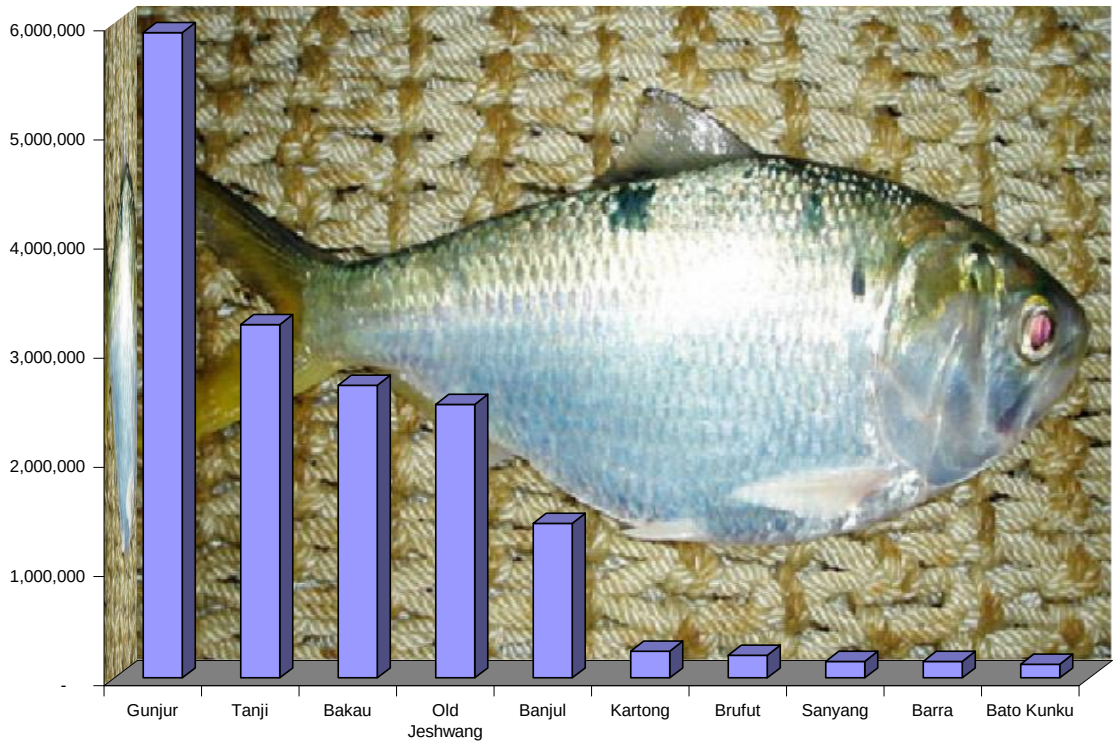
THE REPUBLIC OF THE GAMBIA

2005 and 2006 CATCH ASSESSMENT SURVEY REPORT



GAMBIA ARTISANAL FISHERIES DEVELOPMENT PROJECT
DEPARTMENT OF FISHERIES
DEPARTMENT OF STATE FOR FISHERIES AND WATER RESOURCES
BANJUL, THE GAMBIA

TABLE OF CONTENTS

PREFACE

Executive Summary

The artisanal fisheries sub-sector plays a very important role in providing the vital animal protein supplement to the Gambian populace and also acting as a major source of raw fish material for the fish processing establishments in the country.

The results of the 2006 Frame Survey indicated that there are 1 410 head fishermen operating from 154 landing sites in the Gambia. For the Atlantic Coast Stratum all the landing sites were selected for catch and effort data collection and for the inland (in the first stage), out of 144 landing sites 13 sample landing sites were selected from the four fisheries administrative areas. However due to human and technical limitations, some constraints were imposed on the selection of sample landing sites.

The total fish landed from both the artisanal and industrial sub-sectors were estimated at nearly 40 000 tonnes in 2006. Out of this, the Artisanal contributed approximately 37 000 tonnes (93 %) with about 3 000 tonnes (7%) from the industrial fisheries. Artisanal fishing is a whole year activity with clupeids constituting the bulk of the catch. *Ethmalosa frimbriata* (Bonga/Shad) is the main species landed by the artisanal fishermen (13,187 tonnes or 36%). The Sardinella fishery is becoming very important with landings of the two species, sardinella aurita (round sardinella) and sardinella maderensis (flat sardinella) estimated at 4,940 tonnes (13.4 %) .

The total effort (fishing days or trips) of Artisanal Fishing from Atlantic Coast employed in the production of about 33 000 tonnes of fish was just over 87 000 fishing trips. The resulting catch per unit (CPU) of effort was 377 Kg.

The inland comprises Lower River North Bank (LRNB), Lower River South Bank (LRSB), Upper River North Bank (URNB) and Upper River South Bank (URSB). Although the inland is not fully covered during frame surveys, catch and effort data collection is only being "adequately" covered (2006). In 2006, fish production in the inland ranges from 2 506 tonnes for the LRSB, 811.4 tonnes for the URNB to 604 tonnes for the LRNB. The total effort put in by the fishermen in 2006 was estimated at 66 871 fishing trips compared to more productive ACS with 87 400 fishing trips.

Four artisanal fish production peaks corresponding to the months of March, May, August and December were observed. Production in these four months were estimated at 3,265 tonnes, 4,056 tonnes, 3,322 tonnes and 3,288 tonnes respectively.

The two most important fishing gears employed in the artisanal fisheries operations in the Gambia are encircling/surround gillnet and Set/bottom gillnet. These gears are used in fishing operations all year round and are responsible for most fish caught. Surround gillnet target small pelagic fish, particularly bonga which is an inshore and estuarine species while Set/bottom gillnet target a wide range of demersal and sub-demersal fish species. Landings depend on the abundance and availability of target fish species and these may have some bearing with seasons.

CHAPTER 1

1.1 INTRODUCTION / BACKGROUND

The Gambia lies almost entirely in the Savannah-Sahelian belt of West Africa and extending for a distance of over two hundred miles into the interior of Africa (history of the Gambia AD 1000 to 1965) (Mendy, 2002). It comprises a strip of land varying from 25 to 50 Km on either side of the 480 Km long River Gambia (Horemans *et al*, 1996 cited by Mendy, 2002). The Gambia is surrounded on three sides by the Republic of Senegal and the West by the Atlantic Ocean, see figure 1. With a continental shelf of about 4000Km^2 and a 200 nm EEZ area of approximately 10500km^2; the fisheries resources of the waters of Gambia were believed to be rich in terms of species abundance and diversity. The first survey of fisheries potentials of waters done with the assistance of the FAO and UNDP in 1964 and 1965 had recorded positive results. These positive results could be attributed to the flow of nutrient from the River Gambia (an estuary attracting fish for feeding and spawning) and the location of the Gambia in an area where trade winds, the canary currents and the upwelling system prevail (Mendy, 2002).

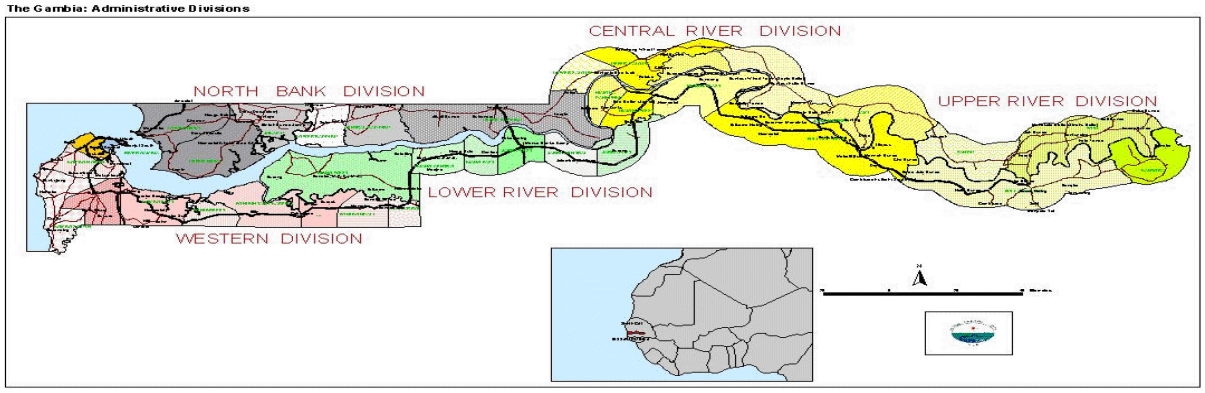


Figure 1. Map of the Gambia

According to Mendy (2002), the first fisheries statistical system called Catch Assessment Survey [CAS] was designed and put in place in 1976. Prior to the setting up of the CAS, reports of fish landings were only made by people on short visits to inland and coastal areas

outside Banjul (Mendy, 2002). These reports were only meant to satisfy the curiosity of a few but not for management purposes.

1.2 SCOPE OF THE SURVEY

Catch Assessment Survey [CAS] is a sample survey used in the collection of artisanal fisheries catch and effort data. The survey was designed by……. The scope of the CAS is the continuous production of catch and effort statistics from the Artisanal Fisheries sub-sector for the various fishing gear-types used in fish catching operations in both the Atlantic Coast Stratum [ACS] and the Inland. Sampling is done in space and time covering all the fish landing sites in the ACS and pre-selected landing sites or Primary Sampling Unit [PSU] in inland.

For comparison purpose, the report covers 2005 CAS survey. It is interesting to note that the number sampling days were increased from the normal 6 days to 10 days in 2006 to increase coverage of landings.

1.3 ITEMS OF INFORMATION COLLECTED

In each sample landing site or PSU, the field staff (recorder) records number of canoes per gear-type that went fishing on the sampling day. Weight of the catch by species and crew size of six canoes (by gear-type) are assessed and recorded. The recorder also provides monthly information on the number of Fishing Units by category. Refer to Appendix I for the questionnaire used.

1.4 CATCH ASSESSMENT SURVEY TEAMS

As in the frame survey, five teams were constituted to cover the five fisheries administrative areas; ACS, Lower River North Bank [LRNB], Lower River South Bank [LRSB], Upper River North Bank [URNB] and Upper River South Bank [URSB]. Each sample landing site is covered by one or more field staff and equipped with the necessary equipment and material to enable them conduct the survey. Three computers are dedicated to fisheries statistics processing. A key number of personnel trained in data processing are responsible for data entry, processing and dissemination. Two staff members are responsible for field supervision with the overall responsibility resting on the consultant and his counterpart.

1.5 TRAINING

Prior to the commencement of CAS, a two day training workshop was held for the field staff at the Fisheries Department conference room in Banjul. The training was in the form of classroom instructions on how to use enumerator's reference manuals and to complete questionnaires developed for this purpose. The topics covered included how to undertake the Catch Assessment Survey, familiarization with the completion of the Catch Assessment questionnaires and reporting forms, and to instill understanding on the importance of data in the planning and management process. During the training, special

emphasis was placed on techniques for fully capturing information on the fishing sector. After the training, the enumerators were dispatched to their respective fish landing sites for listing of Fisheries Economic Units.

To control the non sampling errors one day training were organized so to familiarize the field staff in identification of species, gears, recording of catches etc..

1.6 QUALITY CONTROL OPERATIONS

A system for quality checks is being maintained. The quality of the data collection process and data are controlled by the supervisor in the field who oversees the work of the enumerator. The supervisor checks for completeness and accuracy and signed as satisfied. Unsatisfactory questionnaires are returned to the enumerators for correction. A list of landing sites and completed forms were also kept for reference.

At the Fisheries Statistics Unit office, each questionnaire or form is carefully registered and the total number received recorded in the office receipt and control form. This form also showed the number of forms expected; thus a check was maintained in the office on the flow of completed work from the field to the office. After checking the forms for adequate entry, they were subjected to further verification by trained verifiers and then sent for data entry and processing.

1.7 DATA PROCESSING

For the purpose of data entry, a Data Table was created with the structure of the questionnaire taken into account. CSPro version 3.2 was used for data entry. This was done with the aid of a data entry screen designed from the above software. Validation rules were assigned to the variables to avoid duplication, typographical and other errors. Data Entry clerks were trained to input the data correspondingly from the questionnaire to the prepared entry forms on the computer. This enabled quick entry of the data. Using SPSS, Version 13.0 the output table structures was prepared as desired.

1.8 BASIC CONCEPTS AND DEFINITIONS

In order that the reader understands and appreciates the amount and quality of data herewith provided, it is imperative that certain concepts are explained.

Artisanal fisheries

Traditional or artisanal fishing is a low capital investment activity with fishers operating from fish landing sites throughout the country. Primitive to simple fish capturing techniques were being used as it was purely to provide food fish to members of the fishermen households. This has since evolved into commercial enterprises supplying raw material fish to fish processing plants and market centres in the municipalities and up country.

.

Fishery

Refers to the economic activities of capture or culture of aquatic animals and plants.

Capture

Refers to the catching or gathering of aquatic animals and plants. Normally, capture involves living aquatic animals and plants, although gathering of shells, corals, etc., which is already dead, is also considered as capture.

Catch refers to total fish hauled during fishing operations. The catch may not all necessarily be landed as some unwanted fish may be discarded at sea. Landings refers to those fish that are kept and landed at home ports or landing sites for consumption and sale.

Fisherman

Fisherman refers to a person who engages in fishing at sea or on inland open water. A person who works on land for net repairing, loading fishing material, unloading catch, etc. is excluded.

Landing Site

The site or village from which fishing units operate

Fishing Unit:

A Fishing Economic Unit (FEU) consists of fishing canoe, fishing gears and fishermen. Fishing units are classified in categories according to the type of fishing gear employed. Hence, when the same fishing canoe employs two different types of gear or uses more than one type of gear at different times of a year, the number of fishing units is counted for each gear employed separately, although the same fishing canoe is used.

1.9 SAMPLE SURVEY DESIGN

a. Sampling in space

As far as the space is concerned, the stratification used in the Frame Survey 2005 was maintained.

The geographical/administrative units of the strata into which the coast and inland were divided are given in table 1.

Within each stratum, a number of fishing sites (Primary Sampling Units) were selected for further sub sampling (secondary sampling units). The Primary Sampling Unit (PSU) is defined as a permanent fishing village where fish landings take place regularly. The

Secondary Sampling Unit (SSU) is defined as the Fishing Economic Unit which is aggregation of fishing boats, fishing gear and fishermen to carry out fishing operations.

For sampling purposes the fishing Economic Units within the selected fishing sites are grouped into classes by taking into account types of boat and gear used.

b. Sampling in time

With regard time, the Catch Assessment Survey uses a flexible reference period (normally 10 days per month); five days in the first half and five day in the second half of the month.

The collected sample data within the surveyed period are used to provide estimates on a monthly basis by gear/boat and by species. Annual estimates are calculated by adding up the monthly estimates.

1.10. Selection Process

The CAS is designed as a sample survey with two stages sampling as follows:

First stage: The Primary Sampling Units (PSU) in which landing sites are selected for sampling, table 1
Second stage: The Secondary Sampling Units (SSU) this involved the sampling of fishing boat landings by type of gear used.

For the Atlantic Coast Stratum all the landing sites were selected for catch and effort data collection and for the inland (in the first stage), sample landing sites have been selected from all landing sites within each administrative Division (strata). However due to human and technical limitations, some constraints were imposed on the selection of sample landing sites. In other words a selected fishing site where there was no resident recorder was withdrawn.

At the second stage of selection the field staff were instructed to use one of the two allowed alternatives given to them: to use census approach or sampling approach.

