

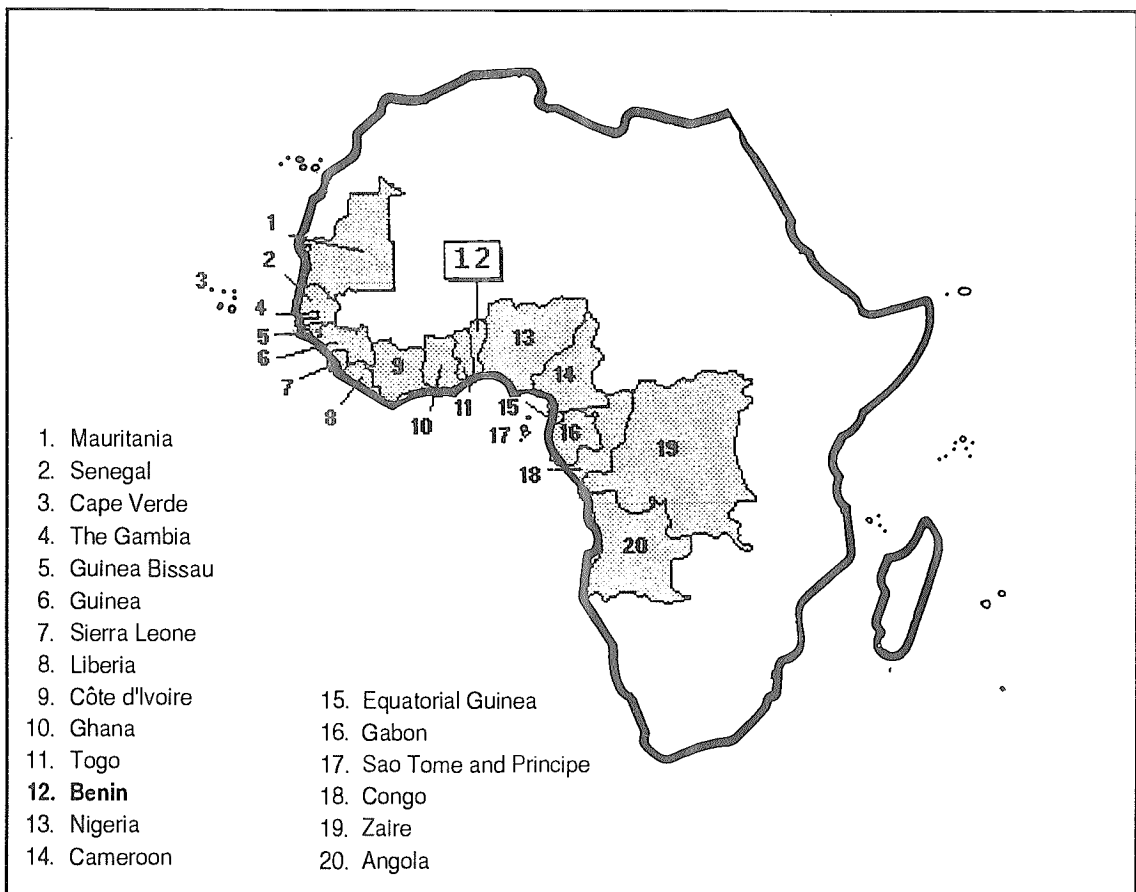
PROGRAMME FOR INTEGRATED DEVELOPMENT OF  
ARTISANAL FISHERIES IN WEST AFRICA

**IDAF PROGRAMME**

Technical Report N° 62

November 1994

**A socio-economic study on the distribution and  
marketing pattern of marine fish products in the Ndian division,  
South West Province, Republic of Cameroon**



DEPARTMENT OF INTERNATIONAL DEVELOPMENT COOPERATION OF DENMARK



FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS



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**A socio-economic study on the distribution and  
marketing pattern of marine fish products in the Ndian division,  
South West Province, Republic of Cameroon**

by

Bert Kamphorst  
APO Socio-Economist

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FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS  
Cotonou, November 1994

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## FOREWORD

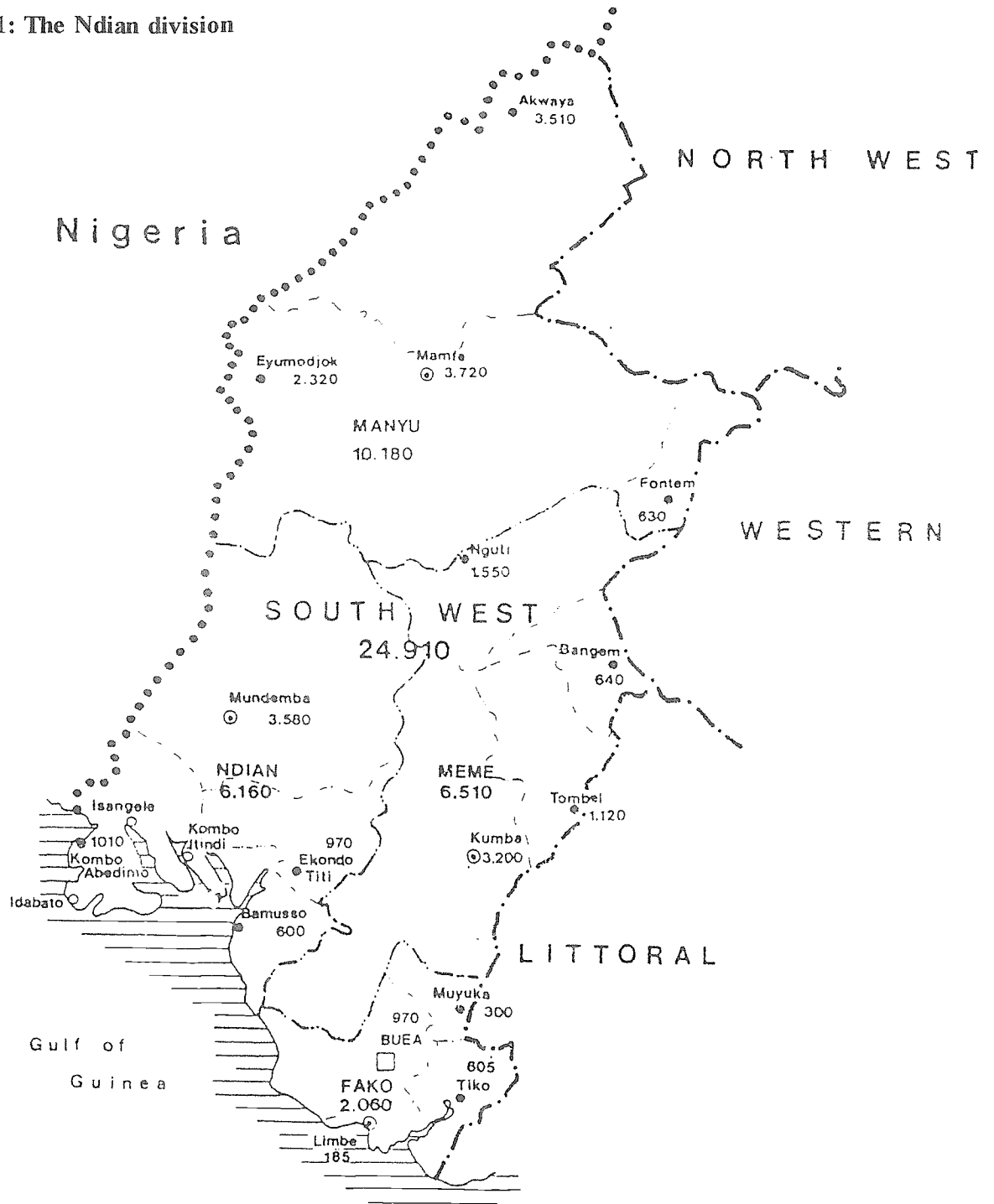
As one of the major objectives of the Programme for Integrated Development of Artisanal Fisheries in West Africa (IDAF) is to identify, assess and disseminate strategies and mechanisms for sustainable management and development of artisanal fisheries in fishing communities, IDAF responded positively to the request of the Ministry of Livestock, Fisheries and Animal Industries (MINEPIA) in September 1994 concerning a micro-project entitled "study on the distribution and marketing channels of marine fish products in the Ndian division".

The study was carried out in collaboration with "Mission de Développement de la Pêche Artisanale Maritime" (MIDEPECAM). Fisheries monitors in the Ndian division were trained in basic data collection and introduced to the questionnaire during a workshop organized by IDAF. The study analyses the origins, destinations, prices, quantities and profit margins of marine fish species caught in the Ndian division and describes the potential role of MIDEPECAM in the distribution and marketing system. The marketing system in the Ndian division supplies employment to hundreds of people. The study shows that fish smoking and trading are dynamic activities which gives employment to thousands of people. The marketing system has linkages to producers, consumers as well as to other mongers in the marketing sector. The study shows that the marketing system in the Ndian division is strongly dependent on developments in Cameroon's neighbouring country Nigeria.

By means of this case-study, IDAF hopes to contribute to a methodology for analyzing the distribution and marketing system of marine fish products, especially in border areas. It is hoped that the study will serve as a valuable tool for understanding the distribution and marketing system of marine fish products before any intensive interventions in the present distribution and marketing situation are undertaken.

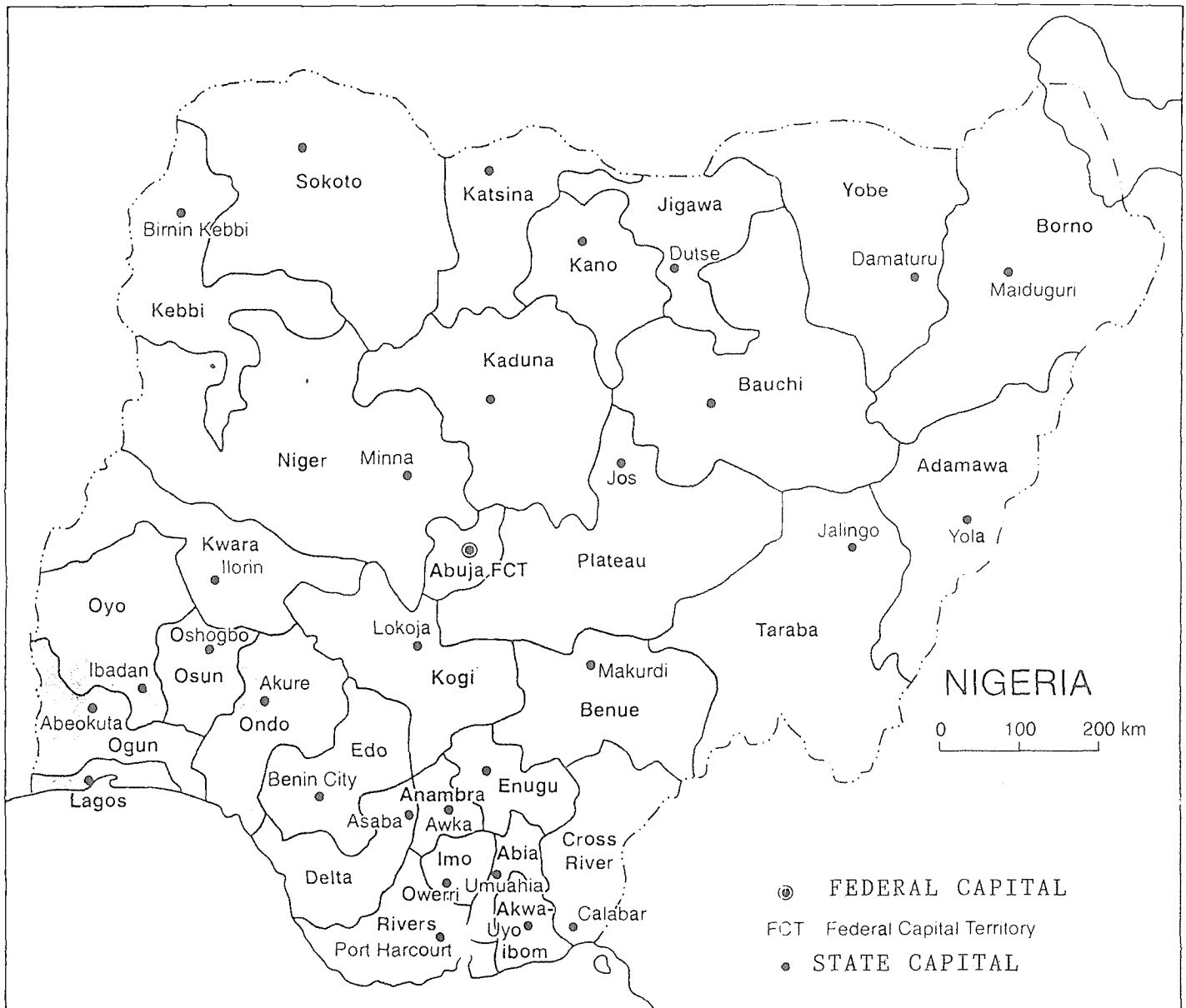
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IDAF Coordinator

