

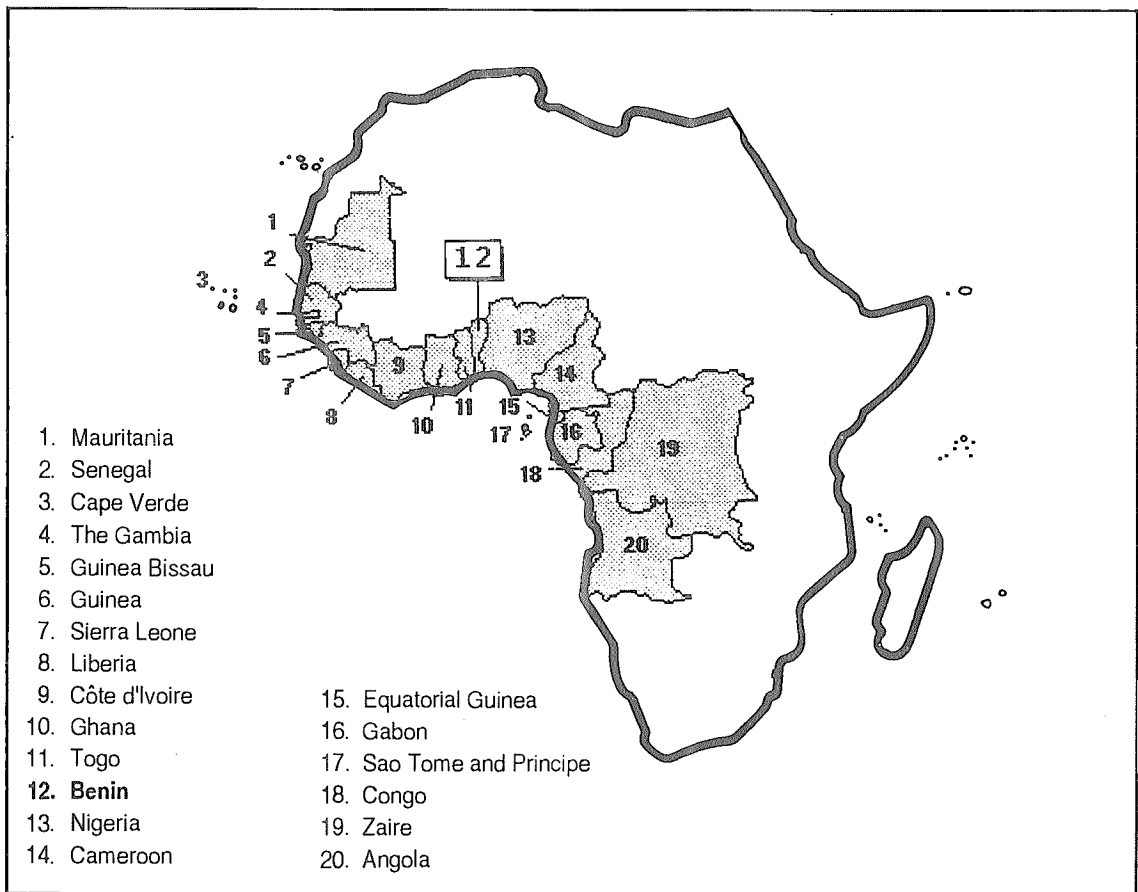
PROGRAMME FOR INTEGRATED DEVELOPMENT OF
ARTISANAL FISHERIES IN WEST AFRICA

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REPORT OF A SOCIO - ECONOMIC SURVEY
OF THE ARTISANAL FISHERIES
ALONG THE ATLANTIC COAST IN THE GAMBIA



DEPARTMENT OF INTERNATIONAL DEVELOPMENT COOPERATION OF DENMARK



FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

REPORT OF A
SOCIO-ECONOMIC SURVEY
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by

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Programme for Integrated Development
of Artisanal Fisheries in West
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With financial assistance from Denmark and in collaboration with the Republic of Benin, the Fisheries Department of FAO is implementing in West Africa a programme of small scale fisheries development, commonly called the IDAF Project. This programme is based upon an integrated approach involving production, processing and marketing of fish, and related activities ; it also involves an active participation of the target fishing communities.

This report is a working paper and the conclusions and recommendations are those considered appropriate at the time of preparation. The working papers have not necessarily been cleared for publication by the government (s) concerned nor by FAO. They may be modified in the light of further knowledge gained at subsequent stages of the Project and issued later in other series.

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TABLE OF CONTENTS

	Page:
0. INTRODUCTION	1
1. SHORT PRESENTATION OF THE ARTISANAL FISHERIES PROJECT	2
2. DESCRIPTION OF THE PROJECT VILLAGES	2
2.1 Population and ethnic groups	2
2.2 Housing conditions	2
2.3 Water supply	3
2.4 Electricity	3
2.5 Roads - transport	3
2.6 Health facilities	4
2.7 Markets	4
2.8 Main occupations	4
3. FISHERIES IN PROJECT AREA	5
3.1 Fishing methods	5
3.2 Number of Canoes - Types	5
3.3 Gear and Species caught	6
3.4 Fisheries Population	6
3.5 Fish Processing	7
3.6 Market for fish	8
3.7 Support Services	9
4. COMMUNITY FISHERIES CENTRES	10
4.1 Existing Facilities	10
4.2 Associations	11
4.3 Training Courses	11
4.4 Credit	12
4.5 Horticultural Activities	12
5. THE SOCIO-ECONOMIC SURVEY - METHODOLOGY	13
5.1 Pre-existing Socio-Economic Data	13
5.2 Training of the Enumerators	13
5.3 Defining the population to be surveyed	14
5.4 Sampling Techniques	17
5.5 Comments on the Questionnaire	19
5.6 Processing of the Data	19
6. THE SOCIO-ECONOMIC SURVEY - RESULTS	20
6.1 Analysis - Total Population Surveyed	20
6.2 Analysis - Professional Sub-Groups level	24
6.2.1 Boat owners	24
6.2.2 Fishermen	26
6.2.3 Fish smokers	27
6.2.4 Fish dryers	29
6.2.5 Fish mongers	30
6.2.6 "Others"	32
6.3 Analysis - Community Fisheries Centres level	33
7. CONCLUDING REMARKS AND RECOMMENDATIONS	36

ANNEXES

Page:

1.	Map of the coastal region	38
2.	Population, school attendance and ethnic groups in the project villages	39
3.	Fishing equipment portfolio in the project villages as of July-August 1991	40
4.	Species caught - the Atlantic coast	41
5.	Population involved in the fisheries sector 1991	42
6.	Facilities at the fisheries centres and their utilization rates, June 1990 - June 1991	49
7.	Number of interviews to be carried out in the survey, July - August 1991	52
8.	Difference between intended number of interviews and the actual number	53
9.	Questionnaire used in the survey	54
10.	Results from the survey, tables for the total population	62
11.	Results from the survey, tables for each professional sub-group	69
12.	Results from the survey, tables for the Community Fisheries Centres	95

FIGURES

1.	Population involved in the fisheries sector	7
2.	Total fisheries population - Professional groups	15
3.	Number of persons interviewed	18
4.	Nationalities - Total survey population	20
5.	Ethnic groups - Total survey population	21
6.	Literacy rates, time spent in the fisheries sector (full time, all year around), other occupations, desire to change occupation - Total survey population	22
7.	Property owned by the survey population	23
8.	Percentage of survey population using facilities at the Community Fisheries Centres	24
9.	Biggest problem encountered - Boat owners	25
10.	Average age - Professional groups	26
11.	Biggest problem encountered - Fishermen	26
12.	Average amount of fish smoked and dried per year	27
13.	Biggest problem encountered - Fish smokers	28
14.	Biggest problem encountered - Fish dryers	29
15.	Biggest problem encountered - Fish mongers	31
16.	Number of trips per year, kilos of fish traded per trip - Fish mongers	32
17.	Literacy rates, time spent in the fisheries sector (full time, all year round), other occupations, desire to change occupation - Community Fisheries Centres	35

0. INTRODUCTION

During the liaison officers meeting in Cotonou in May 1991, the representative from The Gambia, Mr Alhaji Jallow, senior fisheries officer, asked for the IDAF programme's assistance in carrying out a socio-economic impact study of the EEC Artisanal Fisheries Development Project (AFDP).

The EEC-funded project was the first major project in the artisanal sub-sector in The Gambia and was considered to be a good starting point to establish a model for evaluation of artisanal fisheries project in the country.

However, already at an early stage of IDAF's involvement it became clear that the lack of reliable background information and historical data made it next to impossible to carry out a "classical" impact study. Therefore, rather than to try to estimate the effects of the project in quantitative terms, the present study will constitute the base against which future development can be evaluated.

In order to establish this base a socio-economic field survey, where more than 300 persons involved in the fisheries sector were interviewed, was carried out in July - August 1991. As a necessary step in the preparation of the survey, the population involved in the fisheries sector in the project area was estimated, as was the size and the characteristic of the canoe fleet.

This report presents the results from this interview survey (Chapter 5). A relatively large part of the report has also been devoted to methodological questions (Chapter 4). It is believed that the "pragmatic" approach chosen in selecting sampling methods, where the scientific requirements are balanced against the practically implementable, is of general interest as well as the experience and the lessons learnt from involving 15 fisheries field assistants without any previous experience from field surveys in the study.

Background information about the fishing communities is provided in Chapter 1-3. Chapter 1 describes the project villages, the composition of their populations, infrastructural facilities, etc. Chapter 2 is devoted to the characteristics of the fisheries in the project area (fishing methods, fish processing, market outlets, etc). Chapter 3, finally, contains information about the six Fisheries Community Centres in the area, their facilities and their activities.

1. SHORT PRESENTATION OF THE ARTISANAL FISHERIES PROJECT

The first phase of the EEC-funded artisanal fisheries development project, implemented over a five year period beginning in 1979, aimed at increasing fish production and exports in order to increase local fish consumption and export revenue as well as creating employment opportunities and improving living standards in the project area.

An ice plant in Brikama and a fisheries centre complex in Gunjur (see map Annex 1) were completed in 1983. One year later the access roads (30.4 km) and a bridge to Tanji were in place.

The successful management of the Gunjur centre encouraged the formulation of a second, three-year phase (January 1988 - December 1990). During this period community fisheries centres were established at four sites, Brufut, Tanji, Sanyang and Kartong, and existing facilities at two other sites, Tujereng-Batokunku and Gunjur were improved. These six centres were expected to service almost 90% of the marine fishing community in The Gambia. Other infrastructural investments undertaken were the construction of a fish landing jetty at Tanji and the installation of windmill pumps in the project villages providing fresh water. Training activities were organized and credit provided to fishermen, processors and traders. A fuelwood plantation was also set up as were vegetable gardens for women involved in the fisheries sector. Due to unforeseen delays, the second phase was eventually extended to June 1991.

2. DESCRIPTION OF THE PROJECT VILLAGES

2.1 Population and Ethnic Groups

When the latest census in The Gambia took place in 1983, the total population in the project villages was 20,618 persons, ranging from 102 in Batokunku to 7,030 in Gunjur as can be seen in a table in Annex 2. Except for Batokunku all the villages have primary schools. Gunjur even has a post-primary school, a secondary technical school. The schools seem to be well attended, as the record in the table shows. The main ethnic groups are Mandinka, Serere and Jola, with a concentration of Ghanaian Fante and Fula in Brufut and Manjako and Wollof at Tanji, Tujereng and Gunjur respectively.

2.2 Housing Conditions

Most of the houses in these villages are made of mud brick material with thatched or corrugated iron sheet roofs. However, there has been a recent increase in the number of cement brick houses in the area. This reflects a relative improvement in

living standard created by factors beyond the scope of this survey. The Ghanaian settlement, "Ghana Town", also has cement brick houses replacing the cluster of simple mud brick houses that epitomize this beach side settlement. The compound set up in these villages provides the inhabitants with large fenced back yards where food crops are cultivated. The Gunjur fisheries centre has a modern flush toilet, and the other centres will soon have similar facilities for the fisherfolk and staff.

2.3 Water Supply

Kartong is the only village with tap water. It has a few taps on its streets for direct use by the villagers. In all the others, running water is confined to the fisheries centres where the water is supplied through windmill pumps. In the villages the water supply comes from wells dug in individual compounds. The water is of good quality and the supply is quite regular, since the area has a reliable water table.

2.4 Electricity

There is no electricity supply in this area. A few private generators are, however, available for use at ceremonies, feasts, and improvised commercial video film show halls. Some people also use generators in their homes for house lighting and television and video film watching. Private generators seem to be increasing in the area and that is another indicator of improvement in living standard. The Gunjur fisheries centre has a generator set that is used for lighting the centre for security and other purposes. The lights can be a good night navigational aid for the fishermen.

Most people in these villages depend on candle and kerosene lamps. Radios and radio cassette recorders are played on batteries and a few old car batteries - which are also used in some homes to operate television sets. Kerosene refrigerators are also used in the area.

2.5 Roads - Transport

Brufut, Tanji, Batokunku, Tujereng, and Sanyang were linked by a 26 kilometre laterite road built during the first phase of the EEC funded project. Sanyang village was linked to the fisheries centre by an eleven kilometre laterite road during the second phase of the project. These roads make the sites accessible throughout the year and they are further linked to Gunjur and Kartong by a well maintained laterite road that is also usable throughout the year.

The road improvements have attracted a lot of commercial and private vehicle traffic to and from these villages, and that has eased communication tremendously for the inhabitants who could not hitherto move conveniently in the area. The network and state

of the roads will make it easier for the government to improve the standard of the roads to more permanent bitumenized roads in the future. The improved roads and the increased amount of vehicles in the area is a direct effect of the artisanal fisheries development project.

2.6 Health Facilities

People in the project area depend for medical care on a health centre in Gunjur, a dispensary in Brufut, and primary health care centres in Tujereng, Sanyang, Kartong and Tanji. The latter also has a sub-dispensary which is open at least once a month. The health centre in Gunjur and the dispensary in Brufut have trained nurses and mid-wives, and the primary health care centres have health workers and trained birth attendants (see Annex 2). The health centre and dispensary provide curative and preventive medicine, as well as immunization and ante-natal care. The health centres also provide personnel who assist in health related aspects of the fisheries field assistants' extension services in the area.

2.7 Markets

Except for Batokunku, all the villages have markets. Most of them have roofed marked structures with cement stalls. These stalls are mostly used by women who sell fruits, vegetables, rice, cooking oil, and other food ingredients. Some of the markets operate only in the morning because the sellers also have domestic and/or farm or garden work to do.

Each village has at least one shop providing goods for basic household needs (sugar, rice, cooking oil, kerosene for lamps, tin milk, a few clothes etc.). These shops are mostly run by men who are mainly Mauritians and Fulas.

2.8 Main Occupations

The main occupations in the project villages are crop farming and fishing. In spite of the previous drought years, most of the inhabitants are still crop farmers. Sorghum, millet, maize and groundnuts are the most important cash crops in the area.

However, an increasing number of people, especially youths, are being recruited into fishing. Some are being trained at Brufut, Tanji, Sanyang, and Kartong within the Fisheries Department's training programme for fishermen. This is in line with the government's commitment to balance the disparity in number between the Senegalese and Gambian fishermen in the artisanal fisheries sub-sector. The results have been encouraging and the facilities provided have attracted Gambian fisherfolk, some of whom up to now had been farmers. Agriculture will, however, remain the main rural occupation for a long time to come.

3. FISHERIES IN THE PROJECT AREA

3.1. Fishing Methods

The fisheries in the project area is mainly marine. The fishermen are engaged in encircling gill netting (surround gill netting), bottom gill netting, drift netting, longlining, and cast netting. The fishermen go out mostly in the morning to fish for bonga (a pelagic fish) with the encircling gill nets and to collect the bottom gill nets set overnight. The drift net fishermen go out at night and return very early in the morning. The hook and line fishermen go out in the afternoon, while the cast net fishermen are more active during calm sea.

The bottom gill nets are used in all the villages surveyed. The largest group is to be found at Brufut (77 canoes), with Gunjur following closely thereafter with over 60 operators. The other centres have less than ten bottom gill net canoes each. Tanji has the highest number of surround net bonga canoes (48) while Gunjur, Sanyang, Brufut and Kartong have 32, 4, 2, and 1 canoe respectively. Drift net fishing is done mainly by Tanji fishermen. Hook and line fishing is concentrated to the Sanyang landing site, but a few fishermen at Brufut and Gunjur centres also do it. Cast net fishing is mainly practised at Brufut.

3.2. Number of Canoes - Types

During the survey 305 planked dug out canoes were recorded in the area (see table in Annex 3). Brufut had 79 motorized and five unmotorized canoes, Tanji had 66 motorized and no unmotorized, Batokunku/Tujereng two motorized, Sanyang eleven motorized and 35 unmotorized, Gunjur 97 motorized and eight unmotorized, and Kartong only two motorized canoes. These canoes are locally constructed, usually by boatbuilders at the centres, from a dug out tree trunk, which is planked on the sides with red wood. Recently a trend towards the use of white wood, considered to be more stable in the ocean waters, has been noticed.

Of the recorded canoes 84 per cent were motorized. The encircling (surround) gill net canoes use at least a 25 HP outboard engine, some also use the faster 40 HP out board engines. The most common brand of engines is YAMAHA. Recently a 27 HP YANMAR diesel outboard engine was introduced through the Fisheries Department's fishermen training programme at Tanji. This engine is more fuel efficient than the commonly used YAMAHA engines according to training trials. The bottom gill net canoes operate mostly with 8 HP YAMAHA outboard engines, even though there are a few 15 HP SUZUKI outboard engines in the fishery. The spare parts for the engines are readily available at the engine dealer shops or through private entrepreneurs who can import easily at duty free costs.

3.3. Gear Used and Species Caught

According to data compiled during the survey, there are 87 surround gill nets, 158 bottom gill nets, 12 drift nets, 45 hook and line gear, and 24 cast nets in the area (see Annex 3). The surround gill nets are used mainly for bonga fishing, but they also get by-catches of mackerel, shine nose, and bobo croakers (Joto). The drift nets catch a lot of barracuda and crevalle jacks (sacca). The cast net fishermen catch mainly mullets that frequent the shallow coastal areas. The hook and line gear is used for the demersal species. Most of the demersal species are caught with the bottom gill net gear; but on a selective basis that depends on mesh sizes and gear depth. In Annex 4 a list of the species caught in the area can be found.

As for the snails, they are landed in larger quantities by fishermen who chase trawlers which get a lot of snails in the trawl nets. Small by-catch quantities are also landed by the artisanal fishermen who operate bottom gill nets and lobster nets.

In spite of the improved efficiency of the gears with the introduction of better nets, the catch still fluctuate seasonally. This is related to hydrological conditions and the migratory habit of bonga.

3.4. Fisheries Population

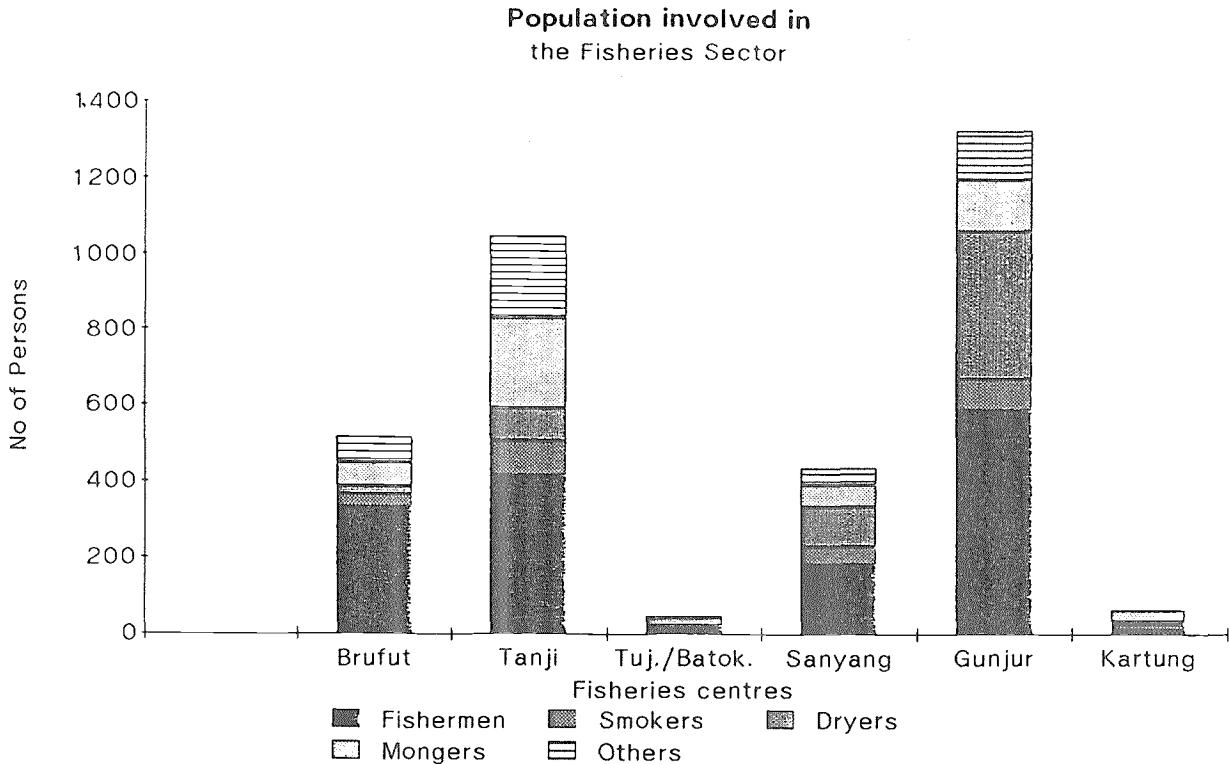
A survey of the population presently involved in the fisheries sector was conducted prior to the commencement of the socio-economic survey and the results for the whole area and for each centre are presented in Annex 5. It should be pointed out that the fisheries centres, from Brufut in the Kombo North District to Kartong in the Kombo South District, are covering 100% of the fisheries population in the area. A further discussion on how the figures were established can be found in Chapter 5.3.

