IFMP Socio-economics Series 6

# SURVEY OF FISH FACTORY AGENTS ON LAKE VICTORIA, UGANDA






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**Implementation of a Fisheries Management Plan**

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**Acronyms**

| | |
|---|---|
| BMU | Beach Management Unit |
| CAS | Catch Assessment Survey |
| CSO | Civil Society Organisation |
| EC | European Commission |
| IFMP | Implementation of a Fisheries Management Plan |
| LTTA | Long Term Technical Assistant |
| LVEMP | Lake Victoria Environmental management Project |
| LVFO | Lake Victoria Fisheries Organization |
| LVFRP | Lake Victoria Fisheries Research Project |
| MCS | Monitoring, Control and Surveillance |
| NaFIRRI | National Fisheries Resources Research Institute |
| NARO | National Agricultural Research Organization |
| NGOs | Non-Governmental Organizations |
| SPSS | Statistical Package for Social Scientist |
| WG | Working Group |

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## Executive summary

### Purpose

1 The purpose of the survey was to gain a better understanding of the role of factory agents in buying fish and setting prices, and of their place and role in fisheries co-management on Lake Victoria, Uganda.

### Methodology

2 The method used in the study was a quantitative survey questionnaire, targeting truck and collector boat owners, conducted at 21 landing sites, covering 146 respondents. The data was analyzed using SPSS.

### Results

### Characteristics of factory agents

3 The mean age of the agents interviewed was 33 years but ranged between a minimum of 21 and 78 years. Out of all the 146 agents interviewed, (97.3%) were males and only (2.7%) were females.

4 Most of the respondents (51.4%) lived at the landing sites where they purchased fish. A significant number (31.5%) lived in towns which were near or even far away from the landing sites.

5 On the whole, agents had worked for an average of 7 years. Most of them (28%) owned fishing boats and gears and (15.4%) were employed in fish factories where they earned a wage or salary. Others, (14.7%) were employed in non- fishing sector before becoming agents.

6 Majority of the respondents (62.3%) had other sources of income besides being agents. Majority of the agents (23.9%) still got their additional incomes from fishing boats and gears owned.

7 Distances from landing sites to factories varied significantly between those agents buying from the mainland landing sites and those from islands. On the whole, the mean distance recorded was 78.78km. Some 85.3% reported that

fishers brought in fish from other landing sites while only (14.7%) reported not receiving fish from landing sites other than where they were based.

8 Most (86.5%) of the respondents were not employees of the factories while only (13.5%) were employed by the factories. Of those who were not factory employees, (82.1%) had no formal contracts or agreements with the factories that they supplied fish.

**BMU membership**

9 Most (70.3%) of the respondents were members of the different BMUs. However, the majority (70.2%) reported that they were not Committee members and only (29.8%) confirmed that they were Committee members.

10 Of the Committee members, a significant proportion (4.7%) fell under “other positions” on the committee like Defence Secretary, Secretary for Environment and category representatives.

**Fish trucks and vessels**

11 The survey revealed that (43.4%) of the respondents owned transport trucks and (32.5%) rented the trucks. For boats, (71.8%) owned fish transport boats and (19.7%) rented them.

12 Discussions with agents further revealed that there were agents who used factory trucks without renting them but this information was not captured in the data collection tool and as such could not be quantified.

13 Some (82.1%) reported that factories owned or rented transport trucks for them while for vessels/boats, it was 65.5%.

14 The trucks had an average capacity of 5.5 tonnes and the boats had an average capacity of 10.6 tonnes. The average length overall of the fish transport boats was 37 feet.

15 The trucks had served for an average duration of 3 years and a maximum of 11 years in the hands of the respondents. The mean life span of a collector truck was 9.84 years.

16 The collector boats were reported to be operational for an average of 4.84 years with a maximum of 16 years The mean price of a collector boat was Uganda Shillings 4,113,698

17 The average repair and maintenance cost of a truck was Uganda Shillings (UShs) 1,735,454 in a quarter while the agent spent an average of UShs 864,627 to repair and maintain a boat in a quarter.

18 Majority of the respondents (63.3%) used insulated boats. However, use of insulated trucks was also a common method of fish transportation.

19 In the survey there was relationship between amount of ice carried and tonnage of fish supplied. Trucks on average carried 6 tonnes and boats carried an average of 4 tonnes. However, 70.5% reported that factory trucks were the main source of ice.

**Fish collection and purchase**

20 Trucks spent an average of 3 days out on a fish collection trip while boats took 2 days on a trip. The average distance covered on land by the trucks was 92km while distance covered on water was hard to estimate as most agents preferred to give the amount of fuel consumed and the time taken to arrive at the different destination points. However the mean estimate given by some of the agents was 36 km.

21 The average amount of fish purchased on every trip by the truck agents was estimated at 3,625 kgs and 1,842 kgs for the boat agents.

22 An average of 21 fishermen and a maximum of 250 fishermen was given as the number from whom the agents purchased fish from.

23 The average price of Nile perch given per kg given by the agents during the week of the survey ranged between UShs 1,800 -2,800 with a mean price of UShs 2306. In the survey (75.9%) of the agents offered credit to the boat owners and only (24.1%) did not.

24 On whether agents sold fishing gears to the fishermen, (48.6%) reported that they did, while (51.4%) reported that they did not.

25 Agents, (89.0%) reported that they paid for fish on collection while on (3.9%) reported that they paid after sale.

26 Majority of the fishermen (60.3%) reported that it was the factories which set prices given to fishermen. Other agents (34.0%) said that they themselves were the ones who set those prices.

**Sale of fish**

27 Majority (76.2%) of the agents sold their fish to fish processing factories.

28 The average price of fish per kg received at the factory was UShs 2,561 but ranged between UShs 1,900-3,000. Agents (95.5%) reported that factories were the ones which set prices at which they supplied fish. Communication was considered a very important requirement between the suppliers (agents) and the factories.

29 Some (85.6%) of the respondents accepted that some fish was rejected by the factories while (14.4%) reported that their fish was never rejected. On average, agents reported that they lost an average of 183.05 kg per trip as rejects. The fish which was rejected was retained by the factories (69.8%).

**Earnings and taxes**

30 Information on earnings revealed that collector trucks provided an average income of UShs 746,071 per month while collector boats provided an average income of UShs 897,464.

31 Majority (72.2%) received their remuneration on the price per kg of Nile perch difference. For those who received monthly payments, the average payment was UShs 122,442 per month. For those who earned through the price per kg of Nile perch difference, the average difference was UShs 240 per kg.

32 Majority of the agents (85.5%) paid trading fees. These were paid to Government through the Sub-county authorities and Fisheries Department (42.3%), or to the tenderers of the landing sites (27.7%) or to the BMUs (25.4%).

## 1. INTRODUCTION

The Implementation of a Fisheries Management Plan for Lake Victoria is a programme supported by the 8th European Development Fund up to August 2010. The programme is designed to contribute to the sustainable economic growth, resource use and development in the Lake Victoria Basin. It will achieve this by assisting the three riparian countries constituting the Lake Victoria Fisheries Organisation (LVFO), namely, Kenya, Tanzania and Uganda, to implement fisheries management measures in line with the approved Lake Victoria Fisheries Management Plan (LVFMP) and the LVFO Strategic Vision 1999-2015.

One of the main commercial fisheries on Lake Victoria is the Nile perch. Much of the catch of Nile perch is bought by the industrialised processing factories, which in turn fillet the fish and export the fillets to Europe, America and the Middle East, amongst other destinations. When a boat lands, the Nile perch is taken to a fish factory agent – the 'middle man' – to be bought on behalf of a factory. Such agents also own collection boats that collect fish from fishing boats, islands and other landing sites. There is, however, insufficient understanding of the role and influence of the agents on fish prices and quality, and of their place in co-management structures and systems. This information is needed in building a better understanding of the share of benefits along the Nile perch value chain and in building co-management structures at higher levels of governance.

### 1.1 Objectives

The overall objective of the study was to provide an understanding of the role and influence of the factory agents on fish price and quality, and of their place in co-management structures and systems.

The objectives of the study were:

i) To establish the role of factory agents in buying fish and setting prices.

ii) To assess their place and role in fisheries co- management.

### 1.2 Methodologies

The study was carried out around Lake Victoria - Uganda. The survey targeted truck and collector boat owners as well as representatives of the factories themselves. A total of 146 questionnaire interviews were held with the factory agents at 21 landing sites as given in Table 1.

Table 1: Landing sites sampled in the survey

| Landing sites | Number of Respondents/Beach | Landing sites | Number of Respondents/Beach |
|---|---|---|---|
| Bukagabo A | 3 | Ssenyi | 11 |
| Katosi | 20 | Kyagalanyi | 6 |
| Kiyindi | 17 | Lambu | 5 |
| Majanji | 16 | Namirembe | 5 |
| Golofa lolwe | 16 | Mwena | 2 |
| Bwondha | 3 | Kitobo | 2 |
| Gaba | 1 | Kasensero | 4 |
| Golo | 3 | Dimu | 5 |
| Kigungu | 7 | Nakatiba | 2 |
| Kasenyi | 15 | Kananansi | 1 |
| Kitufu | 2 | | |

Source: Survey data, 2007

## 2 RESULTS

### 2.1 Characteristics of fish factory agents

The mean age of the agents interviewed was 33 years, ranged from and between 21 to 78 years as minimum and maximum respectively (Table 2). The high mean age of the agents showed that probably the activity needed a level of maturity for one to manage it efficiently.

Table 2: Age of respondents

| | N | Minimum | Maximum | Mean | Std deviation |
|---|---|---|---|---|---|
| Age of Agents | 146 | 21 | 78 | 33.97 | 8.029 |

Source: Survey data, 2007

Most of the respondents were males (97.3%) and only (2.7%) were females (Chart 1). The females encountered in the survey were mostly employees of the different processing factories and earned monthly salaries like their male counterparts. Only one female respondent was self employed using her own capital.