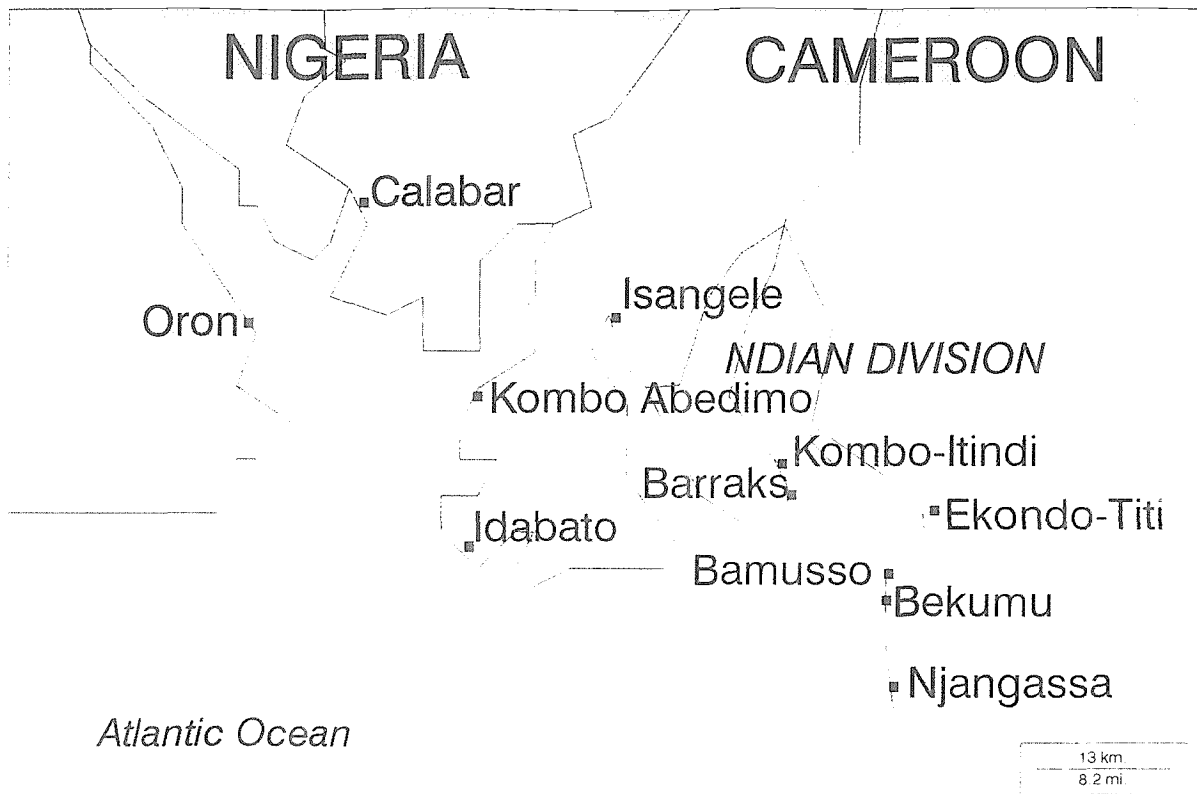
Map 1: The Ndian division



Scale	0      25 km      50	Echelle
Chief-town of Province	□	Chef-lieu de Province
Chief-town of Division	⊙	Chef-lieu de Département
Chief-town of Subdivision	●	Chef-lieu d'Arrondissement
Chief-town of District	○	Chef-lieu de District
Area in km <sup>2</sup>	970	Superficie en km <sup>2</sup>

**Map 2: Political map of the Federal Republic of Nigeria**





Map 3: The camp sites of the monitors in the Ndian division

Map 4: Final consumer markets of fish products from the Ndian division in Cameroon





## EXECUTIVE SUMMARY

On the request of the Ministry of Livestock, Fisheries and Animal Industries, MINEPIA, an identification mission was undertaken in October 1993 in order to prepare a study on the distribution and marketing channels of marine fish products in the Ndian division, located in the South West Province of the Republic of Cameroon. From 7 till 10 February 1994, IDAF organized, in close collaboration with the "Mission de Développement de la Pêche Artisanale Maritime" (MIDEPECAM), the "Centre de Recherche Halieutiques et Oceanographiques" (CHRO) and MINEPIA, a workshop in Limbe for the Fishery Monitors from the Fako and the Ndian division on basic statistical methods and on the finalizing of the distribution and marketing questionnaire for the survey in Ndian division. The survey was carried out by the Ndian fishery monitors between February and March 1994. During that period two supervisory mission were undertaken by MIDEPECAM, the counterpart organization for this study. A second workshop was held in May 1994 to discuss the results in both individual and plenary sessions with the fishery monitors.

MIDEPECAM is not only interested in supplying fishing equipment and servicing outboard engines to fisherfolk but it also likes to play an active role in the commercialization of marine fish products. This study could serve as a baseline for MIDEPECAM's market policy and hopes to contribute to a methodology for analyzing the distribution and marketing system of marine fish products for other IDAF associated countries.

During the survey 91 fish mongers were interviewed. This number corresponds to 30% of the mongers in the Ndian division. Because of the border crisis with Nigeria ("Bakassi Peninsula") a higher percentage was not reachable at that moment.

90% of the mongers have the Nigerian nationality and belong mainly to the Ibiobi and Ijaw ethnic group from the Akwa-Ibom and the River State respectively. The marine artisanal fishing industry in the Ndian division is completely dependent on and interlinked with Nigeria.

The mongers can be divided into smoked crayfish mongers (30%) and fresh bonga (*Ethmalosa fimbriata*) and/or fresh demersal fish mongers (70%), who smoke themselves.

70% of the bonga mongers are wives of fishermen who buy and sell fish and often have business relations with another fisherman. A smoked crayfish monger has an average of 5 suppliers. 50% of the mongers have established arrangements with fishermen. The mongers usually supply gear and in some cases engines to fishermen. 41% of the mongers have between 6-10 years experience in fish trading.

The production of fresh crayfish and fresh bonga in the Ndian division is underestimated at 2,000 mt and 3,000 mt respectively. The smoked crayfish and bonga which are transported without any export tax to Nigeria, have a total value of 2 billion FCFA. This means a loss of export tax earnings of 60 million FCFA (3% of the total value for smoked fish) for the Cameroonian government.

Five different producer-consumer channels are identified in the Ndian division. The most common linkage is: Fishermen---> primary wholesaler based in the fishing camp----> secondary wholesaler in Kumba---> Retailer--->Consumers.

Ekondo-Titi is the Cameroonian transit market, located in the Ndian division, South West Province. The actual wholesale of fish takes place in Kumba, situated in the neighbouring Meme division, South West Province. The final retail market is in the West Province, with consumers mainly based in Bafoussam. Nearly all smoked fish from the division (70% before and 90% after the present border crisis) goes to Oron, the Nigerian transit market in Akwa-Ibom State. The wholesale takes place in Calabar, Cross River State. From here it will supply consumers in the nearby cities in the different States.

The net profit margins for smoked crayfish (camp) mongers range from 17% to 22% of the sale's income, depending on the number of bags traded. Their average monthly incomes vary from 90,000 FCFA to 570,000 FCFA. The smoked bonga (camp) mongers have a profit range from 22% to 49% of the sale's income. Their average monthly incomes range from 53,000 FCFA to 197,000 FCFA. The profit margins and incomes for town wholesalers in Kumba are, not surprisingly, higher.

The market and distribution system of marine fish products may be called well-functioning in the Ndian division. Everybody in the chain makes profit and there is no surplus of fish. The wholesalers in Kumba are well-organized. The proposed involvement of MIDEPECAM in fish business is thereby not recommended. MIDEPECAM might instead concentrate more on the improvement of the marketing environment in the South West Province, on improved smoking ovens with high fuel efficiency and concentrate on fishing promotion programmes for Cameroonian fishermen in collaboration with experienced Nigerian fishermen. MIDEPECAM is only one intervener in the fisheries sector and should collaborate with another institutions which deal with this sector.

## LIST OF ABBREVIATIONS

CDPM:	"La Caisse de Développement de la Pêche
CHRO:	"Centre de Recherche Halieutiques et Océanographiques"
CIDA:	Canadian International Development Agency
DANIDA:	Department of International Development Cooperation of Denmark
DOF:	The Department of Fisheries
EEZ:	Exclusive Economic Zone
FAO:	Food and Agriculture Organization of the United Nations
IDAF	Programme for Integrated Development of Artisanal Fisheries in West Africa
MIDEPECAM:	"Mission de Développement de la Pêche Artisanale Maritime"
MINEPIA:	The Ministry of Livestock, Fisheries and Animal Industries
mt:	metric ton
SAP:	Social Adjustment Programme
SOWEDA:	The South West Development Authority

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## 1. INTRODUCTION

### 1.1 Cameroonian economic and social development policy towards fisheries

Since its independence, Cameroon has elaborated and implemented different development strategies through national economic and social five year plans. The economic crisis, which the country has faced since 1989, has undermined the implementation of the sixth five year plan (1986-1991). In 1989/90 a Structural Adjustment Programme (SAP) was developed to adjust needs to available means. The Government emphasizes economic growth in order to improve the standard of living and to ensure food self-sufficiency. The framework of this policy is based on economic liberalization: promotion of the private sector and thus, State withdrawal from economic enterprises towards delivering public services to the people.

The general fisheries development policy focuses on the promotion of national fish production to reduce the share of imported fish products in the national fish consumption. In the field of artisanal fisheries, the Government had to intervene to improve the situation of the economic operators through the provision of credit and the supply of equipment; and it had also to reinforce institutional support to fisherfolk.

In 1992, a draft of a guiding plan for a medium term, was prepared with FAO technical assistance. In accordance with the policy of the Government, two objectives were proposed :

- (a) in the short term, to implement a resource-based management programme for areas with an excessive exploitation, particularly demersal and shrimp stocks,
- (b) in the short/medium term, to focus development efforts on the few still under-exploited fisheries, to reduce post-harvest losses and to develop aquaculture (Sheves et al., 1993).

To reach these two objectives, two strategic axes were defined in the field of marine artisanal fishery:

1. to strengthen the Central Fisheries Administration in the area of development planning and particularly fisheries management;
2. to develop the specific fisheries which are still underexploited, and to improve processing and marketing methods in order to reduce post-harvest losses.

The Cameroonian Government is a regular intervener in the fishery sector, which influences the development process by creating facilities and incentives for fisherfolk and the private sector, setting rules and carrying out policy measures. Fisherfolk should be organized themselves to express their wishes to governmental and non-governmental institutions. The Government and fisherfolk have to consult each other. The fisherfolk must be involved in and be responsible for their own development process. In general, the Government should create an environment in which the market mechanism, "demand and supply", determines the real prices of commodities and services, so that the private sector is more involved in the fisheries development and encouraged to supply and deliver goods and services to fisherfolk.

## 1.2 Background

In 1993, the Programme for Integrated Development of Artisanal Fisheries in West Africa (IDAF) undertook a sectorial analysis of the Cameroonian marine artisanal fisheries sub-sector in order to elaborate a tool for monitoring the marine artisanal fisheries in Cameroon. The study presented a synthesis of activities in four fields of the marine artisanal fisheries sub-sector which should be analyzed and monitored in order to come up with recommendations to improve the present situation of the sub-sector (Kébé et al., 1993). Marketing of fish products on domestic and foreign markets was one of the four mentioned fields of attention in the report. Information on type of marketing circuits, type of traders, number of female and male traders, quantity of fish sold, incomes of different traders, costs of fish products, kind of vertical and horizontal linkages of the traders in the fisheries industry and information on price setting (wholesale, retail and export) is inadequate in Cameroon.