The census approach had to be used in the case of a limited number of landings in the sample day (up to 10 landing sites), whereas a sampling approach had to be used for a larger number of landing sites in a stratum.

In the latter case, the method of selection adopted was systematic sampling where the starting point and the space interval determine the whole sample.

Table 1. Sample Description of the 2006 Catch Assessment Survey

	Landing Sites	
	Population	**Sample**

Stratum/Landing Sites Selected	Number	Number
Atlantic Coast*	10	10
Kartong		
Gunjur		
Sanyang		
Bato Kunku		
Tanji		
Brufut		
Bakau		
Old Jeshwang		
Banjul		
Barra		
Lower River North Bank	30	4
Albreda		
Salikene		
Tuba Kolong		
Bamba Tenda		
Lower River South Bank	45	5
Mandinary		
Bintang		
Kemoto		
Jappineh		
Pirang		
Upper River North Bank		
Kuntaur	26	1
Upper River South Bank		
Jarreng	43	3
Bansang		
Basse		
TOTAL	**154**	**23**

1.11 Selection of Sample Days

At the beginning of each month, the field staff completes a "Monthly Inventory Characteristics" form with information on the structure of the fisheries in the PSU where s/he is stationed.

- total number of boats and by type
- number of boats by gear type.

The supervisor then indicate on the same form the number of consecutive days the field staff had to sample each gear type; this period of time is called the "Reference Period" as earlier stated.

Following the supervisor's instructions, the field staff samples landings by gear for 10 days; 5 days in the first 15 days and the other 5 in the last 15 days but consecutively for each period. During the sampling days, the field staff record daily catch by species and effort in fishing trips in a prescribed CAS Form. Also recorded are the total number of boats by gear type being sampled and the number of boats sampled each day. The ratio between these two values (R1) is used to raise the value of the sampled catch to the total catch on that day for that gear type.

1.12 Estimating Process

At the end of the month the supervisor collates all sampled data for each PSU by summing them for each gear type surveyed. The sample totals for each gear type are then raised to reflect the number of days fished in the month by multiplying them by the ratio of days fished to days sampled in the reference period (R2).

In this manner, the monthly total estimates of catch and effort by gear type for each PSU were obtained. Total production for each PSU in a Stratum are summed and raised to give an overall catch in that stratum. The raising factor used here was the ratio for each gear type in the stratum to boats in the PSUs (R3). Each PSU therefore, produced a different estimate of effort and production for any given gear type within the stratum.

1.13 The Estimations

The same process expressed in a mathematical way will be as follows:

Assuming that,

h = stratum (1, 2,)
i = selected PSU
j = boat sampled
k = gear used
M = number of days in the calendar month
D = number of days in the reference period
d = number of actual fishing days sampled
n = number of boat in the PSU
l = number of boats sampled
N = number of boats in the stratum
Y = catch (effort)
S = number of sampled villages in the h stratum
L = number of boats landed

$$k^{Y}hi = \sum_{1}^{d}[\frac{L}{l} * \sum_{j=1}^{l} k^{Y}hidj]$$

Gives the total catch (sample date) landed in PSU "i" in stratum "h" by boats using gear "k" during the days sampled.

(monthly) $$k^{Y}hi = k^{Y}hi(d) * \frac{M}{D}$$

Gives the monthly total catch (sample date) landed in PSU "i" in stratum "h" by boats using gear "k" during the month.

(stratum) $$k^{Y}(i)h = k^{Y}hi * \frac{N_{kh}}{n_{khi}}$$

Gives the monthly total catch landed in stratum "h" by boats using gear "k" estimated using sample data from PSU "i". The final estimated monthly total catch landed in stratum "h" by boats using gear "k" is obtained by taking the average of the different stratum estimates calculated form the sample date of the PSUs weighted by the number of landings in each PSU.

1.14. POSSIBLE SOURCE OF ERROR

a) Non sampling errors

From an analysis of the non sampling errors occurred during the survey, they can be divided in 4 categories:

i) The field staff does not collect information or fill the forms correctly.

ii) The field staff is not present at the beach when the fishing boats are landing and collects data by enquiry.

iii) The field staff cannot weigh the catches because he does not have proper weighing scales and estimates the landings.

iv) The field staff incorrectly identifies fish species.

For case (i) and (ii) the only solution is to increase supervision.

The supervisor will be able to check the work done by the field staff and correct possible mistakes at the source.

Case (iii) has one possible solution, the purchase of appropriate weighing scales and buying whatever material is needed to keep them in good working condition.

Case (iv) becomes a very important source of error when catch estimates by species groups are produced. A possible solution is to organize local training courses for the fish recorders. These training courses could be useful also to present to and discuss with the enumerators how to solve problems arising in particular situations.

b) Sampling Errors

i) The Sampling Frame is used not only to select the PSU but also to calculate the raising factors used to raise sample data from the PSU to total catch and effort for the strata. An error in the number of boats per stratum or in the gear distribution would therefore affect the estimates. A certain number of possible sources of error in the sampling frame should be expected due to the difficulties encountered during the Frame Survey.

ii) The sampling Frame no longer reflects the reality of the fishing industry (artisanal fish production). In fact it is already one year old and will become more and more inadequate, depending on the rate of change (movement/migration) of the Artisanal Fisheries in the country or in individual strata.

iii) Boats changing the gear used depending on weather and seasonal changes of the fishing pattern and the fishery structure may affect the final estimates.

c) Other sources of error

Geographic boundaries and national borders do not mean much to the fishermen. It is well known that, along the Coast, groups of fishermen migrate following the migration or abundances of fish and changes in general economic conditions in the different countries or areas along the coast. These movements would greatly affect the stratum estimates unless they were limited to the boundaries of one stratum.

Nevertheless, some possibility of updating the sampling frame must be envisaged:

i) The seasonal fluctuation in number of boats operating could be obtained by studying the fluctuation in the number of boats in operation in the PSUs.

ii) The supervisors could carry out regular visits to fishing villages which are not Primary Sampling Units to collect data on number and type of boats and gear used. This data could be correlated with those at point (i) to study seasonal fluctuations, and could also be used to update the Sampling Frame.

Although many possible sources of error have been identified, with careful execution of the survey, these errors can be minimized and statistics emanating from CAS will be adequate for any purpose. The result of the first year of implementation of the GAFDP funded CAS is thought to be a real improvement on the previous surveys. The catch estimates provided by the CAS appear realistic, and seasonal patterns can be identified although a certain margin of error has to be assumed.

1.15. IMPROVEMENTS

Before 2005 to carry out the Catch Assessment Survey a number of technical and operational problems encountered . These included;

- Due to lack of resources and training difficulity in handling artisanal capture fishery;
- Lack of standard statistical standards and methodology;
- Lack of appropriate sampling frame;
- Insufficiently trained and/or motivated field staff;
- Lack of guidelines and technical reference materials in the design and implementation of fishery statistical programmes.

To improve the following measures were intiated:

- Attempt was made to improve the database of inland and marine fisheries resources and catch of fish by adoption of standardized methodology of data collection through sample survey for estimation of inland fisheries and marine fish catch in all the landing sites. A Fishery Frame survey was conducted in 2005 which provided the sampling frame for both marine and inland fishery. In 2006 first time the inland fishery was included in the sampling frame. It is interesting to note that the number of sampling days were increased from the normal 6days to 10 days in 2006 to increase coverage of landings.
- As mentioned that due to lack of proper equipments data on catches were not reported properly. To improve on this the project purchased the appropriate weighing scales and purchased whenever material were needed.
- Control of non sampling errors through training of the field staff on fish species gear identification, Proper supervision of the field staff . The Fishery Biologist provided the training on identification of the fish species.
- To improve Information Technology System in the both Artisanal and Industrial Sector so that data collection and their analysis can be done efficiently and effectively.

CHAPTER 2

GENERAL FINDINGS

2.1 Catch Assessment Survey (Artisanal Fishing)

The artisanal fisheries sub-sector is divided into two areas namely; the Atlantic coast and inland. Catch and effort data collection is an integral part of the functioning of the Fisheries Department. They are a measure of amount of fish caught and the effort employed in the extraction/harvesting of the fish by the artisanal fisheries operators. Total fish production is the sum of all landings (production) by the artisanal and industrial sub-sectors. Each sub-sector employs a unique catch and effort data collection system. Catch Assessment Survey, a sample survey is the source of artisanal fisheries production statistics. Table 2 and figure 2 shows total fish landed by the artisanal fishermen operating from the major fish landing sites (Atlantic Coast Stratum, [ACS]) for 2005 and 2006. The table also gave percentage change over 2005 fish production. Overall, there was a 9.3 percent increase in total landings in 2006 with Gunjur and Banjul registering the highest (12.4%) each. A decline in production of 8.4 and 7.4 percents were observed in Barra and Old Jeshwang respectively.

Although the total fisheries production (artisanal and industrial) had been fluctuating, the overall trend is an upward one, figure 3 below and table Annex 1a and 1b. The same trend is observed for the artisanal production too. The industrial production has been declining in the recent years, these could be partly due to over-exploitation and or a significant decline in the number of fishing vessels licensed to fish in Gambian waters. In Annex 1 time series annual total landings by species for both the artisanal and industrial fisheries sub-sectors are given.

Table 2: Total Catches for 2005 and 2006 for the Atlantic Stratum*

Stratum/Year	Total Catches Kilogram 2005	Total Catches Kilogram 2006	Percentage Change %
Total Atlantic Stratum	**30,168,669**	**32,975,896**	**9.3**
Kartong	510,433	548,853	7.5
Gunjur	8,368,638	9,402,964	12.4
Sanyang	1,714,363	1,648,426	(3.8)
Bato Kunku	327,123	308,607	(5.7)
Tanji	6,454,160	7,334,273	13.6
Brufut	4,412,365	4,957,713	12.4
Bakau	2,903,745	3,226,383	11.1
Old Jeshwang	2,705,782	2,505,354	(7.4)
Banjul	2,428,770	2,728,956	12.4
Barra	343,289	314,367	(8.4)

- **Exclude Inland and Industrial Data**

Figure2. Total Catches for 2005 and 2006 for the Atlantic Stratum*

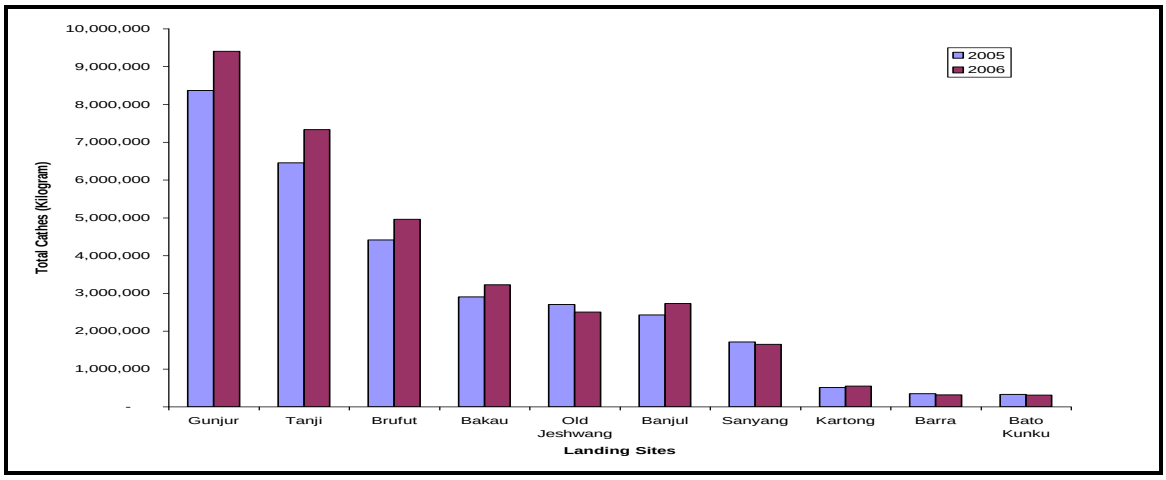


Figure 3. Total Fish Catches by Artisanal and Industrial Sector (1981-2006)

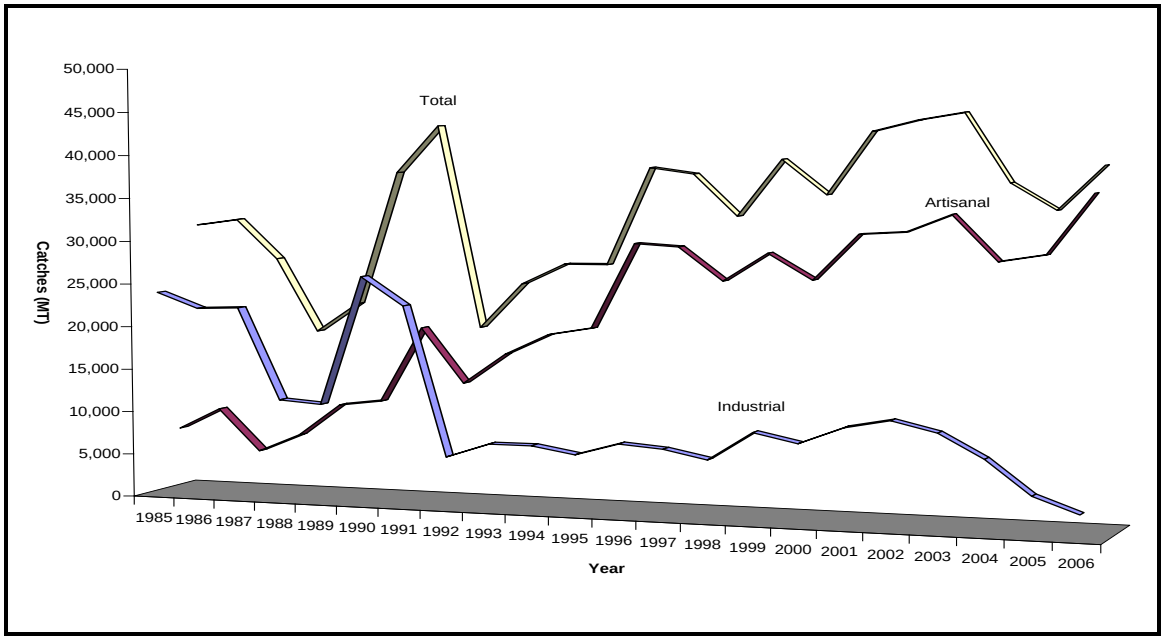
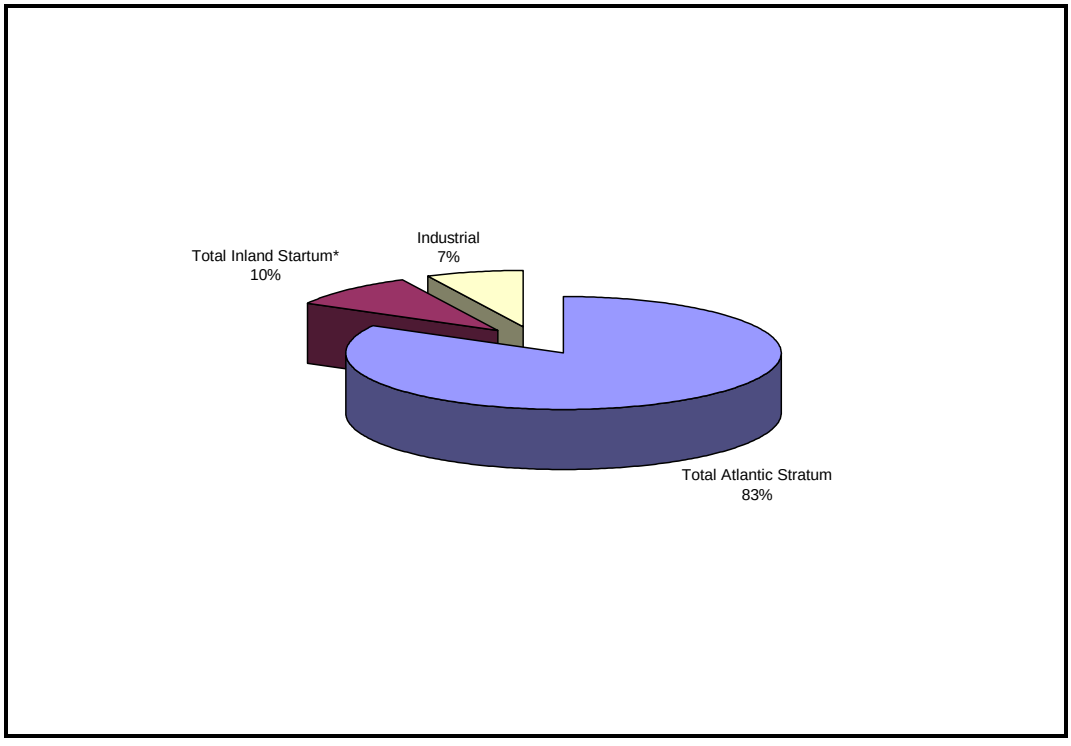


Table 3. Total Catches By Atlantic, Inland and Industrial Stratums (2006)

Stratums	TOTAL CATCHES Kilogram	PERCENTAGE OF TOTAL %
Total Atlantic Stratum	32,975,896	83.0
Total Inland Stratums*	3,921,741	9.9
Industrial	2,829,518	7.1
Total Catches	**39,727,155**	**100.0**

Total fisheries production for 2006 was estimated at nearly 40 000 tonnes with 83 percent of the catch coming from ACS and 10 percent from the inland fisheries, table 3 and figure 4. Total production for the industrial sub-sector constitutes only 7.1 percent of the total fisheries production. This is indicative of the fact that the artisanal fisheries is the most important sub-sector in the Gambia in terms of fish production and of course, its socio-economic contribution.