In total 3,439 persons are involved in the fisheries sector in the area, of which 2,367 are men and 1,072 women. Of the total fisheries population 2,741 persons live in the project villages while 698 live elsewhere. Although their exact numbers have not yet been established, it is clear that foreigners, especially Senegalese and Ghanaians, continue to play an important role in the fisheries sector in The Gambia.

Brufut has an estimated 453 men and 63 women operating at its landing site. Of these operators 456 live in Brufut and 60 live in villages around Brufut, for example Madiana. Tanji has an estimated 1,051 people involved in the fisheries and related activities, 707 men and 344 women. The village lodges 768 and the rest live in villages around Tanji. The active population in Tujereng-Batokunku, in spite of the centre's fishing unit problems, is 48; 22 men and 26 women. Most of these people (44) live within the two villages and only four live elsewhere. In Sanyang there are 434 active participants in the fisheries

sector. These include 284 men and 150 women, the majority of whom live in Sanyang. Gunjur has 873 men and 454 women involved in its centre. Of these 1,140 live in Gunjur and 187 elsewhere. Kartong, being a newly opened fisheries centre, still has relatively few operators at its site (66 persons). The majority, 49, however, live in the village and 14 elsewhere - probably in Madina or other small villages between Gunjur and Kartong.

Figure: 1.



3.5. Fish Processing

The main processing activities in the area are smoking and drying. Traditionally the men dominated the smoking activities at the landing sites while the women mainly smoked small quantities of bonga and catfish in domestic ovens in the villages themselves.

The major smoking centres are Tanji, Gunjur and Kartong. But the smoking huts built at Brufut and Sanyang fisheries centres have encouraged smoking of catfish by the women, and some bonga in Sanyang by male smokers. The altona oven built at the Gunjur centre is used for the smoking of sharks and rays for export to the sub-region, especially Guinea-Conakry. Few traditional smoking houses with rhun palm leaf roofs still operate in the area because the newly built smoking houses can not keep all the smokers. The new houses are well built with cement and corrugated iron sheet roof, with modified chorkor ovens that are fuel efficient. The enclosed ovens reduce the fuelwood demand by 50 per cent, and their design makes the outbreak of fire less

likely.

The modified chorkor ovens are used by both men and women for the smoking of bonga, catfish, shark, and ray for the local and export markets. The smoked fish can keep for weeks because it is also well dried by the long exposure to the fire. The bonga is sometimes smoked five times, referred to by the local smokers as "five fires" in order to reduce the moisture content to a level that is suitable for the sometimes long storage periods before distribution. The level of post-harvest losses for the smoked products is still to be quantified.

Drying is practised in all the centres within the project area. Both traditional and improved racks are used. The dryers are mainly women and they use bonga, shark, rays, skates, catfish, snails, and whitefish like the law and longneck croakers that are landed spoiled from set gill nets. The most common method of drying is the fermenting, salting and drying process used for the production of the famous "guedj" - mainly used for seasoning. Recently, however, there has been a few cases of salting and drying only for the Senegalese market. The common fermenting, salting and drying process will surely run into problems when the preservation of fresh fish, especially at sea, is improved.

The Ghanaians at the "Ghana Town" settlement specialize in drying sharks and rays for export. These processors use only traditional racks that are constructed at the settlement and not on the beach. The scale of drying is, however, very large and impressive. Considering the heavy involvement of Ghanaians and women in drying, and the fact that drying is practised at all the centres, one can say that it is the most common fish processing method in the area. But smoking is, however, economically more important.

3.6. Market for Fish

A significant amount of the fish caught in this area is sold fresh through middlemen or directly at the beach. The fresh whitefish and bonga is sold on the major markets in Brikama, Serrekunda, Bakau, and Banjul. The fish is transported by fishmongers by bicycle, mobyette, pick-up truck, lorry, and public transport that now frequents the sites. Some refrigerated trucks owned by relatively rich fish mongers are also used to transport the fish from major centres like Gunjur and Tanji. Some of these trucks carry ice from the Brikama ice plant for use of their owners and for sale to other fish mongers who store their fish in improvised insulated boxes at the beach. Old deep freezers are commonly used for the storage of iced fish at the centres. These will, however, soon be phased out with fibreglass insulated containers that have been provided through the project. Sixty-six boxes are available for distribution in the area and a rentability study is being carried out before final delivery to the individual centre management committees. It is also worth mentioning that there is a strong link between the artisanal

fresh fish production and the industrial companies who buy a lot of whitefish, especially sole fish, for further processing for export.

Concerning the bonga, most of it is smoked by numerous male and female smokers. The women sell their smoked bonga and catfish to consumers around the villages and in the major market areas of Serrekunda and Banjul. The smoked catfish market is ever increasing, especially now when requests for export are forthcoming. The smoked skates, rays and sharks are mainly for export through middlemen from Guinea-Conakry and other neighbouring West African countries.

The men sell their smoked bonga mostly to middlemen who transport the fish to far away markets in the provinces, such as Basse, and to neighbouring countries like Guinea-Conakry and Sierra Leone. The distant market products are usually skinned and packed in large baskets or bag material to maximize the quantity to be transported. The products are usually well dried and they can last for months.

The fermented, salted and dried fish is sold locally in almost all markets as well as to Senegal where the demand for the "guedj" is equally high. The women dryers usually transport these products to the local daily markets or to weekly markets in major marketing centres. The demand is increasing and the prices seem quite attractive. The dried sharks and rays are mainly for export to Ghana. At the moment there is only a very limited demand for these products in The Gambia.

3.7. Support Services

There is an equipped fisheries mechanic workshop at Gunjur fisheries centre with three trained mechanics who repair and maintain outboard engines not only at Gunjur but also at the Kartong and Sanyang centres. One of the mechanics will soon be moved to Sanyang permanently. The mechanic at Tanji takes care of the outboard engines at Tanji and Tujereng-Batokunku centres. There is also a mechanic stationed at Brufut.

Spare parts may not be readily available in the village shops, but they are available in dealer shops in Serrekunda and Banjul. Private individuals can also order and sell spare parts through the trade liberalization and duty free on fishing equipment concessionary facilities. The Fisheries Department also gets, through technical assistance and grant aid, spare parts for sale to the fishermen at subsidized prices. The almost uniform use of YAMAHA outboard engines facilitates the provision of spare parts. In future the centre management committees and private dealers will be encouraged to set up spare part shops at the respective centres.

The canoes are always built locally, usually on the site. All the major centres in the area have a boat builder who constructs planked dug-out canoes on request.

The nets are available in private dealer stores in Banjul, which is about twenty minutes drive from the area. The nets are also imported duty free, as part of the government's incentive programme to the fisheries sector, initiated in 1985. The Fisheries Department also gets fishing nets through grant aid and technical assistance for sale to the fishermen. The floats, sinkers and other complementary materials are also locally available.

The Fisheries Department has ensured that each of the fisheries centres in the area has at least one trained fisheries extension agent who assists the fishermen and processors, as well as the operators' selected management committee, in their operations and centre management. These agents have radio communication sets that link them with the headquarters for speedy action and other contact between field and main station.

Finally, since August 1990, the government has approved the purchase and sale of duty free pre-mixed fuel to artisanal fishermen nation wide, including foreign fishermen. The facility was immediately offered to the area through private suppliers who have set up supply depots at all the centres in the project area, except at Tujereng-Batokunku. The fishermen are required to register with the centre fisheries field assistants who issue photograph attached identification cards. These cards are a pre-requisite for purchasing the fuel and the depots are supplied with log sheets that are filled by the supplier on purchase and verified by the fisheries field assistant. The log sheets are compiled at the end of each allocation period and the entries reconciled with the customs delivery returns to check for any abuse of the facility.

4. COMMUNITY FISHERIES CENTRES

4.1. Existing Facilities

Each of the fisheries centres has a windmill pump installed for pumping fresh water from wells dug within the project. The windmill pump in Kartong is at present mainly used for supply of fresh water to the village. Plans have been drawn up to supply a water pump and a tank to the fisheries centre. The water tank built during the first phase of the project at Gunjur was considered to be sufficient also for the second phase. In all the other villages windmill pumps and water tanks were installed.

Market structures with cement tables and water taps for fish cleaning were constructed at each of the centres, except Gunjur and Tujereng-Batokunku. Complementary items for an improved fresh fish handling, boxes and fibreglass insulated containers, will soon be delivered to all the centres.

Fire resistant fish smoking houses and fuel efficient modified chorkor ovens have been built in all the villages except Tujereng-Batokunku. Almost all the houses are now being used and

the users seem to be satisfied with their design and with the ovens. Improved drying racks have been constructed in Kartong, Sanyang, Tanji, and Brufut and are at present heavily used. Except for Tanji with ten, all the others have 15 racks. Dried fish stores, 16 in Brufut and eight in Sanyang, Tanji and Kartong respectively, have also been provided.

Gear stores for storage of outboard engines and fishing nets have also been established. Sanyang and Kartong have 20 stores each while Tanji and Brufut have 30 each. Gunjur had already several from the first phase of the project and has since then financed the construction of additional stores with rental fees from the old ones. In view of the extremely low activity at the Tujereng-Batokunku centre this kind of facility was given a low priority.

Safe deposit boxes have now been supplied to all the centres, except Tujereng-Batokunku, and efforts are continuing to convince the operators to save money at the centres. This facility, it is hoped, will introduce thrift in the fishing communities in the area.

Each centre also has a workshop, an office for the staff, a radio communication set and a covered area for the repair and maintenance of fishing nets. Tanji also has an elaborate landing jetty for the relatively large surround gill net canoes that frequent the centre.

Tables showing the utilization rates for some of the facilities mentioned above are provided in Annex 6.

4.2. Associations

Almost all the centres have operators' associations. The main ones are the fishermen's society, the fish dryers association, fish smokers association and fish mongers association. The female smokers, dryers, mongers and "dunilaas" (fish carriers) have organized themselves in separate women's groups (Kafos). The exact membership of the different associations is still to be compiled. The number of women involved in the vegetable garden group (Kafo) was 139 (as of May 1991).

4.3. Training Courses

Apart from the fishermen's training programme at Brufut, Tanji, Sanyang and Kartong, the main training programme in the area is the literacy and numeracy classes. These include business management skills classes for the operators, especially fish smokers and dryers.

A one week training programme on preservation of fresh fish was organized at Gunjur for fishermen and fish mongers by the EEC funded regional programme based in Abidjan. About twenty operators from the project villages and the inland artisanal

fisheries development project villages attended. Fish handling from capture to marketing was addressed and demonstrations on sanitation and insulated container storage were offered.

4.4. Credit

A Credit Unit at the Department of Fisheries was established in February 1988 in order to administer a revolving loan fund for operators in the project area - fishermen, fish smokers, dryers and mongers.

The first disbursement of loans to the project area took place in November 1989. The fish catching sector received 47% of the total value of the funds. Tanji and Tujereng-Batokunku were the centres that benefitted the most. The loan repayment rate was for a long time on an average of about 40% but it has since improved to 52%.

The credit component, which suffered from certain shortcomings, in particular in the disbursement system, has been temporarily suspended while a credit specialist report is being reviewed.

4.5. Horticultural Activities

The horticulture component was introduced to use excess water from the project wells. Female fish processors work in the irrigated gardens before the boats land the fish. The vegetables produced are expected to improve the level of food production and the nutritional status of the project villages.

The garden sites in Tujereng-Batokunku, Sanyang and Kartong are now ready for operation, while the gardens in Brufut and Tanji are already fully utilized. In fact the women at these two sites want them to be expanded. The Tujereng-Batokunku well had saline water intrusion which made the water unsuitable for gardening. Efforts are continuing to dig up another well at the site.

Garden committees have been selected at the active centres and the members are being trained in management of the gardens. Information on the marketing of the garden products is being collected in order to compile a useful garden business management programme. As of May 1991 about 140 women were involved in the horticulture component of the project.

5. THE SOCIO-ECONOMIC SURVEY - METHODOLOGY

5.1 Pre-existing Socio-Economic Data

The existence and reliability of background information and historical data on certain key-variables are crucial for the design of the socio-economic study to be undertaken. Scattered and unreliable data severely limits the scope for comparisons with the past and the possibility to carry out a "classical" impact study.

Unfortunately, however, it is rare to find all the information required, and the EEC-project area was not an exception.

The socio-economic information that could be found in the Project Dossier was in many cases not sourced and of unknown validity. No monitoring and evaluation system had been in place to compare actual progress with the projected targets, although the original proposal of the project listed a whole range of quantitative performance indicators for project success. The VSOs (volunteers from the Voluntary Service Overseas) and Field Assistants only initially recorded certain socio-economic factors in the villages.

The Fisheries Department collects fisheries data on catch and effort but it is acknowledged by the department itself as being rather unreliable. Trade flows of processed fish from Gunjur and Brufut fisheries centres have been recorded, but unfortunately only for a limited time. Thus those two sources of information on the level of the fish production and its development are not suitable as a basis for comparisons with the past. Nor can the canoe frame-surveys, undertaken by the fisheries department, be used for the purpose of showing the development of the artisanal fisheries in the area.

In view of the general lack of data, it was decided to modify the objectives of the study. In stead of estimating the impact of the project in quantitative terms, through the comparison of certain key-variables before and after implementation of the project, the results from the present study will constitute the base against which future developments can be evaluated.

5.2 Training of the Enumerators

Given the lack of written information, the contribution from the staff at the Fisheries Department in Banjul and the project's field personnel (9 fisheries field assistants and 6 female counterparts, henceforth called field assistants) at the six Fisheries Community Centres was crucial for the outcome of the study. Fortunately enough, all 15 field assistants have been based at their respective fisheries centres since the beginning of the project. Many of them were also born and/or have been living in the project area for a long time. Their knowledge about

the fisheries population was invaluable in, for instance, the selection of the people to be interviewed.

The field assistants also had crucial roles to fulfil as interviewers. However, while being well experienced in the field of fisheries and the fisheries community, the field assistants did not have any experience of field surveys at all. Therefore it was imperative to have a basic training course for the prospective enumerators.

IDAF agreed to give technical assistance to such an exercise and a two-days workshop was held in Banjul in June for those to be involved in the survey. The course covered topics like, the aim and purposes of socio-economic surveys, data collection methods, interviewing techniques, the use of questionnaires, sampling methods, etc.

However, it was a lot of ground to be covered and the educational background of the participants as well as their practical experience and their capacities to absorb the information were quite varied. Therefore, some of the topics were later on re-capitulated on an individual level in connection with the implementation of the actual survey.

After the completion of the interviews and after having compiled and processed the data a second workshop was held in Banjul in October. The objective was then to get feedback from those who had carried out the interviews and discuss problems and possible solutions to difficult matters that had been encountered during the course of the survey. Certain ambiguities about how to interpret some of the completed forms were also sorted out. Finally, the results from the survey were discussed as well as possible interpretations of the outcome. Thanks to the second follow-up meeting suggestions and valuable ideas for future surveys were not lost.

5.3 Defining the Population to be Surveyed

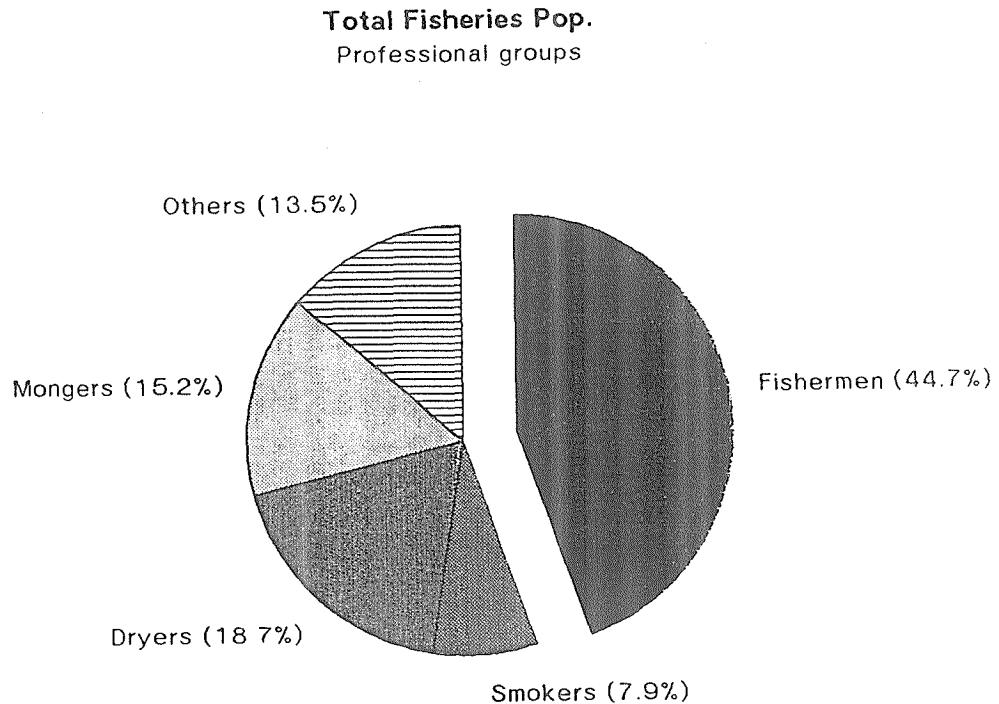
It is most probable that the EEC-fisheries project had had a positive impact on the population outside the fishing community and possibly even outside the project area. Examples of impacts on the former group is the provision of fresh water to the inhabitants of Kartong, the constructions of feeder roads, etc. The latter group might have got access to increased and more reliable supplies of fish, fish of better quality, etc. Those effects are, given the state of fish production data, however difficult to measure.

Taking into account not only the lack of historical data but also the limited financial and human resources it was decided that the survey should focus on the people directly involved in the artisanal fisheries sector in the project area.

In a preparatory study for the first phase of the EEC-funded project, the number of persons involved in the fisheries in the

area was estimated. It is not, however, known how or by whom those figures had been established. After some modifications the format used in the old "census" was adapted by the present study.

Figure 2:



In Annex 5 tables can be found showing, for each centre, the population presently involved in the fisheries divided into six professional sub-groups;

- A. Boat owners
- B. Fishermen (crew members)
- C. Fish smokers
- D. Fish dryers
- E. Fish mongers (divided into three sub-groups)
- F. "Others" (women carrying fish, fish smoking assistants, dryer assistants, monger assistants, gutters, boat builders and their assistants).

For each professional group the sex and domicile (whether living inside or outside the project villages) have been noted.

The figures in Annex 5 must, however, be treated with caution. The limited timeframe made it necessary to carry out this "census" over a few weeks, although it would have been preferable to have data from both the dry and the rainy season. Thus, the figures are a combination of two different approaches: actual counting of fisherfolk (divided into the six professional sub-

groups A-F) at the different beaches in June 1991 and the field assistants' estimations of the maximum amount of people occupied by fishing or in fisheries related activities at the beaches over the course of one year (July 1990 - June 1991). Despite the field assistant's familiarity with the situation at "their" beaches this pragmatic blend of approaches pose certain problems of which the following should be mentioned:

- Seasonal variations. At some centres the fisheries undergo substantial seasonal variations and the population involved in the fisheries varies accordingly. The variations are particularly noticeable at the fisheries centres with a high proportion of Senegalese fisherfolk who often return to their country of origin for two-three months per year during the rainy season.
- Long term changes in the population pattern. It is sometimes difficult to separate the seasonal, short term variations from long term ones. Some fisheries centres are on decline while others are expanding. Effort was made not to double-count fishermen and fishmongers who had moved definitively from one centre to another.
- Persons frequenting more than one centre at a time. For some categories of the fisheries population double-counting is almost unavoidable. This is especially true for fishmongers that often frequent more than one centre. Some fishermen also find it convenient to land their catch at more than one centre. However, thanks to the field assistants' profound knowledge of the whereabouts of the fishermen this error can, at least for this particular group, be avoided.
- Lack of information concerning some "marginal" groups in the fishing community. Whereas the information and knowledge about the fishermen is quite wide ranging, the information about the population under the headline "Others" (women carrying fish, fish smoking assistants, dryer assistants, monger assistants, gutters, boat builders and their assistants) is much more limited. The estimated number of persons in this group should be handled with particular care.
- Persons belonging to more than one professional sub-group (A-F). It must be kept in mind that it is quite common, particularly among the women, to combine different activities, like smoking and selling fish. Thus whether these women are defined as smokers or mongers is quite arbitrary. The important thing, though, is that they are not put in both categories.