In September 1993, the Ministry of Livestock, Fisheries and Animal Industries (MINEPIA) requested assistance from IDAF concerning a micro-project entitled "Study on the distribution and marketing channels of marine fish products in the Ndian division". The Ndian division is the border zone between the South West Province of the Republic of Cameroon and the Federal Republic of Nigeria.

The "Mission de Développement de la Pêche Artisanale Maritime" (MIDEPECAM) was the counterpart organization for IDAF during the study. It was established with the assistance of the Canadian International Development Agency (CIDA) and became operational in 1977. Since 1987, it has been a financially self-supporting institute which does not benefit anymore from governmental subsidies but which is still under MINEPIA's supervision. Headquarters is based in Douala and it has seven agencies in the coastal area. The initial action plan provided two phases: (1). the construction of offices for the seven agencies along the coast, with warehouses and repair shops, and since 1984, the supply and servicing of outboard engines, spare parts and gear to fisherfolk; and (2). the marketing of the marine fish products. MIDEPECAM wishes to play an active role in the distribution and marketing of marine fish products in the coming years. Marketing of fish products is not easy because the fishermen involved in marine fishing in Cameroon are aliens, mainly Nigerians, who prefer to export informally their catches to their home country. IDAF conducted, in close collaboration with MIDEPECAM, a detailed study on distribution and marketing channels of marine fish products from the Ndian division which could serve as a baseline for MIDEPECAM's market policy.

The South West Development Authority (SOWEDA), established in 1993, also provides in its programme funds to fishery projects for an estimated value of 841 millions FCFA, financed by the African Development Bank for a period of five years. The improvement of the marketing of fresh and smoked fish is one of its objectives. SOWEDA has shown interest in the IDAF/MIDEPECAM study.



### 1.3 Objectives

The overall objective of the study is: to determine origins, destinations, prices, quantities and profit margins of marine fish species, caught in the Ndian division and traded at Cameroonian and Nigerian markets.

The specific objectives of the study are: (1) to analyze the distribution and marketing channels of marine fish products in the Ndian division, (2) to assess the marine fish outflow (illegal export) from the Ndian division to Nigeria, (3) to provide recommendations to the responsible authorities in order to improve the management of the existing marketing system and (4) to elaborate a simple methodology for analyzing the marketing system which can also be used in other IDAF associated countries.

The Ndian division is the most important fishing division, regarding to the number of fishermen in Cameroon. Approximately 80-90% of the marine fish products are sold in Nigeria. The problem of the study can be formulated as follows: how can Cameroon benefit more from its own fisheries resources in the Ndian division? Cameroon imported around 75,000 metric ton (mt) in 1990. Reduced fish imports means saving foreign valuta.

### 1.4 Methodology

A literature study on marketing studies in general and fish marketing in particular and on Cameroonian marine fisheries studies, was carried out in September 1993. The 1987 Midepecam census was very helpful in obtaining basic information on the Ndian division.

The APO Socio-Economist undertook an identification mission in October 1993 in order to prepare the study on the distribution and marketing channels of marine fish products in the Ndian division. The fish markets in Ekondo-Titi, Mundemba, Kumba, Limbé and Douala were visited. The first findings and follow up was discussed with MIDEPECAM and "La Caisse de Développement de la Pêche" (CDPM) in Douala and the Department of Fisheries in Yaoundé. It was decided that the fishery monitors in the Ndian division would be chosen as interviewers of the fishmongers and trained for that purpose.

From 7 to 10 February 1994, IDAF organized, in close collaboration with MIDEPECAM, the "Centre de Recherche Halieutiques et Oceanographiques" (CHRO) and MINEPIA, a workshop in Limbé for the Fishery Monitors from Fako and Ndian Division on basic statistical methods and on the finalizing of the distribution and marketing questionnaire for the survey in the Ndian division. The questionnaire was tested in Limbé and in Idenau, both located in the Fako division. The workshop was followed by a supervisory mission to the stations of the monitors in the Ndian division from 12 to 16 February 1994.

The total number of fish mongers in the roughly 40 camps in the Ndian district was estimated at 300 mongers, mainly wives of fishermen. The marketing survey was only carried out in the area of five duty stations of the fishery monitors in the Ndian division in February/March 1994. The fishery monitors from Idabato and Kombo-Abedimo could not do

their job because of an forced evacuation, due to the border conflict with Nigeria, to Mundemba, the Ndian divisional capital.

During the survey, 91 fish mongers were interviewed. The division of the interviewees over the five camps is shown in table 1.

**Table 1:** Distribution of the interviewees in the Ndian division

Fishing Area	Number of interviewees	Nationality	
		Nigerian	Cameroonian
Barracks	9	9	
Bamusso	15	9	6
Njangassa	30	26	4
Bekumu	33	33	
Isangele	4	4	
Total	91	81	10

Source: IDAF Survey, February/March 1994

The total number of 91 interviewees represents only 50% of the fish mongers in the five mentioned areas. Due to the border crisis, the five fishery monitors could only interview 50% of the traders in their control post area. The other 50% of the mongers in the five above mentioned areas prefer to stay in Nigeria.

The average stay of the monitors in Ndian division is 5.5 years. They know their area and have established good relationships with the mongers.

A second supervisory mission to the stations in the Ndian division was undertaken by Mr. Duncan Molindo, Chief of MIDEPECAM branch Limbé, from 29 to 31 March 1994. He was accompanied by Mrs. Lucy Nkumbe and Mr. Oumarou Njifonjou , both lecturers at the workshop in Limbe and both employed as researchers at CHRO-Limbe.

A second workshop was organized in Ekondo-Titi on 6 and 7 May 1994. It was a follow up on the workshop in Limbé. The 91 questionnaires were collected and the results were both in individual and plenary sessions discussed with the fishery monitors.

The data were partly processed by hand and partly by computer, using microsoft excel 4.0, at IDAF headquarters in Cotonou, Benin, in May 1994. The writing of the report took place in June/July 1994.

Annex 2 shows a list of persons who provided valuable assistance during the various stages of the study. In particular, I would like to express my gratitude towards Mr. Molindo, for his assistance in the field and for the useful comments on the draft of this report, as towards Mr. Bille, Mrs. Nkumbe, Mr. Njifounsou, the fishery monitors of the Ndian division, and last but not least, towards the interviewed fish mongers for their friendliness and cooperation.

The definitions of terms used during the research are as follows:

<i>Marine artisanal fisheries:</i>	the technically non-advanced and labour-intensive fisheries in which working units normally consists of one person or small number of persons with a relatively small amount of capital goods per person, in which the technical know-how and skill are not specialized but highly differentiated, and in which the greater share (in case of a normal catch) is sold to be resold further away in distance and/or time by a non-fishing intermediary (Scheepens, 1980).
<i>Trader/fish monger/ middleman/woman:</i>	person who buys and sells fish on the market. The trader can be a wholesaler or a retailer.
<i>Wholesaler:</i>	trader who buys fish from fishermen and sells it to others than consumers, generally in large quantities.
<i>Retailer:</i>	trader who sells directly to consumers.
<i>Gross profit:</i>	sales income from smoked fish ( $P \times Q$ ) - costs of production, excluding depreciation.
<i>Net profit:</i>	gross profit - depreciation costs.
<i>Real net profit:</i>	net profit + value of the smoked fish used for own consumption
<i>Profit margin:</i>	net profit divided by sale's income
<i>Annual depreciation costs:</i>	the annual depreciation costs of the shed and racks of the monger/smoker are estimated at 10,000 FCFA.
<i>Purchase costs:</i>	amount of money spent on the purchase of fish from fishermen.

## 2. THE CONCEPTS OF AND ACTORS IN THE DISTRIBUTION AND MARKETING CHANNELS OF MARINE FISH PRODUCTS IN GENERAL

### 2.1 Marketing system

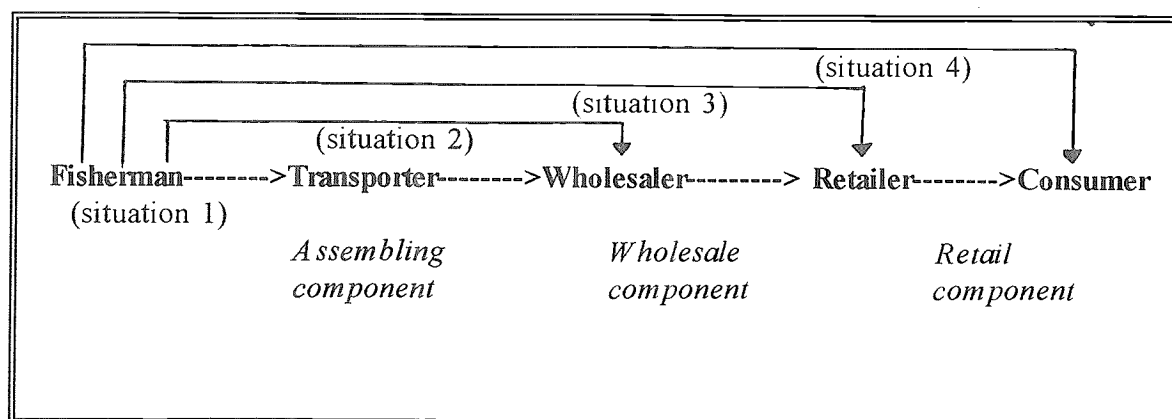
Marketing is the human activity directed at satisfying needs and wants through exchange processes. In each exchange process there is a commodity with a price tag, accompanied by a transaction process with at least two persons (Magermans, 1988). All elements which influence the exchange process of a commodity are part of the marketing system of that particular commodity.

An efficient marketing system of agricultural products must fill a multitude of functions. The problem of marketing fish in many countries can not be simply placed in the same category as the marketing problems involved in the sale of perishable agricultural commodities like fruits and vegetables. Fresh fish landed must be sold or processed in the same day. The actual sale of fresh fish must be completed within a delay of not more than a few hours under the hot and humid conditions of the market. This means that speed in the handling of fish is a prerequisite to obtain good fish prices. In many developing countries the existing communication network does not provide for such an organized and systematic approach to the handling of fish.

Generally, the marine fish marketing system can best be classified as on-shore activity of trading fresh and processed marine fish which are further, for a bigger part, inland wholesaled and retailed.

### 2.2 Distribution channels of marine fish products

The distribution channels of marine fish have increased in complexity over the years and reflect the performance of highly specialized economic functions such as collecting, packing, transporting, wholesaling and retailing. These activities are undertaken by the actors given in box 1, a simple schematical overview of the fish flow from producers to final consumers (Keat, 1976):



Box 1: The distribution and marketing chain

- situation 1:* the marketing chain consists of assemblers, wholesalers and retailers.
- situation 2 and 3:* one chain of channel is reduced with wholesalers and retailers by passing the assemblers or consignment agents, instead dealing directly with the fishermen themselves.
- situation 4:* consumers deal directly with producers. However, direct trading of this nature is mainly confined to small lots only and in general common in the remote fishing centres.

### 2.3 Existing opinions on fish middlemen/women

While some researchers look upon the relationship between fishermen and middlemen as being mutually advantageous to both parties, others express deep concern for the fishermen who fall prey to the exploitive operations of the middlemen/fishmamas. A few opinions are given below.

"Small and inefficient scale of operations, geographical dispersion, inadequacy of credit, collecting, storage, preservation, transport and marketing facilities have favoured the entry of numerous middlemen in the fishing industry. Because of their financial strength, the middlemen provide to the fishing populations the bulk of the working capital as well as consumer goods, insisting on the mortgage of catches. In absence of other arrangements, they monopolize the marketing of fish, which enables them to recover the loans from the proceeds of sale. In addition to the payment for the middlemen's financing and marketing services, the fishermen have to bear the cost of transport, storage and taxes, so that little or nothing is left for savings and investment" (Szczpanik, 1960).

"Middlemen have a positive influence on the marketing system. The private marketing systems in most Developing Countries are highly competitive and operate efficiently given the conditions in which they function" (Lele, 1974).

"The middlemen do not indulge in a peculiar credit system that both enslaves and exploits fishermen, as middlemen can set any price they wish, thus giving them full monopsony power. Motivations for lending by fish traders are not on the whole, for the extortion of a high rate of interest but mainly for the specific purpose of securing regular supplies of fish and for ensuring a continued business relationship" (Lawson, 1977).

Some authors pay particular attention to the risks of the middlemen, associated with the fishing industry. "Among the risk factors confronted by middlemen are price instability, quality, deterioration, quantity uncertainties and losses due to credit extension"(Keat, 1976).