Figure 4. Total Catches by Marine, Inland and Industrial Sector (2006)



The total effort (fishing days or trips) employed in the production of about 33 000 tonnes of fish was just over 87 000 fishing trips. The resulting catch per unit of effort was 377 Kg, table 4. Brufut fish landing site employed the most unit of effort (nearly 18 000) to

catch about 5 000 tonnes of fish in 2006 with an average of 276 Kg per unit of effort. It was closely followed by Tanji with just under 16 500 unit of effort, table 4 and figure 5. Gunjur fishermen employed nearly 14 400 unit of effort but recorded a higher catch rate (CPUE) of 654 Kg. It should be noted that Gunjur is a major landing site for the bonga fish which constitute about 36 percent of total landings by the artisanal fisheries.

Table 4. Total Catches and Number of Boating Days (Trips) by Landing Sites (2006)

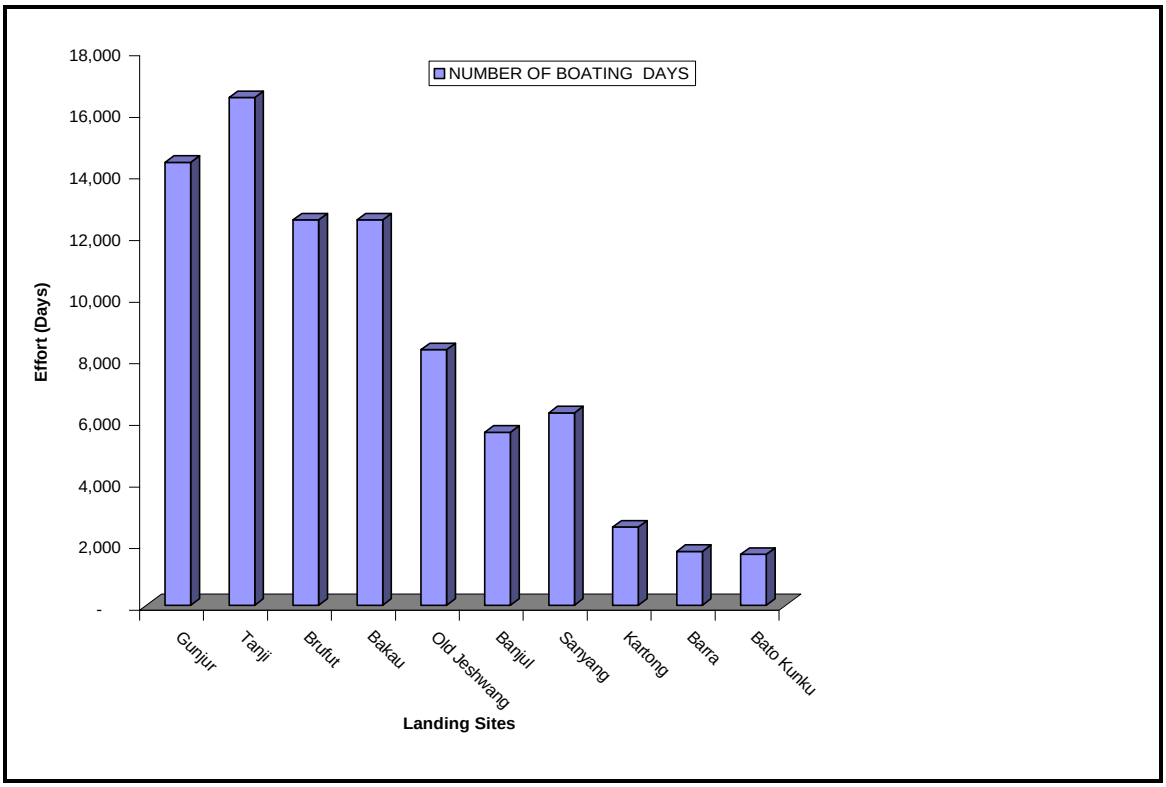
	TOTAL CATCHES Kilogram	PERCENTAGE OF TOTAL %	NUMBER OF BOATING DAYS	PERCENTAGE OF TOTAL %	AVERAGE Kilogram
Total Atlantic Stratums	**32,975,896**	**89.4**	**87,419**	**56.7**	**377**
Kartong	548,853	1.5	2,541	1.6	216
Gunjur	9,402,964	25.5	14,377	9.3	654
Sanyang	1,648,426	4.5	6,244	4.0	264
Bato Kunku	308,607	0.8	1,650	1.1	187
Tanji	7,334,273	19.9	16,482	10.7	445
Brufut	4,957,713	13.4	17,963	11.6	276
Bakau	3,226,383	8.7	12,505	8.1	258
Old Jeshwang	2,505,354	6.8	8,296	5.4	302
Banjul	2,728,956	7.4	5,615	3.6	486
Barra	314,367	0.9	1,746	1.1	180
Total Inland Startum*	**3,921,741**	**10.6**	**66,871**	**43.3**	**59**
Lower River North Bank**	603,984	1.6	12,583	8.2	48
Lower River South Bank**	2,506,359	6.8	38,979	25.3	64
Upper River North Bank**	811,398	2.2	15,309	9.9	53
TOTAL	**36,897,637**	**100.0**	**154,290**	**100.0**	**239**

***No data available for the Upper River South Bank**
****** Based on Four Months Data (Sept-Dec) Extrapolated for 12 months**

The inland comprises Lower River North Bank (LRNB), Lower River South Bank (LRSB), Upper River North Bank (URNB) and Upper River South Bank (URSB). Although the inland is fully covered during frame surveys, catch and effort data collection is only being "adequately" covered (2006). In 2006, fish production in the

inland ranges from 2 506 tonnes for the LRSB, 811.4 tonnes for the URNB to 604 tonnes for the LRNB, table 4. The total effort put in by the fishermen in 2006 was estimated at 66 871 fishing trips compared to more productive ACS with 87 419 fishing trips. The difference in landings per unit effort is partly due to the efficiency of FEU being employed in fishing operations. The efficiency of FEU is greater in the ACS than inland as they employ larger and better fishing gears.

Figure 5. Effort by Landing sites in the Atlantic Staratum (2006)



Artisanal fisheries sub-sector is a multispecies and gear fisheries targeting all fish stocks. Fishermen operating in the sub-sector target species from all the four fish groups: demersals, small pelagics, cephalopods and crustaceans, table 5. *Ethmalosa fimbriata* (Bonga/Shad), an estuarine species constitutes the bulk of total fish landed in 2006 followed by the two sardinellas which are becoming very important in the artisanal fisheries landings, especially in the ACS. From the table, it can be observed that bonga fishery was by far the single most important in terms of effort (17%) expended in its harvest.

Table 5. Total fish Catches by Species - ACS For 2005-2006

Species	Total Catches	
	2005	2006
	Kilograms	

Shad/Bonga	14,977,804	13,186,990
Long Neck Croaker	-	78,389
Madeiran Sardinella	427,902	3,945,565
Cassava Croaker	1,437,499	779,968
Bobo Croaker	181,497	404,582
Meagre	1,281	811
Boe drum	-	155
Rubberlip Grunt	96,117	105,336
Sompat Grunt	515,928	738,655
Round Sardinella	136,157	994,665
Gorean Snapper	-	10,328
African Red Snapper	84,779	380,697
African forktail Snapper	-	14,812
White Grouper	55,186	167,474
Dusky Grouper	128,603	63,265
Golden Grouper	4,705	108,129
Dog tooth grouper	2,371	167
Royal Threadfin	5,593	107,158
Giant African threadfins	242,129	384,720
Lesser African Threadfins	209,829	453,693
Rough head sea catfish	2,210,024	2,525,603
Atlantic Horse Mackerel	762,713	317,340

Contd..

Table 5. Total fish Catches by Species - ACS For 2005-2006

Species	Total Catches	
	2005	2006
	Kilograms	
Cuene Horse Mackerel	3,612	-
Alexandria pompano	2,701	3,782
Rainbow Runner	-	936
Blue runner	1,861	6,015
Cravelle jack	794,052	477,762
False scad	53,894	54,441
Guinean Barracuda	453,488	358,814
Great Barracuda	10,367	24,248
Guachanche Barracuda	-	728,546
Grooved mullet	1,931	394,572
Leaping African mullet	121,648	489,153
Little tunny	-	1,819
Chub mackerel	-	1,427
West African Spanish Mackerel	-	12,460
Africana sicklefish	107,572	140,219
Axillary seabream	83,536	-
Butterfish	24,170	402,719
West African ladyfish	744,834	1,225,615
Wedge sole	265,013	279,414
Sand sole	-	186,008
Senegalese sole	1,925,098	905,841
Largehead hairtail	1,077	
Grey triggerfish	-	1,247
Bonefish	18,946	20,483
Prickly puffer	163,412	29,670

Contd…

Table 5. Total fish Catches by Species - ACS For 2005-2006

Species	Total Catches	
	2005	2006
	Kilograms	
Smooth puffer	2,368	-
Four-banded butterflyfish	-	175,998
European flying squid	-	377
Pink shrimp (Southern)	-	209,132
Striped shrimp	266	18,878
Scarlet shrimp	-	2,424
Pink spiny lobster	23,510	29,801
Royal spiny lobster	-	5,471
Common cuttlefish	1,958,772	1,143,722
Sea Mouth Cuttle fish	34,335	34,266
Ornate Cuttlefish	-	157,935
Common Octopus	-	7,232
European squid	-	8,572
Blacktip shark	123,402	62,428
Milk shark	632,662	113,988
Gulper shark	-	83,212
Daisy stingray	225,060	49,327
White skate	232,949	11,057
Lsuitanian cownose ray	622,490	3,658
Snail	14,469	105,709
Captain Fish	5,895	217,397
Swim crabs	-	21,621
Tilapia	32,436	-
Dentex Spp	2,727	-
Total	**30,168,669**	**32,975,896**

Figure 6. Total Catches by Months (2006)

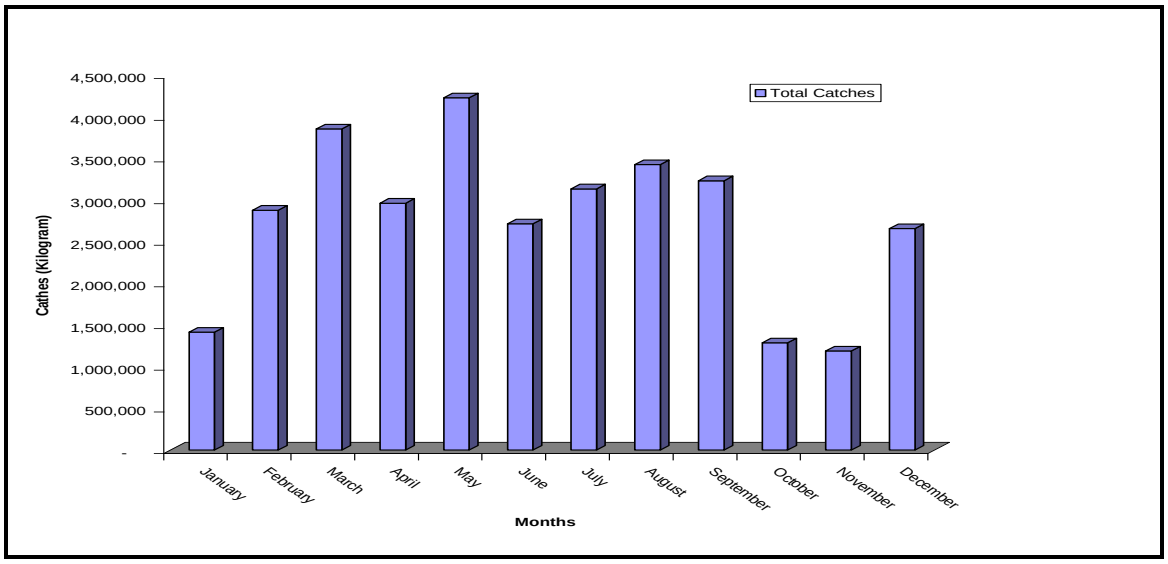


Figure 6 shows fish landings by the artisanal fisheries in 2006 on a monthly basis. Four peaks corresponding to the months of March, May, August and December could be observed from the figure above. Production in these four months were estimated at 3 265 tonnes, 4 056 tonnes, 3 322 tonnes and 3 288 tonnes respectively.