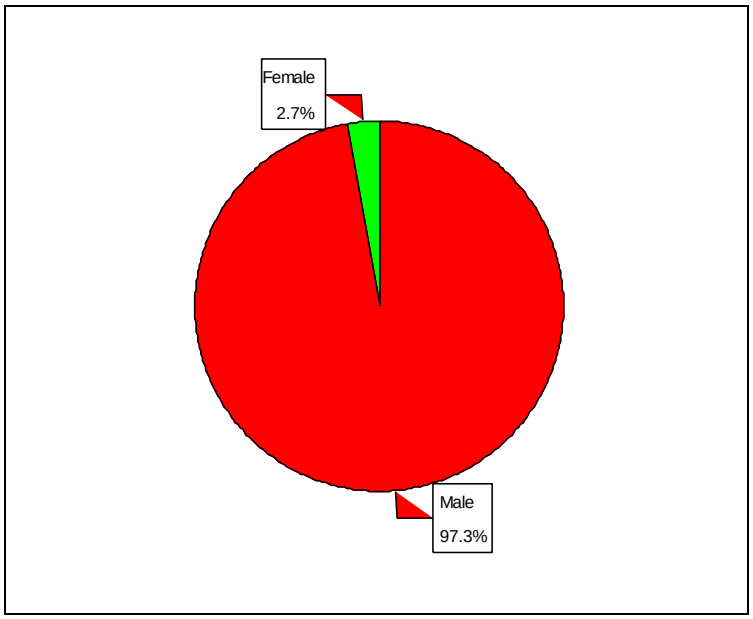



Chart 1: Sex of Respondents
Source: Survey data, 2007

Most of the respondents (51.4%) lived at the landing sites where they purchased fish. However, (31.5%) lived in towns which were near, or even far away from the landing sites and only 14.4% lived at other landing sites (Chart 2).

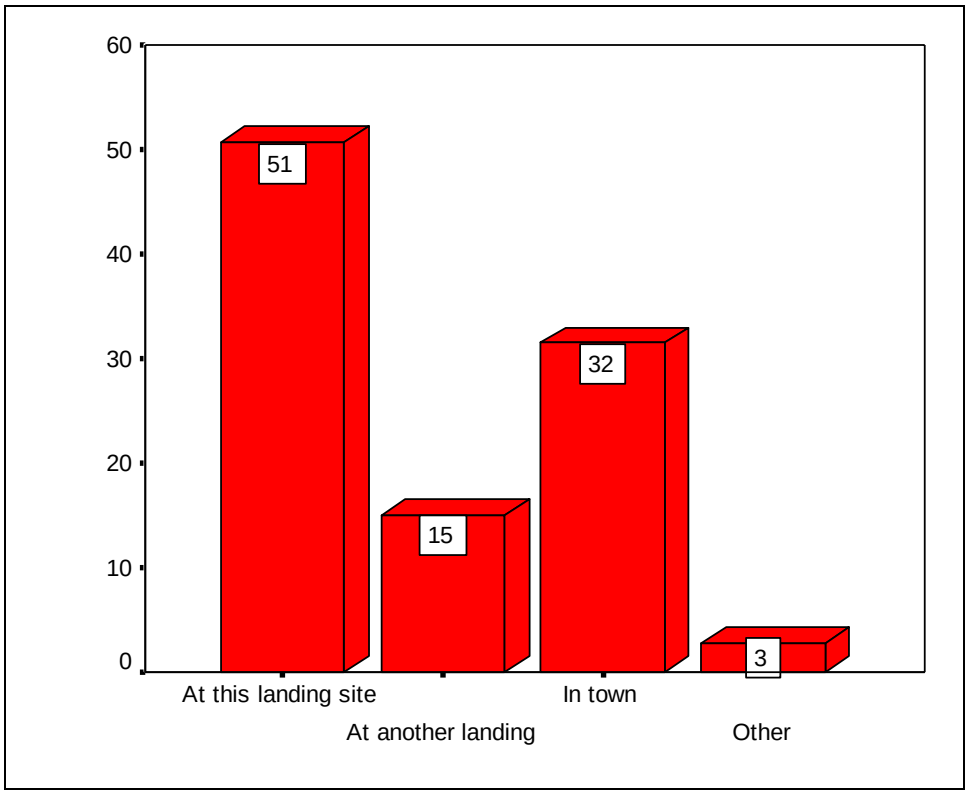



Chart 2: Where respondents lived

Source: Survey data, 2007

The number of years respondents had been working as agents were examined. The data showed that 15.8% of the respondents had worked for 10 years. On the whole, agents had worked for an average of 7 years (Table 3).

Table 3: Number of years respondents worked as factory agents

| | N | Minimum | Maximum | Mean |
|---|---|---|---|---|
| Years worked as an agent | 146 | 1 | 27 | 7 |

Source: Survey data, 2007

Respondents were also asked about the kind of work that they did before becoming agents. The majority (28%) owned fishing boats and gears and (15.4%) were employed in fishing where they earned a wage or salary. Others, (14.7%) were employed in non- fishing sectors (Table 4).

Table 4: Kinds of work done before becoming agents

| | Frequency | Percentage |
|---|---|---|
| Fishing income from boats and gears owned | 40 | 28.0% |
| Fishing employment (wages and salaries) | 22 | 15.4% |
| Fish trading & processing | 15 | 10.5% |
| Net making or repairing | 2 | 1.4% |
| Non-fishing employment: private | 21 | 14.6% |
| Non-fishing employment: govt | 5 | 3.5% |
| Trading in other food | 4 | 2.8% |
| Trading in non-food | 4 | 2.8% |
| Farming (crops and horticulture) | 7 | 4.9% |
| Agricultural labour (without own land) | 2 | 1.4% |
| Other | 21 | 14.7% |
| Total | 143 | 100.0% |

Source: Survey data, 2007

Whether the agents had other sources of income, the majority of the respondents (62.3%) reported having had other sources of income besides being agents (Chart 3). Only (37.7%) did not have any. The high proportion of agents having other sources of income could be as a result of the seasonality of fish catches that called for alternative sources of income.

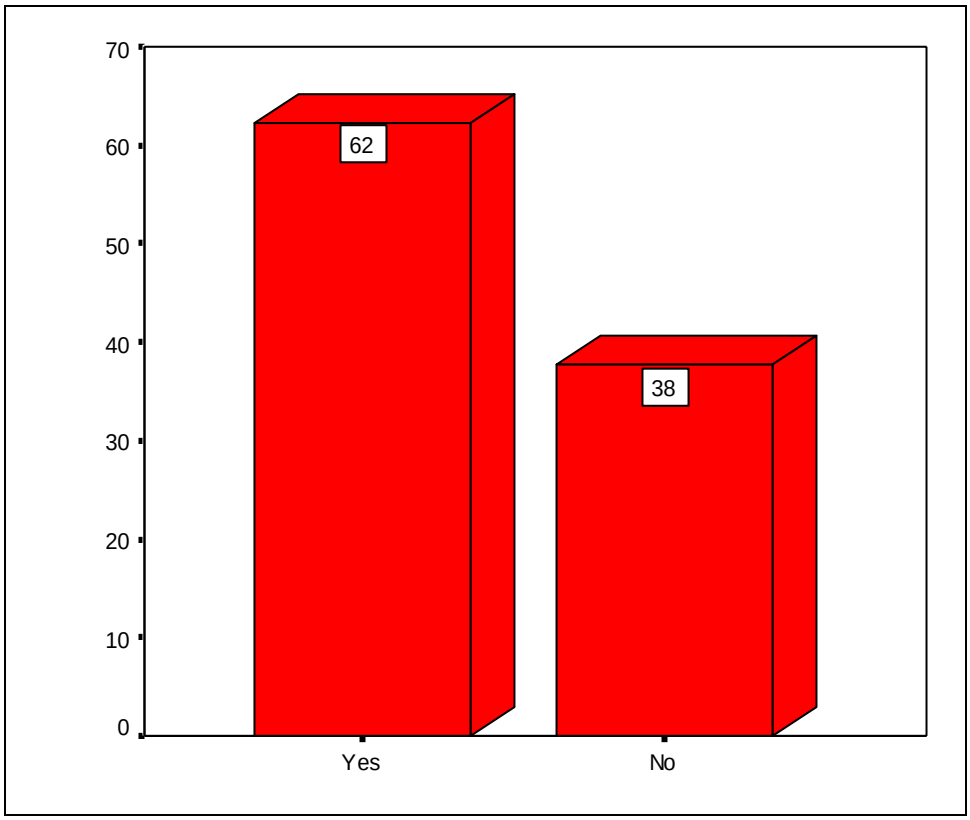



Chart 3: Whether respondents have other sources of income

Source: Survey data, 2007

The different sources of income that the agents dealt in were examined. Majority of the agents (23.6%) got their additional incomes from fishing boats and gears owned. Others (17.0%) had additional incomes from non-fishing employment and trading in non food items (Table 5).

Table 5: Agents' other sources of income

| | Frequency | Percentage |
|---|---|---|
| Fishing income from boats and gears owned | 21 | 23.9% |
| Fish trading & processing | 3 | 3.4% |
| Boat building and repairing | 1 | 1.1% |
| Non-fishing employment: private | 15 | 17.0% |
| Non-fishing employment: govt | 1 | 1.1% |
| Trading in other food | 3 | 3.4% |
| Trading in non-food | 15 | 17.0% |

| | | |
|---|---|---|
| Farming (crops and horticulture) | 12 | 13.7% |
| Livestock farming | 12 | 13.7% |
| Rental income | 2 | 2.3% |
| Other | 3 | 3.4% |
| Total | 88 | 100.0% |

Source: Survey data, 2007

Distances from landing sites to factories varied significantly between those agents buying from the mainland beaches and those from islands. On the whole the mean distance recorded was 78.8km. Distance moved on water could not be adequately estimated by the respondents, who instead preferred to give the amount of fuel consumed and time taken using the different horsepower outboard engines as an indicator of the distances they had to travelled.

Information on whether fishermen from other BMUs brought fish to the landing sites surveyed to go to the factory was gathered. Most of the respondents (85.3%) reported that fishers brought in fish from other landing sites while only (14.7%) reported not receiving fish from other landing sites (Chart 4). Out of those landing sites which received fish from other BMUs, (30.3%) received fish from three other BMUs but on average a landing site received from 5 BMUs.