All those comments and reservations taken together lead to the conclusion that the figures in Annex 5 at best can give fairly accurate indications about the size of the total population involved in the fisheries sector in the project area. In other cases the estimations might be quite unreliable but they are the

best to be found at the moment. The tables should rather be seen, and have been used, as means for choosing sampling techniques and selecting people to be interviewed than an end in itself.

5.4 Sampling Techniques

To select persons for a survey in a Third World setting is often a question of weighting a method's advantages from a scientific point of view against what is practically feasible. In this study the experience and the personal knowledge of the enumerators often compensated the lack of written material (census lists, etc.).

The pragmatic way in which the population "census" was conducted was, by necessity, followed by an equally pragmatic approach concerning the selection of the people to interview.

As in the census, the population was divided into six different professional sub-groups (see 5.3). However, the information about the different segments of the population varied a lot, with the boat owners on the top of the "list" and dunilaas, gutters etc. at the bottom. For those groups where complete lists of the population could be established fewer persons were selected for interviews than in those groups in which no lists could be established and consequently no random sampling or probability sampling could be conducted.

Thanks to the system with registration cards for fishermen and the enumerators' personal knowledge complete lists of all the canoes in the area could be established. To select the boat owners and the fishermen for interviews a combination of stratified sampling and cluster sampling was used. That is to say, first the canoes were organized and divided into groups according to type of fisheries (surrounding gill nets, bottom gill nets, hook and lines, etc). 27 canoes were then randomly selected out of a total 305 canoes in the area. All crew members and boat owners associated with those 27 canoes were then interviewed. In this way a total of 95 boat owners and fishermen were interviewed.

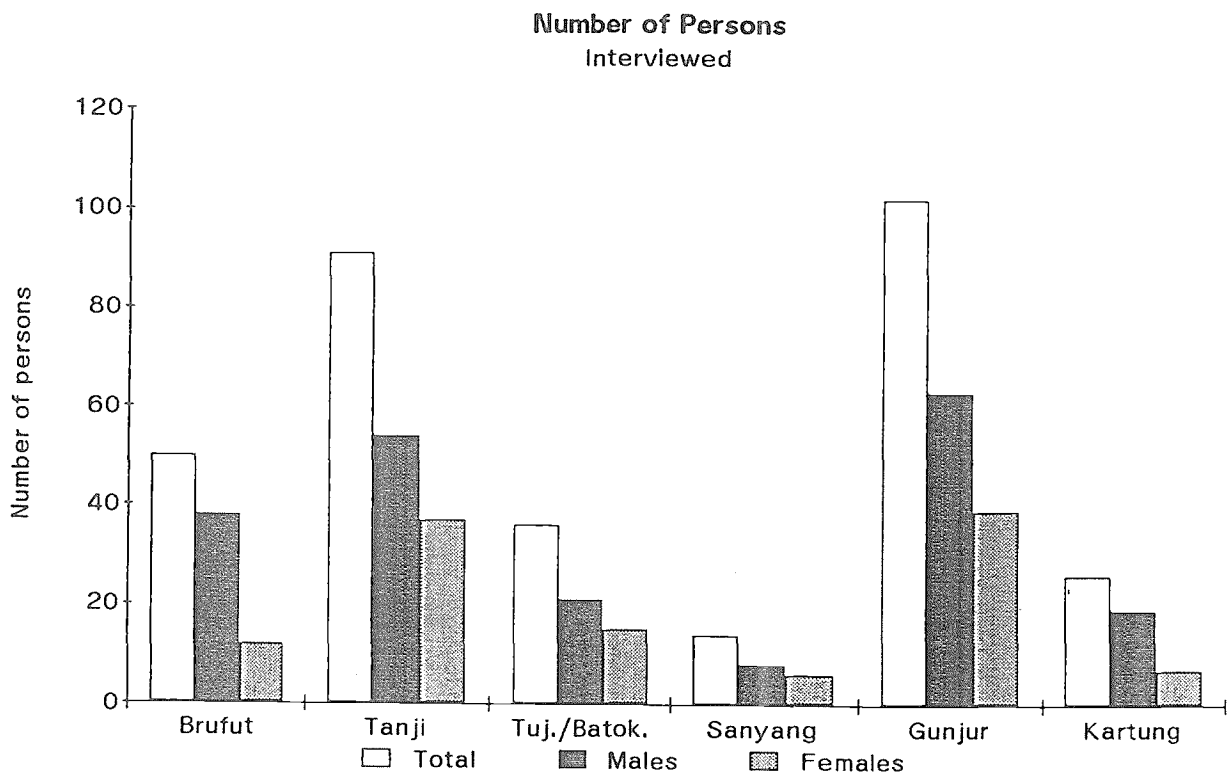
Complete lists of the fish dryers and fish smokers could, however, not always be established and a pragmatic approach where perfect random sampling was combined with non-probability sampling was applied. This is easiest exemplified by the way the fish smokers in Tanji were selected for interviews: At the centre a list of the male smokers could be produced from which 3 men were selected randomly. No such lists could, however, be established for the women partly because fewer than 20% of the women smoke their fish at the centre, the rest carrying the fish back to the village and smoke it in "domestic" ovens. Thus of the total number of six women that were to be selected five were picked out from the group smoking at home (with the intention of trying to get a set of women as "representative" as possible according to ethnic group, scale of smoking, etc.) while the one woman selected from the group smoking at the centre could be done

so randomly from a list over the women smoking at the centre. The same pragmatic approach was applied at Sanyang and Gunjur.

For the groups fish mongers and "others" ("dunilaas", assistants to fish smokers, fish dryers, fish mongers, boat builders, etc.) it was even more difficult to establish lists. It was, however, always possible to stratify the groups according to some general characteristics: people living in / outside the village, nationality, sex, etc., which are reflected in the final selection.

In the case of the smaller centres, (Tujereng-Batukunku, Kartong) and even at a rather big centre like Brufut, complete lists of the total fisheries population could be established and all people to be interviewed could be selected randomly. Together with the boat owners and fishermen, who were also selected randomly, that means that almost half of those interviewed had been selected randomly (see also table in Annex 7 showing the numbers of interviews to be carried out at each centre).

Figure 3:



In Annex 8 a table of the discrepancy between the intended number of interviews and the actual number carried out can be found. It can be seen that the discrepancy is particularly pronounced in the case of the fisheries centres in Sanyang and

Tanji, where many of the selected Senegalese fishermen were inaccessible during the survey period (which coincided with the rainy period when many Senegalese go back to their country of origin).

Only a few enumerators could report about people initially refusing to participate in the survey. After having explained the aim of the study all could be convinced to co-operate.

5.5 Comments on the Questionnaire

The questionnaire consists of three parts. The first is common for all and is devoted to personal information. The second part consists of profession-specific questions and is therefore different for each of the professional groups (A-F). The third part, finally, is again common to all containing questions related to the project's activities and the respondents' knowledge / utilization of them. The questionnaire can be found in Annex 9.

Based on the experiences from a series of test interviews the questionnaire was slightly modified. In most cases it was not as much a question of changing the questionnaire in order to enhance the understanding of the interviewed as to avoid misinterpretation by the interviewers themselves. To avoid unnecessary ambiguities and misunderstandings, guidelines to use the questionnaire were also prepared.

Despite all those precautions a few questions still gave rise to problems and misinterpretations. The second workshop for the enumerators, arranged after the interviews were completed, proved to be a good forum for discussing those matters. After these clarifications the data could be interpreted in a much more sensible way.

5.6 Processing of the data

Once the period of interviewing had come to an end, the questionnaires were compiled and a basic processing of the raw data was carried out. Unsophisticated summary tables were filled in at each fisheries centre.

Further and more complicated processing of the data was carried out at the IDAF headquarters in Cotonou, where a micro computer and a data base programme (using dBSAE III plus) proved to be invaluable in processing the 319 completed questionnaires. The major advantage with this type of programme is the speed and the easiness with which an extensive data material can be organized and rearranged. Thus different segments of the population can be analyzed according to different variables of interest. The results of these efforts can be found in Chapter 6, but above all in the tables in Annex 10, 11 and 12.

6. THE SOCIO-ECONOMIC SURVEY - RESULTS

The findings from the survey have been organized in three sections: the first showing the results for the survey population as a whole, the second presenting the results on a professional sub-group level, the third and last section is presenting the characteristic of each of the six fisheries centres. To the three sections (6.1 - 6.3), three annexes correspond (Annex 10 - 12) showing the data compiled in tables.

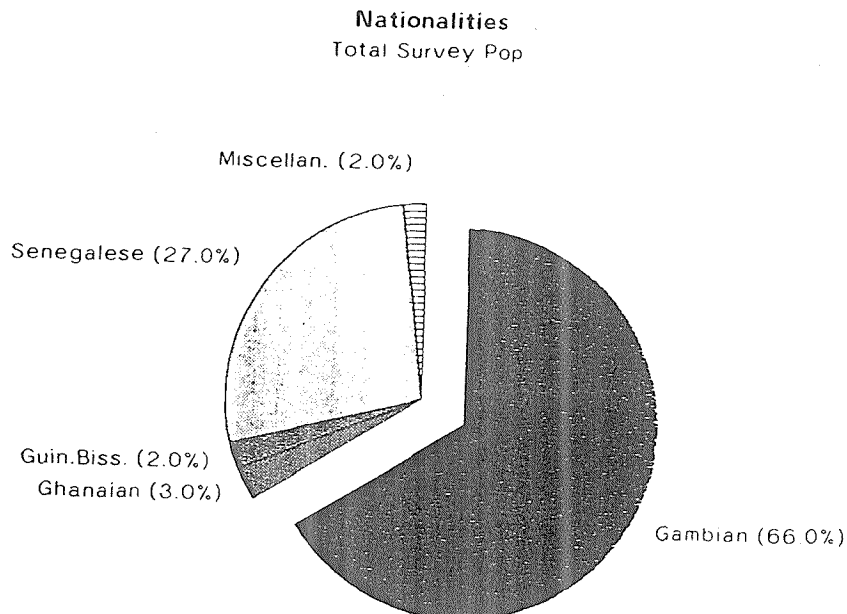
6.1 Analysis - Total population surveyed

The average age of the interviewed is 34 years, with a negligible difference between the sexes (Annex 10, table 1). Although the respondents seldom know their exact age the final estimations done by the enumerators seem to be fairly good.

The data concerning the average size of the household (defined as the number of persons sharing the same bowl) should be treated with some caution. Many respondents did not like to give the exact number of persons in the household feeling embarrassed over their numerous families, superstitions, etc. The enumerators' personal knowledge of the situation could, however, often settle the cases right again. The women interviewed had on average larger households (eleven persons) than the men (eight persons - table 1). This difference between the sexes can be explained by the high number of one-man households in the fishermen group. Not one single woman stated that she lived alone.

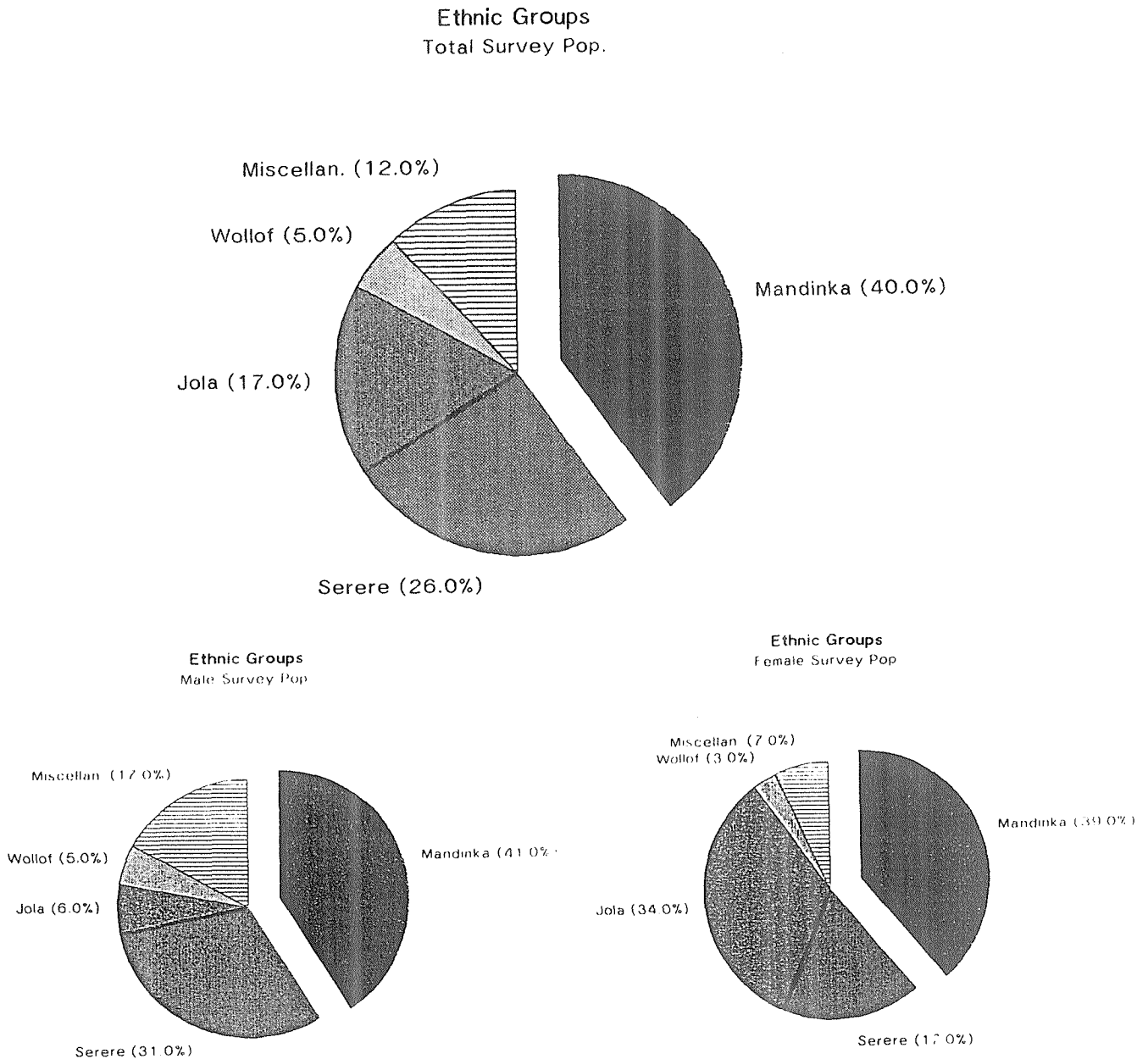
The Gambian nationals count for two thirds of the interviewed and the Senegalese one forth. Ghanaians, Malians and Guinea Bissauans are other national groups of lesser importance. In table 3 it can be seen that the Senegalese use the fisheries centres' facilities to a higher degree than any other group, but that the Gambians dominate the courses that the centres have arranged.

Figure 4:



The interviewed population is dominated by the Mandinkas. For men the Serere is another important ethnic group, while for the women the second most important group is the Jola. Those three ethnic groups constitute together more than 80% of the population interviewed (table 2).

Figure 5:



As could be expected, the men have a higher literacy rate (33%) than the women (only 11%). The rate for the total population is 25% which incidentally is exactly the same figure as the World Bank gives for the whole population in The Gambia. The literacy rate for the surveyed men, however, is higher while

the rate for women is lower than the World Bank's figures. As can be seen in table 4 the literacy rates also vary between the different national groups, the Senegalese and above all the Ghanaians being generally more literate than the Gambians.

When it comes to how much time the respondent spent working in the fisheries sector, the differences between the sexes remain significant. 94% of the men against 67% of the women work full time, while 83% of the men but only half of the women are active in the fisheries sector all year around. Likewise, half of the women interviewed are involved in other side-activities while only one man out of five has more than one occupation (table 5). Farming and gardening are the two most important secondary occupations, with one fifth of the interviewed being active in the agricultural sector (table 7).

The women show a high desire to change occupations, one third of them wanting to do something else, while only one man out of five share the same wish. In general the Gambians are less happy with their situation, with 27% of them wanting to change occupation, than the Senegalese (24%) and the Ghanaians (10%). Petty trading and commerce are the occupations that attract most of the unsatisfied fisherfolk. Only 4% of all the interviewed and 15% of those who want to change occupation expressed any interest in other occupations in the fisheries sector.

Figure 6:

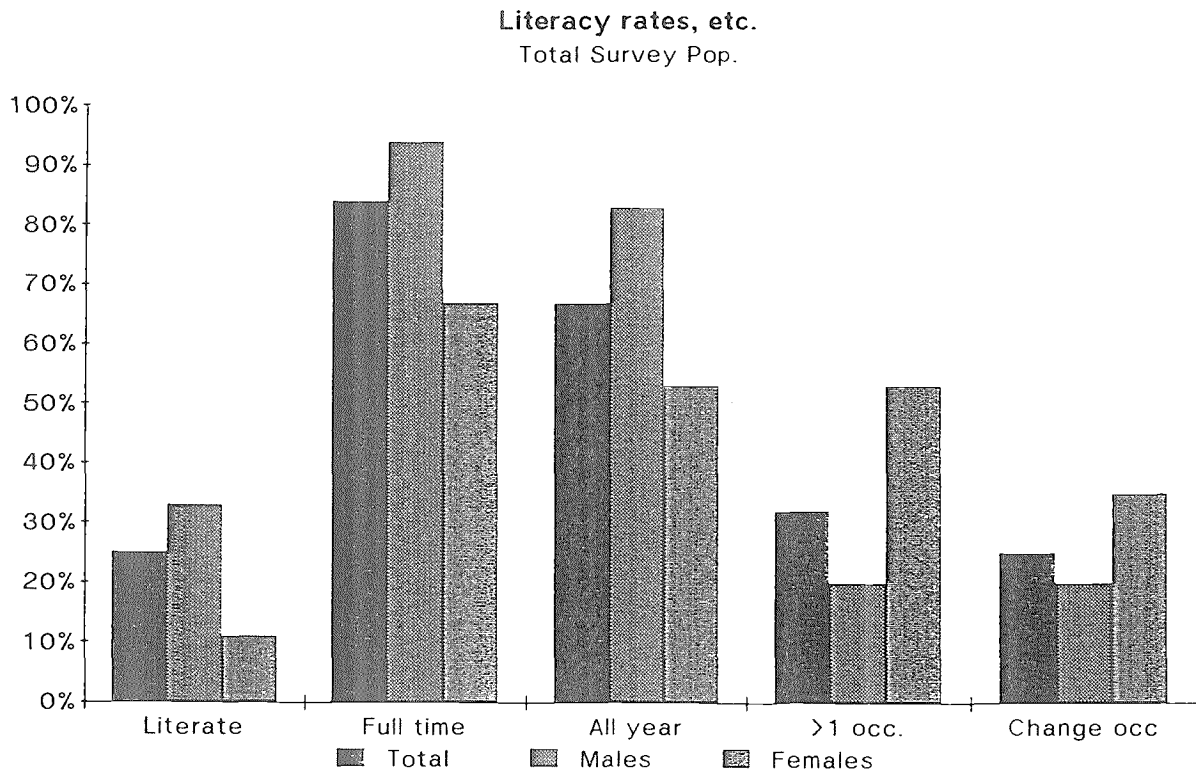
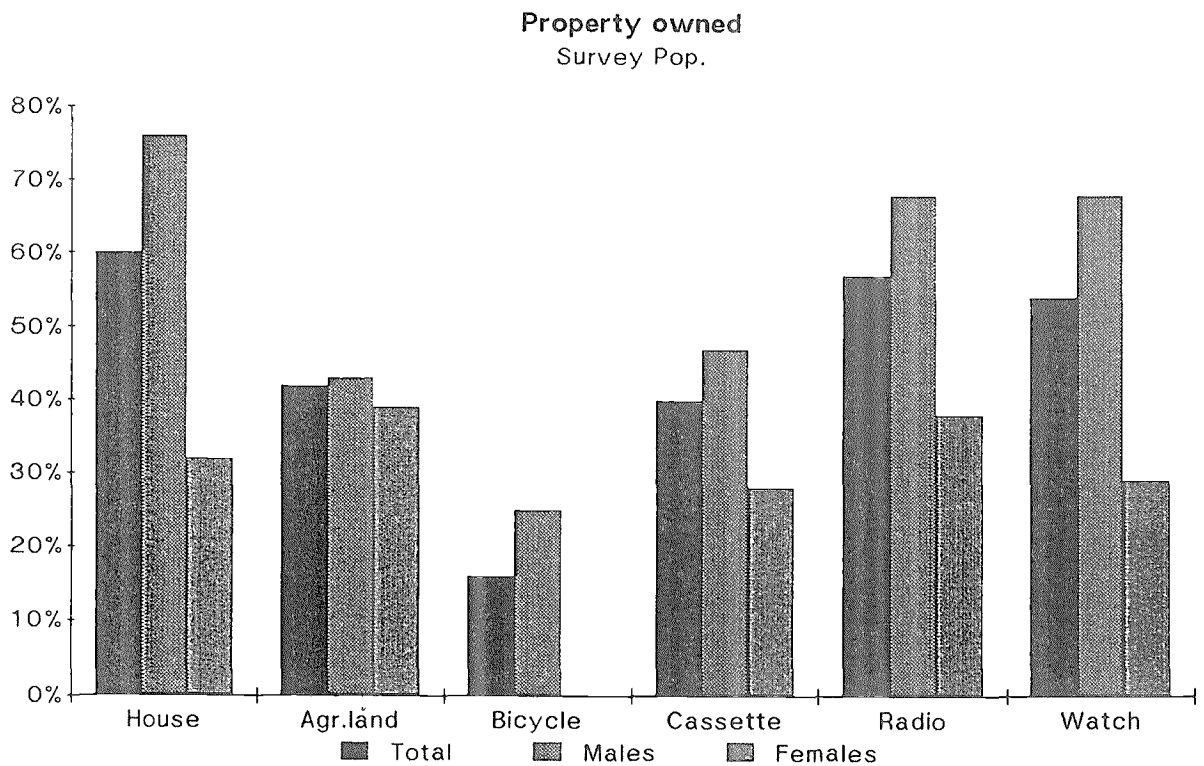


Table 6 shows property owned by the respondents, from houses down to wrist-watches. In general the men have more property than the women. Only in the case of agricultural land the figures do not show such a marked difference between the sexes. This is explained by the fact that many women own small plots of land where they are producing horticultural products. It must, however, be pointed out that sometimes it is difficult to decide what is owned by whom in the family. It can be suspected that the figures for the women in general is somewhat inflated due to a tendency to count the husband's property as the wife's.

