving				x								
10. Barbing				x								
Festivals												
1. Ed-el-Fir												x
2. Ed-el-Kabir			x									
3. Ed-el-Malud				x								
4. Naming/Marring			x	x								
5. Fishing Festival				x								
6. Wrestling												
7. Thatching				x								
8. Fasting												
9. Local Brick Miding				x								
10. Trad. Herbs Prod.				x								
11. Trad. Birth Attend				x								
12. Comm. Transport				x								



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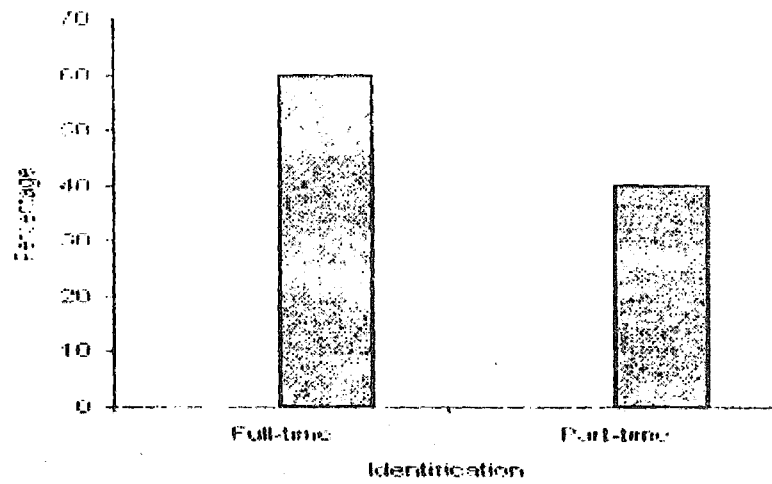
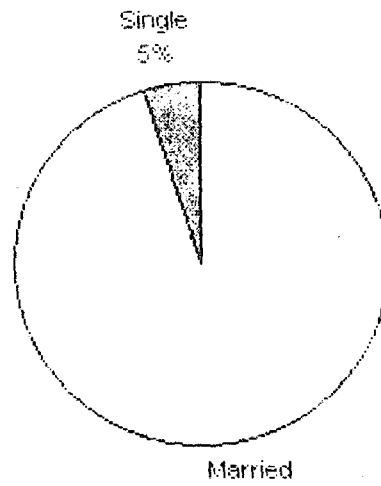
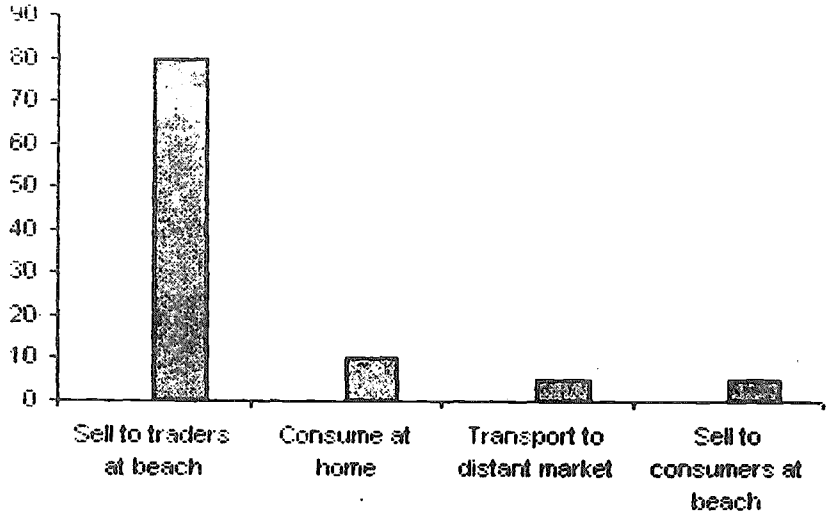
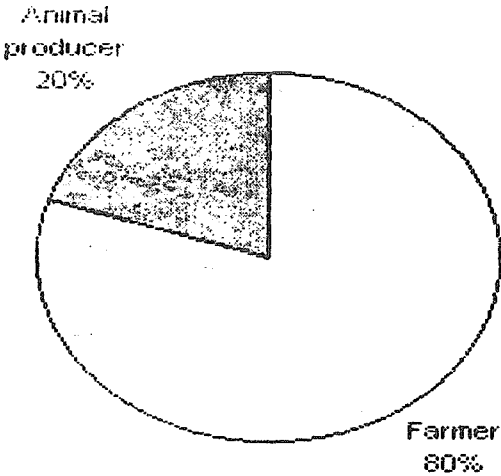