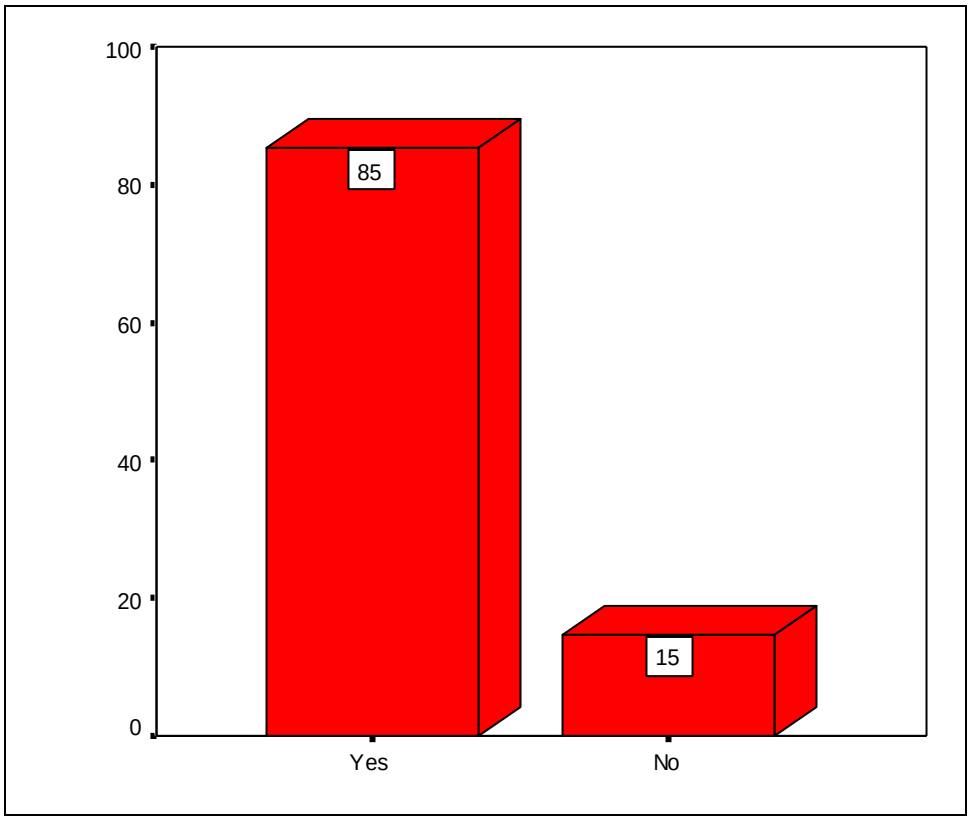



Chart 4: Whether fishermen from other BMUs brought fish to the landing site to go to the factory

Source: Survey data, 2007

The study sought to generate understanding as to whether these agents were employees of the factories or not. Most (86.5%) of the respondents were not employees of the factories while only (13.5%) were employed by the factories. Agents who were not employees of the factory used their own resources (truck, boat, capital) to trade in fish. However there were agents who used factory trucks but with their own money for fish purchases.

Of those who were not employees of the factories, (82%) had no formal contracts or agreements with the factories that they supplied fish (Chart 5). Throughout the survey, agents raised this as the most serious problem affecting their business which always resulted in irregular payments. Because most of them were not employees of the factories, they used their own capital and other resources to sustain their fish supply in a very uncertain legal transaction atmosphere. A small

percentage (18%) reported that they had contracts or agreements with factories and these were mostly the employees of the factories.

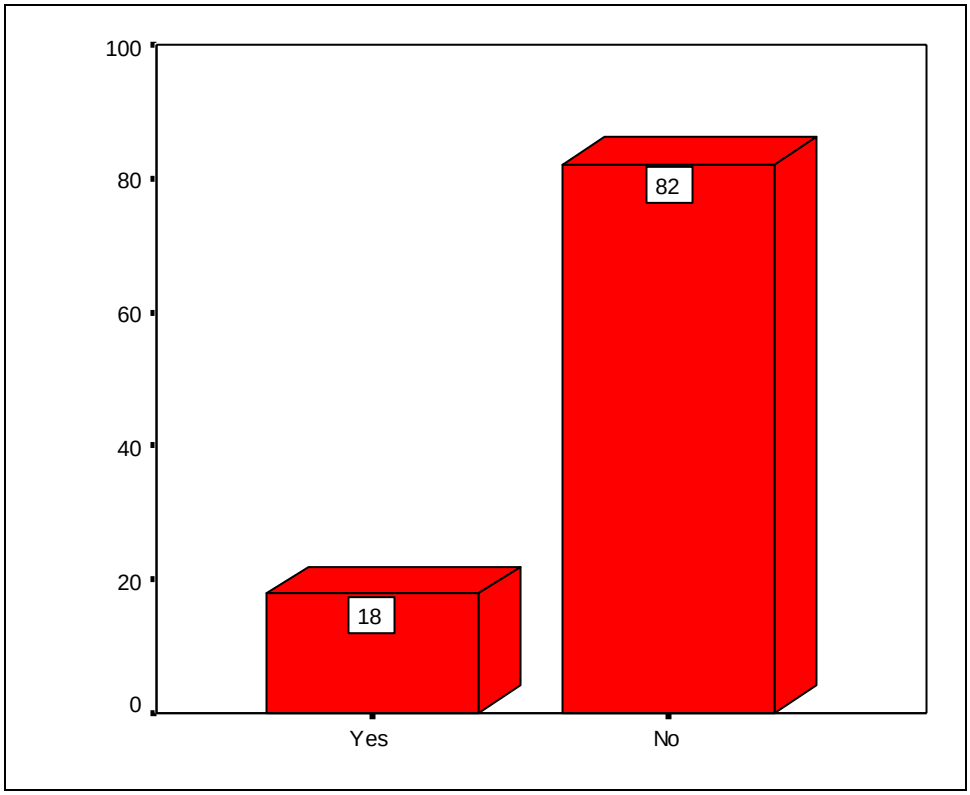



Chart 5: Respondents with contracts with the factories

Source: Survey data, 2007

**2.2 BMU membership**

BMUs are institutions that are established to bring on board all stakeholders at a given landing site into a unit that can effectively participate in managing the fisheries resources with a view to maximizing benefits. The survey sought to generate information on the status of membership of the agents to these institutions (BMUs) in the co-management framework. The data revealed that (70%) were members of the different BMUs while (30%) reported that they were not members of the BMUs (Chart 6). The activities of factory agents greatly influenced activities of fishers in that they provided outlets for the fish caught by fishers in exchange for money or other fishing inputs that supported the different

livelihoods. However factors like migration in search for fish were likely to affect the effectiveness of agents in playing their roles within the BMUs.

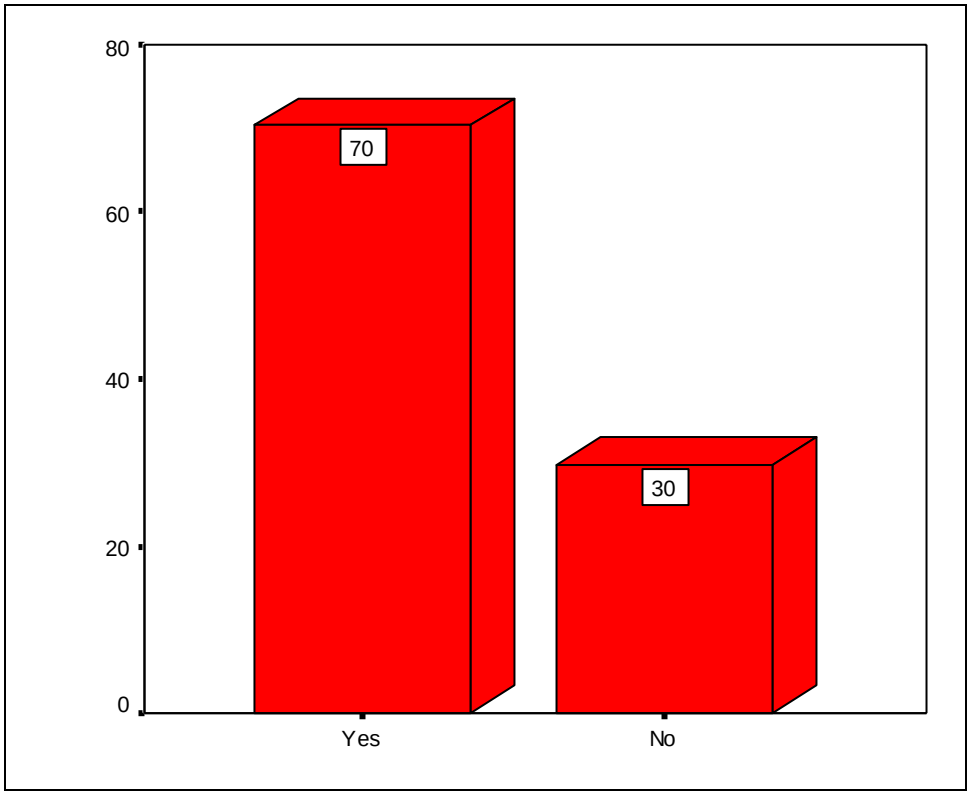



Chart 6: Membership to a BMU

Source: Survey data, 2007

The issue of whether agents were committee members of the BMUs was also examined. Majority of the respondents (70.2%) reported that they were not Committee members (Table 6). However (29.8%) of the respondents confirmed that they were committee members. Of these, (15.8%) were committee Chairmen and treasurers. Others (23.7%) were Secretaries of the BMUs. A significant number of respondents (44.7%) fell under other positions on the committee like Defence Secretary, Secretary for Environment and other categories of representatives.