Fishermen and middlemen have established long-lasting relationships. Two reasons for these relationship patterns are: first, it is very difficult for fishermen to market their own catches successfully, not only must fishermen be physically absent a good deal of the time, but they must also operate on schedules which are simply not compatible with the opening and closing of markets on shore. Second, and more important, fishermen establish long-

lasting ties with middlemen to reduce the uncertainty of marketing fish and obtaining capital (Acheson, 1981). The need to earn a living from fish trading and to secure relationships with fishermen must be balanced and not be conflicting to middlemen.

In the West African context, it must be noted that the crucial contribution of the fish middlewomen, the so-called "fish mamas", and those who are involved in the complementary role of the preservation of fish, make it possible for the fishermen to dispose of their landings without being involved in the trading of fish (Magermans, 1986, Overa°, 1993, Horemans 1994). Without the contribution of mainly women, the artisanal fishing industry could not exist in its present form.

### 3. THE STUDY AREA

#### 3.1 Administrative and physical characteristics

Administratively, the Republic of Cameroon counts ten provinces divided into 49 divisions which are separated into 183 sub-divisions and thirty-two districts. The average population density in Cameroon is 24 inhabitants/km<sup>2</sup>.

The fish distribution and marketing channels study was carried out in the Ndian division, situated in the South West Province. The location of the Ndian division is given on map 1. The Ndian division is split into seven sub-divisions, i.e. Bamusso, Isangele, Idabato, Kombo-Itindi, Kombo-Abedimo, Ekondo-Titi and Mundemba. The Ndian division is adjacented to the North by the Manyu division, to the West by the Federal Republic of Nigeria, to the East by the Meme division and to the South by both the Atlantic Ocean and the Fako division. The Ndian division occupies an area of 6,276 km<sup>2</sup> and has a present population of approximately 120,000 inhabitants, including roughly 15,000 Nigerians in the creeks, resulting in a population density of 19 inhabitants/km<sup>2</sup>.

The southern part of the Ndian division is ecological maritime which constitutes parts of Bamusso and Isangele sub-divisions. The entire creek area is covered by a mangrove swamp forest vegetation and consists of the sub-divisions of Idabato, Kombo-Itindi and Kombo-Abedimo. The mainland at the coastal area of Bamusso is flat, while the interior, comprising Mundemba and a greater part of Ekondo-Titi sub-division, is mountainous with tropical rain forest. Sandy and alluvial loam fields are common in the coastal area.

The unique geographical configuration modulates the Inter Tropical Continuity Zone. Coastal meteorology is characterized by heavy seasonal rainfall, up to 900mm in August, and discharges of the Akwayafe and Rio del Rey River.

The soils, in conjunction with the prevailing climatology, permit a wide variety of food and cash crops in the division; i.e. cassava, coco-yam, colocasia, plantain, maize, egusi melon, pineapples, cocoa, coffee, banana, rubber, palm kernels and palm oil.

The Ndian division is the main oil producing area in Cameroon. There is a pipeline to the refinery in Limbe.

The social, physical and administrative facilities in the division are one of the poorest in the country. Only Mundemba town is supplied with electricity (since 1993). There is no bank or filling station in the division. The dirt roads on the mainland are hardly passable during rain season. Bakassi Peninsula, which falls under the Kombo- Abedimo and the Isangele sub-divisions, has no road connections. Bush tracks pass for roads, like the 28 km track from Isangele to Mundemba. People of the Peninsula go for shopping to Calabar in Nigeria, which is closer and cheaper for them. Supply of drinking water is still a long way off in the division.

### 3.2 Fishing population

The fishing sector in Ndian division is completely dominated by Nigerians from The Cross River, Rivers and Akwa-Ibom State of the Federal Republic of Nigeria (map 2). The Ibibio, Ijaw and Efik are the most important Nigerian ethnic fishing groups in the Ndian division.

Ibibios and Efiks are indigenous people who migrated from Akwa Ibom and Cross River State. In 1988, the Nigerian Government decided that part of Cross River State should become a new State, named Akwa Ibom with Uyo as capital. The Ibibio people are the main ethnic group in the Akwa-Ibom State and represent 7 % of the total Nigerian population.

Ijaws are indigenous fishermen from Rivers State. They fish in the creeks. The Ijaw women also fish, using poles, lines and traps. The Ijaw people are said to be the better boatbuilders, especially as far as dug-out canoes are concerned. This group represents 2% of the Nigerian population.

Ilajes are indigenous fishermen originating from Ondo State. Ilajes are a subgroup of the Yoruba. They are the principal marine fishermen of Nigeria. They are known for their bonga fishing (IJff, 1990 and 1991).

A census, undertaken by MIDEPECAM in the Ndian division in June 1987, revealed that there were 1635 canoe masters and 4986 canoe boys, divided over thirty-two camps. Only nine Cameroonian fishermen were recorded. The total population in the thirty-two camps consisted of 8357 persons. During the present study, changes in the population size of some camps have been noticed. For example, the number of households in Njangassa is enormously reduced and around Idabato new camps have been established. A better location closer to Nigeria and access to better fishing grounds is one of the reasons for the movement to the Bakassi Peninsula.

### 3.3 Infrastructures

The camps can only be reached by boat. The camp sites of the monitors are given on map 3. Fisherfolk are living in sheds roofed with corrugated iron sheets in the creeks and along the mangrove swamp forest islands. The constructions can be described as semi-permanent. Poor households and temporary fishermen use palm leaves and grass as building material for the houses. The houses on the banks of the river in Bekumu are built on stilts. In times of high tide, the water enters the camps around Barracks. Some businessmen live in houses built on concrete foundations. In these houses, electricity is supplied by private diesel-generators. Paraffin lamps and firewood are used to light the camps.

Rain water and wells provide the camps with water. However, the water wells in the camps can not be used for drinking. The health centres in Bamusso and Idabato are very basic. Primary schools exist only in Bamusso and Idabato. The Cherubim and Seraphim of the Zion Churches have strong roots in the camps. In Bekumu, a big concrete church is under construction.



Wives or family members of fishermen are involved in petty retail trade. They offer simple industrial goods like washing powder, soap, cigarettes, matches, slippers, canned food and drinks and some daily food products such as rice and cassava flour, all bought in Oron or Calabar.

The reason why "immigrants" in the camps prefer to live in the communities in the creeks, "far from modern development", can only be explained by its temporary character and by the relative location/distance of the camps to Nigeria. They prefer to invest money in a good house in the home country. Many fishermen still have a small farm in their home villages in Nigeria where they prepare their fields in December and January. Their life and economy is therefore completely dependent on Nigeria.

### **3.4 Jurisdiction over the resources in the Ndian division**

The main problem concerning the resources management in the coastal area is that different Nigerian ethnic groups, with their lack of cultural and linguistic homogeneity, do not accept Cameroonian authority over the resources and its activities in the Ndian division. The aliens regard the creeks as a free zone between Nigeria and Cameroon. Some fishermen are born in the creeks and do not have a home village in Nigeria. They feel that they are the natives of this region. The Naira is the only acceptable currency for the fishermen. The present tensions at the border between Nigeria and Cameroon do not result from the interest in marine fish products but mainly from the expected rich oil fields under the so-called Bakassi Peninsula.

The coastal area in the Ndian division is under pressure both from developments within the industry (too many fishing units compared to the fish stocks), as from outside, including oil exploitation and its pollution, as well as the deforestation of the hinterland, which causes mud-flows at the river mouths.

## 4. THE FISHING INDUSTRY IN THE NDIAN DIVISION

### 4.1 Importance of marine fisheries in the national economy

The Republic of Cameroon has a coastline of 402 km, a continental shelf area, up to 200m in depth, surfacing some 10,600 km<sup>2</sup>, and has an Exclusive Economic Zone (EEZ) area of some 15,400km<sup>2</sup>. The importance of the artisanal marine fisheries sector to the Cameroonian economy lies entirely in its contribution to employment and protein supply.

Around 15,000 artisanal fishermen are engaged in marine fish production. The total number of canoes and engines are around 6,000 and 2,000 respectively, resulting in a motorization rate of 33%. Thousands of people, like hull manufacturers and repairers, netmenders, mechanics, suppliers of fuel etc. find employment in the backward linked industries, and in the forward related activities, such as fish processing, distribution and marketing, which are mainly women activities.

The marine production figures, dating from 1992, are shown in table 2 by major species in metric tons and in percentages.

Table 2: Specification of the Cameroonian marine production in metric tons and % in 1992

Year	Total in mt and %	Pelagics	Demersal	Shrimps
1992	61,975 (100%)	32,008 (52%)	14,478 (23%)	15,489 (25%)

Source: Cameroon Marine Catch 1992

The industrial production was estimated at 10,600 mt and consisted of some 1,000 mt of prawns and approximately 9,600 mt of marine fish. The artisanal production was estimated at 51,375 mt which is 83% of the total marine production.

The important small pelagic species are: mackerel (*Trachurus italia*), sardine (*Sardinella maderensis*), bonga (*Ethmalosa fimbriata*) and shad (*Ilisha africana*). They form the most important contribution to the total marine production in Cameroon. The large pelagics are mainly tuna species.

The important demersal species are: croakers (*Pseudotolithus spp.*), catfish (*Arius* and *Chrysichthys spp.*), soles (*Cynenoglossus senegalensis*), breams (*Pagelius chrenbergi*), groupers (*Epinephalus*), snappers (*Lutjanus spp.*), grunts (*Haemulidea*), threadfins (*Galeoides*), as well as shrimps (*Palaemon hastatus* and *Penaeus notalis*).

The supply of fish in Cameroon for 1990 is shown in table 3.

**Table 3: Supply of fish in Cameroon in 1990**

Artisanal marine production in mt	Industrial marine production in mt	Inland fisheries production mt	Import (74,147) - Export (2,484) in mt	Fish supply in mt	Population size	Fish supply caput kg/year
51,375	10,600	20,000	71,663	153,638	12,000,000	12,8

Source: Bonzon and Seki, 1993

Artisanal fisheries contributed 32 % to the total fish supply and 10% to the animal protein supply. The fish imports dropped from 103,411 mt to 74,147 mt in the 1986-1990 period, which resulted in a decline of fish supply for domestic consumption.

Based on the population growth rate of Cameroon of 3.1% per year (Worldbank, 1993), the Cameroonian population will reach roughly 15 million persons before the year 2000, which means a consumption at least of (15 million x 12.8 kg) 192,000 mt of fish in 2000. To satisfy the need of fish in the year 2000, the present fish supply has to be increased by more than 25%.

Cameroonian marine artisanal fisheries contribute roughly 0,05% to the value of the Gross Domestic Production.

## **4.2 Artisanal fisheries in the Ndian division**

### **4.2.1 Fishing gear**

The character of the marine fisheries sector in the Ndian division is still highly traditional, whereas all fishing methods are fully manual and are used within the two nautical miles zone. Artisanal fisheries can be split into:

1. *marine fisheries*, from coastal marine to the marine surf zone;
2. *brackish water fisheries* with activities in creeks and estuaries, where the fresh water of the rivers of the Akwayafe and Rio del Rey is flowing down and mixing with sea water, which is moving up with high tide. The estuaries and mangrove forest are important fish spawning and breeding grounds.

Marine fisheries species caught are mostly small pelagics, like bonga and sardinella, and demersal species which consist of croaker, sole, grouper and bar. Crayfish or estuarine shrimp, locally known as "njanga", which is mainly caught near the estuaries where salinity is low.

Operational fishing gear in the Ndian division can be divided into crayfish nets, drift gillnets, bottom set gillnets, fishing traps and hook and lines. The environmental conditions in this region make the crayfish net by far the most popular. The women are specialized in

setting fishing traps in the creeks. Ijaw women use also drift and gillnets in the estuaries. All nets are bought in Nigeria due to low prices differences compared to Cameroonian prices. MIDEPECAM can not provide nets at Nigerian prices.

Trawlers are prohibited for fishing in the first three nautical miles. However, Douala trawlers enter the fishing grounds of artisanal fishermen in the Ndian division. There is no proper marine control. Immature species, coming from Enyenge fishing camp in the neighbouring Fako division, have been discovered at the markets in Ekondo-Titi.