Figure 4 Responses of fishermen's identification in Yamama Lake

Figure 5: Respondents' years in fishing profession in Yamama Lake



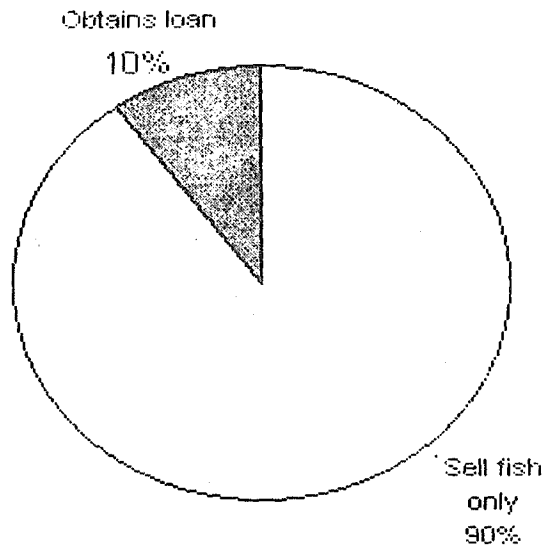
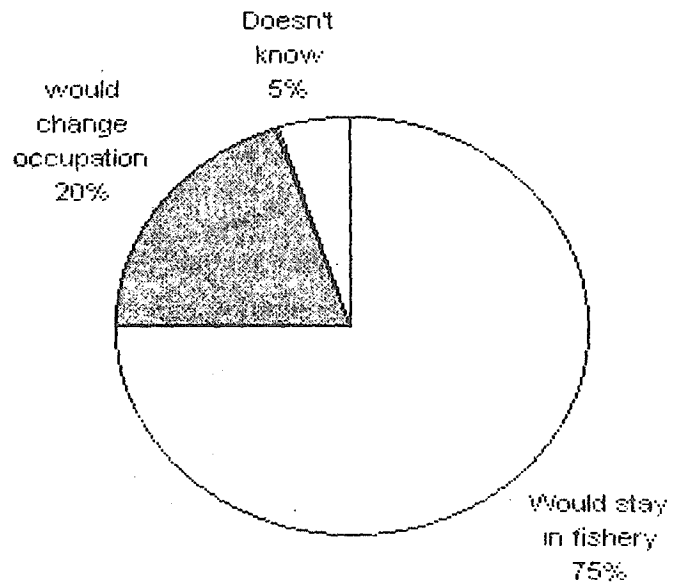


Figure 8: Respondents relationship with fish traders in Yamama Lake



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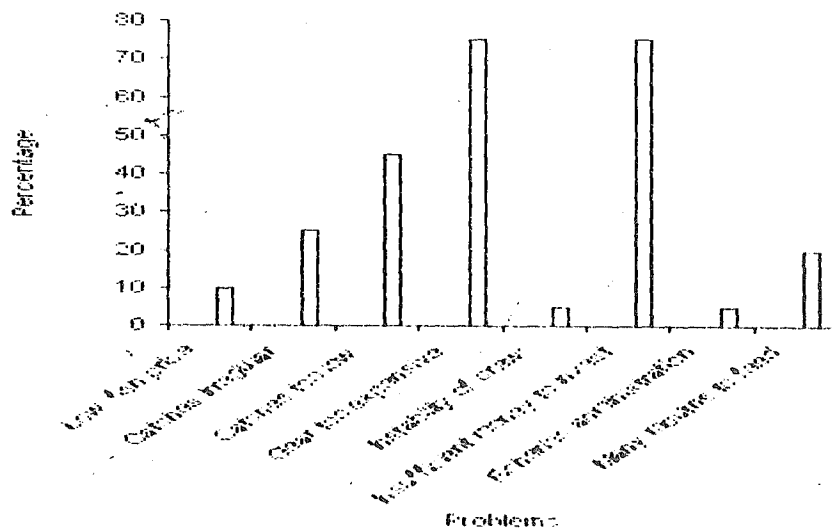


Figure 10: Problems regarding fishing in Yamama Lake

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