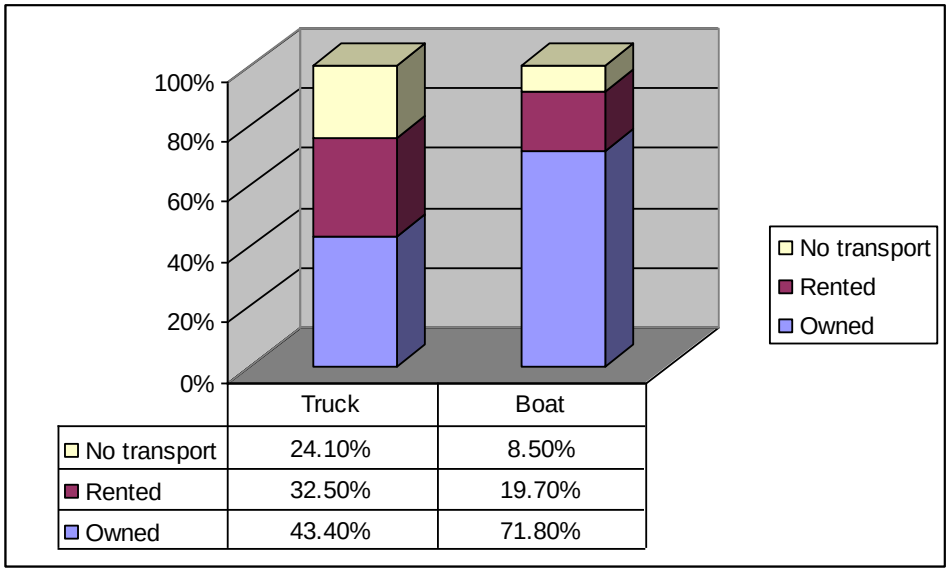
Table 6: Positions held on the BMU Executive Committees

| | Frequency | Percentage |
|---|---|---|
| Chair | 6 | 15.8% |
| Treasurer | 6 | 15.8% |
| Secretary | 9 | 23.7% |
| Other | 17 | 44.7% |
| | 38 | 100.0% |

Source: Survey data, 2007

### 2.3 Fish transport trucks and vessels

In order to deliver fish to factories, agents used either trucks or vessels/boats. Results from the survey revealed that (43.4%) owned transport trucks and (32.5%) rented the trucks. For agents using boats, (71.8%) owned fish transport boats and (19.7%) rented them. From the Chart 7 below, there was a higher number of agents who owned fish transport boats than those who owned trucks but there were more people renting trucks. Discussions with agents further revealed that there were agents who used factory trucks without renting them but this information was not captured in the data collection tool and as such could not be quantified.




| | Truck | Boat |
|---|---|---|
| No transport | 24.10% | 8.50% |
| Rented | 32.50% | 19.70% |
| Owned | 43.40% | 71.80% |

Chart 7: Owned or rented fish transport trucks/boats

Source: Survey data, 2007

The fish processing factories also owned trucks and vessels/boats. Some 82.1% of respondents reported that factories owned or rented transport trucks and 65.5% reported they owned or rented vessels/boats (Chart 8). In comparison factories owned more of the trucks than agents who owned more of the boats as seen from earlier results. On average a factory owned 9 trucks and/or 11 boats.

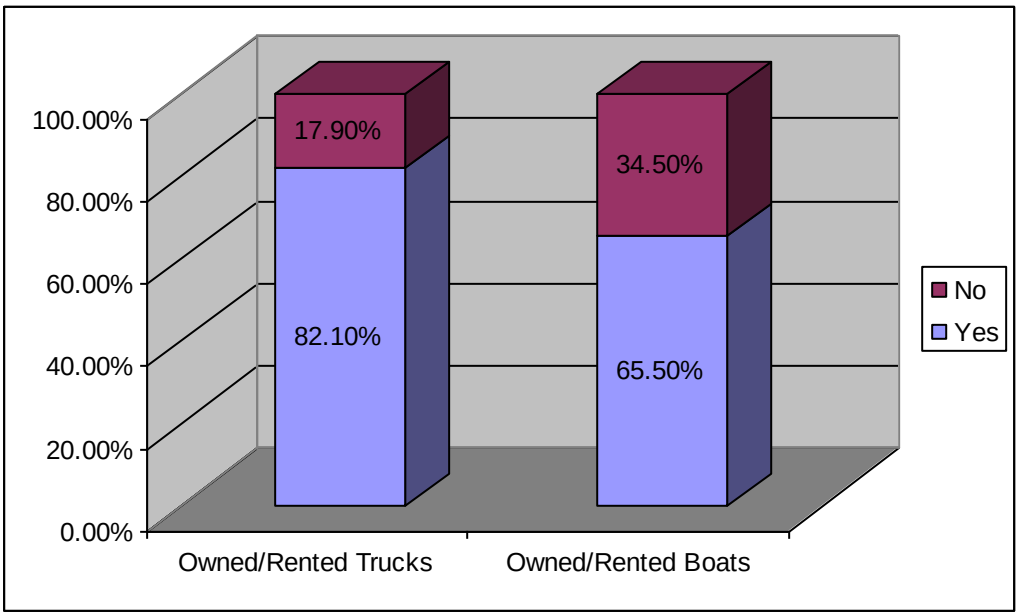



Chart 8: Ownership of transport trucks and boats by the factories
Source: Survey data, 2007

Majority of the trucks (19.4%) carried 3 tonnes on average. Others (18.6%) carried 7 tonnes, (17.1%) carried 5 tonnes on average (Table 7).

With respect to boats, most respondents (20.7%) reported that the average tonnage of their boats was 1 tonne. Others (16.2%) reported 5 tonnes while (11.7%) said that their boats had a tonnage of 4 and 7 (Table 7).

Table 7: Tonnage of the trucks and boats used

| | Trucks | | Boats | |
|---|---|---|---|---|
| Tonnage | Number of Trucks | Percentage | Number of Boats | Percentage |
| 1 | 3 | 2.3% | 23 | 20.8% |
| 2 | 4 | 3.1% | 11 | 9.9% |
| 3 | 25 | 19.4% | 11 | 9.9% |
| 4 | 11 | 8.5% | 13 | 11.7% |
| 5 | 22 | 17.0% | 18 | 16.2% |
| 6 | 18 | 14.0% | 9 | 8.1% |
| 7 | 24 | 18.6% | 13 | 11.7% |
| 8 | 10 | 7.8% | 5 | 4.5% |
| 9 | -- | -- | 3 | 2.7% |
| 10 | 12 | 9.3% | 4 | 3.6% |
| 11 | -- | -- | -- | -- |
| 12 | -- | -- | 1 | 0.9% |
| Total | 129 | 100.0% | 111 | 100.0% |

Source: Survey data, 2007

Information on how old the trucks were was collected. Generally the trucks were reported to be changing hands from the first buyer and as such giving the duration of service of these facilities was hard. Majority of the agents (25.9%) reported that their trucks were 2 years; others (20.5%) reported that the trucks were 3 and 4 years. Very few trucks were 6 years and above (Table 8).

Table 8: How old the trucks were

| Years | Frequency | Percentage |
|---|---|---|
| 1 | 14 | 12.5% |
| 2 | 29 | 25.9% |
| 3 | 23 | 20.5% |
| 4 | 23 | 20.5% |

| | | |
|---|---|---|
| 5 | 12 | 10.7% |
| 6 | 2 | 1.8% |
| 7 | 2 | 1.8% |
| 8 | 1 | 0.9% |
| 9 | 2 | 1.8% |
| 10 | 3 | 2.7% |
| 11 | 1 | 0.9% |
| Total | 112 | 100.0% |

Source: Survey data, 2007

The mean life span of a collector truck was 9.84 years. The collector boats were reported to be operational for an average of 4.84 years with a maximum of 16 years (Table 9).

Table 9: Expected operational life span of collector trucks and boats (Years).

| | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| Trucks | 73 | 1 | 30 | 9.84 | 6.351 |
| Boats | 62 | 1 | 16 | 4.84 | 3.178 |

Source: Survey data, 2007

The cost of the collector trucks/boats varied significantly depending on the make of the truck, size of the engine and capacity but the average was UShs 22.4 million (Table xx). For the boats, costs depended on type of wood used and length of the boat. The mean price of a collector boat was UShs 4.1 million with 100,000 and 32.0 million as the minimum and maximum respectively (Table 10).

Table 10: Reported costs of trucks and boats used

| | N | Minimum | Maximum | Mean | Std Deviation |
|---|---|---|---|---|---|
| Cost of a truck | 70 | 3,000,000 | 50,000,000 | 22,392,857 | 12533113 |
| Cost of a collector Boat | 73 | 100,000 | 32,000,000 | 4,113,699 | 4417942 |

Source: Survey data, 2007

The average repair and maintenance cost of a truck was UShs 1.7m in a quarter while the agent spent an average of UShs 864,626 to repair and maintain a boat in a quarter (Table 11).

Table 11: Maintenance costs of trucks and boats

| Maintenance Costs | N | Minimum | Maximum | Mean | Std deviation |
|---|---|---|---|---|---|
| Trucks | 55 | 10,000 | 2,500,000 | 1,735,454 | 4530241.102 |
| Boats | 67 | 5,000 | 5,000,000 | 864,626 | 1039170.092 |

Source: Survey data, 2007

The size of the engine for the trucks varied significantly. Most of the trucks had engines within the capacity of 1,000 – 3,000 cc (52.6%) (Table 12).

Table 12: Sizes of engines used

| Engine size (cc) | Number of trucks | Percentage |
|---|---|---|
| 1,000 – 3,000 | 19 | 52.6% |
| 3,001 – 5,000 | 14 | 39.0% |
| 5,001 – 7,000 | 2 | 5.6% |
| Over 7,000 | 1 | 2.8% |
| Total | 36 | 100.0% |

Source: Survey data, 2007

The majority of the trucks were of the Isuzu make (26.1%). There were also several other makes of vehicles (Chart 9).