Fishermen complain that the fish resources in the Ndian division are diminishing over the past six years. This is probably due to overexploitation of the resources by an increasing number of fishing units. Some indicators of overexploitation are: a fall in average landing per unit of fishing effort and an increase in the landing of small fish or fish that has not reached maturity.

#### 4.2.2 Canoes and engines

The Ndian, Fako, Wouri, Sanaga and Océan are the five coastal divisions in Cameroon. Most canoes of the country, roughly 32%, are based in the Ndian division. According to the 1987 MIDEPECAM survey, 1,635 canoes and 579 outboard engines were recorded in the Ndian division, giving a motorization rate of about 35%. It should be noted that not all camps could be visited because quite a few small fishing camps are hidden in the creeks and a few camps did not allow the MIDEPECAM team to enter their settlements. The figures are therefore underestimated. The creeks are covered by mangrove trees and outboard engines are not required in this particular sheltered coastal area. Many small dug-out canoes, called "banana boats", mainly used by Ijaw fisherwomen, can be found in the creeks. For this reason, the rate of motorization in the Ndian division should be far under the above mentioned 35%.

The 15 and 40 HP Yamaha outboard engines are the most common. The non-motorized canoes use paddles and sails. The engines are bought in Nigeria but the competitive prices of engines supplied by MIDEPECAM agency in Bamusso can change this situation. The prices of the engines for October 1993 and July 1994 are given in table 4.

Table 4: Type of engine and its price in April 1994 and July 1994 in FCFA

Type of engine	Sale price in October 1993	Sale price in July 1994
8 HP	350,000	725,000
15 HP	475,000	885,000
25 HP	565,000	1,175,000
40 HP	750,000	1,555,000

Source: MIDEPECAM, (1 US\$=535 FCFA in July 1994)

One of the consequences of the devaluation of the FCFA in January 1994, was that the prices of outboard engines doubled with the consignment from Japan in July 1994 .

During the past five years the Cameroonian forces have confiscated quite a number of engines from fishermen, bought in Nigeria and imported without paying custom duties to Cameroon.

#### 4.2.3 Smoked fish products

Crayfish is smoked on mats which are put on a wooden frame, 1.5-2m above the floor. The processing of crayfish takes one day. The mangrove is exploited by the fisherfolk as firewood for fish smoking. For a period of three days, bonga and sardinella are laid on open worktrays, above the fire, which causes a warm column of smoky air to rise. The fisherfolk use chicken wire as platform and mangrove sticks as supporting materials. The ovens are housed in simple shelters thatched with grass and palm leaves. Most material for the ovens are thus locally available. Although they may be very cheap to construct, they tend to suffer from a few disadvantages. The ovens have a high fuelwood consumption compared to the potential output. Further more, they show a low capacity. The materials used in construction are often inflammable and require constant attention. Some smoking huts were completely burnt in Bemuku and Basenge. A few people use old oil drums which overcome some of these problems.

In general, crayfish is smoked by the fisherfolk themselves, men and women, and bonga and demersal fish species are smoked by the monger. Smoking in the Ndian division is prevalent because:

1. the distance from fishing camps to target markets in Nigeria and Cameroon are too far to go daily and the fish spoils easily in this humid area if it is not being preserved;
2. the catches are low and it takes days to gather enough fish for an economic size consignment to supply the markets in Nigeria and in Cameroon;
3. fishmongers pay relatively higher prices for smoked species than for fresh ones. (smoked crayfish is used as a spice for adding flavour to food);
4. well-smoked fish can be stored and distributed without specialized facilities by fishermen and mongers. Fishmongers can retail smoked fish for many days without much loss whereas fresh fish has to be sold on the same day due to lack of ice. Smoked fish is mainly distributed to rural transit markets in Nigeria and Cameroon where the need for a longer period of storage is more significant.

Fish in the Ndian division is "hot smoked" which seems to be the best way of preserving the catch. Hot smoking is a method of preserving fish which combines three effects (Jallow, 1994): preservative value of the smoke which kills bacteria, drying the fish through the heat of the fire and cooking the flesh if it is smoked at a high temperature, which will destroy the enzymes and kill bacteria. The long storage life of smoked fish products is more due to drying and cooking than to the preservative value of the chemical compounds deposited on the fish from the smoke of burnt mangrove. Fish in the Ndian division is not salted before smoking.

The veterinaries in Bamusso and Ekondo Titi noticed that especially crayfish from Bekumu is cleaned with dirty river water within the settlement instead of cleaning fish with water from outside the camp before crayfish is smoked.

#### 4.2.4 Governmental institutions

##### CDPM

The "Caisse de Développement de la Pêche Maritime" (CDPM) was established in 1974. It has the same legal status as MIDEPECAM. Headquarters is in Douala. The interventions of CDPM in the five coastal divisions are limited to construction and rehabilitation of infrastructures (fishery control stations), and the organization of seminars and workshops for young fishermen. During 1976-1982, CDPM granted loans for a total amount of 50 million FCFA. Since 1988 CDPM manages the material provided by the Japanese donation for continental fishery.

The revenues of taxes in the fisheries industry, like fishing licence tax, veterinary sanitary inspection tax, engine licence tax and production tax, are managed by CDPM. The control posts in Idabato, Ekondo-Titi, Bekumu, Njangassa, Barracks, were constructed by CDPM in the late seventies/early eighties.

##### MIDEPECAM Bamusso-branch

The main activity of this agency is to encourage fishermen by bringing fishing materials nearer to them at a very reasonable price. In October 1993, the agency had equipment, with a total value of 9,5 million FCFA in stock. Sales of MIDEPECAM are shown in table 5.

The business in Bamusso only accounts for 2% of all sales in the five coastal divisions. This can be explained by the socio-economic context of the area. Fishermen are buying much cheaper gear in Nigeria. The price of engines is competitive but fishermen refuse to pay the amount in FCFA. Nairas, on the other hand, are not accepted by MIDEPECAM

Table 5: Sales of MIDEPECAM-Bamusso

Item	Sales in FCFA
Engines	2,815,000
Spare parts	116,125
Nets and Accessories	22,700
Total	2,953,835

Source: MIDEPECAM, 1993

The agency has no service-boat. A chief and a secretary manage the office. There is no outboard engine mechanic available at the moment.

## MINEPIA

The South West Provincial Delegate for MINEPIA, based in Buea, is assisted by independent supervisors for husbandry, fisheries and animal industries. Each division has a fisheries sector. The chief of the fisheries sector for the Ndian division is based outside the division, namely in Kumba, capital of Meme division. At district level, the chief of sub-sector, is responsible for extension work in the fishing centres and direct supervising of the fishery monitors who live and work at camp/village level. In Ndian division, there is only the chief of sub-sector Bamusso. The veterinaries of the sub-sector in Ekondo-Titi and Bamusso have to inspect whether the fish is clinically healthy for consumption.

In the Ndian division, seven fishery monitors, based in Bamusso, Bekumu, Njangassa, Isangele, Kombo-Abedimo, Idabato and Barracks, are employed by MINEPIA. The average residence of the monitors is 5.5 years. They all lack training in marine fisheries because the greater part of their training was in aquaculture. In addition, they do not have means of transport to visit the camps in their area, are confronted by a sometimes hostile attitude of some Nigerian communities in the creeks, and face generally bad living conditions in their duty station.

The monitors, called "fish doctor" by the fishermen, have to collect statistics and taxes on production. These two tasks are in conflict, because the fishermen do not like to give data which will be used by the monitor to calculate his production tax afterwards. For collecting reliable data on production, tax collection should be carried out by another officer. There are no balances available at the control posts.

### 4.2.5 Relationships between the Ndian fishing industry and Nigeria

In 1922, British Cameroon formed an administrative union with Nigeria which lasted until 1960. The Ndian division was part of a big social system meaning that a set of interrelated or coupled social processes existed during a more or less lengthy period. Many British Cameroonians have attended secondary school and a few the university in Calabar. Some South Westerners have relatives living on the other side of the border. Outside the ethnic relation in the border area, there are economic reasons to explain the close relation in this area. It must be noticed that the road infrastructure makes it easier to go from the Ndian division to Nigeria than to the interior of Cameroon. The Ndian fishing industry depends on Nigeria markets for a variety of reasons:

1. connection with fish markets in Cameroon is bad; they are accessible, but only at high costs;
2. fishing equipment is cheaper in Nigeria and in many cases delivered by the Nigerian trader. Nigerian industry produces for a huge domestic market. The principle of economies of scale reduces the production costs. This means that fishing gear, used in the Ndian division, are mainly produced in (Port Harcourt) Nigeria.

Table 6: Nigerian fish supply in 1990

Marine production in mt	Inland production in mt	Import in mt	Export in mt	Fish supply in mt	population size	Fish supply caput kg/year
217,652	98,676	598,096	5,306	909,118	108,542,000	8.4

Source: Bonzon and Seki, 1993

3. Table 6 shows the enormous population size of Nigeria. Nigeria can not feed its population by its own agricultural production. Especially fish production is far behind demand. Nigeria is one of the biggest fish importers in the region.



## 5. THE SOCIO-ECONOMIC STATUS OF FISH MONGERS

### 5.1 Justification

As already mentioned, MIDEPECAM intends to intervene in the marketing of marine fish products. But, if changes are proposed at the productive level of any economic sector, it is important to understand the existing social relationships among the individuals at that level. In case of fish marketing, the relationship pattern of fishermen with fish traders should be known. The long-lasting relationships between fishermen and traders provide a degree of psychological security and satisfaction. Changes can be perceived as a threat to the present structure and can meet resistance. To get a clear picture of the actors in the distribution and marketing channels of marine fish products and their relations with fisherfolk, a survey on personal and professional details of fish mongers was carried out in March-April 1994. A total number of 91 fish mongers has been interviewed. The results of this survey are presented in paragraph 5.2 and chapter 6.

### 5.2 Socio-economic status

Table 7 shows the division of fish mongers referring to geographical and ethnic origin. 59 (65%) fish mongers are born in Akwa-Ibom and Rivers State (Map 2).

**Table 7:** Distribution of fish mongers by ethnic group, home country and Province/ State

Ethnic group	Country	Province/ State of origin	Number
Ibiobi	Nigeria	Akwa-Ibom State	36
Ijaw	Nigeria	Rivers State(12)/ Cross River State(5)	17
Ibo	Nigeria	Imo State (5)/Abia (8)/ Anambra(1)	14
Okopo	Nigeria	Akwa-Ibom State	7
Ogoni	Nigeria	Rivers State	4
Ilaje	Nigeria	Ondo State	3
Bamusson	Cameroon	South West Province	6
Bakweri	Cameroon	South West Province	1
Balondo	Cameroon	South West Province	1
Ndop	Cameroon	North West Province	1
Bafang	Cameroon	North West Province	1

Source: IDAF Survey, February/March 1994

The majority of the mongers are females (77%). 70 women were recorded and 21 men, representing the remaining 23% of the mongers.

4 female mongers are bachelors, 1 female monger is a widow and the remaining 65 female mongers are married. All male mongers are married.

70 (76%) mongers can be found in the age group 26-40, which signifies that most traders are among the strong and active population. 13 (15%) mongers are older than 40 years. The remaining 8 (9%) mongers are among the age group 21-25 years.

The formal educational level among the mongers is rather low: 56% are illiterate, 24% completed primary school, 12% started but did not complete primary school and 8% completed 1 to 3 years of secondary school. The mongers are trained on the job in fish trading mainly by their mothers.

39 mongers, representing 43% of the Ndian mongers, have between 2-5 years experience in fish trading. 37 (41%) mongers have between 6-10 years experience in fish trading. 15 (16%) are more than ten years involved in fish trading.

Before trading fish, 14 mongers were involved in petty trading. Two were former civil officers. All other mongers were involved either in fishing or farming before they started fish trading.

Out of the 81 Nigerian mongers, 22 (27%) have a farm in their home village in Nigeria.

## 6. DISTRIBUTION AND MARKETING CHANNELS OF MARINE FISH PRODUCTS IN THE NDIAN DIVISION

### 6.1 Relationship between fish monger and fisherfolk

26 (29%) fish mongers are specialized in buying smoked crayfish from fisherfolk. Most crayfish fisherfolk are based in Bassenge, Bekumu and Idabato. 65 (71%) fish mongers buy fresh demersal (croaker) and pelagic fish (bonga) in Njangassa, Barracks, Bamusso or Isangele. A minority (33%) of the fisherfolk in Bekumu catch pelagic and demersal fish.