Figure 7:



Tables 9-11 show the number of interviewed using the fisheries centres' facilities and attending their courses. It can be seen that even though the men in general use more facilities than the women, the latter have profited more from the courses.

Figure 8:

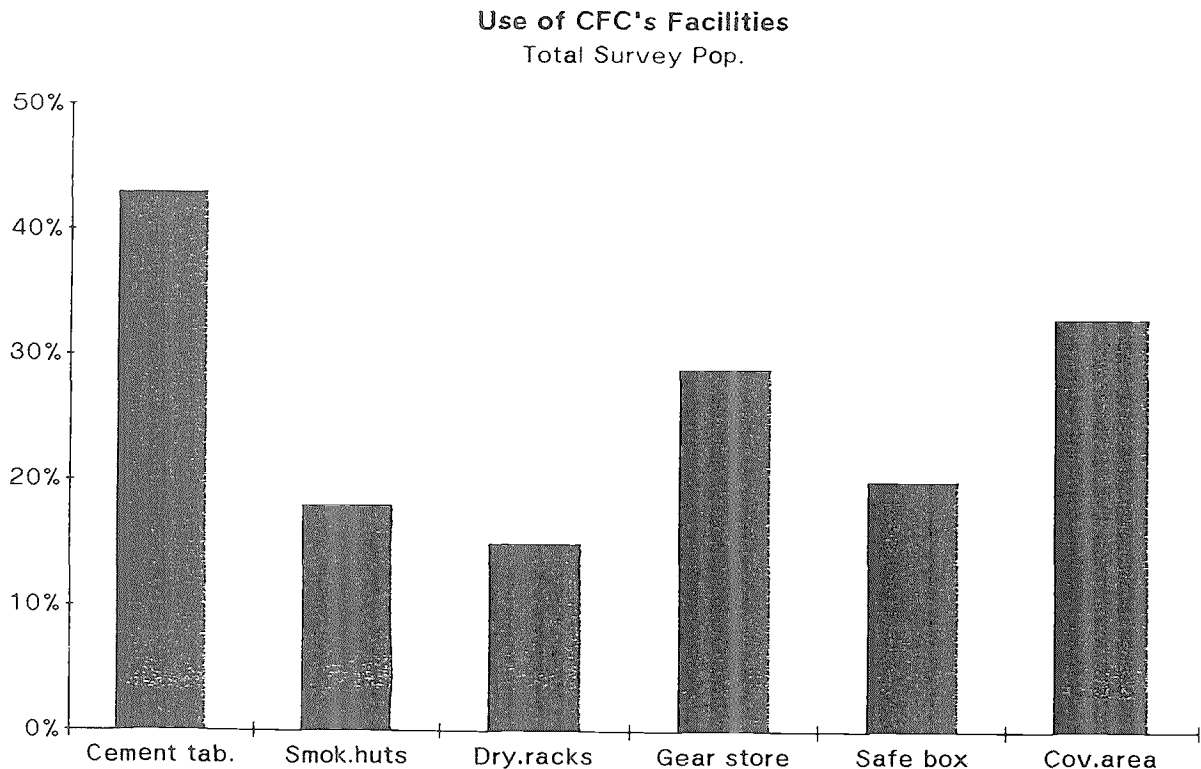


Table 12 shows the number of respondents who are members in professional specific associations, women kafos, etc. It should be noted though that except for the women kafos many of the associations are not particularly active at the moment and some have not functioned for years. Thus the number of persons being active members in those groups are much lower than the table gives impression of. A rather low number of the interviewed had profited from the project's credit scheme (table 13).

The project has provided water for domestic purposes in the Kartong village, where 100% of the interviewed had access to fresh water (table 14). The water at the fisheries centres is above all providing the fisherfolk with drinking water (64% of the interviewed) and used for cleaning the fish (40%).

6.2 Analysis - Professional Sub-group Level

6.2.1 Boat owners

All the boat owners interviewed were fishing themselves, going

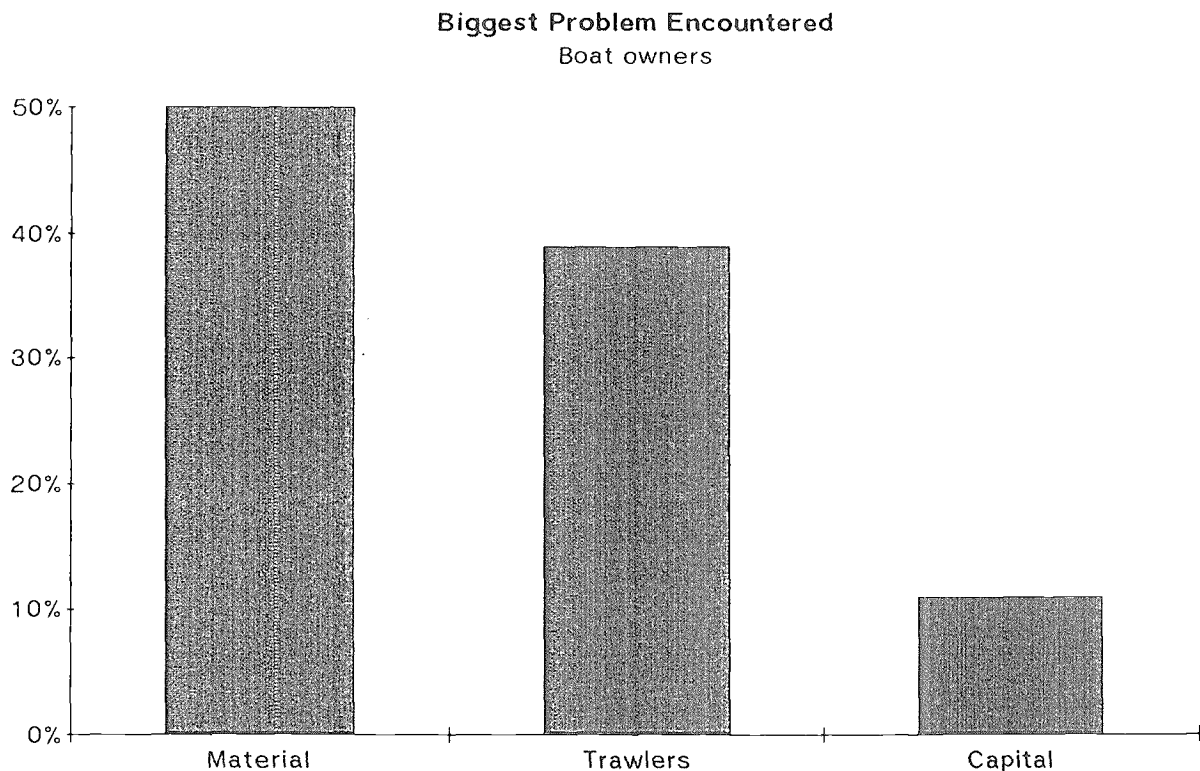
out to sea on average 302 days per year (Annex 11, table 10A). These kinds of figures are, however, always difficult to estimate and the respondents are often prone to exaggerate the days worked.

The boat owners are a little bit older than the average of the total population - 40 years against 34 (table 1A). The boat owners together with the fishermen have also been active in their respective occupation for rather a long time: on average 16 years. All the boat owners are working full time in the fisheries sector. Only two of the interviewed were seasonally occupied elsewhere, both in farming (table 4A).

The boat owners are dominated by the Sereres (table 2A). The boat owners are in general, compared with the other men in the survey, better off and possess to a higher degree houses, agricultural land, consumer capital goods, etc. (table 5A). Not too surprising, the boat owners are also very content with their lot and only one of them expressed any wish to change occupation (table 4A).

The boat owners, together with the fishermen, are using the facilities at the fisheries centres more than any other professional group (table 1A). More than half of the interviewed were fishing with bottom gill nets and a third with surrounding gill nets. The major problem facing the boat owners is procurement of fishing equipment, the problem not being so much to find the required material as managing to finance the purchase. Trawlers destroying the nets is another problem particularly for the owners of bottom gill nets.

Figure 9:

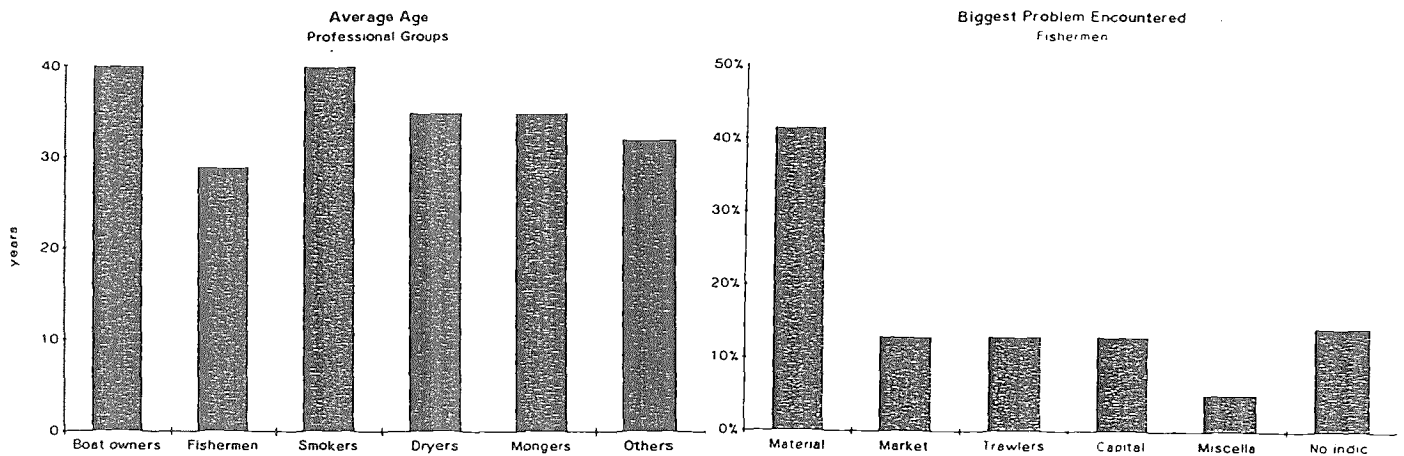


6.2.2 Fishermen (crew members)

The fishermen are the youngest of all the professional groups - being on average only 29 years old (Annex 11, table 1B). This group also shows the smallest average household size of only five persons. This is explained by the high number of fishermen that live in one-man households: not less than one fisherman out of three lived alone.

Figure 10:

Figure 11:



The fishermen group is dominated by Sereres, although not as markedly as the boat owners (table 2B). In the fishermen group the Senegalese are also a bigger group than the Gambians (table 3B).

The fishermen have a slightly higher literacy rate (36%) than the average for men (33%). When it comes to property owned, on the other hand, the fishermen possess, except for radio-cassettes, less items than the male-average (table 5B).

94% of the interviewed are full-time fishermen and 83% work all year around, which is roughly in line with the average for all men (table 4B). Of the 16% who have an occupation beside fishing, the majority are involved in farming. Fewer fishermen than the total average want to change occupation and of those who want to do so, 25% wish to stay in the fisheries sector as fish mongers or as dryers (table 7B).

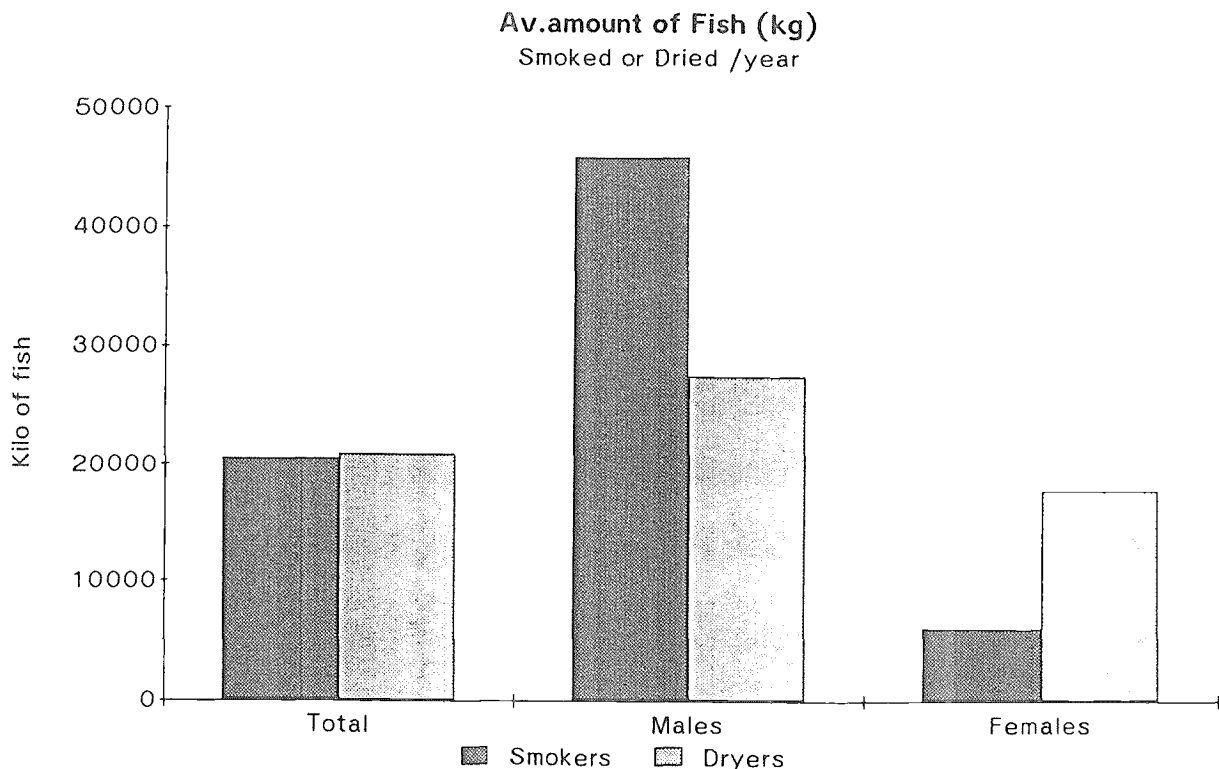
Many of the fishermen are eager to own their own equipment and start up their own fishing unit. The lack of funds to fulfil this wish is the most common complaint of fishermen. Trawlers that destroy the nets, difficulties to market the fish and problems to find a good crew are other problems mentioned.

6.2.3. Fish smokers

The fish smokers tend in general to be older than the other groups in the fisheries sector, especially the men with an average of 50 years (Annex 11, table 1C). The fish smokers have also in general a long experience of processing fish: 16 years on average. The household sizes of the smokers are also higher than the average with the female smokers having an average of thirteen people in the household.

The differences between the sexes in this professional group are remarkably pronounced. When it comes to the ability to read and write, the male smokers show the highest rate of all groups: 42% are literate, while the female smokers are the least literate of all with only 8% able to read and write (table 4C). Considering property owned, the male smokers are in general much better off than the average male in the fisheries sector, the women are in line or less well off than the women in the other professional groups (table 5C). Perhaps the most remarkable difference between the male and the female smokers is the scale of their operations. The men smoke on average 46,000 kilo of fish per year while the women only smoke an eighth of that, i.e. 6,000 kilo (table 11C).

Figure 12:



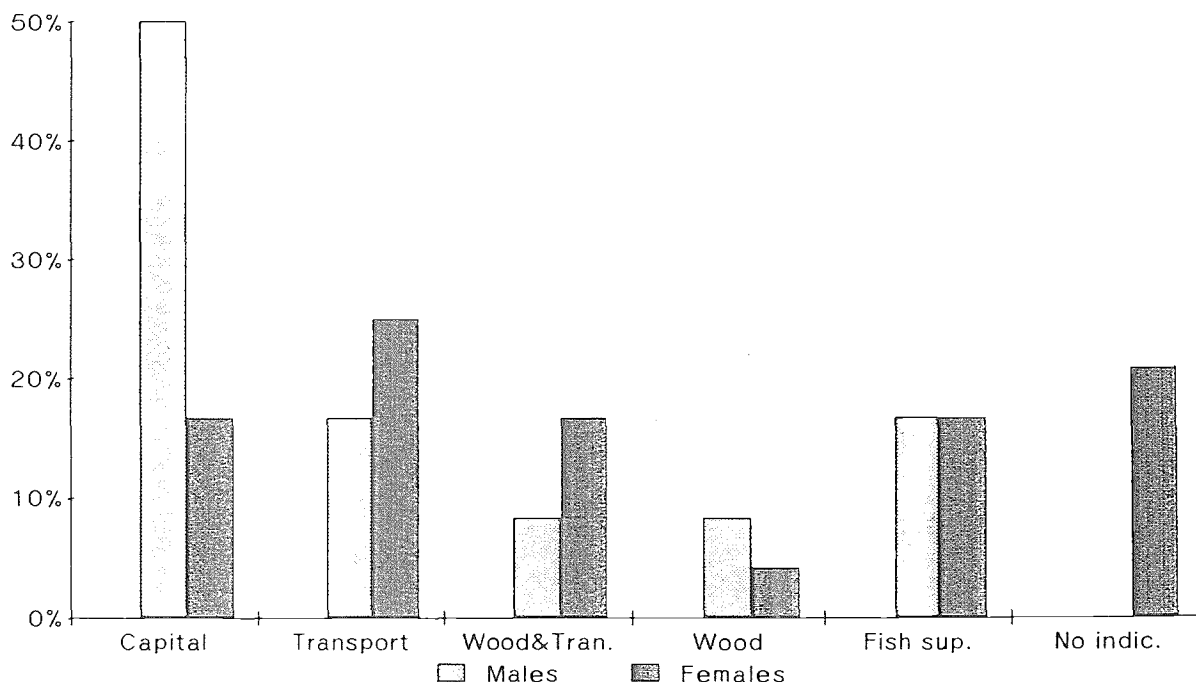
The smokers are dominated by Mandinkas (53%) and Jolas (31%). Of the interviewed nine out of ten are Gambian (table 3C).

The fish smokers are to a higher degree than the other professional groups involved in their activities full time: 100% of the men and 71% of the women respectively (table 4C). They are also less involved in seasonal side activities than other groups. Only one male and eleven female smokers are involved in other activities than smoking. Surprisingly though, considering the comparatively favourable position of the male smokers, one out of four wants to change occupation, which is not only higher than the male average but also a higher percentage than for the female smokers where only one out of five wants to change occupation.

The majority of the interviewed (70%) uses the improved chorkor oven constructed by the project, while one third smokes in traditional smoking huts covered with rhum palm leaves. The major preoccupation of the male smokers is lack of capital, while the women rather complain about problems to find transport and wood (table 8C). Only two men mentioned transport as a major problem which is not surprising since many of the men sell the smoked fish already at the centre. This is not very often the case for the women of whom an overwhelming majority sell their fish at the Serrekunda market (table 10C).