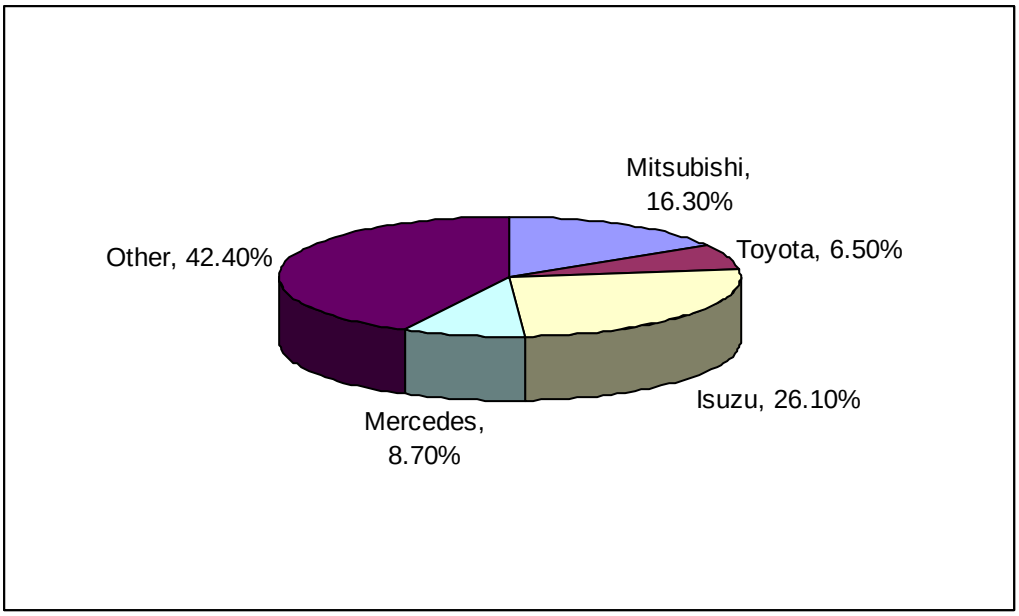



Chart 9: Make of trucks

Source: Survey data, 2007

With respect to boats, the most commonly used type of engine was Yamaha (78.9%) but other types were also used (Chart 10). These included re-conditioned engines imported without clear labels.

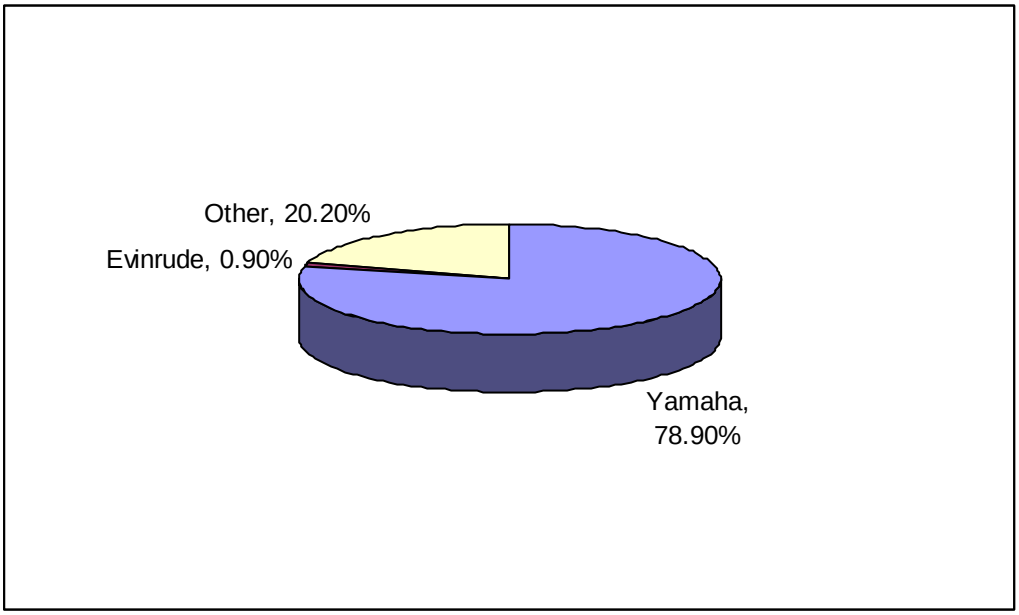



Chart 10: Make of the engines.

Source: Survey data, 2007

The horse power (HP) of the outboard engine used was investigated. Majority of the agents (40.4%) used 40HP, (38.6%) used 15HP and (14.4%) used 25 HP. (Table 13). All the engines used by the factory agents were outboard.

Table 13: Horse Power of engines

| Horse Power | Number of outboard Engines | Percentage |
|---|---|---|
| 8 | 1 | 0.9% |
| 9 | 1 | 0.9% |
| 15 | 44 | 38.7% |
| 20 | 1 | 0.9% |
| 25 | 16 | 14.0% |
| 30 | 3 | 2.6% |
| 40 | 46 | 40.4% |
| 45 | 1 | 0.9% |
| 75 | 1 | 0.9% |
| Total | 114 | 100.0% |

Source: Survey data, 2007

Agents reported that the mean price of a new engine was UShs 4,095,192 (Table 14). However the information collected did not specify make, horse power and type of engine.

Table 14: Costs of new engines

| N | Minimum | Maximum | Mean | Std Deviation |
|---|---|---|---|---|
| 104 | 500,000 | 8,500,000 | 4,095,192 | 1,551,205.595 |

Source: Survey data, 2007

With respect to how long the engines had served, the data showed that majority of the engines (23.6%) were 1 year old, (20.9%) were 2 years old as can be seen

from Table 15 below. If the expected lifetime is 4 years, then these engines were quite new and would be expected to serve for a few more years.

Table 15: Years the engines had been used

| Number of years | Number of Engines | Percentage |
|---|---|---|
| 1 | 35 | 23.6% |
| 2 | 31 | 20.9% |
| 3 | 29 | 19.7% |
| 4 | 15 | 10.1% |
| 5 | 16 | 10.8% |
| 6 | 5 | 3.4% |
| 7 | 8 | 5.4% |
| 8 | 3 | 2.0% |
| 10 | 3 | 2.0% |
| 11 | 1 | 0.7% |
| 12 | 1 | 0.7% |
| 24 | 1 | 0.7% |
| Totals | 148 | 100.0% |

Source: Survey data, 2007

Fish transportation was by either insulated trucks, insulated boats or boats which were not insulated but used ice, commonly referred to as "*open roof*" and in a few cases insulated ice boxes. The data indicate that (28.4%) of the respondents used ice boxes. These ice boxes were stationary, helping to preserve fish where insulated boats and trucks were not available in time. Majority of the respondents (63.3%) used insulated boats (Table 16). Data on use of insulated trucks was not captured though it was a common method of fish transportation. Though on a lower side, fish trucks could account for the (8.3%) which was categorized under others as can be seen from Table 16.

Table 16: Means of transportation

| | Frequency | Percentage |
|---|---|---|
| Insulated Ice Boxes | 31 | 28.4% |
| Insulated Boats | 69 | 63.3% |
| Others | 9 | 8.3% |
| Total | 109 | 100.0% |

Source: Survey data, 2007

For those who used ice boxes to handle fish, (85.7%) bought them from the city and (12.5%) bought them from the factories. Only (1.8%) of the agents were loaned by the factories (Table 17). This shows the ready availability of the ice boxes on the market.

Table 17: Sources of ice boxes

| | Frequency | Percentage |
|---|---|---|
| Bought from Fish factory | 7 | 12.5% |
| Loaned by Fish Factory | 1 | 1.8% |
| Bought from the City | 48 | 85.7% |
| | 56 | 100.0% |

Source: Survey data, 2007

Agents who used ice boxes reported that the boxes could last for average of 6 years and a maximum of 19 years. Annually, the cost of repair and maintenance of the boxes was reported to be UShs 782,695. For insulated boats, majority of respondents (33.3%) reported that they had an average of 2 cabins per boat (Table 18). The sizes of these cabins were not investigated but it is assumed that they vary according to the boat length.

Table 18: Number of cabins in a boat

| Number of cabins | Frequency | Percentage |
|---|---|---|
| 1 | 7 | 16.7% |
| 2 | 14 | 33.3% |
| 3 | 10 | 23.7% |
| 4 | 1 | 2.4% |
| 4 | 2 | 4.8% |
| 5 | 3 | 7.1% |
| 6 | 2 | 4.8% |
| 7 | 1 | 2.4% |
| 8 | 1 | 2.4% |
| 10 | 1 | 2.4% |
| | 42 | 100.0% |

Source: Survey data, 2007

The amount of ice carried on each collection trip depended on two factors, namely; capacity of the boat/truck and the amount of fish supplied regularly. The survey revealed that there was a high relationship between amount of ice carried and tonnage of fish supplied. Trucks on average carried 6.1 tonnes and boats carried an average of 4.9 tonnes (Table 19).

Table 19: Tonnage of ice on trucks and boats

| | N | Minimum | Maximum | Mean | Std deviation |
|---|---|---|---|---|---|
| Tonnage of ice on a truck | 69 | 1 | 15 | 6.1 | 2.740 |
| Tonnage of ice on a boat | 66 | 1 | 15 | 4.9 | 3.196 |

Source: Survey data, 2007

The major source of ice was factories, as some (70.5%) reported that factory trucks were the main source of ice. This meant that most of the agents used boats to collect fish from the various landing sites and islands which they loaded on to the trucks where they got ice. However this does not mean that boats did not deliver fish directly to fish factories where they were loaded with ice for the next trip. As factories were not specified among the options on the questionnaire, they were included among “others” (29.5%) in Table 20.

Table 20: Sources of ice

| | Frequency | Percentage |
|---|---|---|
| Factory Truck | 98 | 70.5% |
| Others | 41 | 29.5% |
| Total | 139 | 100.0% |

Source: Survey data, 2007

Discussions with agents revealed that most of them did not pay for the ice. Agents paid a non-refundable fee to the factory authorities which, in most cases, catered for the cost of ice as long as one kept supplying fish to the factories. For those who buy ice, varying cost prices were given. The mean price for a kg of ice was UShs 116 (Table 21). In some cases ice bought by trucks from the factory was again loaded on boats at mainland landing sites which collected fish from Islands.

Table 21: Cost of ice (UShs/kg)

| N | Minimum | Maximum | Mean | Std Deviation |
|---|---|---|---|---|
| 45 | 50 | 500 | 115.78 | 84.275 |

Source: Survey data, 2007

## 2.4 Fish collection and purchase

Operations of trucks and boats in fish collection have been examined. The results show that trucks spent an average of 3 days out on a fish collection trip while boats took 2 days on a trip. The average distance covered on land by the trucks was 92km while distance covered on water was hard to estimate as most agents preferred to give the amount of fuel consumed and the time taken to arrive at the different destination points. However the mean estimate given by some of the agents was 36km. The average amount of fish purchased on every trip by the truck agents was estimated at 3,625 kgs and 1,842 kgs for the agents who used boats (Table 22).