In most cases (68%), the wife of a fisherman sells fish. She often has business relations with one or two other fishermen. A specification of the number of fishermen, supplying Ndian fish mongers, is shown in table 8, making clear that 34 fish mongers are supplied by only one fisherman.

Table 8: Type of fish mongers and the distribution of number of their supplying fishermen

Number of suppliers	Number of crayfish mongers	Number of fish mongers
1	-	34
2	2	11
3	2	13
4	5	4
5	4	3
6	7	
7	2	
8	1	
9	1	
10	2	
Total	26	65

Source: IDAf Survey, February/March 1994

The "big" mongers work with agents who collect fish in the camps for the mongers. The agents do this job under the condition that the mongers also sell a part of the agent's own fish in Kumba.

All 30 mongers in Njangassa have established arrangements with the fishermen. They supply gear and in some cases engines to the fishermen. In counterpart, the fishermen are obliged to sell the fish to the monger. Fifteen mongers from Bekumu and Bamusso made similar arrangements with fishermen.

The usual way of trading smoked crayfish, smoked small pelagics or fresh fish is to sell it on credit to the monger, who can be a family member or relative. The following reasons were given:

- a) the price for the commodity is easily and quickly agreed to (bargaining system);
- b) there are no fish marketing cooperative societies in the Ndian division;
- c) transport boats come to villages to collect their commodities;
- d) for fish trading in Nigeria and Cameroon, a retail licence is necessary;
- e) after catching, cutting firewood, and processing the crayfish or fish themselves, fishermen are tired, hence willing to sell off their catch to the traders;
- f) individual long-lasting social and economical relationships with monger. There exists a mutual trust;
- g) relative cheap inputs/ equipment are supplied on a flexible repayment base, and
- h) fishermen who are supplied with gear and/or engines are obliged to sell their landings to the supplier. Repayment is flexible. Repayments are related to the size of the landings.

The marketing system is based on credit and trust. Arriving in Ekondo-Titi, small Nigerian fish mongers ask immediately for the exchange rate. The exchange rate between Naira and FCFA is not stable at the black market. It fluctuated between 115 and 140 Naira against 1000 FCFA in September/October 1993 and ranged from 60 to 80 Naira against 1000 FCFA in April/May 1994. The mongers do not sell their fish when the exchange rate is under the rate which the mongers have used during bargaining the price with fishermen. In this case, they will go to Nigeria.

The number of officially registered mongers can be given as follows: Ekondo-Titi 16, Mundemba 5, Bekora 15 and Kumba 38. The majority of fish mongers do not have the official papers: only 12 of the 91 interviewed mongers have a Cameroonian trading licence. A big Igbo community in Kumba is involved in fish trading and other trading activities in the region, such as plastic ware and metal cooking pots.

## **6.2 Distribution pattern of marine fish**

The Nigerian fish market in Oron, Akwa-Ibom State, and the Cameroonian fish market in Ekondo Titi are supplied by the fish mongers from the Ndian division. The Oron fish market is held twice a week: on Mondays and Fridays. The Ekondo-Titi market actually takes place between Friday night and early Saturday morning. Oron and Ekondo-Titi are actual transit markets of smoked marine fish products. The real distribution of fish takes place in Calabar and Kumba respectively. The market in Kumba is held on Sunday. Thirty-two transport boats are available in the camps of the Ndian division. The distribution of the transport boats is shown in table 9. The transporters are relatives of the Nigerian fish mongers. Eight transporters go to Ekondo-Titi on Friday. Small mongers use flying boats from Idabato, Bekumu and Bamusso to reach Ekondo-Titi on Friday.

**Table 9:** Distribution of transport boats in the Ndian division

Fishing Camp	Number of transport boats
Njangassa	1
Bekumu	12
Bassenge and Banusso	9
Barraks	3
Idabato	7
Total	32

Source: IDAF Survey, February/March 1994

The fish landed in Ekondo-Titi will be traded in Kumba. A very small percentage of the fish (5%) is consumed in the Ndian division; i.e. Ekondo Titi, Lobe, Bekora and Mundemba, and in Mamfe, capital of the Manyu division, South West Province. Bicycles, taxis and mini-buses are used as means of transport. From the fish traded in Kumba, 80% is being transported by truck to the final consumers in Bafoussam, capital of the West Province. The other 20% are split over the towns in the North West Province, like Bamenda, Bafang, Dschang and Nkongsamba (map 4). The North West and West Province are the most densely populated Cameroonian provinces. They are, with Yaoundé, the biggest demanders of smoked fish in the country. Yaoundé and Bafoussam receive 70% of the available smoked fish products in Cameroon (Labla, 1991). The general distribution pattern can be briefly described as follows:

catching and processing of fish takes place in the fishing camps in the Ndian division. Ekondo-Titi is the Cameroonian transit market, located in the Ndian division, South West Province. The actual wholesale of fish takes place in Kumba, situated in the neighbouring Meme division, South West Province. The final retail market is in the West Province, with consumers mainly based in Bafoussam. Nearly all fish from the Ndian division goes to Oron, the Nigerian transit market in the Akwa-Ibom State. The wholesale takes place in Calabar, the Cross River State. From here it will supply consumers in the nearby cities in different States.

When the prices in Douala are high, a few fish mongers send their products to Douala. Fish from Limbé and Mudeka market normally gets to Kumba market. Because of the present border crisis, only some fish arrive in Kumba from the Ndian division. At the moment, most fish is coming from Limbé to supply Kumba market. Before the crisis, Kumba market could "on good days" also supply the markets in Limbe and Mudeka. Two traders from Idabato mentioned that they go to Gabon in case of low prices (supply is higher than demand) in Nigeria and Cameroon and in case of high prices in Gabon.

### 6.3 Marketing stages and channels

Five producer-consumer linkages exist in the Ndian division:

#### 1. Fishermen -----> Consumers.

Fish is sold directly to those residing at or near landing sites. Fisherfolk in Idabato and Bassenge sell to government officers in Idabato and Bamusso respectively.

#### 2. Fishermen-----> Retailer-----> Consumers

A few mongers from Njangassa and Bekumu sell fish to inhabitants of Mbonge and Kumba via Boa beach. They become wholesalers when they sell fish to small retailers in the mentioned places (see 3).

Some traders from Bassenge sell fish at the Bamusso market.

#### 3. Fishermen----> Small (camp) Wholesaler---> Small Retailer----->Consumers.

Small wholesalers buy on credit from fishermen and go to Ekondo-Titi to sell their commodities to small retailers from Mundemba, Bekora and Lobe.

#### 4 Fishermen----> primary (camp) Wholesaler based in fishing camp-----> secondary (town) Wholesaler in Kumba/Limbe-----> Retailer -----> Consumers.

Camp wholesalers, some with agents, buy smoked crayfish, smoked fish or fresh fish on credit from fishermen. The mongers process the fresh fish themselves. The camp mongers sell fish to town wholesalers at Kumba market who sell it in smaller lots to retail traders from North West and West Province and sometimes to wholesalers from Douala and Limbe. Bafoussam is the biggest final market for fish products from Ndian division. This is the most common linkage. It seems that the wholesalers are well-organized. They have a kind of agreement on the days of purchasing in Kumba, to avoid price increases that exist when many traders compete for the same commodity. In Nigeria, Calabar is the base of secondary wholesalers, supplying retailers of other cities and towns. Wholesalers from Limbé and Douala can come to Kumba. A minority of the camp mongers sell their fish to town wholesalers in Limbé.

#### 5. Industrial Fishermen----->Fishermen----->primary (camp) Wholesaler----->secondary (town) Wholesaler -----> Retailer---->Consumers

Fishermen in Enyenge, Fako division, buy immature demersal fish species from Douala trawlers at sea. They sell it to camp mongers from Njangassa. Njangassa mongers sell the processed fish to secondary wholesalers or retailers at the Ekondo-Titi and Kumba markets. Fishermen from Bekumu also regularly buy fish from trawlers.

The Bamusso Fish Processing and Marketing Cooperative was established in Njangassa in 1976. It had 118 members and a share capital of 3,170,000 FCFA. It supplied

fish mainly to the North West and the West Province. The activities of the cooperative declined because of the limited capital to buy fish from Nigerian and Ghanaian fishermen, based in the Fako division, and because members preferred farming to fishing. The landings of the fishing units have also diminished enormously. Many Nigerians have left Njangassa to settle in the Idabato sub-division.

#### 6.4 Fixed and variable costs

The fish mongers need a trading licence to sell their fish at Cameroonian markets. This annual licence can be obtained for 2,000 FCFA, two photographs and a medical certificate. The veterinary service in Ekondo-Titi has to send the forms to the Office of the Provincial Veterinary in Buea. In Bamusso, the veterinary could not give a receipt for payment of the fish monging authorization fee to mongers, because the special receipt booklets were finished from June to October 1993. Only 13% of the interviewed mongers had a licence. The mongers are not well-informed on the required licence for selling fish. Monitors and veterinary staff have to instruct the mongers on this matter.

The mongers have to pay a sanitary inspection tax to the veterinaries, who have to check if the fish is healthy for human consumption. The tax is 2 FCFA/kg for fish and 4 FCFA/kg for crayfish.

The export tax for smoked fish products is 3% of its value. However, the exportation tax for a bag of crayfish (25kg) was only 200 FCFA in October 1993 while the value of the bag was 20,000 FCFA. The majority of the mongers does not pay tax. In many cases, they have to pay off the Cameroonian forces (500-1,000 FCFA and in kind) in the creeks to reach Oron.

The Councils in Ekondo-Titi, Kumba and Mundemba charge the mongers a Council marketing fee of 500 FCFA per market day.

Transport costs are high for the mongers. Flying boat owners charge 2,000 FCFA for passengers from Bekumu and Bamusso and 3,000 FCFA for passengers from Njangassa, Barracks and Idabato to Ekondo-Titi beach. Big baskets and big bags of crayfish are charged 500 FCFA each. A monger from Bekumu only pays 1,000 FCFA to a long boat owner for a return trip to Oron. Transporters in Ekondo-Titi carry the commodities for 500 FCFA from beach to the market site. Transport by mini-bus from Ekondo-Titi beach to Kumba costs 2,300 FCFA. The transporters charge for baskets and bags between 500 and 1,000 FCFA. Transport for one big basket from Kumba to Bafoussam costs 1,500 FCFA. The lorry transporters charge 2,500 FCFA for a big basket from Kumba to Bamenda.

In general, the bonga mongers are also fish smokers. Depreciation costs of smoking equipment, like racks and shelter, are unpaid costs. These costs are accounted in this report by dividing the present cost of new smoking equipment of the same type, by its economic life, assumed that the residual value of the equipment is nil. Depreciation costs of equipment, marketing fees and fish-monging licence are the fixed costs for the traders/smokers. The variable costs of the mongers depend on traded quantities of smoked crayfish and fish

Labour, firewood, packing material, baskets, basins, transport and amount of bought fresh fish and taxes are variable costs of fish mongers.

Mainly the smokers from Njangassa buy fuelwood. They pay 5,000 FCFA for a load of 100 poles. They use an average of 400 sticks per month. In the other places, fisherfolk mostly cut mangrove for firewood themselves. Alternatives to mangrove fuelwood have to be found on the long term, while mangrove swamp forest has an important function as a spawning and breeding zone of fish species.

Table 10 shows the average monthly costs on taxes, fees, bribes, transport and fuelwood.

**Table 10:** Specification of average monthly expenses of fish mongers in the Ndian division

Monthly average costs in FCFA by fish camp	Taxes, fees and bribes	Transport	Fuelwood (when fresh fish is bought)	Total
Bamusso	11,000	23,000	-	34,000
Njangassa	7,000	8,000	18,000	33,000
Barracks	5,000	10,000	8,000	23,000
Bekumu	8,000	12,000	-	20,000
Isangele	4,000	11,000	3,000	18,000

Source: IDAF Survey, February/March 1994

Small mongers around Ekondo-Titi come with their own boats propelled by paddles to Ekondo-Titi. Their monthly costs, excluding purchase of fish, is around 10,000 FCFA

## 6.5 Fish purchase

Crayfish, bonga, herring and croaker are the main marketed species in the Ndian division.

### 6.5.1 Crayfish

A fishing unit can produce monthly between 3 and 20 bags of crayfish. The weight of one bag is around 25kg. Crayfish fishermen only go out two weeks per month, depending on the phase of the moon which influences tide and current. Heavy rains are in June and July and for crayfish fishermen, this is the best fishing period. Crayfish fishermen also operate from October to April, with a break in December and January for Christmas and farming activities. The mongers are therefore involved in crayfish trading between six and nine months per year.