Figure 13:

Biggest Problem Encountered
Fish smokers



6.2.4 Fish Dryers

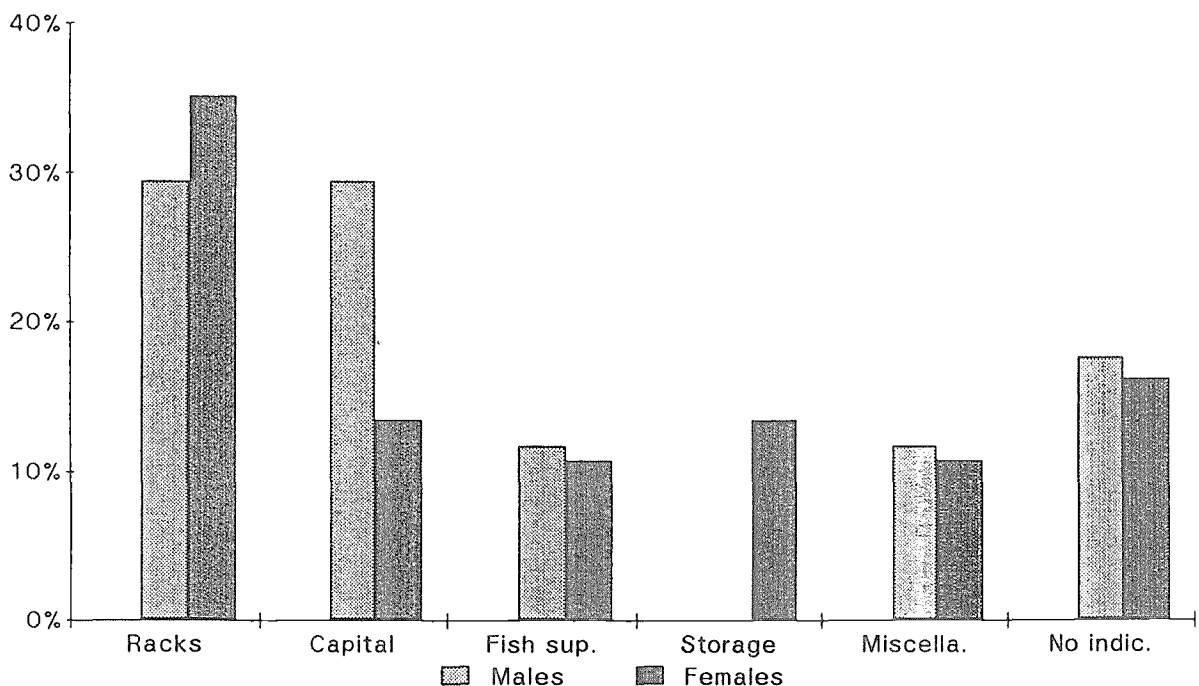
As in the case for fish smokers the difference between the male and female fish dryers can sometimes be considerable. The male dryers are all full time dryers all year around, whereas only three quarters of the women are full-time dryers and a third of them have it as a seasonal activity (Annex 11, table 4D). The scale of the male fish dryers' operations are also bigger than the females', the former dry an average of 27,500 kilo of fish per year while the latter dry roughly 10,000 kilo less (table 11D).

When it comes to wanting to change occupation the picture is also quite gender specific, in fact the male dryers show the least inclination of all the interviewed groups to change occupation (only 6%), whereas every second female dryer wants to do something else - the highest figure in the study. The most attractive occupations for the women being small scale trading (table 7D). Not surprisingly the men are considerably more wealthy than their female colleagues. The men own more than the average man in the study while the reverse is true for the women (table 5D).

Two fish dryers out of three still use traditional racks, the percentage being somewhat higher for the males than for the females. Half of the interviewed had sometimes used the improved racks constructed by the fisheries centres, while 10% used both types of racks (table 9D). The lack of drying platforms is a recurrent complaint by the fish dryers. Other problems facing the fish dryers are lack of plastic cover to protect the fish during the rainy period, inadequate storage facilities and problems with the supply of fish. Lack of capital for buying fish was often mentioned by the male dryers (table 8D).

Figure 14:

Biggest Problem Encountered
Fish Dryers



Most of the fish dryers sell their fish directly at the centre/beach (60% for both men and women). Serrekunda is also a popular market outlet for the women (Table 10D). Two female dryers out of three are specialized in drying bonga or a combination of bonga and whitefish, the men being more involved in white fish and shark drying (table 11D).

The fish dryers have, relatively speaking, started their activities rather recently. With an average of 7.5 years in the "profession" they are the group with shortest experience in their field, only half the time as the boat owners, fishermen and fish smokers.

The dryers are recruited from a number of ethnic groups, where Jola, Serere, Wollof, Mandinka and the Fante are the most important ones (table 2D). Around half of the interviewed were Gambians and one third Senegalese. 35% of the male dryers are literate, somewhat over the average rate, whereas the female fish dryers, together with the female fish smokers, recorded the lowest rate in the study, i.e. only 8% of them being able to read and write.

6.2.5 Fish Mongers

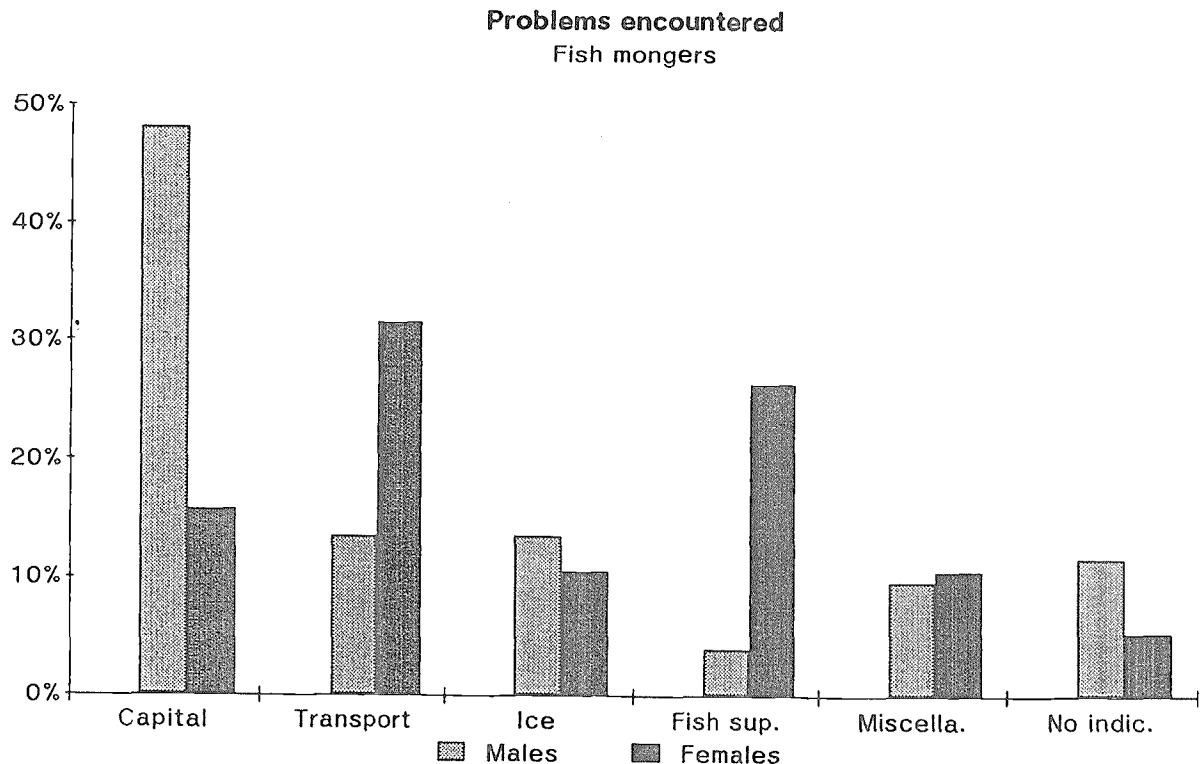
Fish mongering is in most cases a full time job. 92% of the male mongers and 84% of the female mongers work full time which is higher than average (Annex 11, table 4E). The occupation is on the other hand affected by seasonal variations and only one female monger out of three is working all year around. The rate for the male mongers is higher, 75% work all year around, but it is nevertheless lower than the average. 35% of the men and 63% of the women have other occupations than being mongers. Farming is the most important secondary activity involving 30% and 40% of the men and women respectively (table 6E). The male fish mongers seem to be less happy being mongers than their female colleagues (table 4E), in both cases trading outside the fisheries sector is the most attractive alternative (table 7E).

The fish mongers, especially the men, are generally more wealthy than the other professional groups according to the survey's questions about property owned. Not surprisingly it is also in this group where many of the car, bicycle and bebe owners are to be found (table 5E).

Half of the fish mongers are transporting the fish in bush taxis, the rate for the women (63%) being somewhat higher than that for the men (44%). To transport the fish by bicycle, Bebe (small motorbike), lorry and pick up is an exclusively male affair. A few women carry the fish from the beach to the village for sale (table 9E). The biggest concern for the men is their lack of working capital (48%), while the women are more preoccupied with problems concerning the transport and fish supply. Few men consider the latter factor as a major problem since they often buy fish in large amounts and hereby being able to influence the suppliers to a larger extent. Problems in

getting ice for fresh fish handling and lack of proper storage facilities is also mentioned (table 8E). It could in this context be interesting to mention that at the time of the survey only a few insulated boxes had yet been distributed to the fisheries centres.

Figure 15:

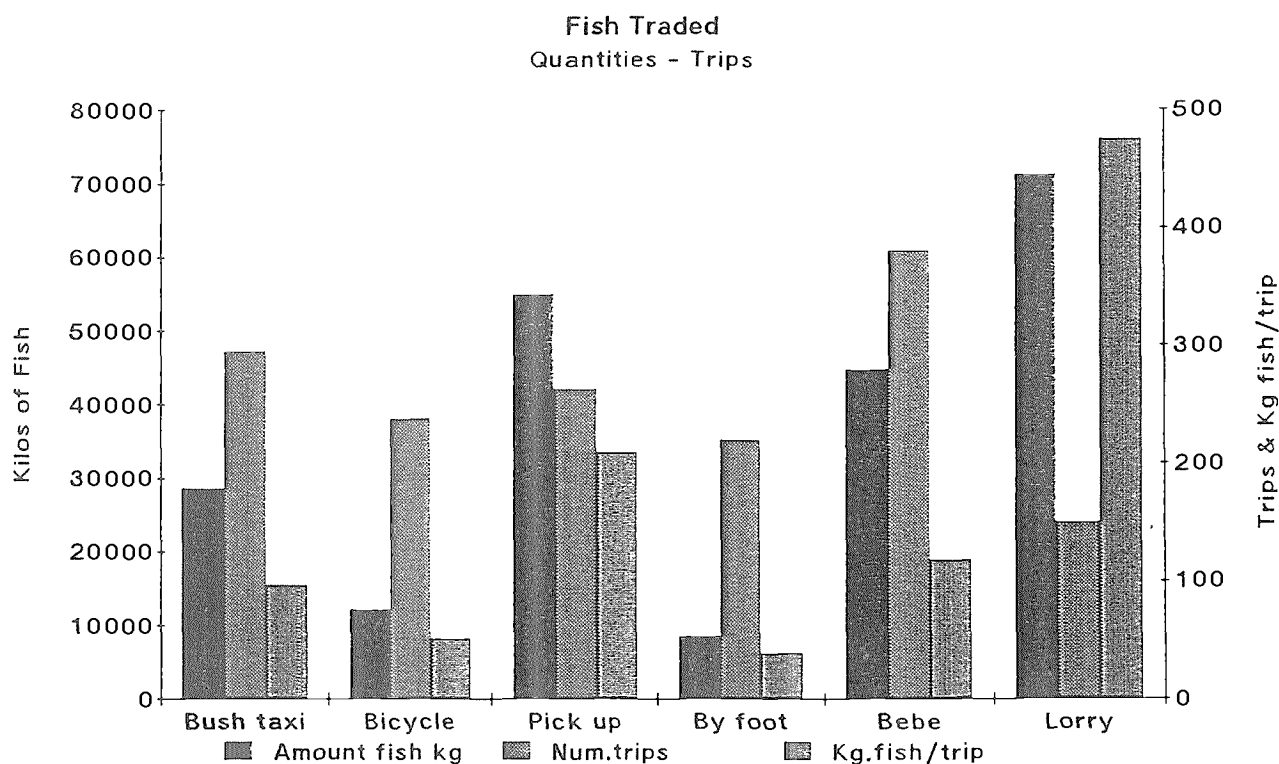


Serrekunda market is the single most popular outlet for the fish mongers. Many frequent several markets, others combining the sale of fish at the markets with selling noble fish directly to hotels and restaurants (table 10E). The majority (83%) of the fish mongers buy their fish directly from the fishermen, but many, especially among the women, have to rely on middlemen for their fish supply (table 11E). Most of the fish mongers also seem to sell their fish directly to the consumers. It should, however, be borne in mind that this particular question often was misunderstood by the interviewed and the interviewers and the figure is probably somewhat exaggerated.

The fish mongers are doing an average of 269 business trips per year, the male mongers going on more trips than the women (table 12E). The scale of the men's business is also bigger, with an average of 34,000 kilo of fish traded per year - roughly three times as much as that of the women. Concerning the different types of transport each lorry manages to transport around 70,000 kilo of fish per year, although the number of trips per year, 150, is the lowest of all modes of transport. The Bebes are a

more frequent sight on the roads, doing around 380 trips per year, taking a little bit more than 100 kilo of fish at a time. The loads carried from the beach to the village range around 40 kilo per trip (13E).

Figure 16:



The fish mongers group is dominated by the Mandinkas (60%) and to a lesser extent Sereres and Jolas (table 2E). The Gambians are by far the most important national group (83%), the Senegalese only counting for 11% (table 2E and 3E).

6.2.6 Others

The group of "others" is, as the name indicates, a group of "left overs" constituted mainly of assistants to other operators in the fisheries sector: dunilaas (women carrying fish), smoker assistants, monger assistants, dryer assistants, gutters (men gutting the fish), boat builders and their assistants. Except for the boat builders those included in the group of "others" do not normally have any investment or working capital in the fisheries sector. However, the line between those who are assistants and those who are "assisted" is a fine one and in the group of monger assistants, for example, some "real" mongers seem to hide. It is to be borne in mind that this sixth miscellaneous group is very heterogenous and that none of the sub-groups, except the "dunilaas", is statistically big enough to be treated separately.

In general it can be said that the "others" use less facilities at the fisheries centres and have attended fewer courses than any other interview group (Annex 11, table 1F). The literacy rate within the group is surprisingly high: three men out of four can read and write, which is the highest rate of all the groups, whereas the rate of 17% for the women is above the female-average (table 4F).

The picture of property owned shows big differences within the group, with monger assistants, boat builders, boat builder assistants and to some extent smoker assistants being comparatively well off and the rest less so (table 3F). The "dunilaas" are mainly Mandinkas and Jolas whereas the boat builders and their assistants are all Sereres or Lebous and Senegalese nationals (table 2F and 3F).

Less than half of the "dunilaas" work full time and all year around, in fact only few women work exclusively as "dunilaas", three quarters of them are involved in other activities inside or outside the fisheries sector (table 4F). Most of the "dunilaas" are paid in kind, i.e. a fixed number of fishes per carried pan. Some of them are smoking/drying and marketing the fish they are earning, while one third of the "dunilaas" are engaged in farming and gardening (table 6F).

The various groups constituting the group "others" naturally face different types of problems. The most common complaints by the "dunilaas" are that their work is physically too demanding and badly paid. The competition between them is also fierce and the fish supply is another problem. Many of the smoker assistants want to become on "their own" and complain about lack of capital to realize this dream. They also mention difficulties to get paid by those they assist. The boat builders, finally, are unanimous in their complaint over problems to get boat building material.

All in all, a little bit less than a third of the male respondents in the group wants to change occupation while a little bit more than a third of the "dunilaas" would like to do something else. If they could choose any other occupation, the "dunilaas" would like to do some small scale trading outside the fisheries sector. The male segment of the group is more interested in being fish mongers and drivers.

6.3 Analysis - Community Fisheries Centres Level

When the data is reorganized and analyzed on the fisheries centres level, surprising patterns emerge. To some extent those patterns have their roots in real differences between the centres concerning relative importance of different ethnic groups, nationalities, types of fishing technique, etc. However, some of the results must also be attributed to the interviewer effect and the temperament of the interviewer.

The results are also influenced by the way the prospective respondents were selected. As was explained in chapter 5.4 the

sampling could be executed in a perfectly random way at some centres and for certain professional groups, while in other cases the enumerators had more influence on the choice, although the frame for the selection was set.

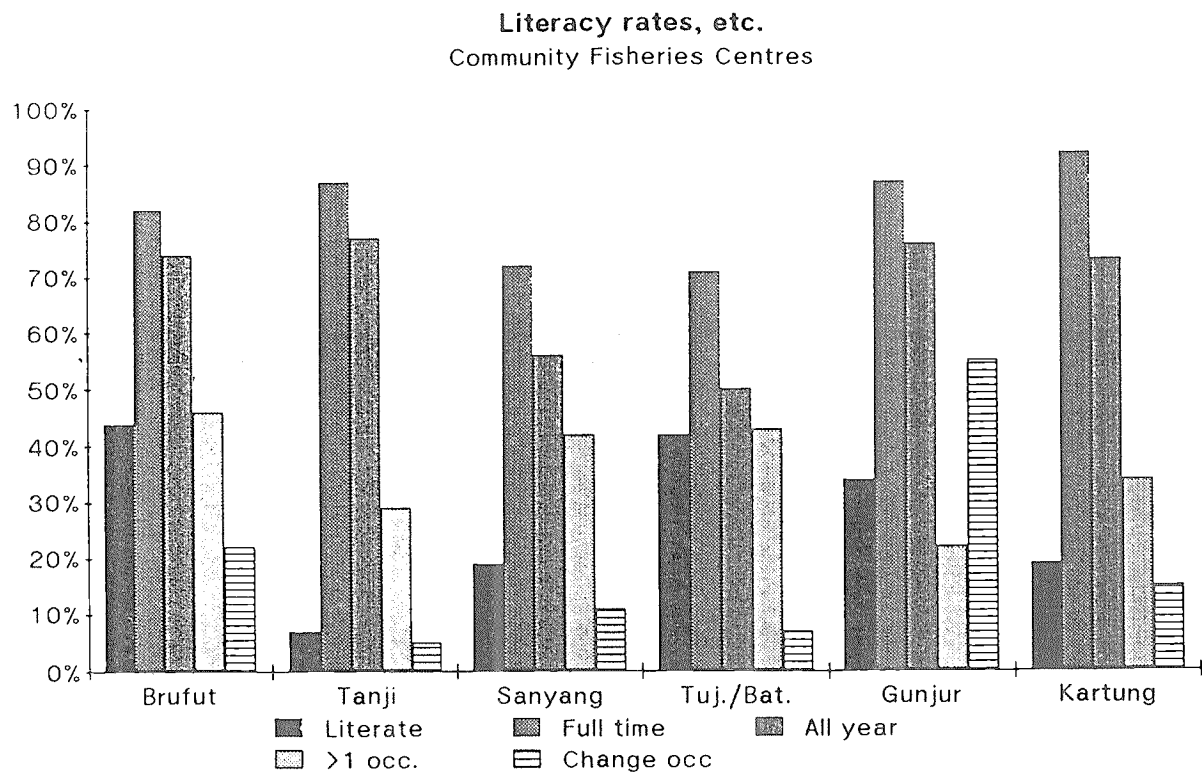
The time for the interview survey coincided with the rainy period when many Senegalese went back to their country of origin. At some centres with normally high numbers of Senegalese nationals this created problems and all those that should have been interviewed were not present. Therefore table 5 in Annex 12, does not for some centres, notably Tanji and Sanyang, show a true picture of the relative importance of the different nationalities at the fisheries centre, but rather the picture at the time of the survey when especially the Senegalese were under-represented.

At the other centres the picture is clearer and the Gambians constitute roughly half or less than half of the fisheries population. At Gunjur and especially in Brufut the Ghanaians are another important group. It is hardly surprising that the Kartong centre, situated right at the border with Senegal hosts a lot of Senegalese fisherfolk. Thus in Kartong, only 27% of the interviewed have their permanent residence in the village itself while 50% have their permanent residence in Senegal. As for the present residence, however, Kartong village hosts 96% of the interviewed (table 5 and 6).

The two biggest fisheries centres Tanji and Gunjur attract a lot of people from other parts of The Gambia and around one third of the interviewed at these centres have their permanent residence elsewhere in The Gambia. When all fisheries centres are taken together it can be seen that roughly half of the population have their permanent residence in the project villages, one fourth in other places in The Gambia and one fourth in Senegal. When it comes to present residence three quarters of the population stay in the project villages and one fifth in other places in the Gambia.

The huge variation in literacy level between the six centres is at a first glance very puzzling. However, although the differences to some extent have to be attributed to the interviewers' perception and definition of a literate person, the variations can be explained by some fundamental differences in composition of the population at the six centres. The high literacy level at the Brufut centre, for example, can be explained by the relative high number of Ghanaians and Senegalese interviewed, bearing in mind that those nationalities have higher literacy levels than the Gambians. At Brufut a relatively low number of women (with low literacy rate) were also interviewed. At Tanji, with only 8% of the respondents being literate relatively more women and Gambians were interviewed (Annex 12, table 3).

Figure 17:



It comes hardly as a surprise that the Tujereng-Batokunku centre, with its constant problems of an even fish supply has the lowest number of full time workers and that only 50% of their respondents worked all year around. The dynamic Tanji centre, on the other hand, has the highest figure of respondents continuing to work all year around, while the biggest centre, Gunjur has the lowest figure of respondents having more than one occupation (table 3).

The wide variations between the fisheries centres regarding the question about whether the respondent would like to change occupation can, however, not altogether be explained by differences in background variables. Instead this is most probably a classical example of how the interviewer can influence the respondent or interpret an ambiguous answer in a biased way. How could the figures ranging from only 5-7% of the respondents in Tanji and Tujereng-Batokunku to 55% of the respondents at Gunjur wanting to do something else otherwise be explained?

The average number of the fisheries centres' facilities used by the respondents range from 1.1 at Sanyang and Tujereng-Batokunku to 2.4 at Kartong. The list of the average number of courses attended per respondent puts the tiny centre Tujereng-Batokunku at the top, with 0.6 courses and the biggest centre Gunjur at the bottom with only 0.02 courses per interviewed (table 2).