Table 6: Total Catches, Effort and Catch Per Effort By Months For the Atlantic Stratum For 2006

Months	Total Catches Kilogram	Effort Days	Catch Per Effort Kilogram
January	1,540,170	3,796	406
February	2,480,862	4,638	535
March	3,264,936	5,985	546
April	2,851,035	7,775	367
May	4,055,579	9,764	415
June	2,672,821	7,665	349
July	2,744,722	4,741	579
August	3,322,733	5,881	565
September	3,978,729	12,425	320
October	1,324,694	6,399	207
November	1,451,564	7,453	195
December	3,288,050	10,898	302
Total	**32,975,896**	**87,419**	**377**

Figure7. Effort by Months

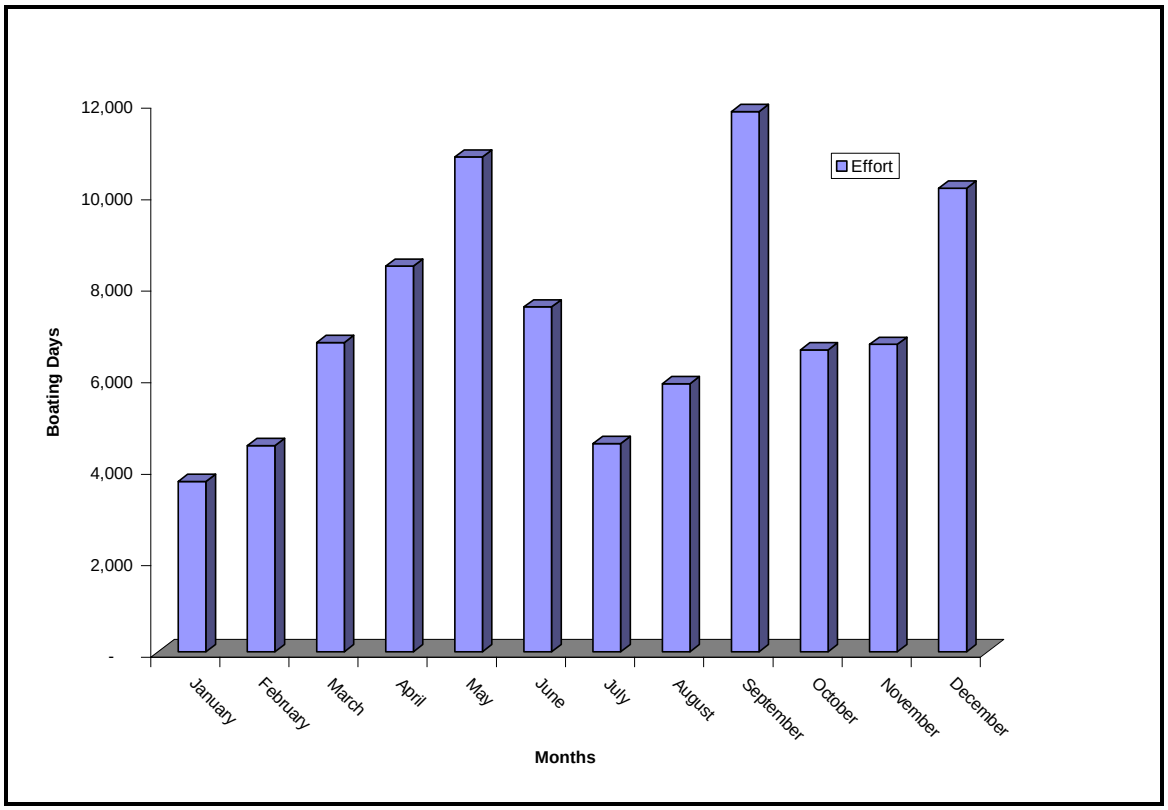


Table 7 is showing monthly fish landings by species by the artisanal sub-sector. This, over years can be useful as indicative of seasonal abundance and availability of certain fish species. For example, total landings of bonga were greater between February and July with the highest landings recorded in March and July.

Table 7. Total Catches By Species and Months For the Atlantic Stratum For 2006

Species	Total Catches	Total Species Catches by Months											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	Weight (Kilogram)												
Shad/Bonga	13,186,990	551,272	1,445,963	1,884,257	1,237,752	1,619,080	1,025,536	1,760,733	962,903	889,582	590,687	461,421	757,804
Long Neck Croaker	78,389	11,034	11,439	13,620	7,085	19,202	5,506	8,703	-	-	-	1,800	-
Madeiran Sardinella	3,945,565	-	89,907	134,175	303,518	50,526	208,289	156,582	1,466,077	848,354	58,042	73,354	556,741
Cassava Croaker	779,968	31,976	82,776	57,670	51,656	54,042	16,050	264,553	10,931	64,465	51,846	55,898	38,104
Bobo Croaker	404,582	-	-	-	1,160	-	15,061	15,193	73,240	271,243	4,037	9,771	14,877
Meagre	811	811	-	-	-	-	-	-	-	-	-	-	-
Boe drum	155	-	-	-	-	-	-	-	-	155	-	-	-
Rubberlip Grunt	105,336	-	-	-	-	-	13,147	-	-	16,775	1,698	19,831	53,885
Sompat Grunt	738,655	16,572	85,238	58,281	35,265	92,205	68,424	60,062	32,033	92,694	23,829	46,179	127,875
Round Sardinella	994,665	-	50,953	76,475	43,379	72,566	229,731	36,840	336,509	36,310	-	17,225	94,678
Gorean Snapper	10,328	-	-	-	-	-	-	-	-	-	-	10,328	-
African Red Snapper	380,697	-	98	495	27,654	-	4,290	-	1,847	33,389	60,537	65,162	187,225
African forktail Snapper	14,812	-	-	-	-	-	-	-	-	-	3,645	-	11,167
White Grouper	167,474	-	29,056	57,062	45,287	888	7,140	-	3,074	894	7,872	14,029	2,170
Dusky Grouper	63,265	-	-	46,562	-	-	-	-	-	3,533	1,410	11,761	-
Golden Grouper	108,129	-	-	-	-	-	-	-	73,687	-	-	34,442	-
Dog tooth grouper	167	-	-	-	-	-	-	-	-	-	167	-	-
Royal Threadfin	107,158	-	-	-	2,566	1,343	83,136	2,090	2,991	7,095	4,799	1,680	1,458

Contd…….

Table 7. Total Catches By Species and Months For the Atlantic Stratum For 2006

Species	Total Catches	Total Species Catches by Months											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	Weight (Kilogram)												
Giant African threadfins	384,720	-	-	-	-	-	43,228	-	-	244,325	14,235	12,476	70,457
Lesser African Threadfins	453,693	7,441	10,693	25,610	5,439	38,299	8,035	10,671	14,362	111,581	23,825	42,834	154,901
Rough head sea catfish	2,525,603	17,346	31,494	65,955	179,966	1,781,323	167,224	19,574	24,626	60,514	30,155	38,249	109,175
Atlantic Horse Mackerel	317,340	11,187	712	13,320	22,580	50,252	5,345	42,665	56,361	43,140	13,748	8,384	49,647
Alexandria pompano	3,782	-	-	-	-	-	-	-	-	3,477	-	306	-
Rainbow Runner	936	936	-	-	-	-	-	-	-	-	-	-	-
Blue runner	6,015	-	-	-	-	-	-	-	-	-	-	-	6,015
Cravelle jack	477,762	70,678	20,227	195,202	-	-	136,489	12,863	992	20,913	10,935	-	9,462
False scad	54,441	-	-	-	-	-	-	-	-	20,772	6,225	27,241	203
Guinean Barracuda	358,814	33,435	5,570	-	3,472	6,464	8,644	125,356	822	99,232	1,754	2,015	72,047
Great Barracuda	24,248	-	-	-	-	-	-	-	-	-	23,489	760	-
Guachanche Barracuda	728,546	609,091	95,209	19,103	-	267	3,529	-	-	-	-	218	1,129
Grooved mullet	394,572	-	975	-	-	-	797	-	-	161,827	59,378	171,594	-
Leaping African mullet	489,153	-	-	364	-	-	-	-	-	226	-	230	488,332
Little tunny	1,819	-	-	-	-	1,819	-	-	-	-	-	-	-
Club mackerel	1,427	-	-	-	-	-	-	-	-	13	1,415	-	-
West African Spanish Mackerel	12,460	-	-	-	-	-	-	-	-	12,460	-	-	-
Africana sicklefish	140,219	1,654	-	-	3,663	2,773	43,449	25,096	13,384	12,636	13,227	16,258	8,079

Contd……

Table 7. Total Catches By Species and Months For the Atlantic Stratum For 2006

Species	Total Catches	Total Species Catches by Months											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		Weight (Kilogram)											
Butterfish	402,719	919	64,940	804	53	3,704	125,673	-	18,520	111,767	4,959	13,978	57,401
West African ladyfish	1,225,615	62,541	136,789	124,408	128,812	62,535	216,337	125,226	89,698	62,897	29,663	43,424	143,284
Wedge sole	279,414	1,452	2,346	3,914	37,342	30,727	44,657	7,298	31,718	53,690	56,487	8,173	1,611
Sand sole	186,008	10,771	31,312	134,023	-	3,082	2,983	3,837	-	-	-	-	-
Senegalese sole	905,841	17,640	149,622	185,075	181,954	16,140	123,420	-	-	396	-	101,837	129,757
Grey triggerfish	1,247	-	-	-	-	-	-	-	-	1,247	-	-	-
Bonefish	20,483	-	-	-	-	-	-	-	-	18,480	-	1,135	867
Prickly puffer	29,670	-	-	-	-	-	-	-	-	3,419	2,363	20,927	2,961
Four-banded butterflyfish	175,998	-	-	-	-	-	-	-	-	137,988	-	-	38,010
European flying squid	377	-	-	-	-	-	-	-	-	366	-	-	11
Pink shrimp (Southern)	209,132	-	-	-	-	-	-	-	-	76,545	132,586	-	-
Striped shrimp	18,878	-	-	-	-	-	-	-	-	-	3,645	-	15,233
Scarlet shrimp	2,424	-	-	-	2,424	-	-	-	-	-	-	-	-
Pink spiny lobster	29,801	-	-	-	2,254	2,678	8,629	13,468	-	1,333	-	-	1,439
Royal spiny lobster	5,471	968	-	4,504	-	-	-	-	-	-	-	-	-
Common cuttlefish	1,143,722	9,406	55,680	53,309	444,301	129,495	9,621	46,679	76,238	164,723	22,821	101,358	30,092
Common cuttlefish	34,266	-	-	-	26,923	-	-	-	-	374	6,969	-	-
Ornate Cuttlefish	157,935	6,344	45,294	82,394	-	4,768	19,134	-	-	-	-	-	-

Contd……

Table 7. Total Catches By Species and Months For the Atlantic Stratum For 2006

SPECIES	TOTAL	TOTAL SPECIES CATCHES BY MONTHS											
	Catches	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	Weight (Kilogram)												
Common Octopus	7,232	-	-	-	-	-	-	7,232	-	-	-	-	-
European squid	8,572	2,222	968	4,324	-	1,058	-	-	-	-	-	-	-
Blacktip shark	62,428	229	-	-	35,174	435	236	-	6,600	17,674	1,456	43	580
Milk shark	113,988	62,380	33,268	5,847	12,143	317	-	-	-	33	-	-	-
Gulper shark	83,212	-	-	-	6,393	2,212	27,751	-	17,444	12,003	11,699	5,711	-
Daisy stingray	49,327	-	-	-	-	-	-	-	-	49,327	-	-	-
White skate	11,057	-	333	-	-	5,402	929	-	-	4,392	-	-	-
Lsuitanian cownose ray	3,658	-	-	-	-	-	-	-	-	-	-	3,076	581
Snail	105,709	1,864	-	18,184	2,819	1,554	401	-	8,675	26,806	26,643	7,430	11,333
Captain Fish	217,397	-	-	-	-	421	-	-	-	164,296	12,195	1,028	39,457
Swim crabs	21,621	-	-	-	-	-	-	-	-	15,367	6,254	-	-
TOTAL ALL SPECIES	**32,975,896**	**1,540,170**	**2,480,862**	**3,264,936**	**2,851,035**	**4,055,579**	**2,672,821**	**2,744,722**	**3,322,733**	**3,978,729**	**1,324,694**	**1,451,564**	**3,288,050**

Table 8a Total Catches, Effort and Catch Per Effort By Type of Gear Used For the Atlantic Stratum For 2006

Type of Gear Used	Total Catches Kilogram
Encircling Net	15,906,258
Set/Bottom Gill Net	11,138,682
Drift Gill Net	15,150
Stownet	238,442
Hook and Line	170,523
Purse Seine	4,618,191
Other Net	888,650
Total	**32,975,896**

The two most important fishing gears (Table 8a) in the artisanal fisheries in the Gambia are encircling/surround gillnet and Set/bottom gillnet. These gears are used in fishing operations all year round and are responsible for most fish caught. Surround gillnet target small pelagic fish, particularly bonga which is an estuarine species while Set/bottom gillnet target a wide range of demersal and sub-demersal fish species. Landings depend on the abundance and availability of target fish species and these may have some bearing with seasons. Table 9 attempts to show the amounts of fishing effort used in fish production in 2006. According to this table, fishermen using both gears made more fishing trips in May than in any other months. Total bonga landed in the same month was nearly 1 620 tonnes, the third highest in 2006, table 8b.

It is interesting to note that sardinella fishery is becoming very important. This could be due to change in preference (from bonga o saridnellas). Total landings of the two sardinella species (*Sardinella aurita* and *Sardinella maderensis*) was estimated at 3 945 tonnes and 995 Tonnes respectively, table 2.8. These species are mainly targeted by fishermen using purse seiners.

Table 8b. Total Catches By Species and Type of Gear Used For the Atlantic Stratum For 2006

Species	Total Catches	Type of Gear Used						
		Encircling Net	Set/Bottom Gill Net	Drift Gill Net	Stownet	Hook and Lines	Purse seine	Other Net
	Weight (Kilogram)							
Shad/Bonga	13,186,990	13,157,530	-	12,009	-	-	-	17,451
Sardinella	**4,940,230**	-	-	**1,058**	-	-	**4,618,191**	**320,981**
Madeiran Sardinella	3,945,565	-	-	1,058	-	-	3,685,178	259,329
Round Sardinella	994,665	-	-	-	-	-	933,013	61,652
Long Neck Croaker	78,389	-	78,389	-	-	-	-	-
Cassava Croaker	779,968	42,644	734,813	-	-	2,511	-	-
Bobo Croaker	404,582	1,294	141,117	-	-	2,785	-	259,386
Meagre	811	-	811	-	-	-	-	-
Boe drum	155	155	-	-	-	-	-	-
Rubberlip Grunt	105,336	36,813	64,475	-	-	4,048	-	-
Sompat Grunt	738,655	200,874	516,199	-	-	21,582	-	-
Gorean Snapper	10,328	-	10,328	-	-	-	-	-
African Red Snapper	380,697	21,482	357,823	-	-	1,392	-	-
African forktail Snapper	14,812	-	14,812	-	-	-	-	-
White Grouper	167,474	4,363	161,887	-	-	1,223	-	-
Dusky Grouper	63,265	-	51,799	-	-	11,466	-	-

Contd..

Table 8b Total Catches By Species and Type of Gear Used For the Atlantic Stratum For 2006

Species	Total	Type of Gear Used

	Catches	Encircling Net	Set/Bottom Gill Net	Drift Gill Net	Stownet	Hook and Lines	Purse seine	Other Net
	Weight (Kilogram)							
Golden Grouper	108,129		34,442	-	-	-	73,687	-
Dog tooth grouper	167	-	167	-	-	-	-	-
Royal Threadfin	107,158	88,027	14,627	-	-	4,503	-	-
Giant African threadfins	384,720	8,133	136,187	-	-	18,832	-	221,569
Lesser African Threadfins	453,693	104,622	324,135	-	-	2,396	-	22,540
Rough head sea catfish	2,525,603	23,580	2,499,599	-	1,353	1,070	-	-
Atlantic Horse Mackerel	317,340	160,311	131,767	-	-	2,484	-	22,778
Alexandria pompano	3,782	-	-	-	-	3,782	-	-
Rainbow Runner	936	936	-	-	-	-	-	-
Blue runner	6,015	6,015	-	-	-	-	-	-
Cravelle jack	477,762	390,854	84,130	-	-	-	-	2,778
False scad	54,441	1,260	52,597	-	-	583	-	-
Guinean Barracuda	358,814	12,551	332,198	1,663	-	5,420	-	6,983
Great Barracuda	24,248	23,489	760	-	-	-	-	-
Guachanche Barracuda	728,546	701,531	27,015	-	-	-	-	-
Grooved mullet	394,572	5,114	389,458	-	-	-	-	-
Leaping African mullet	489,153	226	488,927	-	-	-	-	-
Little tunny	1,819	-	1,819	-	-	-	-	-

Contd….