In 1987, 333 crayfish fishing units were recorded in Bekumu, using an average of 33 crayfish nets each. It corresponded to 70% of all crayfish nets in the Ndian division. The remaining 30% were mainly used by fishermen from Idabato and Bassenge. In total 14,425 crayfish nets were recorded in the Ndian division (MIDEPECAM, 1987).

26 crayfish mongers, supplied by 151 fishing units, were interviewed in March/April 1994. The average monthly quantity supplied by a fisherman to a monger was 10 bags of cray fish of 25kg each. The yearly crayfish production can be estimated, based on the following assumptions: the crayfish season covers six months; 25kg of smoked crayfish is a result of smoking 75kg of fresh crayfish; the 151 fishing units represent 50% of the crayfish fishing units in Bekumu area; and an average production of 10 bags each per month.

This leads to the following calculation.

$151 \text{ (fishing units)} \times 10 \text{ (bags)} \times 6 \text{ (months)} \times 25 \text{ (kg)} \times 3 \text{ (convertibility factor)} \times 2 \text{ (to get 100\% involvement of crayfish fishermen in Bekumu)} = 1,359 \text{ mt}$ , which is only 70% of the total crayfish production in the Ndian division. 30%, which is 582 mt, is landed outside Bekumu. The yearly traded crayfish production can be estimated at 1,940 mt.

In February, March and April 1994, only 12% of the crayfish production (around a total of 700 bags of smoked crayfish in March) have reached the Cameroonian markets. Before the border crisis in January, around 30% was landed in Cameroon. Because of the fluctuations of the exchange rate of the Naira against the FCFA, there could have been a fluctuation between 10% and 35% per week in 1993.

### 6.5.2 Bonga

190 bonga fishing units were settled in Njangassa in 1987. They represented 30 % of the 631 bonga fishing units in the Ndian division in 1987. Quite a number of bonga fishermen left Njangassa for camps in Isangele and Idabato sub-division during the last seven years. The other 441 bonga fishing units were mainly located in Inua Bassey, the Isangele sub-division, and Bekumu, the Bamusso sub-division.

A sample of hundred smoked bonga fish in Limbe gave an average length of 14 cm and average weight of 20g.

Traded baskets were recorded from 30 mongers in Njangassa in March 1994 and are shown in table 11.

**Table 11:** Numbers of traded quantities and number of traders

Numbers of traded medium sized baskets of smoked bonga of 21 kg per monger/month	Number of mongers	Total of traded baskets per month
12	4	48
18	4	72
25	4	100
34	1	34
total	13 mongers	254

Number of traded small sized baskets of smoked bonga of 13 kg per monger/month	Number of mongers	Total of traded baskets per month
10	3	30
12	8	96
14	5	60
16	1	16
total	17	202

Source: IDAF Survey, February/March 1994

A medium sized basket filled with smoked bonga, weighs roughly 21kg, which is the result of smoking 63kg of fresh *Ethmalosa fimbriata*. The fish mongers who have arrangements with one fishing unit produce at least 6 baskets of smoked bonga fish in a month. This means a bonga fisherman produces at least 370 kg of fresh bonga per month. The bonga production in the Ndian division can be estimated, following the next coming assumptions:

day's catch of a bonga fishing unit is 30kg, fishing period is 8 months, 20 fishing days per month and 631 bonga fishing units in the division.

This leads to the following calculation

$30 \text{ (kg)} \times 8 \text{ (months)} \times 20 \text{ (days per month)} \times 631 \text{ (bonga fishing units)} = 3,030 \text{ mt of bonga.}$

The mentioned 3,030 mt of bonga is an underestimation. Quite a number of bonga fishermen, living in isolated camps in Isangele, Idabato and Kombo-Abedimo creeks, as well as fishing Ijaw women were not recorded in 1987. Before the border crisis, it was estimated that 40% of the bonga production was sold in Cameroon. At the moment the figure is estimated at 15%.

### 6.5.3 Demersal species

Marketing of demersal species is difficult to quantify. Fish is traded in baskets, plastic bags, carton boxes and basins with different sizes, on sticks, in bundles, per piece or in small heaps. A standardization of traded quantities and classification of grades are necessary to improve the market situation in the Ndian division.

There were 337 fishing units recorded in 1987. A production of 1,600 mt of demersal fish (30 kg X 337 fishing units X 160 fishing days) is a rough estimation. Croaker, catfish, mullet, alose and machoiron are the caught species.

A summary of the traded quantities of crayfish and bonga to Nigeria is given in table 12. The figures for the traded quantities to Cameroon are shown in table 13

Table 12. Estimated landings, traded smoked quantities, traded volume to Nigeria and its value

Species	Annual landing In Ndian in mt	Traded smoked quantity in Ndian in mt	% to Nigeria	Traded smoked quantity to Nigeria in mt	Price/kg smoked product in FCFA	Total value in million FCFA
Crayfish	2,000	666	80	533	1,600	853
Bonga	3,000	1,000	60	600	2,000	1,200

Source: IDAF Survey, February/March 1994

Table 13. Estimated landings, traded smoked quantities, traded volume to Cameroon and its value

Species	Annual landing in Ndian in mt	Traded smoked quantity in Ndian in mt	% to Cameroon	Traded smoked quantity to Cam. in mt	Price/kg smoked product in FCFA	Total value in million FCFA
Crayfish	2,000	666	20	133	1,600	213
Bonga	3,000	1,000	40	400	2,000	800

Source: IDAF Survey, February/March 1994

The smoked crayfish and bonga which are transported without export tax to Nigeria, have a total value of 2 billion FCFA. This means a loss of export tax earnings of 60 million FCFA (3% of the total value for smoked fish) for the Cameroonian government.

### 6.6 Profit margin and income

To present the costs in a simple and a clear way, they are split into purchase costs and other costs. The purchase costs, other costs and net profit are also calculated as % of the sale's income of the monger in this paragraph.

### 6.6.1 Crayfish

A bag of smoked crayfish weighing 25kg is usually bought for 20,000 FCFA by the trader in the camps and sold for 26,000 to the wholesaler. A Bekumu trader, who is being supplied, for instance, by four fishermen, sells 40 bags to a wholesaler in a month. He receives 1,040,000 FCFA from the wholesaler and pays the fishermen 800,000 FCFA afterwards. The monger buys on credit. As was shown in table 10, the Bekumu mongers have an average cost of 20,000 FCFA for transport, fees etc. These data are presented in table 14.

Table 14: Sale's income, costs and net profit of a specific crayfish monger

Sale's income	1,040,000 (40 bags)	100%
Purchase Costs	800,000	77%
Other Costs	30,000	3%
Total Costs	830,000	80%
Net Profit	210,000	20%

Source: IDAF Survey, February/March 1994

The profit margin ranges from 17% for a monger with 20 bags of smoked crayfish/month to 22% for a trader with 100 bags/month. The difference exists because of the fixed costs per bag is less for a monger who trades a lot of bags than for a monger who sells a few bags.

The average monthly income for mongers, depending on the amount of traded bags of smoked crayfish, varies from 90,000 FCFA to 570,000 FCFA. Labour costs and auto-consumption of smoked crayfish are assumed as nil.

### 6.6.2 Bonga

A basket of smoked bonga of 21kg is produced by buying 60kg of fresh bonga from fishermen for 12,000 FCFA by the trader/processor. The smoked bonga is sold for 20,000 to the wholesaler. His costs for transport, fees and tax are 33,000 FCFA. The profit margin of a monger who is buying and selling 12 bags per month, is shown in table 15.

Table 15: Sale's income, costs and net profit of a specific bonga monger

Sale's Income	240,000 (12 baskets)	100%
Purchase Costs	144,000	60%
Other Costs	43,000	18%
Total Costs	187,000	78%
Net Profit	53,000	22%

Source: IDAF Survey, February/March 1994

The monthly profit margin ranges from 22% for a trader with 12 baskets of smoked bonga, weighing 21kg each, to 49% for mongers with 30 baskets.

The average monthly income of the mongers, depending on the amount of traded baskets of smoked bonga, ranges from 53,000 FCFA to 197,000. It must be noted that labour costs and own consumption of bonga are not being regarded as expenditure and income respectively.

## 6.7 Prices

Prices must be treated with some caution. In general, prices realized by fishermen are dependent on the size of the catch, its composition and quality, the season, the demand and the exchange rate changes of the Naira and the FCFA and access to marketing channels. The prices which are paid by the customers furthermore depend on the distance (transport costs) from the production area and the length of the marketing chain (trader at fishing camp--> wholesaler-->retailer). For these reasons, prices can vary enormously during a year.

The retail prices of smoked bonga, sardine, sole, bar, crayfish and West African croaker at Limbe market are shown in table 16.

Table 16: Retail prices of fish at Limbe market in May 1994

Commercial names of fish species	Price of big basket	Price of medium basket	Price of small basket
Bonga	40,000 FCFA (1040 pieces= 21kg)	25,000 FCFA (540 pieces=11kg)	10,000 FCFA (260 pieces=5kg)
Immature Bonga	15,000 FCFA	10,000 FCFA	7,000 FCFA
Sardine	40,000 FCFA (12000 pieces)	25,000 FCFA (750 pieces)	10,000 FCFA (300 pieces)
West African Croaker	35,000 FCFA	25,000 FCFA	13,000 FCFA
Bars (mixed sizes)	80,000 FCFA	60,000 FCFA	22,000 FCFA
Sole	25,000 FCFA	15,000 FCFA	10,000 FCFA
Crayfish (from Mabeta)	35,000 FCFA	N. A.	15,000 FCFA

Source: IDAF Survey, May 1994.

A medium sized basket of smoked bonga, originating from Njangassa, is called a big basket at the Kumba fish market, where it was sold for 35,000 FCFA in May 1994. This means that it was 5,000 FCFA cheaper than at the Limbe fish market. A big bag of smoked crayfish, from Bekumu, costs 40,000 FCFA at the Kumba market, which is 5,000 FCFA more than the costs of a bag at Limbe market. There was hardly any smoked crayfish from the fishing camps in the Ndian division at the Kumba Market. This explains the high price. Because of the border crisis, there is a tendency that fish from the Limbe market, transported

to Kumba will become cheaper than the small and high priced amounts of fish from the Ndian division.

Table 17 shows the prices of a bag of smoked crayfish from a producer in the Ndian division to a consumer in Bafoussam. The price of a bag paid to the producer and the price of a bag paid by the consumer differ from 125% to 150%. The margins in percentages (see third row of the table) also have to cover the costs and can therefore not be interpreted as profit only for that particular actor in the marketing chain.

Table 17. Fish prices for the different actors in the fish marketing system in May 1994

Producer's price	Sale's price of trader at camp level	Sale's price of wholesaler in Kumba	Retail price in Bafoussam
20.000 FCFA	26.000 FCFA	40.000 FCFA	45.000-50.000 FCFA
	↪ +30%	↪ +35%	↪ +12,5-25%

Source: IDAF Survey, February/March 1994 and MINEPIA, Kumba

## **7. CONCLUSIONS AND RECOMMENDATIONS**

### **7.1 Conclusions**

The fishing activities in the Ndian division are completely dependent on and interlinked with Nigeria. Roughly 95% of the fishermen are Nigerians, all boat builders and outboard mechanics come from Nigeria and around 90% of the camp mongers have the Nigerian nationality. The currency used in all the fishing camps is the Nigerian Naira. Outboard engines, gear and fuel are brought from Nigeria to the Ndian division. Quite a number of fishermen still have their houses and farms in the mainland. Because of the border crisis about 90% of the production goes to Nigeria. Before the crisis, Cameroon received between the 20% and 40% of the fish production in the Ndian division.

Oron, Akwa-Ibom State in Nigeria, is the transit market for the fish caught in the Ndian division and Calabar, River State, is its distribution market. In Cameroon, the transit market of fish caught in the Ndian division is located in Ekondo-Titi, its distribution market in Kumba and its final consumers are mainly found in Bafoussam

The market and distribution system of marine fish products may be called well-functioning in the Ndian division. Everybody in the chain makes profit and there is no surplus of fish. The wholesalers in Kumba are well-organized. The proposed involvement of MIDEPECAM in fish business is not necessary. MIDEPECAM might instead concentrate more on the improvement of the marketing environment in the South West Province and on fishing promotion programmes for Cameroonian fishermen in collaboration with experienced Nigerian fishermen.