7. CONCLUDING REMARKS AND RECOMMENDATIONS

The Fisheries Department in The Gambia initially requested the IDAF programme's assistance to carry out a socio-economic impact study of the EEC-funded Artisanal Fisheries Development Project. Severe lack of necessary background information and historical data made this demand difficult to fulfil and the objectives of the study were accordingly reformulated.

It was decided to use the project's present field staff as enumerators. The apparent advantage being their long experience and profound knowledge of the fishing communities where they are based. The disadvantage of using the field staff was their lack of previous experiences of field surveys. Therefore, the major part of the IDAF technical assistance was directly targeted towards improving the skills of the prospective enumerators. Apart from two workshops arranged on field survey methods, time was also spent in the field assisting them individually.

It is believed that, thanks to this investment, the capacities of the enumerators and their close ties to the fisherfolk, assured a certain quality of the final interviews. However, one should not forget some fundamental problems threatening the reliability of the study of which the two most important are:

- The need to rely on not altogether random sampling methods in the selection of persons to interview in certain sub-groups.
- The limited time frame for the study, forcing the period of interviews to coincide with the rainy season, when some groups in the fishing communities are less represented than during other times of the year.

For this reason it is highly recommended that a separate survey, based on a small sample of the population under-represented in the present survey should be carried out. This second mini-survey will reveal in what respects this group differs from the population in the main survey.

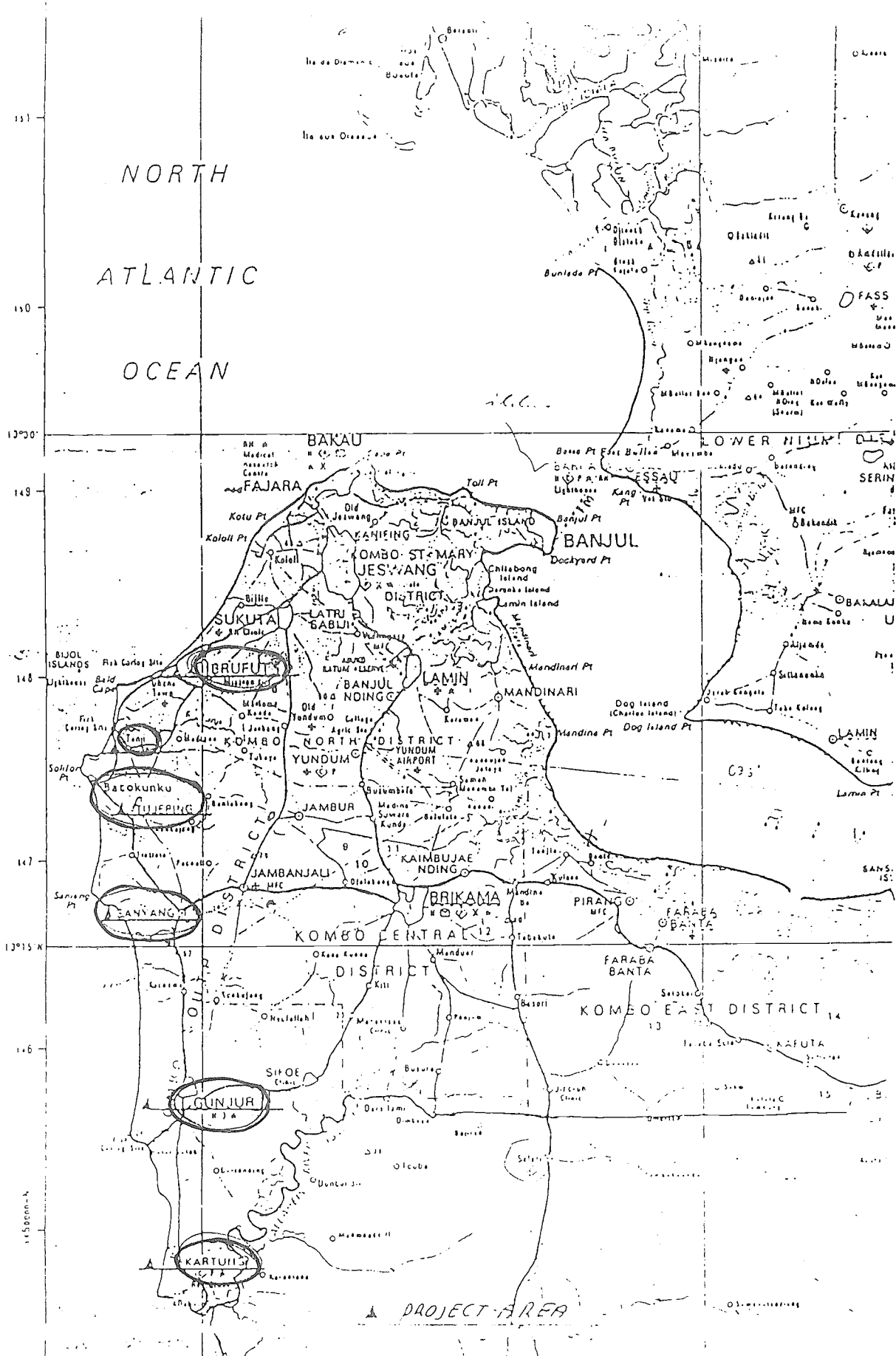
A full-scale follow-up survey of the fisheries population is recommended to take place when the envisaged 1993 census data are at hand. However, a more regular monitoring of the development of the fisheries population and its sub-groups is desired. Therefore the census-exercise undertaken in connection with the present study should be updated every year, preferably with recordings of the population both during the rainy and the dry season.

This socio-economic study only briefly touches upon marketing and cost and earnings features of the artisanal fisheries in the coastal region in The Gambia. Separate studies on these two topics would be interesting complements to the present study and greatly contribute to the understanding of the fisheries in the area.

Finally, though it goes without saying that the way of carrying out the studies will always vary and depend on the availability of background data, financial means, time constraints, quality and experience of prospective enumerators, etc., it is believed that this report can facilitate the planning of similar socio-economic studies. In the case of The Gambia this will certainly be the case for a future study of the Inland Fisheries Development Project, funded by the Italian government.

PROJECT TARGET VILLAGES.

Annex 1



Annex 2POPULATION, SCHOOL ATTENDANCE AND ETHNIC GROUPS
IN THE PROJECT FISHING VILLAGES

<u>Village</u>	<u>Population</u> (1983 Census)	<u>School Attendance</u> (1983 Census)	<u>Main Ethnic Groups</u>
BRUFUT (Dispensary)	5,121	1,160	Mandinka Serere Jola Fante Fula
TANJI (Primary health care, sub-dispensary - clinics at least once a month)	1,632	394	Mandinka Serere Jola Fula Manjako
TUJERENG (Primary health care, health worker & trained birth attendant)	1,609	566	Jola Mandinka Manjako Serere
BATOKUNKU (no significant health care facility)	102	No school	Mandinka Jola
SANYANG (Primary health care, health worker & trained birth attendant)	3,035	627	Jola Serere Mandinka
GUNJUR (Health centre, Primary school, Secondary Technical School)	7,030	1,175 603	Mandinka Serere Wollof Jola
KARTONG (Primary health care, health worker & trained birth attendant)	2,089	345	Mandinka Jola Serere

Source : Central Statistics Department, Banjul
(Except for main ethnic groups compiled
from survey).

FISHING EQUIPMENT PORTFOLIO AS AT JULY-AUGUST 1991

CENTRE	MOTORIZED PLANKED CANOES	NON-MOTORIZED PLANKED CANOES	SURROUND GILL NET (BONGGA)	BOTTOM SET GILL NET	DRIFT NET	HOOK + LINES	CASJ NET
BRUFUT	79	5	2	77	NIL	5	19
TANJI	66	NIL	48	6	12	NIL	2
BATOKUNKU/ TUJERENG	2	NIL	NIL	2	NIL	NIL	NIL
SANYANG	11	35	4	7	NIL	35	NIL
GUNJUR	97	8	32	65	NIL	5	3
KARTONG	2	NIL	1	1	NIL	NIL	NIL

SPECIES-CAUGHT - ATLANTIC COASTPelagic species

1. Bonga (*Ethmalosa fimbriata*)
2. Mackerel (*Scomberomorus tritor*)
3. Shine nose (*Galeoides decadactylus*)
4. "Sacca" (*Caranx hippos*)
5. Sardinella (*Sardinella aurita*, *Sardinella eba*)
6. "Jotto" (*Pseudotolithus elongatus*)
7. Barracuda (*Sphraena barracuda*)
8. Mullet (*Mugil Cephalus*)

Demersal species

1. Law Croaker (Cassava fish) (*Pseudotolithus brachygnathus*)
2. Longneck croaker (ladyfish) (*Pseudotolithus typus*)
3. Cat fish (*Arius gambensis*)
4. Barracuda (*Sphraena sphraena*)
5. "Kujeli" (*Polydactylus quadrifilis*)
6. Grouper (white) (*Epinephelus aeneus*)
7. Sole fish (*Solea senegalensis*)
8. "Tapandarr" (*Drepane africana*)
9. "Sompat" (*Pomadays jubelini*)
10. Shark /Skate /Ray
11. "Banda" (*Plectorhynchus macrolepis*)
12. Tilapia
13. Red Snapper (*Lutjanus agennes*)
14. Snails

Crustacean species

1. Lobster (*Palinurus mauritanicus*)

POPULATION PRESENTLY INVOLVED IN THE FISHERIES SECTOR

Centre .Total .all.....

Date

Centres

Date of revision . July. 1991.

	Men living in the village	Men living elsewhere	Total men	Women living in the village	Women living elsewhere	Total women	Total living in the village	Total living elsewhere	Grand Total
Boat-owners	1409	127	1536	-	-	-	1409	127	1536
Fishermen (crew)									
Fish smokers	90	9	99	165	7	172	255	16	271
Fish dryers	134	6	140	495	8	503	629	14	643
Fish mongers (vehicles)	2	29	31	-	-	-	2	29	31
Fish monger (bikes Bebes)	52	89	141	-	-	-	52	89	141
Fish mongers (individuals)	95	125	220	57	75	132	152	200	352
Total fish mongers	149	243	392	57	75	132	206	318	524
Women carrying fish	-	-	-	132	130	262	132	130	262
Men & women assisting smokers	70	-	70	3	-	3	73	-	73
Men assisting pick-ups	-	93	93	-	-	-	-	93	93
Men gutting fish	12	-	12	-	-	-	12	-	12
Boat builders & assistants	25	-	25	-	-	-	25	-	25
"Others Total	107	93	200	135	130	265	242	223	465
Grand total	1889	478	2367	852	220	1072	2741	698	3439

POPULATION PRESENTLY INVOLVED IN THE FISHERIES SECTOR

Centre ..Brufut.....

Date

Date of revision ..9/7/91...

	Men living in the village	Men living elsewhere	Total men	Women living in the village	Women living elsewhere	Total women	Total living in the village	Total living elsewhere	Grand Total
Boat-owners	322	8	330	-	-	-	322	8	330
Fishermen (crew)									
Fish smokers	14	2	16	15	2	17	29	4	33
Fish dryers	7	-	7	16	-	16	23	-	23
Fish mongers (vehicles)	-	8	8	-	-	-	-	8	8
Fish monger (bikes Bebes)	6	1	7	-	-	-	6	1	7
Fish mongers (individuals)	26	9	35	10	-	10	36	9	45
Total fish mongers	32	18	50	10	-	10	42	18	60
Women carrying fish	-	-	-	17	-	17	17	-	17
Men & women assisting smokers	4	-	4	3	-	3	7	-	7
Men assisting pick-ups	-	30	30	-	-	-	-	30	30
Men gutting fish	6	-	6	-	-	-	6	-	6
Boat builders & assistants	10	-	10	-	-	-	10	-	10
"Others Total	20	30	50	20	-	20	40	30	70
Grand total	395	58	453	61	2	63	456	60	516

POPULATION PRESENTLY INVOLVED IN THE FISHERIES SECTOR

CentreTanji.....

Date

Date of revision .3/7/91.....

	Men living in the village	Men living elsewhere	Total men	Women living in the village	Women living elsewhere	Total women	Total living in the village	Total living elsewhere	Grand Total
Boat-owners	388	26	414	-	-	-	388	26	414
Fishermen (crew)									
Fish smokers	20	6	26	61	2	63	81	8	89
Fish dryers	19	6	25	61	1	62	80	7	87
Fish mongers (vehicles)	2	8	10	-	-	-	2	8	10
Fish monger (bikes Bebes)	29	31	60	-	-	-	29	31	60
Fish mongers (individuals)	46	60	106	25	39	64	71	99	170
Total fish mongers	77	99	176	25	39	64	102	138	240
Women carrying fish	-	-	-	75	80	155	75	80	155
Men & women assisting smokers	38	-	38	-	-	-	38	-	38
Men assisting pick-ups	-	24	24	-	-	-	-	24	24
Men gutting fish	1	-	1	-	-	-	1	-	1
Boat builders & assistants	3	-	3	-	-	-	3	-	3
"Others Total	42	24	66	75	80	155	117	104	221
Grand total	546	161	707	222	122	344	768	283	1051

POPULATION PRESENTLY INVOLVED IN THE FISHERIES SECTOR

Centre TuJereng/Batolanku

Date

Date of revision ..4/7/91....

	Men living in the village	Men living elsewhere	Total men	Women living in the village	Women living elsewhere	Total women	Total living in the village	Total living elsewhere	Grand Total
Boat-owners	13	2	15	-	-	-	13	2	15
Fishermen (crew)									
Fish smokers	-	-	-	6	-	6	6	-	6
Fish dryers	2	-	2	19	1	20	21	1	22
Fish mongers (vehicles)	-	-	-	-	-	-	-	-	-
Fish monger (bikes Bebes)	1	-	1	-	-	-	1	-	1
Fish mongers (individuals)	3	1	4	-	-	-	3	1	4
Total fish mongers	4	1	5	-	-	-	4	1	5
Women carrying fish	-	-	-	-	-	-	-	-	-
Men & women assisting smokers	-	-	-	-	-	-	-	-	-
Men assisting pick-ups	-	-	-	-	-	-	-	-	-
Men gutting fish	-	-	-	-	-	-	-	-	-
Boat builders & assistants	-	-	-	-	-	-	-	-	-
"Others Total	-	-	-	-	-	-	-	-	-
Grand total	19	3	22	25	1	26	44	4	48

POPULATION PRESENTLY INVOLVED IN THE FISHERIES SECTOR

Centre ..Sanyang.....

Date

Date of revision ..4/7/91...

	Men living in the village	Men living elsewhere	Total men	Women living in the village	Women living elsewhere	Total women	Total living in the village	Total living elsewhere	Grand Total
Boat-owners	90	91	181	-	-	-	90	91	181
Fishermen (crew)									
Fish smokers	16	-	16	30	-	30	46	-	46
Fish dryers	11	-	11	95	-	95	106	-	106
Fish mongers (vehicles)	-	4	4	-	-	-	-	4	4
Fish monger (bikes Bebes)	10	14	24	-	-	-	10	14	24
Fish mongers (individuals)	10	10	20	6	4	10	16	14	30
Total fish mongers	20	28	48	6	4	10	26	32	58
Women carrying fish	-	-	-	10	5	15	10	5	15
Men & women assisting smokers	3	-	3	-	-	-	3	-	3
Men assisting pick-ups	-	22	22	-	-	-	-	22	22
Men gutting fish	-	-	-	-	-	-	-	-	-
Boat builders & assistants	3	-	3	-	-	-	3	-	3
"Others Total	6	22	28	10	5	15	16	27	43
Grand total	143	141	284	141	9	150	284	150	434

POPULATION PRESENTLY INVOLVED IN THE FISHERIES SECTOR

Centre ..Gunjur.....

Date

Date of revision .2/7/91 & .11/7/91

	Men living in the village	Men living elsewhere	Total men	Women living in the village	Women living elsewhere	Total women	Total living in the village	Total living elsewhere	Grand Total
Boat-owners	584	-	584	-	-	-	584	-	584
<u>Fishermen (crew)</u>									
Fish smokers	36	1	37	45	3	48	81	4	85
Fish dryers	95	-	95	295	5	300	390	5	395
Fish mongers (vehicles)	-	8	8	-	-	-	-	8	8
Fish monger (bikes Bebes)	2	38	40	-	-	-	2	38	40
Fish mongers (individuals)	10	45	55	6	25	31	16	70	86
Total fish mongers	12	91	103	6	25	31	18	116	134
Women carrying fish	-	-	-	30	45	75	30	45	75
Men & women assisting smokers	25	-	25	-	-	-	25	-	25
Men assisting pick-ups	-	17	17	-	-	-	-	17	17
Men gutting fish	5	-	5	-	-	-	5	-	5
Boat builders & assistants	7	-	7	-	-	-	7	-	7
"Others Total	37	17	54	30	45	75	67	62	129
Grand total	764	109	873	376	78	454	1140	187	1327

POPULATION PRESENTLY INVOLVED IN THE FISHERIES SECTOR

Centre .. ~~Kartung~~.....

Date

Date of revision 1/7/91.&.11/7/91

	Men living in the village	Men living elsewhere	Total men	Women living in the village	Women living elsewhere	Total women	Total living in the village	Total living elsewhere	Grand Total
Boat-owners	2	-	2	-	-	-	2	-	2
Fishermen (crew)	10	-	10	-	-	-	10	-	10
Fish smokers	4	-	4	8	-	8	12	-	12
Fish dryers	-	-	-	9	1	10	9	1	10
Fish mongers (vehicles)	-	1	1	-	-	-	-	1	1
Fish monger (bikes Bebes)	4	5	9	-	-	-	4	5	9
Fish mongers (individuals)	-	-	-	10	7	17	10	7	17
Total fish mongers	4	6	10	10	7	17	14	13	27
Women carrying fish	-	-	-	-	-	-	-	-	-
Men & women assisting smokers	-	-	-	-	-	-	-	-	-
Men assisting pick-ups	-	-	-	-	-	-	-	-	-
Men gutting fish	-	-	-	-	-	-	-	-	-
Boat builders & assistants	2	-	2	-	-	-	2	-	2
"Others Total	2	-	2	-	-	-	2	-	2
Grand total	22	6	28	27	8	35	49	14	63

FACILITIES AND UTILIZATION RATES - BRUFUT

	RENTED GEAR STORES	RENTED DRIED FISH STORES	RENTED DRY-ING RACKS	RENTED SMO-KING OVENS	RENTED SAFE DEPOSIT BOXES
JUNE 1990	ALL (32)	ALL (16)	-	ALL (11)	-
JULY 1990	ALL (32)	ALL (16)	-	ALL (11)	-
AUGUST 1990	ALL (32)	ALL (16)	-	ALL (11)	-
SEPTEMBER 1990	ALL (32)	ALL (16)	-	ALL (11)	-
OCTOBER 1990	ALL (32)	ALL (16)	-	ALL (11)	-
NOVEMBER 1990	ALL (32)	ALL (16)	-	ALL (11)	-
DECEMBER 1990	ALL (32)	ALL (16)	-	ALL (11)	-
JANUARY 1991	ALL (32)	ALL (16)	-	ALL (11)	-
FEBRUARY 1991	ALL (32)	ALL (16)	-	ALL (11)	-
MARCH 1991	ALL (32)	ALL (16)	-	ALL (11)	-
APRIL 1991	ALL (32)	ALL (16)	15 (out of 24)	ALL (11)	-
MAY 1991	ALL (32)	ALL (16)	15 "	ALL (11)	-
JUNE 1991	ALL (32)	ALL (16)	15 "	ALL (11)	-

FACILITIES AND UTILIZATION RATES - TANJI

	RENTED GEAR STORES	RENTED DRIED FISH STORES	RENTED DRY-ING RACKS	RENTED SMO-KING HOUSES	RENTED SAFE DEPOSIT BOXES
JUNE 1990	31	7	ALL (32)	-	80
JULY 1990	31	7	"	-	80
AUGUST 1990	24	7	"	8	80
SEPTEMBER 1990	17	7	"	8	80
OCTOBER 1990	17	7	"	8	80
NOVEMBER 1990	31	7	"	8	80
DECEMBER 1990	22	7	"	8	80
JANUARY 1991	31	7	"	9	80
FEBRUARY 1991	31	7	"	9	80
MARCH 1991	31	7	"	10	80
APRIL 1991	25	7	"	10	80
MAY 1991	18	7	"	10	80
JUNE 1991	31	7	"	10	

FACILITIES AND UTILIZATION RATES - SANYANG

	RENTED GEAR STORES	RENTED DRIED FISH STORES	RENTED DRYING RACKS	RENTED SMO-KING OVENS	RENTED SAFE DEPOSIT BOXES
JUNE 1990	8	4(out of 8)	3	1	4
JULY 1990	7	4	7	1	4
AUGUST 1990	8	4	5	1	4
SEPTEMBER 1990	9	4	8	1	4
OCTOBER 1990	11	4	7	1	4
NOVEMBER 1990	11	4	8	1	4
DECEMBER 1990	20	7	8	1	4
JANUARY 1991	20	7	4	1	16
FEBRUARY 1991	20	8	6	1	16
MARCH 1991	20	8	6	1	16
APRIL 1991	20	8	8	1	16
MAY 1991	20	8	8	1	16
JUNE 1991	20	7	6	1	16