Table 8b. Total Catches By Species and Type of Gear Used For the Atlantic Stratum For 2006

Species	Total Catches	Type of Gear Used						
		Encircling Net	Set/Bottom Gill Net	Drift Gill Net	Stownet	Hook and Lines	Purse seine	Other Net

	Weight (Kilogram)							
Club mackerel	1,427	1,427	-	-	-	-	-	-
West African Spanish Mackerel	12,460	12,439	21	-	-	-	-	-
Africana sicklefish	140,219	13,728	119,204	-	-	7,288	-	-
Butterfish	402,719	369,813	31,017	-	400	1,488	-	-
West African ladyfish	1,225,615	129,090	1,078,160	-	-	4,180	-	14,185
Sole	**1,371,262**	**-**	**1,371,262**	**-**	**-**	**-**	**-**	**-**
Wedge sole	1,247	-	1,247	-	-	-	-	-
Sand sole	20,483	18,310	724	-	-	1,448	-	-
Senegalese sole	29,670	-	3,466	-	-	26,204	-	-
Grey triggerfish	175,998	137,988	-	-	-	38,010	-	-
Bonefish	5,378	4,807	190	-	-	380		-
Prickly puffer	7,507	-	877	-	-	6,630		-
Four-banded butterflyfish	547	429	-	-	-	118		-
European flying squid	331	331	-	-	-	-		-
Shrimp	**230,434**	**-**	**-**	**-**	**230,435**	**-**	**-**	**-**
Pink shrimp (Southern)	209,132	-	-	-	209,132	-	-	-
Striped shrimp	18,878	-	-	-	18,878	-	-	-
Scarlet shrimp	2,424	-	-	-	2,424	-	-	-

Contd……

Table 8b. Total Catches By Species and Type of Gear Used For the Atlantic Stratum For 2006

Species	Total Catches	Type of Gear Used						
		Encircling Net	Set/Bottom Gill Net	Drift Gill Net	Stownet	Hook and Lines	Purse seine	Other Net
	Weight (Kilogram)							
Lobster	**35,272**	**-**	**35,272**	**-**	**-**	**-**	**-**	**-**

Pink spiny lobster	29,801	-	29,801	-	-	-	-	-
Royal spiny lobster	5,471	-	5,471	-	-	-	-	-
Common cuttlefish	1,143,722	80,238	1,063,064	420	-	-	-	-
Common cuttlefish	34,266	929	33,337	-	-	-	-	-
Ornate Cuttlefish	157,935	-	157,935	-	-	-	-	-
Common Octopus	7,232	-	7,232	-	-	-	-	-
European squid	8,572	1,058	7,514	-	-	-	-	-
Blacktip shark	62,428	26,187	36,241	-	-	-	-	-
Milk shark	113,988	16,790	97,198	-	-	-	-	-
Gulper shark	83,212	7,587	75,625	-	-	-	-	-
Daisy stingray	49,327	-	49,327	-	-	-	-	-
White skate	11,057	11,057	-	-	-	-	-	-
Lsuitanian cownose ray	3,658	-	3,076	-	-	581	-	-
Snail	105,709	13,747	91,962	-	-	-	-	-
Captain Fish	217,397	-	210,151	-	-	7,246	-	-
Swim crabs	21,621	-	15,367	-	6,254	-	-	-
Total	**32,975,896**	**15,906,258**	**11,138,682**	**15,150**	**238,442**	**170,523**	**4,618,191**	**888,651**

Fishing sites along the coast are somewhat specialized in certain fisheries operations. For example Gunjur, Tanji, Old Jeshwang and Bakau are more into bonga fishery than other sites. In 2006, Gunjur recorded the highest bonga catch, over 4 800 tonnes followed by Tanji with just under 2 700 tonnes. Tanji landed more sardinella (both species) than bonga. Sardinella landings for Tanji were estimated at 3 400 tonnes, table 9.

Table 9. Total Catches By Species and Landing Sites For the Atlantic Stratum For 2006

Species/Landing Sites	Kartong	Gunjur	Sanyang	Bato Kunku	Tanji	Brufut	Bakau	Old Jeshwang	Banjul	Barra	Total Atlantic
	Total Catches (Kilogram)										
Shad/Bonga	7,026	4,822,471	658,968	2,175	2,687,630	-	2,416,034	2,505,354	87,332	-	**13,186,990**
Long Neck Croaker	69,308	-	-	288	2,953	4,294	1,546	-	-	-	**78,389**
Madeiran Sardinella	6,294	1,037,340	52,884	629	2,656,346	-	116,693	-	75,379	-	**3,945,565**
Cassava Croaker	22,937	125,661	2,127	-	11,549	531,004	48,710	-	32,387	5,593	**779,968**
Bobo Croaker	-	239,167	1,257	-	1,065	111,029	30,946	-	3,038	18,080	**404,582**
Meagre	811	-	-	-	-	-	-	-	-	-	**811**
Boe drum	155	-	-	-	-	-	-	-	-	-	**155**
Rubberlip Grunt	45	3,709	2,463	-	5,417	41,238	244	-	40,962	11,258	**105,336**
Sompat Grunt	2,052	180,517	19,704	-	104,621	71,176	45,227	-	193,739	121,620	**738,655**
Round Sardinella	169	-	47,501	-	781,932	-	36,641	-	128,423	-	**994,665**
Gorean Snapper	-	-	-	-	-	-	-	-	10,328	-	**10,328**
African Red Snapper	205	872	2,908	-	253	140,528	20,954	-	214,977	-	**380,697**
African forktail Snapper	-	-	-	-	-	-	-	-	14,812	-	**14,812**
White Grouper	-	8,068	38,880	-	-	99,130	4,660	-	8,262	8,475	**167,474**
Dusky Grouper	377	76	2,582	-	-	40,707	1,860	-	689	16,975	**63,265**

Contd..

Table 9. Total Catches By Species and Landing Sites For the Atlantic Stratum For 2006

Species/Landing Sites	Kartong	Gunjur	Sanyang	Bato Kunku	Tanji	Brufut	Bakau	Old Jeshwang	Banjul	Barra	Total Atlantic
	Total Catches (Kilogram)										
Golden Grouper	-	-	344	-	-	106,381	715	-	689	-	**108,129**
Dog tooth grouper	-	-	167	-	-	-	-	-	-	-	**167**
Royal Threadfin	-	3,399	853	-	67,968	-	33,562	-	1,377	-	**107,158**
Giant African threadfins	2,248	45,137	416	-	-	253,364	8,811	-	41,021	33,723	**384,720**
Lesser African Threadfins	185	72,033	25,939	315	49,065	716	37,045	-	253,368	15,027	**453,693**
Rough head sea catfish	106,074	1,528,142	47,426	90,913	18,641	505,019	81,219	-	147,048	1,119	**2,525,603**
Atlantic Horse Mackerel	506	104,241	22,528	1,219	142,060	14,886	29,146	-	2,754	-	**317,340**
Alexandria pompano	-	-	-	-	-	1,769	71	-	-	1,943	**3,782**
Rainbow Runner	-	-	-	-	936	-	-	-	-	-	**936**
Blue runner	-	-	-	-	2,449	3,567	-	-	-	-	**6,015**
Cravelle jack	-	37,738	-	6,133	255,387	155,178	23,325	-	-	-	**477,762**
False scad	-	-	-	-	586	-	2,031	-	51,824	-	**54,441**
Guinean Barracuda	-	193,106	645	3,722	9,897	89,018	49,893	-	-	12,532	**358,814**
Great Barracuda	-	-	228	419	23,601	-	-	-	-	-	**24,248**
Guachanche Barracuda	-	325,586	765	-	59,810	339,417	2,967	-	-	-	**728,546**
Grooved mullet	2,136	-	-	-	1,924	-	-	-	390,512	-	**394,572**
Leaping African mullet	422	128	-	-	-	2,482	348	-	485,773	-	**489,153**
Little tunny	-	1,819	-	-	-	-	-	-	-	-	**1,819**

Contd….

Table 9. Total Catches By Species and Landing Sites For the Atlantic Stratum For 2006

Species/Landing Sites	Kartong	Gunjur	Sanyang	Bato Kunku	Tanji	Brufut	Bakau	Old Jeshwang	Banjul	Barra	Total Atlantic
	Total Catches (Kilogram										
Club mackerel	155	-	1,273	-	-	-	-	-	-	-	**1,427**
West African Spanish Mackerel	1,953	-	10,506	-	-	-	-	-	-	-	**12,460**
Africana sicklefish	-	47,648	2,951	-	720	-	66,615	-	9,437	12,849	**140,219**
Butterfish	4,480	4,344	-	-	323,363	-	44,361	-	15,900	10,271	**402,719**
West African ladyfish	81,862	213,904	67,129	-	9,513	768,173	46,454	-	24,523	14,057	**1,225,615**
Wedge sole	9,708	126,124	45,439	-	1,008	88,105	7,527	-	1,503	-	**279,414**
Sand sole	89,760	41,351	29,042	17,047	1,333	7,475	-	-	-	-	**186,008**
Senegalese sole	9,820	11,058	219,908	18,792	-	631,023	15,137	-	102	-	**905,841**
Grey triggerfish	436	-	-	-	-	811	-	-	-	-	**1,247**
Bonefish	-	-	-	-	5,475	10,886	707	-	-	3,415	**20,483**
Prickly puffer	-	-	-	-	-	-	26,667	-	-	3,003	**29,670**
Four-banded butterflyfish	-	-	-	-	488	175,071	439	-	-	-	**175,998**
European flying squid	-	-	-	-	377	-	-	-	-	-	**377**
Pink shrimp (Southern)	33,022	-	1,822	786	-	-	-	-	175,926	-	**209,132**
Striped shrimp	-	-	-	-	-	-	-	-	18,878	-	**18,878**
Lobsters	-	14,465	694	1,599	-	18,615	-	-	-	-	**29,801**

Contd…

Table 9. Total Catches By Species and Landing Sites For the Atlantic Stratum For 2006

Species/Landing Sites	Kartong	Gunjur	Sanyang	Bato Kunku	Tanji	Brufut	Bakau	Old Jeshwang	Banjul	Barra	Total Atlantic
	Total Catches (Kilogram										
Common cuttlefish	93,516	142,072	78,887	105,179	44,931	559,035	18,001	-	102,101	-	**1,143,722**
Common cuttlefish	-	-	34,266	-	-	-	-	-	-	-	**34,266**
Ornate Cuttlefish	-	-	157,935	-	-	-	-	-	-	-	**157,935**
Common Octopus	1,545	-	-	5,687	-	-	-	-	-	-	**7,232**
European squid	-	-	8,572	-	-	-	-	-	-	-	**8,572**
Blacktip shark	-	-	16,699	1,101	41,162	-	3,467	-	-	-	**62,428**
Milk shark	126	2,549	29,821	11,375	4,512	65,604	-	-	-	-	**113,988**
Gulper shark	-	70,338	2,531	-	-	10,343	-	-	-	-	**83,212**
Daisy stingray	582	-	-	419	-	48,326	-	-	-	-	**49,327**
White skate	-	-	-	-	11,057	-	-	-	-	-	**11,057**
Lsuitanian cownose ray	-	-	-	-	-	-	3,658	-	-	-	**3,658**
Snail	939	-	12,314	38,161	6,243	45,261	-	-	2,792	-	**105,709**
Captain Fish	-	-	54	-	-	-	-	-	192,915	24,428	**217,397**
Swim crabs	-	-	-	2,647	-	18,081	705	-	189	-	**21,621**
Total	**548,853**	**9,402,964**	**1,648,426**	**308,607**	**7,334,273**	**4,957,713**	**3,226,383**	**2,505,354**	**2,728,956**	**314,367**	**32,975,896**

2.2 Industrial Fisheries

The industrial fisheries sub-sector is capital intensive and operates mainly in the coastal waters of the Gambia. Industrial fishing is very limited as almost all establishments are without fishing vessels. Most of fishing vessels operating in our waters are foreign owned which had either enter the fishery through joint venture or through fishing agreements such as the Reciprocal Maritime Fishing Agreement between the Gambia and Senegal or compensatory agreement. These foreign operated vessels do not land their catches in the country but in foreign ports. Fish production by the sub-sector is recorded by the Fisheries Observer Programme (each vessels carries an observer). Annual industrial production are seen to be declining in recent years, figure 3 above. Annex 1a and 1c gives time series production figures for the industrial fisheries.

In 2005, industrial fisheries production was estimated at 4 616.3 tonnes with the bulk (2 221. 4 tonnes) coming from the demersal fishery followed by others and small pelagics with 591 tonnes and 588 tonnes respectively, table 10. The industrial sub-sector had registered almost 39 percent decline in 2006 compared to 2005, table 11. This is due mainly to a low number of vessels that registered to fish in Gambian waters.

Table 10. Total Catches By Species and Months For the Industrial Fisheries Sub-sector For 2005

Species	Total Species Catches by Months												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total Catches
	Weight (Tons)												
Shrimps	56	45	494	3,248	1,652	720	15,786	40,690	44,639	18,309	535	-	**126,174**
Sole Fish	2,188	1,394	6,379	33,958	107,853	62,287	53,983	56,675	15,020	20,934	4,388	6,263	**371,322**
Demersal	73,317	65,207	93,621	197,533	154,718	276,136	301,327	347,290	226,273	241,456	72,422	172,091	**2,221,391**
Cuttle Fish	2,859	3,380	18,238	7,914	20,839	42,116	48,548	41,674	10,784	6,899	1,285	4,269	**208,805**
Octopus	1,042	18,755	123,769	167,365	96,233	43,809	30,947	12,916	2,305	1,577	122	477	**499,317**
Squid	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Pelagics	430	9,913	67,172	83,477	67,027	80,319	98,496	63,745	30,496	52,379	33,620	11,024	**598,098**
Tuna	-	-	-	-	-	-	-	-	-	-	-	-	-
Others/Rejects	11,514	16,607	31,604	42,953	120,824	59,740	112,316	137,041	40,093	12,783	1,201	4,468	**591,144**
Totals	**91,406**	**115,301**	**341,277**	**536,448**	**569,146**	**565,127**	**661,403**	**700,031**	**369,610**	**354,337**	**113,573**	**198,592**	**4,616,251**

Table 11.: Total Catches By Species and Months For the Industrial Fisheries Sub-sector For 2006

Species	Total Species Catches by Months												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total Catches
	Weight (Tons)												
Shrimps	770	709	1,031	21,016	32,083	3,589	9,767	27,191	18,888	12,136	1,756	1,906	**130,842**
Sole Fish	13,411	20,811	23,794	34,443	8,577	8,551	8,312	21,439	17,806	25,046	696	5,133	**188,019**
Demersal	91,189	182,127	368,109	253,194	134,294	173,153	103,451	196,407	178,720	233,608	57,837	141,359	**2,113,448**
Cuttle Fish	4,962	7,502	9,341	7,449	11,149	8,733	11,771	16,774	11,510	9,421	783	2,668	**102,063**
Octopus	419	2,006	4,745	3,815	1,247	4,539	3,193	5,433	4,586	3,513	792	1,433	**35,721**
Squid	-	-	700	1,625	-	-	50	-	-	10	-	-	**2,385**
Pelagics	6,200	28,508	24,066	7,557	1,173	2,894	60	964	889	815	3,609	3,841	**80,576**
Tuna	-	-	-	-	-	-	-	-	-	-	-	-	-
Others	1,944	6,379	39,499	51,811	10,497	9,395	3,587	6,287	3,471	18,514	11,373	14,710	**177,467**
Totals	**118,895**	**248,042**	**471,285**	**380,910**	**199,020**	**210,854**	**140,191**	**274,495**	**235,870**	**303,063**	**76,846**	**171,050**	**2,830,521**

According to table 12, the catch per unit effort was greater in 2006 than in 2005. In other words fishing vessels where catching over 100 percent more fish than in 2005, i.e. 235 kg/day as compared to 99 kg/day. It could be assumed that more fish was available for uptake to smaller number of vessels than otherwise.