Table 22: Operations of trucks and boats

| | Truck | Boat |
|---|---|---|
| No. of days out per trip | 3.85 | 2.85 |
| No. of trips a month | 8.68 | 10.35 |
| Distance traveled (km) | 92 | 36 |
| Fuel used per trip - litres | (Diesel) 95.03 | (Petrol) 97.56 |
| Cost per litre (UShs) | (Diesel) 1926.06 | (Petrol) 2349.93 |
| Average kgs of Nile perch purchased per trip | 3,625 | 1,843 |

Source: Survey data, 2007

The question on how many fishermen the agent purchased fish from did not attract clear answers throughout the survey. The arrangement at most landing sites surveyed was that agents who supplied fish to the factories (target respondents) gave out money to many other middlemen who only gave a return of the total kgs bought to the target respondents. However an average of 21 fishermen was given as the number from whom the agent purchased fish from.

The average price of Nile perch per kg given by the agents during the week of the survey ranged between UShs 1,800 -2,800 with a mean price of UShs 2,306 (Table 23).

Table 23: Prices paid for Nile perch by respondents over the past week (UShs/kg)

| | N | Minimum | Maximum | Mean | Std Deviation |
|---|---|---|---|---|---|
| Average price of Nile perch per kg respondent gave over past week | 144 | 1,800 | 2,800 | 2,306 | 213.538 |

Source: Survey data, 2007

Credit acquisition between fishers and agents was a very common practice. In the survey (75.9%) of the agents offered credit to the boat owners. (Table 24). Discussions with the agents further revealed that giving credit to boat owners was the only sure way of ensuring supply of fish from the boat owners as the business was highly competitive. But in most cases because of poor catches and other problems, boat owners were often not able to pay back in time, which impacted negatively on the agents' business. Further, details of the nature of credit were viewed as confidential and agents were not willing to discuss them.

Table 24: Whether agents gave out credit.

| | Frequency | Percentage |
|---|---|---|
| Yes | 107 | 75.9% |
| No | 31 | 24.1% |
| Totals | 141 | 100.0% |

Source: Survey data, 2007

On whether agents sold fishing gears to the fishermen, (48.6%) reported that they did (Table 25). Close examination of the nature of selling revealed that gears were brought by the agents on orders of the fishermen in exchange for fish but agents were not doing it as business.

Table 25: Whether agents sold fishing gear to fishermen

| | Frequency | Percentage |
|---|---|---|
| Yes | 67 | 48.6% |
| No | 71 | 51.4% |
| Total | 138 | 100.0% |

Source: Survey data, 2007

Most agents (89.0%) reported that fish was paid for on collection (Table 26). The results indicate that Nile perch was highly demanded. However, the fishermen would accept other forms of payment by the agents like after sale at the factory (3.9%).

Table 26: When fish was paid for by agents

| | Frequency | Percentage |
|---|---|---|
| On collection | 113 | 89.0% |
| After Sale | 5 | 3.9% |
| Others | 9 | 7.1% |
| Total | 127 | 100.0% |

Source: Survey data, 2007

Majority of the respondents (60.3%) reported that it was the factories which set prices given to fishermen. Other agents (34.0%) said that they themselves are the ones who set prices given to the fishermen (Chart 11). However it is important to note that since a landing site is a mixed market where there are many buyers of a common good highly demanded, then other factors like bonuses have to come into play.

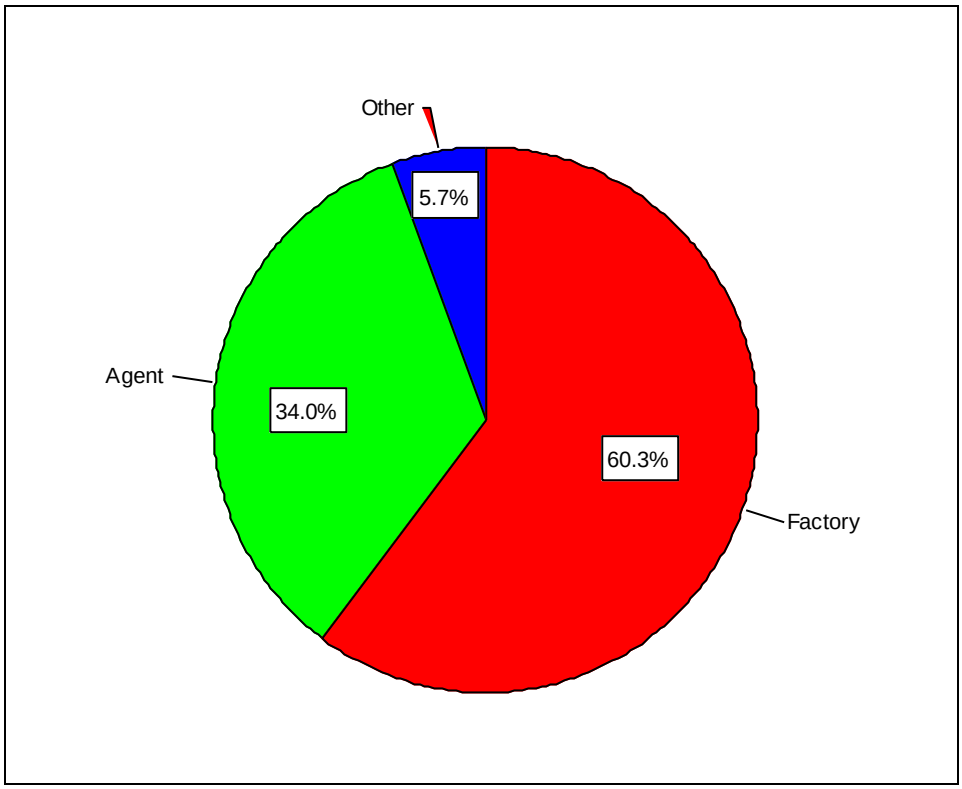



Chart 11: Who set the prices of fish given to fishermen

Source: Survey data, 2007

Fishers where asked the months of maximum catch. The majority considered April (18.4%) as the month with highest catch (Table 27).

Table 27: Months respondents obtained maximum catch

| | Frequency | Percentage |
|---|---|---|
| Jan | -- | --% |
| Feb | 4 | 4.1% |
| Mar | 4 | 8.2% |
| Apr | 9 | 18.3% |
| May | 3 | 6.1% |
| Jun | 2 | 4.1% |
| Jul | 2 | 4.1% |

| | | |
|---|---|---|
| Aug | 5 | 10.2% |
| Sep | 7 | 14.3% |
| Oct | 5 | 10.2% |
| Nov | 5 | 10.2% |
| Dec | 5 | 10.2% |
| Total | 51 | 100.0% |

Source: Survey data, 2007

### 2.5 Sale of fish

Majority (76.2%) of the agents sold their fish to fish processing factories (Table 28). These included both those using trucks and boats. On the other hand (23.1%) sold at the landing. These were those using boats to buy fish at other landing sites and islands and supplying it to truck agents stationed at accessible/gazetted landing sites.

Table 28: Where agents sold their fish

| | Frequency | Percent |
|---|---|---|
| At the landing site | 33 | 23.1% |
| To a factory | 109 | 76.2% |
| Other | 1 | 0.7% |
| Total | 143 | 100.0% |

Source: Survey data, 2007

The average price of fish per kg received at the factory was UShs 2,561 (Table 29). Further discussions with the agents revealed that prices given depended on how long one had been supplying a particular factory and the tonnage delivered.

Table 29: Average prices received at the factory

| | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| Average price of fish per kg received at the factory | 129 | 1,900 | 3,000 | 2,561 | 199.339 |

Source: Survey data, 2007

Most agents (95.5%) reported that it was the factories which set prices at which they supplied fish (Table 30). The agents, who are referred to as "*suppliers"* here, kept contact with the factories to know at what prices they were buying fish so as to set the prices to give to fishermen. Discussions with the agents indicated that some negotiation was allowed, depending on how long someone had been a supplier/agent of that particular factory. Communication was a very important requirement between the suppliers (agents) and the factories.

Table 30: Who set the prices of fish sold to the factory

| | Frequency | Percentage |
|---|---|---|
| Factory | 128 | 95.6% |
| Agent | 1 | 0.7% |
| Other | 5 | 3.7% |
| Total | 134 | 100.0% |

Source: Survey data, 2007

Rejection of fish was a common practice in Nile perch trading. The data showed that (85.6%) of the respondents accepted that some fish was rejected by the factories while (Chart 12). Analysis of results of non rejection of fish by the factories revealed that they were "*agents"* who were contracted to purchase fish for the factories using factory selectors/ quality controllers.

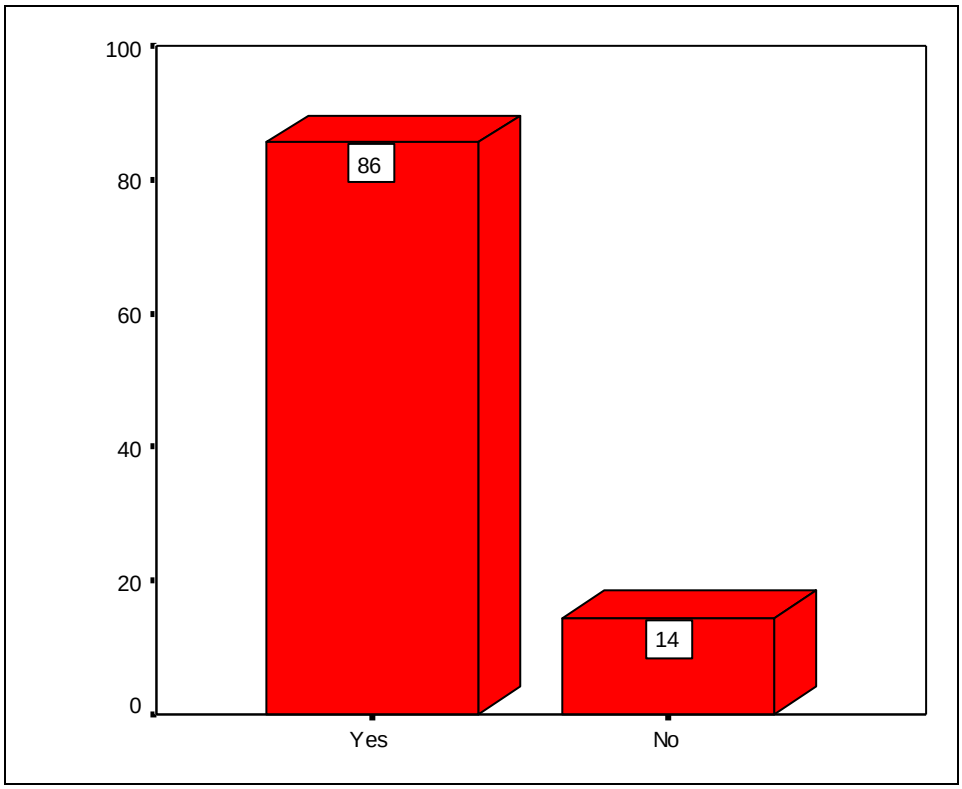



Chart 12: Whether fish bought by agents was rejected by the factory

Source: Survey data, 2007

On average, agents reported that they lost 183 kg of fish per trip as rejects. The fish which was rejected was retained by the factories (69.8%), which was shown under ”others” in the Table 31 below. Also, (21.6%) reported that the rejected fish was sold outside the factories while (4.3%) reported that the fish was either taken to the market or disposed off. The average price of rejected fish per kg was UShs 647.