FACILITIES AND UTILIZATION RATES - BATOKUNKU/TUJERENG

	RENTED GEAR STORES	RENTED DRIED FISH STORES	RENTED DRYING RACKS	RENTED SMO-KING OVENS	RENTED SAFE DEPOSIT BOXES
JUNE 1990	2	-	-	1	-
JULY 1990	-	-	-	1	-
AUGUST 1990	-	-	-	1	-
SEPTEMBER 1990	1	-	-	-	-
OCTOBER 1990	1	-	-	-	-
NOVEMBER 1990	1	-	-	-	-
DECEMBER 1990	1	-	-	-	-
JANUARY 1991	-	-	-	-	-
FEBRUARY 1991	-	-	-	-	-
MARCH 1991	-	-	-	-	-
APRIL 1991	-	-	-	-	-
MAY 1991	1	-	-	-	-
JUNE 1991	-	-	-	-	-

FACILITIES AND UTILIZATION RATES - GUNJUR

	RENTED GEAR STORES	RENTED DRIED FISH STORES	RENTED DRYING RACKS	RENTED SMO-KING OVENS	RENTED SAFE DEPOSIT BOXES
JUNE 1990	70	-	31	86	-
JULY 1990	70	-	31	86	-
AUGUST 1990	70	-	31	86	-
SEPTEMBER 1990	70	-	31	86	-
OCTOBER 1990	70	-	31	86	-
NOVEMBER 1990	70	-	31	86	-
DECEMBER 1990	70	-	31	86	-
JANUARY 1991	70	-	31	86	15
FEBRUARY 1991	70	-	31	86	7
MARCH 1991	70	-	31	86	4
APRIL 1991	70	-	31	86	4
MAY 1991	70	-	31	86	6
JUNE 1991	70	-	31	86	-

FACILITIES AND UTILIZATION RATES - KARTONG

	RENTED GEAR STORES	RENTED DRIED FISH STORES	RENTED DRYING RACKS	RENTED SMO-KING OVENS	RENTED SAFE DEPOSIT BOXES
JUNE 1990	-	-	-	-	-
JULY 1990	-	-	-	-	-
AUGUST 1990	-	-	-	-	-
SEPTEMBER 1990	-	-	-	-	-
OCTOBER 1990	1	1	-	-	-
NOVEMBER 1990	3	2	-	-	-
DECEMBER 1990	5	2	1	-	-
JANUARY 1991	3	6	-	-	-
FEBRUARY 1991	7	6	-	3	-
MARCH 1991	16	3	4	-	-
APRIL 1991	9	9	4	-	-
MAY 1991	22	6	6	1	-
JUNE 1991	20	7	6	1	-

INTENDED NUMBERS OF INTERVIEWS TO BE CARRIED OUT IN THE SOCIO-ECONOMIC
SURVEY JULY - AUGUST 1991

Centre	Sex	Fishermen and boat owners	Smokers	Dryers	Mongers	Others	Total
Kartong	Men	2 canoes = 12 pers.	2	-	2	1	17
	Women	-	2	3	3	-	8
	Total	12	4	3	5	1	25
Gunjur	Men	5 canoes = 21 pers.	4	10	15	11	61
	Women	-	5	25	4	12	46
	Total	21	9	35	19	23	107
Sanyang	Men	6 canoes = 19 pers.	2	2	8	6	37
	Women	-	3	11	2	4	20
	Total	19	5	13	10	10	57
Tujereng/ Batokunku	Men	2 canoes = 6 pers.	-	2	1	-	9
	Women	-	6	-	-	-	6
	Total	6	6	2	1	-	15
Tanji	Men	5 canoes = 23 pers.	3	3	25	12	66
	Women	-	6	7	9	15	37
	Total	23	9	10	34	27	103
Brufut	Men	7 canoes = 21 pers.	2	2	7	6	38
	Women	-	2	3	2	4	11
	Total	21	4	5	9	10	49
Grand Total	Men	102	13	19	58	36	228
	Women	-	24	49	20	35	128
	Total	102	37	68	78	71	356

DIFFERENCE BETWEEN INTENDED NUMBER OF
INTERVIEWS AND ACTUAL NUMBER OF
INTERVIEWS CARRIED OUT

PROFESSIONAL GROUPS:	INTENDED NUMBER			ACTUAL NUMBER			DIFFERENCE		
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
A & B Boat owners & fisher- men	102	-	102	96	-	96	-6	-	-6
C. Fish-smokers	13	24	37	12	24	36	-1	+0	-1
D. Fish-dryers	19	49	68	17	37	54	-2	-12	-14
E. Fish-mongers	58	20	78	52	19	71	-6	-1	-7
F. Others	36	35	71	27	35	62	-9	+0	-9
TOTAL	228	128	356	204	115	319	-24	-13	-37

Name of the interviewer:

Date:

Place:

- 1. Sex:
- 2. Age:
- 3. Ethnic group:
- 4. Nationality:
- 5. Household size:
- 6. Number of adults:
- 7. Number of children:

8. Can the respondent read and write:
 Yes No

- 9. Years in school:
- 10. If literate but no school, where has the respondent learned to read and write:
- 11. Where is the respondent born:
- 12. Place of residence:
 Permanent: How long has the respondent lived there:.....
 Present: How long has the respondent lived there:.....

13. Main occupation: Since when:
 Full time All year around
 Part time Seasonal

14. Other occupation(s) Since when All year around Seasonal around

.....

15. Would the respondent like to change occupation:
 Yes No

16. If yes, to what:

17. Property owned:
- House Bebe
 - Agricultural land Bicycle
 - Car Radiocassette player
 - Generator at home Radio
 - Video Watch
 - Television

18. Comments and observations:

A. Boat Owner

19. Number of canoes owned:

20. Type of canoe(s): Motorized: Number of crew per canoe:

Form with Yes/No checkboxes for motorized status and crew numbers.

21. Does the boat owner normally fish himself:

Yes/No checkboxes for question 21.

22. How is the money from the sale of the catch divided:

23. Type and quantity of gear used:

Form listing gear types (Surround gill net, Bottom gill net, Long lines, Hook and line, Cast net, Lobster net, Lobster traps) with Length and Numbers fields.

Chasing trawlers

Others

Specify:

24. Approximate days at sea per month:

Form with Canoe type and Days at sea fields.

25. Main landing sites:

Since when:

Reasons for using this site:

26. Other landing site(s):

Since when:

Reasons for using this (these) site(s):

27. The biggest problem(s) facing a boat owner:

28. Comments and observations:

C. Fish Smoker

41. Type of oven used: Since when: Where:
- | | | | | |
|-----------------------------------------------------------------------------|-------|--------------------------------------|-------------------------------|---------------------------------|
| <input type="checkbox"/> Modified chorkor built by the Project | | | | |
| <input type="checkbox"/> "Domestic oven" | | <input type="checkbox"/> Fish monger | <input type="checkbox"/> Cash | <input type="checkbox"/> Credit |
| <input type="checkbox"/> Altona oven | | <input type="checkbox"/> Consumer | <input type="checkbox"/> Cash | <input type="checkbox"/> Credit |
| <input type="checkbox"/> Traditional oven covered with rhun palm leaves | | | | |
| <input type="checkbox"/> Traditional oven covered by corrugated iron sheets | | | | |
42. Approximate amount of fish smoked per week (wet weight):
- | | |
|---------------------------------------------|---------------|
| <input type="checkbox"/> Peak season: | Species:..... |
| | |
| | |
| <input type="checkbox"/> Low season: | Species:..... |
| | |
| | |
43. From whom is the fish bought: Means of payment:
- | | | |
|------------------------------------|-------------------------------|---------------------------------|
| <input type="checkbox"/> Fishermen | <input type="checkbox"/> Cash | <input type="checkbox"/> Credit |
| <input type="checkbox"/> Middlemen | <input type="checkbox"/> Cash | <input type="checkbox"/> Credit |
44. To whom is the fish sold: Means of payment: Where:
45. The biggest problem facing a fish smoker
46. Comments and observations:

D. FISH DRYERS

47. Type of rack used

Traditional Improved

52. The biggest problem facing a fish dryer:

.....
.....
.....
.....

48. Approximate amount of fish dried per week:
(Wet weight)

Species: Amount:
.....
.....
.....

53. Comments and observations:

.....
.....
.....

49. How many month per year do the respondent dry fish:

50. From whom is the fish bought: Means of payment:

Fishermen Cash Credit
 Middlemen Cash Credit

51. To whom is the fish sold: Means of payment: Where:

Fish mongers Cash Credit

Consumer Cash Credit

E. FISH MONGER

54. Modes of transport:

Lorry

Pick-up

Bicycle

Bebe

Bush-taxi, "Public-transport"

By foot

Other

Specify:

55. Product traded:

Fresh fish

Smoked fish

Dried fish

56. Approximate number of trading-trips per month:

During the rainy season:

During the dry season:

57. Approximate amount of fish bought per trip:

During the rainy season:

During the dry season:

58. From whom is the fish bought: Means of payment: where:

Fishermen

Cash

Credit

Middlemen

Cash

Credit

Others

Specify:

59. To whom is fish sold: Means of payment: Where:

Other mongers

Cash

Credit

Consumer

Cash

Credit

60. The biggest problem facing a fish monger:

.....

.....

.....

.....

61. Comments and observations:

.....

.....

.....

.....

F. OTHERS

62. Which category(ies) does the respondent belongs to:

Women carrying fish ("Dunilaas")

Men assisting smokers

Men assisting fish mongers in vehicles

Men gutting fish

Boat builders

Boat builders assistants

63. Site(s) where the work is carried out:
.....

Since when:

64. Approximate amount of days per year

Devoted to this task:

65. How is the respondent payed:

in kind in cash

How often:

On a daily basis

Others Specify:

66. Is the respondent a relative of the fishermen/smokers/fish mongers he/she services:

Yes No

67. Approximate number of boats constructed during one year:

(Question only for boat builders)

68. Where are the boats sold:

(Question only for boat builders)

69. The biggest problem facing the respondent:

.....

70. Comments and observations:

.....
.....
.....
.....

71. Could the respondent name any staff member at the Community Fisheries Centre (CFC):

Yes Names:

No

Course for the Loan and Management Committee members

Others Specify:

74. Is the respondent member of:

Village Management Committee

Women group (Kafo)

Fishermen association/Fishermen cooperative society

Banabana association

Fish smokers association

Fish dryer association

75. Has the respondent been granted credit by the Project for:

Equipment

Operational funds

76. Has the respondent used ice from the Brikama Ice Plant:

Yes No

77. Has the respondent, thanks to the Project's activities, got access to fresh water at nearby distances:

Domestic Fish cleaning

Livestock Horticultural/gardens

Others Specify:

72. Which of those facilities at the CFC has the respondent used:

Cement tables for fish cleaning

Improved smoking huts

Sun-drying racks

Stores for dried fish

Insulated boxes for fresh fish

Gear stores

Mechanic workshop and testing tanks

Safe deposit boxes

Covered area for net drying and repair

Landing jetty (Tanji)

73. Has the respondent followed a training course:

In new fishing techniques

In smoking methods

Literacy and Numeracy programmes

Summary TablesThe Total Survey PopulationTable 1:

Total Survey Population Average Age and Household Size			
	Total population	Males	Females
Average age	34	35	33
Average house- hold size	9	8	11

Table 2:

Total Survey Population Ethnic Groups			
Ethnic groups	Total Population	Males	Females
Mandinka	129 (40%)	84 (41%)	45 (39%)
Serere	83 (26%)	63 (31%)	20 (17%)
Jola	53 (17%)	13 (6%)	40 (34%)
Wollof	15 (5%)	11 (5%)	4 (3%)
Lebou	13 (4%)	11 (3%)	2
Fula	10 (3%)	9 (4%)	1
Fante	9	7	2
Serahule	3	2	1
Yoruba	1	1	-
Asante	1	-	1
Bambara	1	1	-
Arab	1	1	-
Total:	319	203	116

Table 3:

Total Survey Population Nationalities			
Nationality	Total number	Average number of centre's facilities used	Average number of courses attended
Gambian	210 (66%)	1.9	0.26
Senegalese	87 (27%)	2.2	0.02
Ghanaian	10 (3%)	1.6	0
Guinea Bissau	5 (2%)	1.8	0
Malian	4 (1%)	1.2	0
Guinea Conakry	1	1	0
Mauritanian	1	1	1
Beninese	1	3	0

Table 4:

Total Survey Population Nationalities			
Nationality	Average household size	Desire to Change occupation	Literacy rate
Gambian	10	56 (27%)	46 (22%)
Senegalese	7	21 (24%)	26 (30%)
Ghanaian	5	1 (10%)	5 (50%)
Guinea Bissau	9	1	1
Malian	6	1	1
Guinea Conakry	18	1	-
Mauritanian	6	-	1
Beninese	23	-	1

Table 5:

Total Survey Population Literacy rates, etc..			
	Total Pop.	Males	Females
Literate	81 (25%)	68 (33%)	13 (11%)
Working full time	269 (84%)	191 (94%)	78 (67%)
Working all year around	231 (67%)	169 (83%)	62 (53%)
Having more than one occupation	101 (32%)	40 (20%)	61 (53%)
Desire to change occupation	81 (25%)	40 (20%)	41 (35%)

Table 6:

Total Survey Population Property owned			
Property owned	Total Pop.	Males	Females
House	192 (60%)	155 (76%)	37 (32%)
Agricultural land	133 (42%)	88 (43%)	45 (39%)
Car	7 (2%)	6 (3%)	1
Generator	4 (1%)	3	1
Video	6 (2%)	4	2
Television	14 (4%)	13 (6%)	1
Bebe	16 (5%)	15 (7%)	1
Bicycle	51 (16%)	51 (25%)	-
Radio-cassette player	127 (40%)	95 (47%)	32 (28%)
Radio	182 (57%)	138 (68%)	44 (38%)
Watch	172 (54%)	138 (68%)	34 (29%)

Table 7:

Total Survey Population Secondary occupation			
Other Occupations	Total Pop.	Males	Females
Farmer	53 (17%)	28 (14%)	25 (22%)
Gardening	14 (4%)	-	14 (12%)
Fish monger	6	1	5
Dryer	6	1	5
Fisherman	2	2	-
Dunilaa	2	-	2
Driver	2	2	-
Student	2	2	-
Revenue collector	2	2	-
Smoker	1	-	1
Petty trader	1	-	1
Mason	1	1	-
More than two other occupations	8	1	7
Not spec.	1	-	1
Total	101 (32%)	40 (20%)	61 (53%)

Table 8:

Total Survey Population Desired occupations			
Desired occupation	Total Pop.	Males	Females
Petty trader	19	1	18
Commerce	17	11	6
Fish monger	7	5	2
Driver	6	6	-
Dryer	5	1	4
Gardening	4	1	3
Maid	2	-	2
Teacher	1	1	-
Tailor	1	1	-
Not specified	19	13	6
Total	81	40	41

Table 9:

Total Survey Population Utilization of the CFCs' facilities	
Number of interviewed using the CFCs' facilities	
Cement tables for fish cleaning	132 (43%)
Improved smoking huts	55 (18%)
Sun-drying racks	47 (15%)
Insulated boxes for fresh fish	2
Gear stores	91 (29%)
Stores for dried fish	31 (10%)
Mechanic workshop & testing tanks	43 (14%)
Safe deposit boxes	63 (20%)
Covered area for net drying and repair	103 (33%)
Landing jetty (Tanji)	37 (12%)

Table 10:

Total Survey Population CFC courses attended	
Number of interviewed having attended courses in :	
New fishing techniques	6
Smoking methods	11
Literacy and Numeracy	37 (12%)
Horticulture	2
Courses for Loan & Management committee members	1

Table 11:

Total Survey Population Average number of CFC facilities used and courses attended			
	Total Pop.	Males	Females
Average number of facilities used	1.9	2.2	1.4
Average number of courses attended	0.18	0.17	0.20

Table 12:

Total Survey Population Committees and associations	
Number of interviewed being members of:	
Village Management Committee	21
Fishermen association/cooperative society	32
Banabana association	44
Fish smokers association	27
Fish dryer association	21
Women group (kafo)	54

Table 13:

Total Survey Population EEC credit scheme, etc..	
Number of interviewed who :	
Had received credits for equipment	3
Had received credits for operational funds	21
Had used ice from Brikama ice plant	45
Could name at least one staff member	293 (92%)

Table 14:

Total Survey Population Access to fresh water	
Number of interviewed having access to fresh water for:	
Fish cleaning	123 (40%)
Horticultural/gardens	14 (5%)
Domestic	26 (100% in Kartong)
Drinking water (at centre)	197 (64%)
Laundry (at centre)	25 (8%)
Washing O/B engine	15 (5%)
Miscellaneous	1

Summary Tables
Professional Sub-groups

A. Boat owners

Table 1A

Boat owners Average household size etc..			
	Total Pop.	Males	Females
Number interviewed	18	18	-
Average age	40	40	-
Average household size	10	10	-
Average number of facilities used	2.7	2.7	-
Average number of courses attended	0.17	0.17	-

Table 2A:

Boat owners Ethnic groups			
	Total Pop.	Males	Females
Serere	11	11	-
Mandinka	2	2	-
Lebou	2	2	-
Wollof	2	2	-
Jola	1	1	-

Table 3A:

Boat owners Nationalities			
Nationalities	Total Pop.	Males	Females
Gambian	10	10	-
Senegalese	8	8	-

Table 4A:

Boat owners Literacy rate, etc..			
	Total Pop.	Males	Females
Literate	5 (27%)	5	-
Working full time	18 (100%)	18	-
Working all year around	16 (89%)	16	-
Having more than one occupation	2	2	-
Desire to change occ.	1	1	-

Table 5A:

Boat owners Property owned			
Property owned	Total Pop.	Males	Females
House	16 (89%)	16	-
Agricultural land	8 (44%)	8	-
Car	-	-	-
Generator	-	-	-
Video	-	-	-
Television	3 (17%)	3	-
Bebe	2 (11%)	2	-
Bicycle	6 (33%)	6	-
Radio-cassette player	10 (56%)	10	-
Radio	13 (72%)	13	-
Watch	14 (78%)	14	-

Table 6A

Boat owners Secondary occupations			
Other occupations	Total Pop.	Males	Females
Farmer	2 (11%)	2	-

Table 7A

Boat owners Desired occupations			
Desired occupation	Total	Males	Females
Driver	1	1	-

Table 8A

Boat owners Problems encountered	
Biggest problem encountered	Number
Material	9 (50%)
Trawlers	7 (39%)
Capital	2 (11%)

Table 9A

Boat owners Fishing gear	
Types of gear used	Number
Bottom gill net	10 (55%)
Surrounding gill net	6 (35%)
Hook and line	3 (17%)
Shark net	2 (11%)
Lobster net	2 (11%)

Table 10A

Boat owners Day at sea/year	
Day at sea per year	Number
	302

B. Fishermen (crewmembers)

Table 1B

Fishermen Average age, household size, etc..			
	Total Pop.	Males	Females
Number interviewed	77	77	-
Average age	29	29	-
Average household size	5	5	-
Average number of facilities used	2.7	2.7	-
Average number of courses attended	0.17	0.17	-

Table 2B:

Fishermen Ethnic groups			
	Total Pop.	Males	Females
Serere	35 (45%)	35	-
Mandinka	24 (31%)	24	-
Jola	8 (10%)	8	-
Lebou	5 (6%)	5	-
Fante	3 (4%)	3	-
Fula	2 (3%)	2	-

Table 3B:

Fishermen Nationalities			
Nationalities	Total Pop.	Males	Females
Senegalese	38 (49%)	38	-
Gambian	35 (45%)	35	-
Ghanaian	3 (4%)	3	-
Malian	1	1	-

Table 4B:

Fishermen Literacy rates, etc...			
	Total Pop.	Males	Females
Literate	28 (36%)	28	-
Working full time	70 (91%)	70	-
Working all year around	64 (83%)	64	-
Having more than one occupation	12 (16%)	12	-
Desire to change occ.	12 (16%)	12	-

Table 5B:

Fishermen Property owned			
Property owned	Total Pop.	Males	Females
House	48 (62%)	48	-
Agricultural land	21 (27%)	21	-
Car	-	-	-
Generator	-	-	-
Video	-	-	-
Television	2	2	-
Bebe	1	1	-
Bicycle	9 (12%)	9	-
Radio-cassette player	43 (56%)	43	-
Radio	43 (56%)	43	-
Watch	45 (58%)	45	-

Table 6B

Fishermen Secondary occupations			
Other occupations	Total Pop.	Males	Females
Farmer	9 (12%)	9 (12%)	-
Dryer	1	1	-
Student	1	1	-
Not specified	1	1	-
Total	12	12	-

Table 7B

Fishermen Desired occupations			
Desired occupation	Total	Males	Females
Commerce	3	3	-
Fish monger	3	3	-
Teacher	1	1	-
Driver	1	1	-
Dryer	1	1	-
Not specified	3	3	-
Total	12	12	-

Table 8B

Fishermen Problems encountered	
Biggest problem encountered	Number
Material	32
Market	10
Trawlers	10
Capital	10
Low catches	2
Find crew	1
Low fish prices	1
No indication	11

Table 9B

Fishermen Fishing gear	
Types of gear used	Number
Surrounding gill nets	43 (56%)
Bottom gill nets	24 (31%)
Lobster net	7
Shark net	6
Cast net	3
Hook and line	2
Chasing trawlers	2
Long lines	1