Table 12. Total Industrial Catches, Effort and Catch Per Unit for 2005-2006

Month	Total Catches (Kg)		Effort (Days)		Catch Per Unit(Kg/day)	
	2005	2006	2005	2006	2005	2006
January	91,406	118,895	265	270	344.9	440.4
February	115,301	248,041	1,254	968	91.9	256.2
March	341,277	471,285	4,464	1,950	76.5	241.7
April	536,448	380,910	8,165	2,046	65.7	186.2
May	569,146	199,020	7,216	952	78.9	209.1
June	565,127	210,854	3,616	945	156.3	223.1
July	661,403	140,191	4,448	483	148.7	290.3
August	700,031	273,495	6,804	959	102.9	285.2
September	378,610	235,870	5,860	1,168	64.6	201.9
October	354,337	303,061	3,655	1,424	96.9	212.8
November	113,573	76,846	350	230	324.5	334.1
December	198,592	171,050	305	616	651.1	277.7
Total	**4,625,251**	**2,829,518**	**46,402**	**12,011**	**99.7**	**235.6**

Note: Total Catches Exclude 15 percent discard

2.3 Exports of Fish and Fishery Products

Exports of fish and fishery products are erratic and showed irregular fluctuations punctuated by nose-dived trend after 1987 in terms of volume with the tendency to stabilizing around 2000 metric tonnes over a 12 year period, Annex…XX. The 5 years average ratio of exports and production is as low as 1.56 percent. In terms of value of exports, the trend reverses and is explained by exporters targeting high value fish and fishery products for exports.

Annex XXX. Exports of Fish and Fishery Products (1984 - 2006)

Year	Production (MT)	Quantity Exported (MT)	Ratio of Export to total Production Percent	Val. (GMD)
1984	8,170	4,775	58.4*	3,525,848
1985	31,411	4,352	13.9	5,040,848
1986	32,134	5,563	17.3	6,695,965
1987	27,560	5,452	19.8	11,363,179
1988	19,088	1,068	5.6	16,028,437
1989	22,476	1,069	4.8	17,154,146
1990	37,975	1,449	3.8	31,117,402
1991	43,445	1,544	3.6	32,470,440
1992	20,094	1,061	5.3	17,602,622
1993	25,296	1,598	6.3	24,625,442
1994	27,668	1,950	7.0	30,621,122
1995	27,736	1,817	6.6	27,149,996
1996	38,882	1,543	4.0	27,271,831
1997	38,231	2,063	5.4	44,427,355
1998	33,545	1,666	5.0	33,293,225
1999	39,993	1,677	4.2	36,563,649
2000	36,104	901	2.5	32,779,477
2001	43,214	949	2.2	35,726,199
2002	44,496	932	2.1	21,334,062
2003	45,370	445	1.0	11,629,895
2004	37,692	405	1.1	7,694.241
2005	36,845	751	2.0	9,956,837
2006	39,728	625	1.6	22,837,330

CHAPTER 3
APPENDIX TABLES

Annex 1a Total Fish Catches by Artisanal and Industrial Sub-Sectors (1981-2006)

Production (MT)			
Year	**Industrial**	**Artisanal**	**Total**
1981	-	14,579	14,579
1982	-	6,209	6,209
1983	-	8,333	8,333
1984	-	8,170	8,170
1985	23,985	7,426	31,411
1986	22,225	9,909	32,134
1987	22,421	5,139	27,560
1988	11,864	7,224	19,088
1989	11,534	10,942	22,476
1990	26,401	11,573	37,975
1991	23,175	20,270	43,445
1992	6,060	14,035	20,094
1993	7,736	17,560	25,296
1994	7,752	19,917	27,668
1995	6,937	20,799	27,736
1996	8,372	30,510	38,882
1997	7,988	30,243	38,231
1998	7,012	26,533	33,545
1999	10,249	29,743	39,993
2000	9,237	26,867	36,104
2001	11,198	32,016	43,214
2002	12,160	32,336	44,496
2003	11,005	34,365	45,370
2004	8,375	29,317	37,692
2005	4,600	30,169	36,845
2006*	2,830	36,898	39,728

- ***Note: From 2006 the Artisanal Sector include both Marine and Inland Fishing***
- ***Industrial Fishing exclude 15 percent Discard.***

Table 1b: Total Catches of Artisanal Fisheries by Species for 1981-1986

Species Names								
Scientific	**English**	**Local**	**1981**	**1982**	**1983**	**1984**	**1985**	**1986**
			MT					
Ethmalosa fimbriata	**Shad**	**Bonga**	4,177.9	3,604.6	5,699.5	4,571.2	5,022.9	7,818.2
Sardinella maderensis	**Madeiren sardinella**		6.2	1.6	18.0	-	-	0.8
Sardinella aurita	**Round sardinella**	**Yabuoy**	15.6	2.7	20.3	-	-	0.2
Decapterus punctatus	**Round scad**		85.7	30.5	28.4	52.4	71.6	32.0
Scomber japonicus	**Chub Mackerel**		10.6	5.9	11.4	18.1	11.1	35.8
Trachurus trecae	**Cunene horse mackerel**		9.9	11.7	10.9	22.2	19.4	41.7
Pseudotolithus senegallus	**Law Croaker**	**Nguka**	956.6	271.0	296.1	294.1	253.8	216.1
Pseudotolithus typus	**Long Neck Croaker**	**Tonnone**	740.2	297.3	312.0	396.2	352.9	254.3
Arius spp.	**Catfishes**	**Kong**	1,982.9	672.9	765.5	1,119.0	650.5	427.4
Plectorhynchus meditaraneus	**Rubberlip Grunt**	**Banda**	114.8	27.2	54.6	45.6	35.6	30.2
Sphyraena spp.	**Barracudas**	**Sedda**	717.4	146.1	99.1	227.0	113.0	195.6
Polydactylus quadrifilis	**Giant African threadfins**	**Kujeli**	696.4	105.1	76.0	134.3	80.0	47.1
Caranx rhoncus								
Epinephellus spp.	**Grouper**	**Choff**	104.1	48.2	18.5	70.4	25.6	6.3
Epinephellus aeneus.								
Pseudotolithus senegalensis	**Cassava Croaker**	**Fotta**	111.9	8.9	14.3	4.8	16.2	8.3
Galeoides decadactylus	**Lesser african threadfins**	**Chekem**	134.7	44.1	26.1	44.6	19.5	14.8
Caranx spp.	**Jacks,Crevalles,Nei**	**Sacca/Fetta**	95.7	40.0	66.3	106.6	67.4	42.6
Cynoglossidae	**Solefishes**	**Solefish**	168.2	20.0	77.8	40.3	6.9	25.9
Mugilidae	**Mullet**	**Mullet**	2,334.0	94.9	119.2	183.9	66.4	52.6
Drepane africana	**African Sicklefish**	**Tapandarr**	86.4	30.1	31.1	27.3	20.6	34.2
Pseudotolithus elongatus	**Bobo Croaker**	**Jortoh**	367.9	127.0	84.0	144.8	98.6	79.9
Pomadasys jubelini	**Sompat Grunt**	**sompat**	244.5	134.5	13.0	109.8	86.7	92.0
Elasmobranchii	**Sharks/Skates/Rays**	**Chaah/gaindeh**	858.1	335.3	376.9	373.4	298.5	301.7
	Blacktip shark							
	Milk shark							
	Gulper shark							
	Daisy stingray							
	White skate							
	Lsuitanian cownose ray							

Contd…

Table 1b. Total Catches of Artisanal Fisheries by Species for 1981-1986

Species Names			1981	1982	1983	1984	1985	1986
Scientific	English	Local	MT					
Palinurus regius	Lobster	Suum	12.0	0.8	0.9	4.4	5.4	20.5
Lutjanus spp.	Snapper	Yaah	-	6.4	7.6	4.8	5.9	3.9
Oreochromis (=Tilapia) spp	Tilapia	Wass	136.6	27.6	22.5	51.0	6.1	3.2
Argyrosomus regius	Meagre	Beur	-	53.8	-	-	-	-
Chrysisthys			12.9	-	-	-	46.9	-
Synodontis gambensis			24.5	-	-	0.6	4.4	-
Clarias spp.			5.1	-	-	8.0	0.9	-
Alestes dentex			1.1	-	-	0.5	0.8	-
Penaeus notialis	Shrimps	Sippa sippa	5.2	-	-	1.3	0.5	-
Pagellus spp	Seabream	Warrnge						
Elops Lacerta	West African Ladyfish	Nginyan	1.4	-	-	1.7	1.7	-
Labeo coubie			3.1	-	-	-	1.9	-
Cithereus spp.			18.8	-	-	-	1.1	-
Sepia officinalis.	Common Cuttlefish	Galli dorr	-	-	-	-	-	-
Sepia spp								
Octopus vulgaris	Common Octopus							
	Squids							
Thunnus albacores	Yellow fin tuna	Thon	-	-	-	-	-	-
lagocephalus laevigatus	Smooth puffer	Konkareh						
Pomatomus saltatrix	Bluefish	Ngot						
Cybium spp	Sea snails	Yeat						
Trichiuridae	Hairtails	Centuir						
Balistidae (B. capriscus, B. punctatus)	Trigger fishes	N'dor						
Rachycentron canadum	Cobia	Torgeh						
Alectis alexandrines	Alexandra pompano	Yawal						
Callinectes spp	Crabs							
Scaridae (Sparisoma spp, Scarus hoefleri, Nichosina)	Parrot fishes							
Acanthurus monroviae	Doctorfish							
Dactylopterus volitans	Flying Fish							
Bathypterois grallator	Tripodfish							
Dentex spp								
Chaetodon spp								
Others			338.7	61.1	83.4	111.2	33.2	124.1

TOTAL			**14,579.2**	**6,209.3**	**8,333.4**	**8,169.5**	**7,426.0**	**9,909.4**

Table 1b. Total Catches of Artisanal Fisheries by Species for 1987-1992

Species Names			**1987**	**1988**	**1989**	**1990**	**1991**	**1992**
Scientific	**English**	**Local**	MT					
Ethmalosa fimbriata	**Shad**	**Bonga**	3,195.2	5,317.3	9,362.3	8,038.7	17,646.4	12,018.6
Sardinella maderensis	**Madeiren sardinella**		-	-	0.5	6.0	-	3.3
Sardinella aurita	**Round sardinella**	**Yabuoy**	-	-	1.8	17.0	-	1.1
Decapterus punctatus	**Round scad**		14.1	52.5	26.0	93.9	44.3	44.2
Scomber japonicus	**Chub Mackerel**		14.6	22.5	16.8	49.3	12.8	22.5
Trachurus trecae	**Cunene horse mackerel**		16.3	47.1	27.1	30.3	60.3	26.8
Pseudotolithus senegallus	**Law Croaker**	**Nguka**	201.7	234.0	123.2	379.0	157.5	160.6
Pseudotolithus typus	**Long Neck Croaker**	**Tonnone**	240.6	296.7	197.5	518.8	-	231.9
Arius spp.	**Catfishes**	**Kong**	371.6	319.6	248.6	318.6	186.7	433.9
Plectorhynchus meditaraneus	**Rubberlip Grunt**	**Banda**	60.2	52.2	47.5	36.0	41.4	53.7
Sphyraena spp.	**Barracudas**	**Sedda**	164.3	55.1	39.8	162.9	213.4	104.0
Polydactylus quadrifilis	**Giant African threadfins**	**Kujeli**	43.9	44.7	21.8	105.5	77.6	66.7
Caranx rhoncus								
Epinephellus spp.	**Grouper**	**Choff**	4.2	13.3	3.8	85.9	52.4	33.1
Epinephellus aeneus.								
Pseudotolithus senegalensis	**Cassava Croaker**	**Fotta**	5.2	8.7	15.3	10.5	347.0	24.0
Galeoides decadactylus	**Lesser african threadfins**	**Chekem**	11.1	10.0	14.0	143.0	347.0	71.3
Caranx spp.	**Jacks,Crevalles,Nei**	**Sacca/Fetta**	58.6	125.4	106.5	96.2	41.8	54.9
Cynoglossidae	**Solefishes**	**Solefish**	14.9	84.5	20.3	211.2	113.9	95.4
Mugilidae	**Mullet**	**Mullet**	151.8	2.3	37.8	21.3	1.7	22.0
Drepane africana	**African Sicklefish**	**Tapandarr**	43.6	41.9	24.8	97.3	126.2	42.6
Pseudotolithus elongates	**Bobo Croaker**	**Jortoh**	58.2	21.8	16.8	56.3	23.5	115.8
Pomadasys jubelini	**Sompat Grunt**	**sompat**	98.0	100.8	63.4	228.4	256.1	82.9
Elasmobranchii	**Sharks/Skates/Rays**	**Chaah/gaindeh**	263.1	250.0	386.8	600.5	395.0	194.0
	Blacktip shark							
	Milk shark							
	Gulper shark							
	Daisy stingray							
	White skate							
	Lsuitanian cownose ray							

Contd….