Table 31: What agents did with rejected fish

| | Frequency | Percentage |
|---|---|---|
| Sell outside factory | 25 | 21.6% |
| Take to market | 5 | 4.3% |
| Dispose off | 5 | 4.3% |

| | | |
|---|---|---|
| Other | 81 | 69.8% |
| Total | 116 | 100.0% |

Source: Survey data, 2007

### 2.6 Earnings and taxes

Information collected about earnings revealed that collector trucks provided an average income of UShs 746,071 per month while collector boats provided an average income of UShs 897,464. Generally collector boats provided higher earnings than the collector trucks as can be seen from Table 32 below. As noted before, these were earnings that went to "suppliers" of fish to the factories.

**Table 32: Monthly incomes from trucks and vessels (Ushs)**

| | N | Minimum | Maximum | Mean | Std deviation |
|---|---|---|---|---|---|
| Earnings per month from the collector trucks | 52 | 700 | 5,000,000 | 746071 | 854,971.308 |
| Earnings per month from the collector boats | 71 | 30,000 | 7,000,000 | 897464 | 1,146,420.165 |

Source: Survey data, 2007

The study further established how the agents/ suppliers were remunerated. Results indicate that majority (72.2%) received their payment on the price per kg of Nile perch (Table 33). These were actually the "*suppliers*" who used their own resources to work with the factories. Few (14.4%) received a monthly payment and these were presumed to be employees of the factories working at the landing sites as collectors.

Table 33: Types of payments factories gave the agents

| | Frequency | Percentage |
|---|---|---|
| Monthly payment | 13 | 14.4% |
| Price per kg Nile perch | 65 | 72.2% |

| | | |
|---|---|---|
| Other | 12 | 13.4% |
| Total | 90 | 100.0% |

Source: Survey data, 2007

For those who received monthly payments, the average payment was UShs 122,441 and an average of UShs 239 in price differential for those who were remunerated by the price per kg of Nile perch (Table 34.

Table 34: Earnings of agents (UShs)

| | N | Minimum | Maximum | Mean | Std Deviation |
|---|---|---|---|---|---|
| Monthly payments to employed collectors | 30 | 100,000 | 700,000 | 122,441 | 147536.588 |
| Price differential per kg of Nile perch | 52 | 2 | 600 | 239.56 | 110.778 |

Source: Survey data, 2007

Agents were asked to give some information on trading fees. The majority (85.5%) reported that they paid trading fees (Table 35).

Table 35: Whether respondents paid fish trading fees

| | Frequency | Percentage |
|---|---|---|
| Yes | 106 | 85.5% |
| No | 18 | 14.5% |
| Total | 124 | 100.0% |

Source: Survey data, 2007

The amount of fees paid by the agents varied significantly and could not be analysed to give a reasonable figure. This was because different forms of fees were paid to different authorities for one to be allowed to work as an agent at a landing site. However, majority (42.3%) paid to Government through the Sub-county authorities and Fisheries Department (Chart 13). Others (27.7%) paid to the tenderers of the landing sites and (25.4%) paid to the BMUs. At some beaches like Katosi, BMUs did not collect any fees from the agents as the

landing site belonged to a private investor who levied other payments on the trucks/boats.

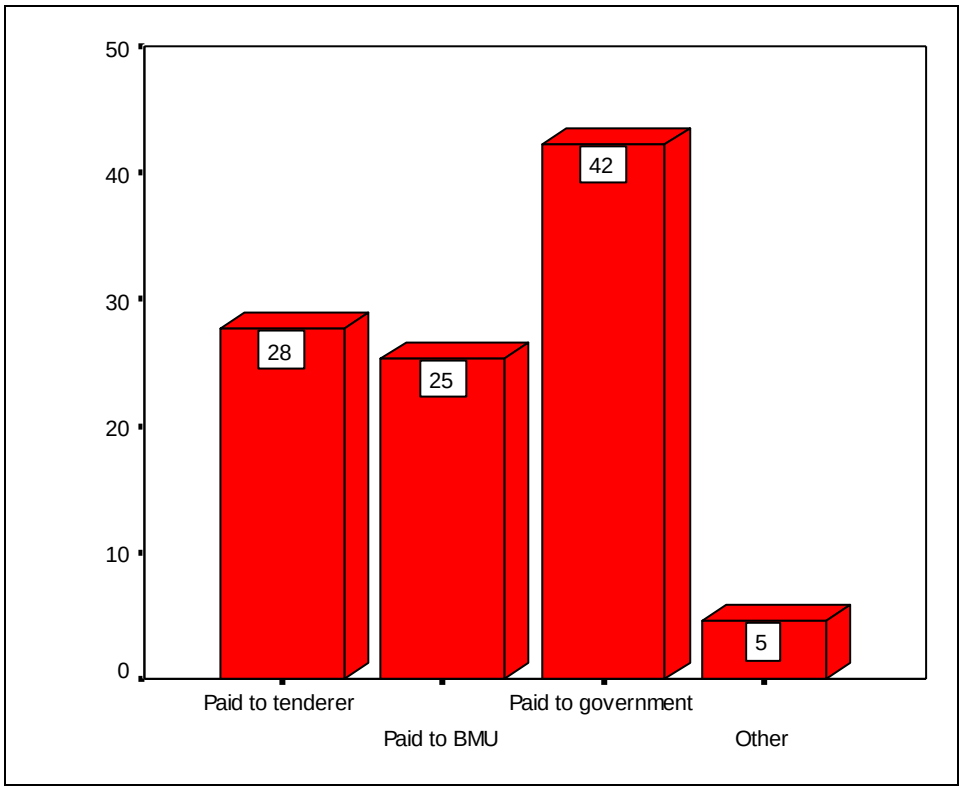



Chart 13: To whom the trading fees were paid

Source: Survey data, 2007

The amount of fees paid upon landing the collected fish also varied significantly. Most of the payments were negotiable depending on situations. In most cases agents who owned trucks and many collecting boats did not pay fees for landing collected fish.

Agents were asked how much they paid for vessel registration and licence fees. Like in other cases discussed above, vessel registration and licence fees varied from landing to landing. This shows that there were no standard payments known to the agents. The average fee paid annually for boat licenses was Ushs 305,573. (Table 36).

Table 36: Rates paid for boat license

| | N | Minimum | Maximum | Mean | Std deviation |
|---|---|---|---|---|---|
| Payment for boat registration | 110 | 50,000 | 500,000 | 305,573 | 149,137.241 |

Source: Survey data, 2007

## 3. CONCLUSIONS AND RECOMMENDATIONS

### 3.1 Conclusions

i) Fish trading as factory agents was mainly a male dominated business around Lake Victoria, Uganda. This was because it was a labourious activity and highly competitive in terms of ensuring adequate supplies from the source to the factory.

ii) Agents were recognized as key stakeholders in the BMU structures since they took key positions on the BMU Executive Committees of the different BMUs sampled.

iii) Majority (23.9%) of Agents were also involved in fish production at the various BMUs visited. This was because they involved themselves in fishing (owned boats and nets) before diversifying to being factory Agent.

iv) Agents faced losses in form of fish rejected as a result of degenerated quality and grading in terms of size of fish supplied. The sensory assessment of fish at landing sites based on one or two senses is in most cases limited and such resulting in more loss to the agents when fish is delivered to the factory.

v) Very few agents (14.4%) received a monthly payment from the factories (employed by the factories). Majority (72.2%) of the factory agents received a price a price differential per kg recorded at the factory. This meant that most (72.2%) of the factory agents used their personal resources to purchase supplies to the factories.

vi) There was no evidence of valid legal contractual terms between the Agents and the factories. Factories only issued delivery computer data sheets which were not recognized legally

vii) Much (42%) of the fees paid by factory agent were reported to be received by government. These fees included boat registration fees and trading licenses. However BMUs also took a considerable amount of fees from the agents.

### 3.2 Recommendations

i) The BMU structures at gazetted landing sites should develop a framework for supporting the process of buying and selling fish through formation of trade groups among the BMUs. The framework should facilitate legal and clear trade procedures among the trade group, agent and the BMU members selling fish.

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## Annex 1: Questionnaire

**LAKE VICTORIA FISHERIES ORGANIZATION**
**IMPLEMENTATION OF A FISHERIES MANAGEMENT PLAN**
**FISH AGENT QUESTIONNAIRE**

Name of landing site …… Name of BMU……
Country (code) ..... District (code).....
Name of interviewer …… Date ……

**Introduction**
The Lake Victoria Fisheries Organization (LVFO) is conducting a survey of fish factory agents to find out more about the value of Nile perch along the production chain and about how agents are involved in BMUs.

**Individual information**

1. Name of fish agent .....

2. What is your age? .....

3. Sex

   Male = 1
   Female = 2

4. Where do you live?

   At this landing site = 1
   At another landing site = 2
   In town (name) = 3 _____
   Other (please specify) = 4 _____

   .....