### **7.2 Recommendations**

MIDEPECAM intends to play an active role in the distribution and marketing of marine fish products. The commercialization of maritime fish products has always been the second phase of its programme. An intervention in the marketing field of marine fish products from the Ndian division is not easy. The demand of fish products is higher than the supply from Cameroon. Thus, there is no need for MIDEPECAM to look for outlets of the products. The fish supply to MIDEPECAM is problematic and the storage, assembling and transport of the products demand a lot of organizational skill and the necessary investments and maintenance. The road from Ekondo-Titi to Kumba is not in a good condition. Trucks get damaged very easily. Regular supply of products to consumers is a need to satisfy and win the trust of customers. The commercialization programme of MIDEPECAM should be based on studies on fish population dynamics, to find out the potential availability of fish for the market and on studies based on the operational costs of the assembling component of fish marketing.

The following three recommendations to MIDEPECAM can be made:

- 1) MIDEPECAM should provide assistance concerning research on stocks, which mainly consist of crayfish and bonga. This will enable the administration obtain more accurate fisheries statistics to provide a sound basis for the planning and management of fish resources in the Ndian division.
- 2) MIDEPECAM should play an active role in the extension activities. MIDEPECAM should aim at introducing a standardization of the traded quantities of fish. The commodities should be traded by weight, like meat. It is difficult to deal with suppliers with different packed quantities. Quality control of products (hygienic standards) has to be developed. Fish should be divided into different price/quality grades.
- 3) MIDEPECAM should concerning the depletion of mangrove forest, promote improved, less mangrove using, fish processing technologies in Njangassa, Bekumu, Bamusso/Bassenge and eventually in Idabato. Reforestation should be promoted in collaboration with the forestry department.

The same recommendations can be formulated for SOWEDA. Coordination and collaboration of research activities with MIDEPECAM, CHRO and MINEPIA are necessary. SOWEDO should share financial means, experience, research results and manpower with other institutes or organizations, in order to improve the distribution and marketing system of marine fish products

The smokers are using traditional ovens with low fuel efficiency which cause an unnecessary high demand for fuelwood. In the region, fuelwood is mainly mangrove wood. Thus, it is recommended that improved smoking ovens with high fuel efficiency be introduced to the smokers. The result should be a higher quality of smoked fish with less fuelwood consumption. During workshops, the smokers should be introduced to and trained in better smoking technology.

Although it is not recommended but in case MIDEPECAM would like to be involved as monger in the marketing system, the following option is worth studying.

MIDEPECAM has an agency in Bamusso. The office could be extended with a storeroom for smoked fish and crayfish. A boat with an outboard engine of 40HP can collect fish from Bassenge, Barracks, Big Belle and Bekumu. Also for security reasons, Bamusso is the only right place. Another transport boat can bring the commodities to Limbe. MIDEPECAM has a branch in Limbe where a storeroom can be constructed. From Limbe, the fish can be traded to other markets, including Kumba. Since the road between Ekondo-Titi and Kumba is in an incredibly bad condition, as well as the checkpoints in the creeks around Ekondo-Titi and on the road to Kumba, Bamusso is a better transit place of marine fish products than Ekondo-Titi at the moment. Also a permanent structure in Njangassa, to store bonga coming from the southern part of the Ndian division, can be constructed. The fish will be transported to Limbe. MIDEPECAM can bind fishermen by supplying equipment to them under strict conditions. They have to pay back in fish. Fish traders can sell to MIDEPECAM: the former having to accept that payment will find place



in FCFA. It is vulnerable when 2 or 3 middlemen should be recruited by MIDEPECAM to use his/her experience and to teach the trade business to MIDEPECAM Officers. They should be offered a fixed monthly salary and in addition a kind of bonus system related to the traded quantity during that month. MIDEPECAM could, when the tensions at the border come to an end, and having the trust of fishermen in their business, aim at 2-5 % of the traded smoked crayfish and 5-10% of the traded smoked bonga, caught in the Ndian division in five years time.

**ANNEX 1: Questionnaire of fish distribution and marketing in the Ndian division, South West province of the republic of Cameroon**

Registration

1. Name sub-division	
2. Name Fishing Camp	
3. Questionnaire Number	
4. Name Interviewer	
5. Date	

Personal details of the fishmonger

6. Name fishmonger	
7. Age	
8. Marital Status	
9. Name Home Camp	
10. Nationality	
11. Ethnicity	
12. Born in which State of Nigeria/Cam. Province?	
13. Educational Level	
14. Former Occupation	
15. Farm in Nigeria?	
16. How many years are you a fishmonger?	
17. Are you satisfied with the job?	
18. Which job do you prefer?	

Professional details

19. Place of buying fish	
20. Buying from how many fishing HH. in total	
21. Which species are bought	1. 2. 3. 4. 5.
22. Do you supply equipment to fishermen	
23. What are the arrangements?	
24. Mode of selling?	

25. Purchaser? If more than one, use %	
26. Final market?	
27. How many times a week do you visit the market	
28. How many months a year are you buying fish	
29. monthly costs ( fees , petrol etc.)	

Species	quantity in local unity#	purchase price	sale price	min.bags per month	max. bags per month

# describe local unity

Purchaser.

1. Cam. wholesaler,
2. Nig. wholesaler
3. Cam. retailer
4. Nig. retailer
5. Cam. cooperative
6. Nig. cooperative
7. Cam. assemblers
8. Nig. assemblers
9. Cam. consumers
- 10 Nig. consumers
- 11 Others

Mode of selling;

1. bargaining
2. fixed
3. auction
4. others

Final markets;

1. internal divisional markets in Ekondo-Titi and Mundemba
2. internal neighbouring divisional market in Kumba
3. other internal provincial markets like Limbé and Douala
4. Export to Ikan market in Nigeria , 5. Export to other Nigerian markets 6. Export to Gabon

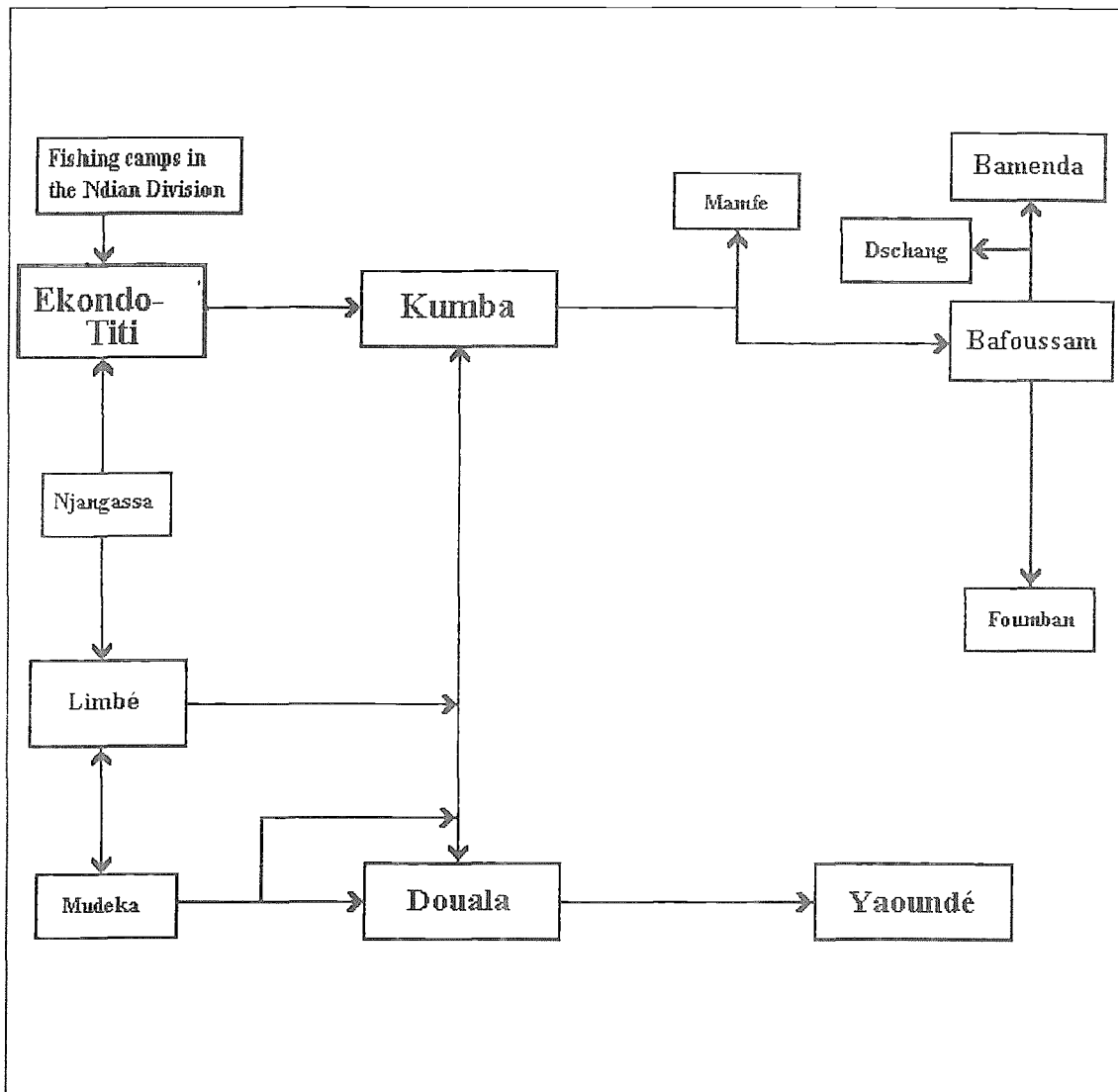
## ANNEX 2: List of persons who provided valuable assistance during the study

Mr. Molindo Adapoe Duncan	Chief of MIDEPECAM, Limbé,
Mr. Njifonjou Oumarou	Researcher CHRO, Limbé
Mrs. Lucy Nkumbe	Researcher CHRO, Limbé
Dr. Jean Calvin Njock	Director of the Department of Fisheries (DOF), Yaoundé
Mr. Isaac Bille	Director of MIDEPECAM, Douala
Mr. Koané Mindjimba	Head of technical and operational services of MIDEPECAM Douala
Mr. François Tiossop	Chief of MIDEPECAM branch in Youpwé, Douala
Dr. Sanzhie Bokally	Director of Caisse de Développement de la Pêche Maritime, Douala
Dr. Bernard Tossou	FAO Representative in Cameroon, Yaoundé
Mr. Daniel Yoman	Programme Officer of the FAO, Yaoundé
Mr. Maurice Bayemi	Secretary-General of MINEPIA, Yaoundé
Dr. François Tobit	South West Provincial Delegate of MINEPIA, Buea
Mr. André Mounchikpou	South West Provincial Chief of Fisheries, Buea
Dr. Dora Meoto	Chief of sector MINEPIA Fako Division, Limbe
Mr. Acham Petucao	Prefect of Ndian Division, Mundemba
Mr. Gangwan Joseph Banyong	Chief of Section Agro-Statistics, Mundemba
Mr. Paul Folefac Fuanyi	Chief of Sub-Sector MINEPIA, Bamusso
Mr. Nganji Amos Chifu	Chief of MIDEPECAM branch Bamusso
Mr. Tatsi Simon	Chief of Fisheries Sector of Meme/Ndian Division, Kumba
Mr. David Acha Tita	Chief of sub-sector MINEPIA, Kumba
Mr. Nkengeh Tazinkeng George IDAF Staff	Commissioner of Police, Public Security, Bamusso Cotonou, Benin

### Interviewers:

Mr. Bende Emmanuel Morumba	Fishery Monitor, Njangassa
Mr. Mongolo Francis	Fishery Monitor, Bekumu
Mrs. Maria Manongo Mbanyi	Fishery Monitor, Barracks
Mr. Tonye Mathias	Veterinary Assistant, Ekondo-Titi
Mr. Kefunze Nicholas Membu	Fishery Monitor, Ekondo-Titi
Mr. Nanje Mangeri Jonathan	Fishery Monitor, Idabato
Mr. Mokube Joseph Sakwe	Veterinary Assitant, Bamusso
Mr. Pius Ndeh	Fishery Monitor, Bamusso

ANNEX 3: Schematical overview of the interior market circuit



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