Table 1b. Total Catches of Artisanal Fisheries by Species for 1987-1992

Species Names			1987	1988	1989	1990	1991	1992
Scientific	English	Local						
			MT					
Palinurus regius	Lobster	Suum	5.9	13.1	12.1	94.5	51.4	21.7
Lutjanus spp.	Snapper	Yaah	12.1	25.9	32.7	93.4	53.2	55.6
Oreochromis (=Tilapia) spp	Tilapia	Wass	5.2	2.1	21.6	13.5	5.0	18.2
Argyrosomus regius	Meagre	Beur	-	18.6	6.6	0.3	-	18.1
Chrysisthys			-	-	-	-	-	-
Synodontis gambensis			-	-	-	-	-	1.9
Clarias spp.			-	-	-	-	-	-
Alestes dentex			-	-	-	-	-	-
Penaeus notialis	Shrimps	Sippa sippa	-	-	-	-	-	-
Pagellus spp	Seabream	Warrnge						
Elops Lacerta	West African Ladyfish	Nginyan	-	-	-	-	-	-
Labeo coubie			-	-	-	-	-	-
Cithereus spp.			-	-	-	-	-	-
Sepia officinalis.	Common Cuttlefish	Galli dorr	-	-	-	38.8	-	-
Sepia spp								
Octopus vulgaris	Common Octopus							
	Squids							
Thunnus albacares	Yellow fin tuna	Thon	-	-	-	-	-	-
lagocephalus laevigatus	Smooth puffer	Konkareh						
Pomatomus saltatrix	Bluefish	Ngot						
Cybium spp	Sea snails	Yeat						
Trichiuridae	Hairtails	Centuir						
Balistidae (B. capriscus, B. punctatus)	Trigger fishes	N'dor						
Rachycentron canadum	Cobia	Torgeh						
Alectis alexandrinus	Alexandra pompano	Yawal						
Callinectes spp	Crabs							
Scaridae (Sparisoma spp, Scarus hoefleri, Nichosina)	Parrot fishes							
Acanthurus monroviae	Doctorfish							
Dactylopterus volitans	Flying Fish							
Bathypterois grallator	Tripodfish							
Dentex spp								
Chaetodon spp								

Others			84.2	64.2	66.3	26.0	15.7	15.6
TOTAL			**5,138.6**	**7,224.3**	**10,941.7**	**11,573.2**	**20,270.3**	**14,034.5**

Table 1b. Total Catches of Artisanal Fisheries by Species for 1993-1999

Species Names			1993	1994	1995	1996	1997	1998	1999
Scientific	English	Local	MT						
Ethmalosa fimbriata	**Shad**	**Bonga**	14,053.2	16,896.8	13,897.4	22,648.4	21,523.3	21,951.8	16,115.5
Sardinella maderensis	**Madeiren sardinella**		1.7	-	0.6	5.9	60.0	33.0	36.0
Sardinella aurita	**Round sardinella**	**Yabuoy**	0.8	-	0.5	5.0	25.7	30.9	32.0
Decapterus punctatus	**Round scad**		58.6	56.3	165.7	171.6	77.1	59.1	87.0
Scomber japonicus	**Chub Mackerel**		20.1	26.6	106.5	80.2	42.0	22.2	59.0
Trachurus trecae	**Cunene horse mackerel**		48.9	20.9	64.1	60.2	13.4	37.6	103.0
Pseudotolithus senegallus	**Law Croaker**	**Nguka**	357.3	215.8	448.6	354.8	225.2	264.2	484.3
Pseudotolithus typus	**Long Neck Croaker**	**Tonnone**	768.8	201.8	414.2	473.5	412.1	327.0	650.9
Arius spp.	**Catfishes**	**Kong**	357.1	302.1	845.9	158.3	1,234.3	516.8	814.0
Plectorhynchus meditaraneus	**Rubberlip Grunt**	**Banda**	43.2	39.1	101.9	1,565.3	101.2	160.0	189.2
Sphyraena spp.	**Barracudas**	**Sedda**	201.6	105.1	170.4	354.9	144.3	115.7	350.0
Polydactylus quadrifilis	**Giant African threadfins**	**Kujeli**	154.5	72.3	94.2	179.3	109.7	83.2	372.7
Caranx rhoncus									
Epinephellus spp.	**Grouper**	**Choff**	42.2	54.5	117.7	61.6	52.9	30.2	107.6
Epinephellus aeneus.									
Pseudotolithus senegalensis	**Cassava Croaker**	**Fotta**	27.6	36.7	230.0	181.8	159.5	108.7	72.8
Galeoides decadactylus	**Lesser african threadfins**	**Chekem**	99.1	41.0	88.0	140.0	146.3	56.8	213.8
Caranx spp.	**Jacks,Crevalles,Nei**	**Sacca/Fetta**	73.2	88.1	73.2	174.2	124.4	146.7	218.4
Cynoglossidae	**Solefishes**	**Solefish**	188.4	211.0	858.5	541.0	307.3	441.0	733.7
Mugilidae	**Mullet**	**Mullet**	22.9	17.6	278.9	475.3	278.1	66.4	515.4
Drepane africana	**African Sicklefish**	**Tapandarr**	44.3	41.4	118.5	150.9	103.5	27.6	116.2
Pseudotolithus elongatus	**Bobo Croaker**	**Jortoh**	91.7	49.7	328.3	242.4	213.9	167.3	181.1
Pomadasys jubelini	**Sompat Grunt**	**sompat**	142.1	119.9	306.8	497.6	350.1	220.4	366.6
Elasmobranchii	**Sharks/Skates/Rays**	**Chaah/gaindeh**	315.8	480.3	497.6	414.9	3,222.7	605.8	6,387.5
	Blacktip shark								
	Milk shark								

	Gulper shark								
	Daisy stingray								
	White skate								
	Lsuitanian cownose ray								

Contd…

Table 1b Total Catches of Artisanal Fisheries by Species for 1993-1999

Species Names			**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**
Scientific	**English**	**Local**							
Palinurus regius	**Lobster**	**Suum**	125.0	44.1	25.6	83.6	36.6	43.6	132.0
Lutjanus spp.	**Snapper**	**Yaah**	60.6	67.1	127.3	27.0	149.6	86.3	219.7
Oreochromis (=Tilapia) spp	**Tilapia**	**Wass**	75.0	4.7	93.9	197.6	84.9	23.2	86.4
Argyrosomus regius	**Meagre**	**Beur**		27.3	49.7	124.8	72.1	8.0	66.9
Penaeus notialis	**Shrimps**	**Sippa sippa**		559.2	366.8	339.0	488.5	396.5	357.0
Pagellus spp	**Seabream**	**Warrnge**			122.7	75.5	9.3	1.7	-
Elops Lacerta	**West African Ladyfish**	**Nginyan**		-	53.0	26.6	7.9	12.2	11.6
Labeo coubie				-	-	-		-	2.1
Cithereus spp.				-	-	-		-	-
Sepia officinalis.	**Common Cuttlefish**	**Galli dorr**		9.5	324.7	184.4	137.3	97.8	380.2
Sepia spp									
Octopus vulgaris	**Common Octopus**								68.0
	Squids								
Thunnus albacares	**Yellow fin tuna**	**Thon**		-	13.5	-	-	0.5	75.9
lagocephalus laevigatus	**Smooth puffer**	**Konkareh**		16.0	125.2	28.4	99.7	67.9	65.6
Pomatomus saltatrix	**Bluefish**	**Ngot**		20.2	23.5	30.9	7.9	75.5	0.2
Cybium spp	**Sea snails**	**Yeat**		55.2	194.1	226.8	128.4	229.9	62.8
Trichiuridae	**Hairtails**	**Centuir**			0.1	10.4	38.8	5.0	13.7
Balistidae (B. capriscus, B. punctatus)	**Trigger fishes**	**N'dor**			3.1	50.9	8.8	1.5	-
Rachycentron canadum	**Cobia**	**Torgeh**			33.5	-	5.7	-	0.4
Alectis alexandrinus	**Alexandra pompano**	**Yawal**			7.7	19.9	6.9	0.7	4.9
Callinectes spp	**Crabs**								101.1
Scaridae (Sparisoma spp, Scarus hoefleri, Nichosina)	**Parrot fishes**						7.4	4.3	9.2
Acanthurus monroviae	**Doctorfish**								9.4
Dactylopterus volitans	**Flying Fish**								94.0
Bathypterois grallator	**Tripodfish**								7.0
Others			186.2	36.6	27.2	147.2	26.1	6.5	126.2

TOTAL			**17,559.7**	**19,916.7**	**20,799.2**	**30,509.8**	**30,242.9**	**26,533.5**	**30,100.7**

Table 1b. Total Catches of Artisanal Fisheries by Species for 2000-2006

Species Names			2000	2001	2002	2003	2004	2005	2006
Scientific	English	Local	MT						
Ethmalosa fimbriata	Shad	Bonga	20,507.5	18,516.2	18,701.3	22,117.7	16,814.7	14,977.8	13,187.0
Sardinella maderensis	Madeiren sardinella		2.9	45.0	92.0	883.0	754.0	427.9	3,945.6
Sardinella aurita	Round sardinella	Yabuoy	7.5	36.0	58.0	605.0	512.0	136.2	994.7
Decapterus punctatus	Round scad		40.1	86.0	57.4	126.0	111.0	53.9	54.4
Scomber japonicus	Chub Mackerel		50.0	58.3	81.0	121.0	128.0	762.7	317.3
Trachurus trecae	Cunene horse mackerel		85.0	101.8	110.0	145.0	140.0	3.6	-
Pseudotolithus senegallus	Law Croaker	Nguka	454.4	855.5	864.0	896.9	355.1	362.0	78.4
Pseudotolithus typus	Long Neck Croaker	Tonnone	629.3	504.1	609.0	725.2	391.5	543.0	578.2
Arius spp.	Catfishes	Kong	748.6	950.2	959.7	733.7	774.3	2,210.0	2,525.6
Plectorhynchus meditaraneus	Rubberlip Grunt	Banda	106.5	124.2	155.0	1,130.0	88.8	96.1	105.3
Sphyraena spp.	Barracudas	Sedda	283.5	631.2	625.0	1,012.0	153.1	464	1,112
Polydactylus quadrifilis	Giant African threadfins	Kujeli	168.5	141.1	162.0	307.0	82.3	242.1	384.7
Caranx rhoncus									
Epinephellus spp.	Grouper	Choff	48.7	62.5	60.0	55.1	100.8	135.7	171.6
Epinephellus aeneus.								55.2	167.5
Pseudotolithus senegalensis	Cassava Croaker	Fotta	58.1	399.8	403.8	353.8	185.0	1,437.5	780.0
Galeoides decadactylus	Lesser african threadfins	Chekem	87.0	115.8	161.0	131.6	78.3	209.8	453.7
Caranx spp.	Jacks,Crevalles,Nei	Sacca/Fetta	137.2	287.9	290.8	306.3	68.8	794.1	477.8
Cynoglossidae	Solefishes	Solefish	725.1	2,262.4	2,285.0	614.1	842.2	2,190.1	1,371.3
Mugilidae	Mullet	Mullet	123.4	69.3	70.0	147.3	208.4	123.6	883.7
Drepane Africana	African Sicklefish	Tapandarr	60.1	85.2	86.0	206.4	92.7	107.6	140.2
Pseudotolithus elongates	Bobo Croaker	Jortoh	137.9	120.0	121.2	254.5	273.7	181.5	404.6
Pomadasys jubelini	Sompat Grunt	sompat	276.0	423.3	427.5	888.0	270.7	515.9	738.7
Elasmobranchii	Sharks/Skates/Rays	Chaah/gaindeh	720.1	3,982.4	4,022.2	1,085.0	494.0		
	Blacktip shark							123.4	62.4
	Milk shark							632.7	114.0
	Gulper shark							-	83.2
	Daisy stingray								

							225.1	49.3
	White skate						232.9	11.1
	Lsuitanian cownose ray						622.5	3.7

Contd…

Table 1b. Total Catches of Artisanal Fisheries by Species for 2000-2006

Species Names			2000	2001	2002	2003	2004	2005	2006
Scientific	English	Local	MT						
Palinurus regius	Lobster	Suum	130.1	74.6	75.3	118.3	23.1	23.5	35.3
Lutjanus spp.	Snapper	Yaah	89.7	125.5	126.8	60.0	96.3	84.8	405.8
Oreochromis (=Tilapia) spp	Tilapia	Wass	11.8	27.4	27.7	41.1	81.1	32.4	-
Argyrosomus regius	Meagre	Beur	21.6	32.7	33.0	42.0	45.1	1.3	0.8
Chrysisthys									
Synodontis gambensis									
Clarias spp.									
Alestes dentex					0.9				
Penaeus notialis	Shrimps	Sippa sippa	308.4	210.5	212.6	98.0	76.3	0.3	230.4
Pagellus spp	Seabream	Warrnge					234.0	83.5	-
Elops Lacerta	West African Ladyfish	Nginyan		12.4	12.5	3.3	40.2	763.7	1,246.1
Labeo coubie						1.1			
Sepia officinalis.	Common Cuttlefish	Galli dorr	422.0	1,499.2	1,620.0	956.8	321.4	1,958.8	1,143.7
Sepia spp								34.3	34.3
Octopus vulgaris	Common Octopus		-	0.6	1.0			-	7.2
	Squids							-	0.4
Thunnus albacares	Yellow fin tuna	Thon	5.3	1.4	1.6	55.4	1.2		
lagocephalus laevigatus	Smooth puffer	Konkareh	3.6	32.6	36.0	3.2	1,222.4	2.4	-
Pomatomus saltatrix	Bluefish	Ngot	34.6	69.5	72.0	91.7			
Cybium spp	Sea snails	Yeat	5.1	20.0	18.0	14.3		14.5	105.7
Trichiuridae	Hairtails	Centuir	-	27.7	26.0	0.2	4,022.4		
Balistidae (B. capriscus, B. punctatus)	Trigger fishes	N'dor	0.0	3.0	3.6			-	1.2
Rachycentron canadum	Cobia	Torgeh	-			23.3	22.1		
Alectis alexandrinus	Alexandra pompano	Yawal	0.9	21.8	22.1	2.2	0.8		
Callinectes spp	Crabs		6.3	1.8					
Scaridae (Sparisoma spp, Scarus hoefleri, Nichosina)	Parrot fishes		12.7	0.6	2.0				
Acanthurus monroviae	Doctorfish								

			3.1		1.0				
Dentex spp								2.7	-
Chaetodon spp								-	176.0
Others				5.7	7.0	10.0	211.4	300.2	394.4
TOTAL			**26,512.5**	**32,025.1**	**32,336.2**	**34,365.5**	**29,317.0**	**30,168.7**	**32,976.9**

Table 1c. Total Catches of Industrial Fisheries by Species for 1985-1991

Species Name		**Local**	**1985**	**1986**	**1987**	**1988**	**1989**	**1990**	**1991**
Scientific	**English**				**MT**				
Sardinella maderensis	**Madeiran Sardinella**	**Yabuoy**	9,144.2	4,791.9	7,796.2	4,563.2	2,290.8	3,257.1	567.2
Sardinella aurita	**Round Sardinella**	**Yabuoy**	8.4	14.3	1,250.8	2,227.8	2,841.2	2,691.0	933.1
Pseudotolithus typus	**Long neck croaker**	**Tonone**	8.4	67.3	565.2	451.4	606.7	1,716.1	430.2
Pseudotolithus senegsllus	**Law croaker**	**Nguka**	885.3	445.3	298.4	246.1	160.0	401.6	640.7
Pseudotolithus senegalensis	**Cassava croaker**	**Fotta**	604.6	638.4	181.7	26.1	66.5	631.9	98.0
Pseudotolithus elongatus	**Bobo Croaker**	**Jortoh**	143.6	435.5	330.1	280.8	189.7	836.8	705.8
Plectoryhncus mediterraneus	**Rubberlip Grunt**	**Banda**	609.4	-	172.6	33.2	29.6	521.7	139.1
Pomadasys jubelini	**Sompat Grunt**	**Sompat**	562.9	1,012.8	1,232.0	636.4	739.3	2,839.7	3,741.0
Lutjanus goreensis	**Gorean Snapper**	**Yaah**	2,259.2	-	-	40.5	101.2	844.9	989.2
Lutjanus agennes	**African Red Snapper**	**Jarong**	850.1	-	-	220.8	76.4	314.5	637.3
Epinephelus aeneus	**White Grouper**	**Choff**	700.8	-	-	92.7	89.0	192.4	251.2
Epinephelus guaza	**Dusky Grouper**	**Doy**	906.9	22.8	-	39.6	16.7	122.3	322.5
Argyrosomus regius	**Meagre**	**Beur**	-	-	-	25.6	41.9	127.8	67.7
Decapterus rhoncus	**Round scad**		-	29.8	0.9	9.4	2.5	83.1	-
Scomber japonicus	**Chub Mackerel**		-	69.3	68.6	11.9	67.5	235.5	280.8
Trachurus trecae	**Cunene horse mackerel**		-	48.7	39.2	53.9	7.9	457.1	746.5
Pentanemus quinguarius	**Royal threadfin**	**Ngorr Seekim**	627.6	-	-	95.0	91.5	193.9	75.8
Polydactylus quadrifilis	**Giant African threadfins**	**Kujeli**	85.3	-	-	78.0	50.4	630.5	740.1
Galeoides decadactylus	**Lesser African Threadfins**	**Chekem**	49.7	-	-	365.1	408.5	354.9	211.2
Bothus podas	**Wide-eyed Flounder**		873.0	-	-	1.1	20.4	26.6	65.4
Sepia spp.	**Cuttlefish**	**Galli dorr**	1.9	1,719.9	366.1	349.8	598.3	2,651.0	4,236.8
Octupus vulgaries	**Common octopus**		833.0	3,511.3	63.3	77.0	1,282.1	1,346.3	1,390.4
Squid									
Arius spp	**Catfishes**	**Kong**	364.7	-	-	657.7	374.9	264.9	371.1
Sphyreana spp.	**Barracudas**	**Sedda**	1,110.6	255.1	168.0	118.2	89.6	203.2	117.0