5. How many years have you worked as an agent? ☐

6. What kind of work did you do before becoming an agent?

| **Source of income** | **Code** |
|---|---|
| Fishing income from boats and gear owned | 1 |
| Fishing employment (wages and salaries) | 2 |
| Fish trading & processing | 3 |
| Net making or repairing | 4 |
| Boat building and repairing | 5 |
| Non-fishing employment: private sector | 6 |
| Non-fishing employment: government | 7 |

| | |
|---|---|
| Trading in other food commodities | 8 |
| Trading in non-food items | 9 |
| Farming (Crops and Horticulture) | 10 |
| Agricultural labour (without own land) | 11 |
| Livestock Farming | 12 |
| Other (specify) | 13 |

.....

7. Do you have other sources of income?

   Yes = 1
   No = 2

8. If yes, what are they?
   *Select up to three and rank them in order of importance.*

| **Activity** | **Code** | **Rank** |
|---|---|---|
| Fishing income from boats and gear owned | 1 | |
| Fishing employment (wages and salaries) | 2 | |
| Fish trading & processing | 3 | |
| Net making or repairing | 4 | |
| Boat building and repairing | 5 | |
| Non-fishing employment: private sector | 6 | |
| Non-fishing employment: government | 7 | |
| Trading in other food commodities | 8 | |
| Trading in non-food items | 9 | |
| Farming (Crops and Horticulture) | 10 | |
| Livestock Farming | 11 | |
| Remittances or Transfer payments | 12 | |
| Rental income | 13 | |
| Other (specify) | 14 | |

9. What is the name of the factory (or factories) you supply?
   *Code the names after completion of the survey.*

   1.....

   2.....

   3.....

10. What is the distance from this landing site to the factory/factories?
    .....kms

11. Do fishermen from other BMUs bring fish to this landing site to go to the factory (e.g. from islands)?

    Yes = 1

No = 2

12. If yes, from how many other BMUs? .....

13. Are you an employee of the factory?

    Yes = 1
    No = 2

14. If not an employee, do you have a contract or agreement with the factory?

    Yes = 1
    No = 2

15. If yes, please give details (i.e. what is the contract/agreement based on – quantity of fish, number of days of delivery, anything about price, size of fish, etc.).

    .....

    .....

16. Please give the names of all landing sites from where you purchase fish.
    *Code the names after completion of the survey.*

    1.....

    2.....

    3.....

**BMU membership**

17. Are you a member of a BMU?

    Yes = 1
    No = 2

18. What is the name of the BMU? .....

19. Are you a committee member of the BMU?

    Yes = 1
    No = 2

20. If yes, what position do you hold on the committee?

    Chair = 1
    Treasurer = 2
    Secretary = 3

Other (specify) = 4 _____
No = 5

**Fish transport trucks and vessels**

21. Do you own or rent fish transport trucks/boats?

| | [1] Own<br>[2] Rent<br>[3] None |
|---|---|
| Trucks | |
| Boats | |

22. Does the factory you collect fish for own or rent fish transport trucks/boats?

| | [1] Yes<br>[2] No |
|---|---|
| Trucks | |
| Boats | |

23. If yes, how many are owned/rented? .....

| | No. owned/ rented |
|---|---|
| Trucks | |
| Boats | |

24. What is the tonnage of trucks/ boats and length (in metres) of the boats?

| **Trucks** | | **Boats** | | |
|---|---|---|---|---|
| | Capacity (tonnes) | | Capacity (tonnes) | Length (m) |
| Truck 1 | | Boat 1 | | |
| Truck 2 | | Boat 2 | | |
| Truck 3 | | Boat 3 | | |
| Truck 4 | | Boat 4 | | |

25. What are the registration numbers of the trucks/boats?

| **Trucks** | | **Boats** | |
|---|---|---|---|
| | Reg. No | | Reg. No |
| Truck 1 | | Boat 1 | |
| Truck 2 | | Boat 2 | |
| Truck 3 | | Boat 3 | |
| Truck 4 | | Boat 4 | |

26. How old are these trucks/boats? .....years

| **Trucks** | | **Boats** | |
|---|---|---|---|
| | Years | | Years |

| | | | |
|---|---|---|---|
| Truck 1 | | Boat 1 | |
| Truck 2 | | Boat 2 | |
| Truck 3 | | Boat 3 | |
| Truck 4 | | Boat 4 | |

27. For how many years will a collector truck/ boat be operational?.....years

| | Years |
|---|---|
| Truck | |
| Boat | |

28. How much does one collector truck/boat cost?.*Convert to US $.*

| | Cost US$ |
|---|---|
| Truck | |
| Boat | |

29. What are the average repair and maintenance costs of a truck/boats each quarter year?

| | Maintenance costs |
|---|---|
| Trucks | |
| Boats | |

30. What is the size of the engine?

| | Engine capacity (cc) | | Engine capacity (HP) |
|---|---|---|---|
| Truck 1 | | Engine 1 | |
| Truck 2 | | Engine 2 | |
| Truck 3 | | Engine 3 | |
| Truck 4 | | Engine 4 | |

31. What is the make of the engine? *Code*..

| | Engine make | | Engine make |
|---|---|---|---|
| Truck 1 | | Engine 1 | |
| Truck 2 | | Engine 2 | |
| Truck 3 | | Engine 3 | |
| Truck 4 | | Engine 4 | |

Truck engine make: [1] Mitsubishi [2] Toyota [3] Isuzu [4] Mercedes [5] Other (specify) _____

Boat engine make: [1] Yamaha [2] Evinrude [3] Other (specify) _____

32. For transport boats, are the engines outboard or inboard?

| | [1] Outboard [2] Inboard |
|---|---|
| Engine 1 | |
| Engine 2 | |
| Engine 3 | |
| Engine 4 | |

33. What is the cost of a new engine?..... *Convert to US $.*

34. How many years old are your engines? .....years

| | Years |
|---|---|
| Engine 1 | |
| Engine 2 | |
| Engine 3 | |
| Engine 4 | |

35. What are the repair and maintenance costs of each engine per quarter year? ...

| | Costs |
|---|---|
| Engine 1 | |
| Engine 2 | |
| Engine 3 | |
| Engine 4 | |

37. Do you use insulated ice boxes or insulated boats?

Ice boxes = 1
Insulated boats = 2

38. If insulated ice boxes, how many are on each collector truck/boat?

| **Trucks** | | **Boats** | |
|---|---|---|---|
| | No. of boxes | | No. of boxes |
| Truck 1 | | Boat 1 | |
| Truck 2 | | Boat 2 | |
| Truck 3 | | Boat 3 | |
| Truck 4 | | Boat 4 | |

39. What is the capacity of each box? .....$m^3$

40. What is the cost of each box? .....*Convert to US $.*

41. Where do you buy the boxes from?

Bought from fish factory = 1
Loaned by fish factory = 2
Buy from city (name) = 3
.....

42. How many years have you had these boxes?.....

43. How many years do you expect the boxes to last?.....

44. What are the repair and maintenance costs of the boxes per year?.....
45. If insulated boats, how many cabins do they have?

| | No. of cabins |
|---|---|
| Boat 1 | |
| Boat 2 | |
| Boat 3 | |
| Boat 4 | |

46. What is the tonnage of ice carried on each collection trip?.....

| | Ice (tonnes) |
|---|---|
| Truck | |
| Boat | |

47. Source of ice

Factory truck = 1
Other (specify) = 2
.....

48. Price of ice per kg ..... *Convert to US $.*

**Fish collection and purchase**

| | Truck | Boat |
|---|---|---|
| No. of days out per trip | | |
| No. of trips a month | | |
| Distance travelled | | |
| Fuel used per trip - litres | (Diesel) | (Petrol) |
| Cost per litre (US$) | (Diesel) | (Petrol) |
| Average kgs of Nile perch purchased per trip | | |
| | | |

49. How many fishermen do you purchase Nile perch from at each landing site?

1.....

2.....

3.....

50. What is the average price of Nile perch per kg that you have given over the last week?

.....*Convert to US $.*

51. Do you offer credit to boat owners?

    Yes = 1
    No = 2

52. If yes, give details of nature of credit, how long it lasts for, conditions, etc.

    .....

    .....

53. Do you sell fishing gear to fishermen?

    Yes = 1
    No = 2

54. If yes, what do you sell to fishermen?

    Gill nets = 1
    Net accessories = 2
    Other = 3

55. When is fish paid for?

    On collection = 1
    After sale = 2
    Other (specify) = 3 .....

56. Who sets the price of fish given to fishermen

    Factory = 1
    Agent = 2
    Other (specify) = 3 .....

57. What are the months of maximum catch?
    *Code after collection.*

    .....

**Sale of fish**

58. Where do you sell the fish?

At the landing site = 1
To a factory = 2
Other (specify) = 3
.....

59. What is the average price of fish per kg you receive at the factory? Give average for past week.
.....*Convert to US $.*

60. Who sets the price of fish sold to factory?

Factory = 1
Agent = 2
Other (specify) = 3 .....

61. Is any of the fish you buy rejected by the factory?

Yes = 1
No = 2

62. If yes, how much on average? In kgs.....

63. What do you do with rejected fish?

Sell outside factory =1
Take to market =2
Dispose of =3
Other (specify) = 4

.....
.....

64. What is the average sale price of rejected fish? Per kg.....

**Earnings and taxes**

65. How much do you earn per month from the collector truck/boat business?

| | Earnings US$ |
|---|---|
| Truck | |
| Boat | |

66. What payments does the factory give you for being an agent?

Monthly payment = 1
Price per kg of Nile perch = 2
Other (specify_ = 3 .....

67. What is the amount of the payments? *Convert to US $.*

Monthly payment
.....

Price per kg of fish (average and range) .....

68. Do you pay a fish trading fee?

    Yes = 1
    No = 2

69. If yes, how much and to whom? *Convert to US $.*
    .....per year/month

    Paid to tenderer = 1
    Paid to BMU = 2
    Paid to government = 3
    Other (specify) = 4

    .....

70. What fees do you pay on landing collected fish? *Convert to US $.*

    .....per kg

71. How much do you pay per year for vessel registration and licence fees? *Convert to US $.*

    1.....

    2.....

    3.....

Note of current exchange rate:

US $1 =