Table 10B

Fishermen Days at sea/year	
Days at sea per year	Number
	302

Table 11B

Fishermen Duties aboard	
Duties aboard	Number
Boat assistant	47 (61%)
Captain	14 (18%)
Engine Operator	9 (12%)
Deputy Captain	4
Cast net (no canoe)	3

C. Fish smokers

Table 1C

Fish smokers Average age, household size, etc..			
	Total Pop.	Males	Females
Number interviewed	36	12	24
Average age	40	50	35
Average household size	13	12	13
Average number of facilities used	1.7	2.2	1.4
Average number of courses attended	0.31	0.33	0.29

Table 2C:

Fish smokers Ethnic groups	
Ethnic groups	Number
Mandinka	19 (53%)
Jola	11 (31%)
Sererere	4 (11%)
Yoruba	1
Fula	1

Table 3C:

Fish smokers Nationalities	
Nationalities	Number
Gambian	32 (89%)
Senegalese	2
Guinea Bissau	1
Benin	1

Table 4C:

Fish smokers Literacy rates, etc..			
	Total Pop.	Males	Females
Literate	7 (19%)	5 (42%)	2 (8%)
Working full time	29 (81%)	12 (100%)	17 (71%)
Working all year around	27 (75%)	12 (100%)	15 (62%)
Having more than one occupation	12 (33%)	1	11 (46%)
Desire to change occ.	8 (22%)	3 (25%)	5 (21%)

Table 5C:

Fish smokers Property owned			
Property owned	Total Pop.	Males	Females
House	23 (64%)	12 (100%)	11 (46%)
Agricultural land	17 (47%)	7	10 (42%)
Car	-	-	-
Generator	1	-	1
Video	1	-	1
Television	1	-	1
Bebe	2	2	-
Bicycle	5 (14%)	5 (42%)	-
Radio-cassette player	16 (44%)	10 (83%)	6 (25%)
Radio	20 (55%)	9 (75%)	11 (46%)
Watch	16 (44%)	11 (92%)	5 (21%)

Table 6C

Fish smokers Secondary occupations			
Other occupations	Total Pop.	Males	Females
Farmer	6 (16%)	-	6 (25%)
Gardening	3	-	3
Fish monger	2	1	1
More than two other occupations	1	-	1
Total	12	1	11

Table 7C

Fish smokers Desired occupations			
Desired occupation	Total	Males	Females
Commerce	3	1	2
Petty trader	2	-	2
Dryer	1	-	1
Tailor	1	1	-
Not specified	1	1	-
Total	8	3	5

Table 8C

Fish smokers Problems encountered			
Biggest problem encountered	Total Pop.	Males	Females
Capital	10	6	4
Transport	8	2	6
Wood and transport	5	1	4
Wood	2	1	1
Fish supply	6	2	4
Not specified	5	-	5

Table 9C

Fish smokers Oven used	
Types of oven used	Number
Improved Chorkor	25 (70%)
Traditional oven covered with rhum palm leaves	12 (33%)
Traditional oven covered by corrugated iron sheets	3 (8%)
Domestic oven	4 (11%)

Table 10C

Fish smokers Markets			
Market where the smoked fish is sold	Total Pop.	Males	Females
Serrekunda	18	-	18
At the centre/beach	6	5	1
Basse	5	5	-
Bahou	2	-	2
Banjul	1	-	1
Lamin	1	-	1
No indication	3	2	1

Table 11C

Fish smokers Scale of operations			
Average amount of kilo fish smoked per year	Total Pop.	Males	Females
	20,556	45,976	6,073

D. Fish dryers

Table 1D

Fish dryers Average age, household size, etc..			
	Total Pop.	Males	Females
Number interviewed	54	17	37
Average age	35	36	34
Average household size	9	7	10
Average number of faci- lities used	1.9	2.2	1.7
Average number of courses attended	0.24	0.12	0.30

Table 2D:

Fish dryers Ethnic groups	
Ethnic groups	Number
Jola	14 (26%)
Serere	12 (22%)
Wollof	11 (20%)
Mandinka	8 (15%)
Fante	6 (11%)
Asante	1
Lebou	1
Fula	1

Table 3D:

Fish dryers Nationalities	
Nationalities	Number
Gambian	28 (52%)
Senegalese	19 (35%)
Ghanaian	7 (13%)

Table 4D:

Fish dryers Literacy rates, etc..			
	Total Pop.	Males	Females
Literate	9 (17%)	6 (35%)	3 (8%)
Working full time	45 (83%)	17 (100%)	28 (76%)
Working all year around	43 (80%)	17 (100%)	26 (70%)
Having more than one occupation	15 (28%)	1 (6%)	14 (38%)
Desire to change occ.	19 (35%)	1 (6%)	18 (49%)

Table 5D:

Fish dryers Property owned			
Property owned	Total Pop.	Males	Females
House	24 (45%)	13 (76%)	11 (30%)
Agricultural land	16 (30%)	8 (47%)	8 (22%)
Car	1	1	-
Generator	-	-	-
Video	-	-	-
Television	-	-	-
Bebe	-	-	-
Bicycle	5 (9%)	5 (29%)	-
Radio-cassette player	18 (33%)	10 (59%)	8 (22%)
Radio	24 (44%)	16 (94%)	8 (22%)
Watch	26 (48%)	16 (94%)	10 (27%)

Table 6D

Fish dryers Secondary occupations			
Other occupations	Total Pop.	Males	Females
Gardening	6	-	6
Farmer	3	-	3
Smoker	1	-	1
Dunilaa	1	-	1
Petty trader	1	-	1
Fishermen	1	1	-
Not specified	2	-	2

Table 7D

Fish dryers Desired occupations			
Desired occupation	Total	Males	Females
Petty trader	11	-	11
Commerce	1	-	1
Fish monger	1	-	1
Maid	1	-	1
Not specified	5	1	4

Table 8D

Fish dryers Problems encountered			
Biggest problem encountered	Total Pop.	Males	Females
Racks	18	5	13
Capital	10	5	5
Fish supply	6	2	4
Storage	5	-	5
Transport	4	1	3
Market	2	1	1
Not specified	9	3	6

Table 9D

Fish dryers Racks used			
Types of racks used	Total Pop.	Males	Females
Traditional racks	35 (64%)	13 (76%)	22 (59%)
Improved racks	25 (46%)	6 (35%)	19 (51%)
Both	6 (11%)	2	4 (11%)

Table 10D

Fish dryers Markets			
Market where the smoked fish is sold	Total Pop.	Males	Females
At the centre/beach	32 (59%)	10 (59%)	22 (59%)
Serrekunda	13 (24%)	-	13 (35%)
Farafeni	3	3	-
Ghana	3	2	1
Senegal	2	2	-
Banjul	1	-	1

Table 11D

Fish dryers Fish species dried			
Fish species used	Total Pop.	Males	Females
White fish & cat fish	12	6	6
Whitefish, catfish & bonga	20	5	15
Bonga	10	-	10
White fish, catfish & shark	2	-	2
Shark	5	4	1
White fish	3	1	2
White fish, catfish & snails	2	1	1

Table 12D:

Fish dryers Scale of operations			
	Total Pop.	Males	Females
Average amount of fish dried per year (kilo)	20.917	27.508	17.887
Average number of months drying	10	11	10

E. Fish mongers

Table 1E

Fish mongers Average age, household size, etc..			
	Total Pop.	Males	Females
Number interviewed	71	52	19
Average age	35	35	36
Average household size	10	9	12
Average number of facilities used	1.9	1.9	1.7
Average number of courses attended	0.15	0.15	0.16

Table 2E:

Fish mongers Ethnic groups	
Ethnic groups	Number
Mandinka	42 (59%)
Serere	13 (18%)
Jola	7 (10%)
Fula	3
Wollof	2
Serahule	2
Lebou	1
Arab	1

Table 3E:

Fish mongers Nationalities	
Nationalities	Number
Gambian	59 (83%)
Senegalese	8 (11%)
Guinea Bissau	2
Malian	1
Mauritanian	1

Table 4E:

Fish mongers Literacy rates, etc..			
	Total Pop.	Males	Females
Literate	17 (24%)	15 (29%)	2 (11%)
Working full time	65 (92%)	49 (94%)	16 (84%)
Working all year around	45 (63%)	39 (75%)	6 (32%)
Having more than one occupation	30 (42%)	18 (35%)	12 (63%)
Desire to change occ.	20 (28%)	15 (29%)	5 (26%)

Table 5E:

Fish mongers Property owned			
Property owned	Total Pop.	Males	Females
House	52 (73%)	46 (88%)	6 (32%)
Agricultural land	39 (55%)	32 (62%)	7 (37%)
Car	4 (6%)	3 (6%)	1
Generator	1 (1%)	1	-
Video	2 (3%)	2	-
Television	4 (6%)	4 (8%)	-
Bebe	8 (11%)	8 (15%)	-
Bicycle	19 (27%)	19 (37%)	-
Radio-cassette player	42 (59%)	33 (63%)	9 (47%)
Radio	44 (62%)	38 (73%)	6 (32%)
Watch	42 (59%)	38 (73%)	4 (21%)

Table 6E

Fish mongers Secondary occupations			
Other occupations	Total Pop.	Males	Females
Farmers	21 (30%)	14 (27%)	7 (37%)
Driver	2	2	-
Dryer	2	-	2
Gardening	2	-	2
Revenue collector	1	1	-
Fisherman	1	1	-
Dunilaa	1	-	1

Table 7E

Fish mongers Desired occupations			
Desired occupation	Total	Males	Females
Commerce	7	7	-
Petty trader	4	1	3
Gardening	1	1	-
Driver	1	1	-
Dryer	1	-	1
Not specified	6	5	1

Table 8E

Fish mongers Problems encountered			
Biggest problem encountered	Total Pop.	Males	Females
Capital	28 (39%)	25 (48%)	3 (12%)
Transport	13 (23%)	7 (13%)	6 (32%)
Ice	9 (13%)	7 (13%)	2
Fish supply	7 (10%)	2	5 (26%)
Storage	5 (7%)	4	1
Road condition	1	1	-
Physically hard work	1	-	1

Table 9E

Fish mongers Modes of transport			
Modes of transport	Total Pop.	Males	Females
Bush taxi	35 (49%)	23 (44%)	12 (63%)
Bicycle	16 (23%)	16 (31%)	-
Pick up	7 (10%)	7 (13%)	-
By foot	4	-	4
Bebe	3	3	-
Lorry	2	2	-
Combination of more than two types of transport	4	1	3

Table 10E

Fish mongers Markets			
Market where the smoked fish is sold	Total Pop.	Males	Females
Serrekunda	23 (32%)	14 (27%)	9 (47%)
Brikama	7	5	2
At the centre/beach	6	2	4
Several markets	8	6	2
Miscellaneous	6	6	-
Not specified	21	19	2

Table 11E

Fish mongers Marketing			
	Total Pop.	Males	Females
Buying fish from fishermen	59 (83%)	45 (87%)	14 (73%)
Buying fish from middlemen	16 (23%)	9 (17%)	7 (37%)
Selling fish to mongers	24 (34%)	19 (37%)	5 (26%)
Selling fish to consumers	57 (80%)	41 (79%)	16 (84%)

Table 12E:

Fish mongers Scale of operations			
	Total Pop.	Males	Females
Average number of trips per year	269	277	244
Average amount of fish traded/year (kilo)	27,827	33,974	10,750

Table 13E:

Fish mongers Modes of transport - scale of operations			
Modes of transport	Average amount of fish traded per year (kilo)	Average number of trips per year	Kilo fish per trip
Bush taxi	28,634	295	97
Bicycle	12,209	238	51
Pick up	54,990	263	209
By foot	8,550	220	39
Bebe	44,840	381	118
Lorry	71,250	150	475
Combination of more than 2 types of transport	11,976	178	67

Table 14E:

Fish mongers Type of fish traded			
Type of fish traded	Total	Males	Females
Fresh fish	70	52 (100%)	18
Dried fish	4	-	4
Smoked fish	1	-	1

F. OTHERS

Table 1F:

"Others" Number interviewed			
Number interviewed	Total	Males	Females
Dunilaa	34	-	34
Smoker assistants	12	12	-
Monger assistants	6	6	-
Boat builders	6	6	-
Gutters	2	2	-
Dryer assistant	1	-	1
Boat builder assistant	1	1	-
Total	62	27	35

"Others" Average age, household size, etc..				
	Average age	Average household size	Average N° of facilities	Average N° of courses
Dunilaa	29	11	1.0	0.06
Smoker assist.	34	5	1.5	0.42
Monger assist.	24	8	1.5	0
Boat builders	55	11	1.0	0
Gutters	38	16	0	0
Dryer assistant	35	8	1	0
Boat builder ass.	34	5	0	0
Total average	32	10		

Table 2F:

"Others" Ethnic groups								
Ethnic groups	Dunilaa	Smoker assist.	Monger assist.	Boat Builder	Gutters	Dryer assist.	Boat Builder assist.	Total
Mandinka	19	8	5	-	2	-	-	34
Jola	12	-	-	-	-	-	-	12
Serere	3	-	-	4	-	-	-	7
Lebou	-	-	-	2	-	1	1	4
Fula	-	3	-	-	-	-	-	3
Serahule	-	1	-	-	-	-	-	1
Bambara	-	-	1	-	-	-	-	1

Table 3F:

"Others" Nationalities								
Nationalities	Dunilaa	Smoker assist.	Monger assist.	Boat builder	Gutters	Dryer assist.	Boat builder assist.	Total
Gambian	27	10	5	1	2	-	-	45 (73%)
Senegalese	4	-	1	5	-	1	1	12 (19%)
Malian	1	1	-	-	-	-	-	2
Guinea Bissau	1	1	-	-	-	-	-	2
Guinea Conakry	1	-	-	-	-	-	-	1

Table 4F:

"Others" Literacy rates			
	Total Population	Males	Females
Literate	16 (26%)	10 (67%)	6 (17%)
Working full time	41 (73%)	25 (92%)	16 (46%)
Working all year around	35 (56%)	20 (74%)	15 (43%)
Having more than one occupation	30 (48%)	7 (25%)	23 (66%)
Desire to change occupation	21 (34%)	8 (29%)	13 (37%)

Table 5F:

"Others" Property owned								
Property owned	Dunilaa	Smoker ass.	Monger assist.	Boat builder	Gutters	Dryer assist.	Boat builder assist.	Total
House	8 (24%)	10 (83%)	3	5	1	-	1	28 (45%)
Agr. Land	19 (56%)	8 (67%)	1	2	1	-	1	32 (52%)
Car	-	-	2	-	-	-	-	2 (3%)
Generator	-	-	2	-	-	-	-	2 (3%)
Video	1	1	1	-	-	-	-	4 (6%)
Television	-	-	2	1	-	-	1	4 (6%)
Bebe	1	-	1	1	-	-	-	3 (5%)
Bicycle	-	4 (33%)	1	1	-	-	-	6 (10%)
Radio-cassette	8 (25%)	6 (50%)	1	3	-	-	1	19 (31%)
Radio	17 (50%)	8 (67%)	4	5	1	1	1	27 (60%)
Watch	14 (41%)	5 (42%)	4	4	1	-	-	28 (45%)

Table 6F:

"Others" Secondary occupations			
Other occupations	Total Population	Males	Females
Farmer	11 (18%)	4 (15%)	7 (20%)
Gardening	3	-	3
Dryer	3	-	3
Student	1	1	-
Mason	1	1	-
Monger	4	-	4
More than two other occupations	7	1	6
Not specified	-	-	-

Table 7F:

"Others" Desired occupations			
Desired occupations	Total Pop.	Males	Females
Commerce	3	-	3
Petty trader	3	-	3
Driver	3	3	-
Monger	3	2	1
Dryer	2	-	2
Gardening	2	-	2
Maid	1	-	1
Not specified	4	3	1

Table 8F:

"Others" Problems encountered							
Biggest problem encountered	Dunilaa	Smoker assist.	Monger assist.	Boat builder	Gutters	Dryer assist.	Boat builder assist.
Physically hardwork	11	1	-	-	-	1	-
Badly paid	9	-	-	-	-	-	-
Fish supply	7	-	1	-	-	-	-
Material	-	-	-	6	-	-	1
Capital	2	3	-	-	-	-	-
Getting paid	-	2	-	-	1	-	-
Wood	-	1	-	-	-	-	-
Transport	-	1	-	-	-	-	-
Lack of facilities	-	1	-	-	-	-	-
Ice	1	-	-	-	-	-	-
Not specified	4	3	5	-	1	-	-

Table 9F

"Others" Number of working days/year								
Average number of working days/year	Dunilaa	Smoker assist.	Monger assist.	Boat builder	Gutters	Dryer assist.	Boat builder assist.	Total
	1) 278	2) 307	213	3) 267	306	n/a	275	275

- 1) Only 24 out of 34 have replied
 2) Only 10 out of 12 have replied
 3) Only 3 out of 6 have replied.

Table 10F:

"Others" Frequency of payments							
Frequency of payment	Dunilaa	Smoker assist.	Monger assist.	Boat builder	Gutters	Dryer assist.	Boat builders assist.
When tasks accomplished	23	6	-	6	1	-	1
Daily	10	3	1	-	1	1	-
Every 2nd day	-	-	2	-	-	-	-
Monthly	-	2	1	-	-	-	-
Not specified	1	1	1	-	-	-	-

COMMUNITY FISHERIES CENTRES

Table 1:

The Community Fisheries Centres Number of persons interviewed			
Number of interviewed	Total Pop.	Males	Females
Brufut	50	38	12
Tanji	91	54	37
Sanyang	36	21	15
Tujereng	14	8	6
Gunjur	102	63	39
Kartong	26	19	7
Total	319	203	116

Table 2

The Community Fisheries Centres Facilities and courses		
Centre	Average number of facilities used per interviewed	Average number of courses attended per interviewed
Brufut	2.3	0.26
Tanji	2.0	0.27
Sanyang	1.1	0.22
Tujereng	1.1	0.57
Gunjur	2.0	0.02
Kartong	2.4	0.08
Total average	1.9	0.18

Table 3:

The Community Fisheries Centres Literacy rates, etc..					
	Brufut	Tanji	Sanyang	Tujereng	Gunjur
Literate	22 (44%)	6 (7%)	7 (19%)	6 (42%)	35 (34%)
Working full time	41 (82%)	79 (87%)	26 (72%)	10 (71%)	89 (87%)
Working all year around	37 (74%)	70 (77%)	20 (56%)	7 (50%)	78 (76%)
Having more than one occupation	23 (46%)	26 (29%)	15 (42%)	6 (43%)	22 (22%)
Desire to change occupation	11 (22%)	5 (5%)	4 (11%)	1 (7%)	56 (55%)

	Kartong	Total
Literate	5 (19%)	81 (25%)
Working full time	24 (92%)	269 (84%)
Working all year around	19 (73%)	231 (67%)
Having more than one occupation	9 (34%)	101 (32%)
Desire to change occupation	4 (15%)	81 (25%)

Table 4:

The Community Fisheries Centres Professional groups - Number of interviewed					
Number of interviewed	A. Boatowners	B. Fishermen	C. Smokers	D. Dryers	E. Mongers
Brufut	5	16	5	5	9
Tanji	4	16	9	10	28
Sanyang	3	8	4	6	8
TuJereng	1	5	6	1	1
Gunjur	4	20	9	29	20
Kartong	1	12	3	3	5
Total	18	77	36	54	71

Number of interviewed	F. Others	Total
Brufut	10	50
Tanji	24	91
Sanyang	7	36
TuJereng	-	14
Gunjur	20	102
Kartong	1	26
Total	62	319

Table 5:

The Community Fisheries Centres Nationalities				
Centre	Gambians	Senegalese	Ghanaians	Others
Brufut	27 (54%)	17 (34%)	5 (10%)	1
Tanji	71 (78%)	18 (20%)	-	2
Sanyang	33 (92%)	3 (8%)	-	-
TuJereng	12 (86%)	1	-	1
Gunjur	56 (55%)	34 (33%)	5 (5%)	7
Kartong	11 (42%)	14 (54%)	-	1

Table 6:

The Community Fisheries Centres Place of permanent residence					
Centre	Centre Village	Other places The Gambia	Senegal	Ghana	No indic.
Brufut	20 (40%)	8 (16%)	17 (39%)	5 (10%)	-
Tanji	43 (47%)	29 (32%)	19 (21%)	-	-
Sanyang	31 (86%)	3 (8%)	1	-	1
TuJereng	10 (71%)	3 (21%)	1	-	-
Gunjur	39 (38%)	32 (31%)	29 (28%)	2	-
Kartong	7 (27%)	6 (23%)	13 (50%)	-	-
Total	150 (47%)	81 (25%)	80 (25%)	7 (2%)	1

Table 7:

The Community Fisheries Centres Present residence				
Centre	Centre village	Other places The Gambia	Senegal	No indication
Brufut	45 (90%)	4 (8%)	-	1
Tanji	55 (60%)	36 (40%)	-	-
Sanyang	25 (69%)	2 (6%)	-	9 (25%)
TuJereng	14 (100%)	-	-	-
Gunjur	77 (75%)	25 (25%)	-	-
Kartong	25 (96%)	-	1	-
Total	241 (76%)	67 (21%)	1	10 (3%)

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