Penaeus notailis	**Pink shrimp**	**Sipa Sipa**	208.3	1,524.9	5,019.4	543.1	533.6	2,534.8	1,746.8
Mugil spp.	**Mullets**	**Mullet**	615.5	-	-	194.0	82.6	154.5	78.6
Thunas albacares	**Tuna**		787.4	-	-	-	15.1	41.6	-

Contd…

Table 1c. Total Catches of Industrial Fisheries by Species for 1985-1991

Species Name		Local	1985	1986	1987	1988	1989	1990	1991
Scientific	**English**				MT				
Caranx crysos	**Blue runner**	**Sacca**	3.8	52.4	11.7	21.8	34.2	46.6	65.2
Caranx hippos	**Cravelle jack**	**fetta**	25.8	-	-	2.4	1.6	5.3	-
Drepane africana	**African Sickle fish**	**Tapandarr**	-	-	-	24.1	-	21.8	181.0
Stromateus fiatola	**Blue butterfish**		191.6	-	3.9	-	-	-	-
Elops	**West African ladyfish**		205.8	-	2.0	-	-	-	-
Dentex spp.	**Dentex nei**		5.5	1,493.9	243.8	-	14.0	267.0	100.1
Cynoglosus senegalensis	**Solefish**		0.1	1,521.6	418.3	285.7	509.3	1,369.4	2,158.3
Palinurus spp.	**Lobster**	**Suum**	574.7	-	-	0.8	11.2	126.5	321.7
Pagellus spp.	**Pandoras nei/Seabreams**		20.2	99.9	562.2	1.1	-	260.0	189.0
Alectis alexandrinus	**Alexandria pompano**		-	-	-	-	-	-	-
Gastropoda	**Snail**		258.7	-	-	-	-	13.3	-
Scorpaena spp	**Scorpionfishes**		-						
Balistes carolinensis	**Grey triggerfish**								
Pseudupeneus prayensis	**West African goatfish**								
Scaridae	**Parrotfishes nei**								
Acanthuridae	**Surgeonfishes nei**								
Elasmobranchii	**Sharks, skates, rays**								
Trichiuridae	**Hairtails, Cutlassfishes nei**								
Mullus spp	**Surmullets(=Red mullets) nei**								
Umbrina canariensis									
Callinectes spp									
Zeus faber	**John Dory**		-						
Sarpa salpa	**Salema**		-	-	-	-	-	4.8	59.1
Psettodidae	**Turbot**			-	-	-	-	0.1	-
Liza dumerili									
merluccius senegalensis									
Sciana umbra									
Parakuhlia									

macrophthalmus									
Myrichthys pardalis									
Others			457.6	4,470.0	3,626.4	89.5	89.9	610.9	516.8
Rejects									
TOTAL			**23,985**	**22,225**	**22,421**	**11,864**	**11,534**	**26,401**	**23,175**

Table 1c. Total Catches of Industrial Fisheries by Species for 1992-1997

Species Names		**Local**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**
Scientific	**English**				MT			
Sardinella maderensis	**Madeiran Sardinella**	**Yabuoy**	15.3	32.1	3.9	3.5	4.2	9.5
Sardinella aurita	**Round Sardinella**	**Yabuoy**	74.2	55.0	5.7	5.1	6.1	20.7
Pseudotolithus typus	**Long neck croaker**	**Tonone**	-	357.0	191.7	172.5	207.0	214.0
Pseudotolithus senegsllus	**Law croaker**	**Nguka**	67.4	152.0	114.1	102.7	123.2	85.0
Pseudotolithus senegalensis	**Cassava croaker**	**Fotta**	83.8	84.0	92.1	82.9	99.5	70.2
Pseudotolithus elongatus	**Bobo Croaker**	**Jortoh**	90.9	171.0	97.9	88.1	105.7	96.4
Plectoryhncus mediterraneus	**Rubberlip Grunt**	**Banda**	57.7	229.1	219.0	197.1	236.5	438.6
Pomadasys jubelini	**Sompat Grunt**	**Sompat**	767.1	1,815.0	1,160.1	1,004.1	1,252.9	1,177.2
Lutjanus goreensis	**Gorean Snapper**	**Yaah**	138.3	84.0	112.2	100.9	121.1	139.5
Lutjanus agennes	**African Red Snapper**	**Jarong**	138.3	152.2	249.1	224.9	269.0	427.5
Epinephelus aeneus	**White Grouper**	**Choff**	73.4	125.1	168.8	151.9	182.3	235.7
Epinephelus guaza	**Dusky Grouper**	**Doy**	44.1	83.0	72.6	65.3	78.4	62.3
Argyrosomus regius	**Meagre**	**Beur**	205.4	76.0	54.3	48.8	58.6	64.6
Decapterus rhoncus	**Round scad**		160.7	32.1	8.8	6.9	3.8	57.1
Scomber japonicus	**Chub Mackerel**		6.9	46.0	34.3	0.0	46.3	115.9
Trachurus trecae	**Cunene horse mackerel**		14.0	541.9	165.9	181.2	175.6	382.6
Pentanemus quinguarius	**Royal threadfin**	**Ngorr Seekim**	57.0	63.4	33.8	30.4	36.5	20.2
Polydactylus quadrifilis	**Giant African threadfins**	**Kujeli**	23.1	76.0	39.0	35.1	42.1	14.7
Galeoides decadactylus	**Lesser African Threadfins**	**Chekem**	767.2	645.0	341.0	306.9	368.2	383.8
Bothus podas	**Wide-eyed Flounder**		-	29.3	95.2	85.7	102.8	50.8
Sepia spp.	**Cuttlefish**	**Galli dorr**	1,082.0	1,291.0	1,336.2	1,202.5	1,443.1	760.0
Octupus vulgaries	**Common octopus**		170.1	164.0	449.1	404.2	485.1	287.7
Squid								
Arius spp	**Catfishes**	**Kong**	119.8	64.8	134.5	121.1	145.3	62.7

Sphyreana spp.	**Barracudas**	**Sedda**	48.2	99.0	77.0	69.3	83.1	45.7
Penaeus notailis	**Pink shrimp**	**Sipa Sipa**	210.1	365.1	557.2	501.5	601.8	570.4
Mugil spp.	**Mullets**	**Mullet**	62.9	-	155.0	139.5	167.4	633.6
Thunas albacares	**Tuna**		15.0	46.5	35.4	31.8	38.2	8.2

Contd..

Table 1c. Total Catches of Industrial Fisheries by Species for 1992-1997

Species Name		**Local**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**
Scientific	**English**		MT					
Caranx crysos	**Blue runner**	**Sacca**	20.0	59.4	31.8	28.6	34.3	3.5
Caranx hippos	**Cravelle jack**	**fetta**	-	53.2	38.9	35.0	42.0	20.7
Drepane Africana	**African Sickle fish**	**Tapandarr**	10.0	32.6	233.1	209.8	251.7	18.0
Stromateus fiatola	**Blue butterfish**		-	-	60.2	-	-	-
Elops	**West African ladyfish**		337.4	-	-	54.2	65.0	11.8
Dentex spp.	**Dentex nei**		-	-	-	26.3	31.5	29.6
Cynoglosus senegalensis	**Solefish**		546.3	376.4	29.2	811.1	973.4	466.0
Palinurus spp.	**Lobster**	**Suum**	14.3	49.0	901.3	23.7	28.4	5.0
Pagellus spp.	**Pandoras nei/Seabreams**		94.6	72.1	26.3	103.0	123.6	335.0
Alectis alexandrinus	**Alexandria pompano**		-	-	114.4	-	-	-
Gastropoda	**Snail**		-	-	-	-	-	90.0
Scorpaena spp	**Scorpionfishes**							3.4
Balistes carolinensis	**Grey triggerfish**							
Pseudupeneus prayensis	**West African goatfish**							
Scaridae	**Parrotfishes nei**							
Acanthuridae	**Surgeonfishes nei**							
Elasmobranchii	**Sharks, skates, rays**							
Trichiuridae	**Hairtails, Cutlassfishes nei**							
Mullus spp	**Surmullets(=Red mullets) nei**							
Umbrina canariensis								
Callinectes spp								
Zeus faber	**John Dory**							4.0
Sarpa salpa	**Salema**		-	24.4	-	-	-	-
Psettodidae	**Turbot**		-	-	-	-	-	-
Liza dumerili				181.6	-	-	-	-
merluccius senegalensis								

Sciana umbra								
Parakuhlia macrophthalmus								
Myrichthys pardalis								
Others			544.0	8.0	312.7	281.4	337.7	566.4
Rejects								
TOTAL			**6,060**	**7,736**	**7,752**	**6,937**	**8,372**	**7,988**

Table 1c: Total Catches of Industrial Fisheries by Species for 1998-2002

Species Names		**Local**	**1998**	**1999**	**2000**	**2001**	**2002**
Scientific	**English**	MT					
Sardinella maderensis	**Madeiran Sardinella**	**Yabuoy**	6.4	72.8	88.4	367.3	
Sardinella aurita	**Round Sardinella**	**Yabuoy**	5.7	88.0	110.2	341.6	
Pseudotolithus typus	**Long neck croaker**	**Tonone**	128.7	110.6	118.5	381.2	
Pseudotolithus senegsllus	**Law croaker**	**Nguka**	81.1	118.0	66.8	322.7	
Pseudotolithus senegalensis	**Cassava croaker**	**Fotta**	92.5	133.3	77.5	306.7	
Pseudotolithus elongatus	**Bobo Croaker**	**Jortoh**	150.4	201.0	79.0	377.8	
Plectoryhncus mediterraneus	**Rubberlip Grunt**	**Banda**	182.7	336.5	367.1	398.9	
Pomadasys jubelini	**Sompat Grunt**	**Sompat**	562.8	451.4	944.5	1,400.6	
Lutjanus goreensis	**Gorean Snapper**	**Yaah**	1,021.5	268.4	105.2	214.8	
Lutjanus agennes	**African Red Snapper**	**Jarong**	161.2	366.6	182.7	421.1	
Epinephelus aeneus	**White Grouper**	**Choff**	101.9	214.9	135.5	234.8	
Epinephelus guaza	**Dusky Grouper**	**Doy**	53.8	100.7	60.0	143.6	
Argyrosomus regius	**Meagre**	**Beur**	16.0	75.9	49.1	151.9	
Decapterus rhoncus	**Round scad**		0.9	175.0	81.0	175.0	
Scomber japonicus	**Chub Mackerel**		19.8	273.0	89.0	235.0	
Trachurus trecae	**Cunene horse mackerel**		89.9	296.8	146.6	410.0	
Pentanemus quinguarius	**Royal threadfin**	**Ngorr Seekim**	28.9	75.5	65.0	145.9	
Polydactylus quadrifilis	**Giant African threadfins**	**Kujeli**	33.2	83.6	67.7	174.2	
Galeoides decadactylus	**Lesser African Threadfins**	**Chekem**	241.1	243.1	385.4	960.3	
Bothus podas	**Wide-eyed Flounder**		28.1	123.3	69.4	240.5	
Sepia spp.	**Cuttlefish**	**Galli dorr**	775.2	680.6	506.0	461.8	
Octupus vulgaries	**Common octopus**		132.3	2,758.2	500.7	128.8	
Squid							

Arius spp	**Catfishes**	**Kong**	19.9	85.7	152.5	380.6	
Sphyreana spp.	**Barracudas**	**Sedda**	28.4	92.2	70.7	188.2	
Penaeus notailis	**Pink shrimp**	**Sipa Sipa**	475.3	348.5	365.6	326.6	
Mugil spp.	**Mullets**	**Mullet**	478.0	485.6	424.1	624.1	
Thunas albacares	**Tuna**		0.1	70.0	32.8	120.1	

Contd

Table 1c: Total Catches of Industrial Fisheries by Species for 1998-2002

Species Names		**Local**	**1998**	**1999**	**2000**	**2001**	**2002**
Scientific	**English**	MT					
Caranx crysos	**Blue runner**	**Sacca**	4.0	74.7	36.1	173.8	
Caranx hippos	**Cravelle jack**	**fetta**	12.4	70.3	35.5	395.7	
Drepane africana	**African Sickle fish**	**Tapandarr**	48.9	123.5	70.1	251.7	
Stromateus fiatola	**Blue butterfish**		34.8				
Elops	**West African ladyfish**		77.0	88.4	50.0	315.6	
Dentex spp.	**Dentex nei**		397.5	85.1	57.6	307.1	
Cynoglosus senegalensis	**Solefish**		29.7	490.9	471.7	1,600.0	
Palinurus spp.	**Lobster**	**Suum**	205.9	74.4	65.7	120.3	
Pagellus spp.	**Pandoras nei/Seabreams**			262.1	494.9	436.6	
Alectis alexandrinus	**Alexandria pompano**		0.6			141.1	
Gastropoda	**Snail**		13.7				
Scorpaena spp	**Scorpionfishes**		0.0				
Balistes carolinensis	**Grey triggerfish**		0.6				
Pseudupeneus prayensis	**West African goatfish**		43.4		34.0		
Scaridae	**Parrotfishes nei**		0.5				
Acanthuridae	**Surgeonfishes nei**		4.2	68.7	65.7	114.8	
Elasmobranchii	**Sharks, skates, rays**		5.6		31.4		
Trichiuridae	**Hairtails, Cutlassfishes nei**		0.4		32.0		
Mullus spp	**Surmullets(=Red mullets) nei**		37.7		31.6		
Umbrina canariensis					31.8		
Callinectes spp							
Zeus faber	**John Dory**		0.3		33.6		
Sarpa salpa	**Salema**						

Psettodidae	**Turbot**						
Liza dumerili							
merluccius senegalensis					136.8		
Sciana umbra					85.6		
Parakuhlia macrophthalmus					34.6		
Myrichthys pardalis					31.8		
Others			530.2	582.3	710.1	693.2	
Rejects			648.6		1,368.2		
TOTAL			**7,012**	**10,249**	**9,250**	**14,184**	

Table 1c: Total Catches of Industrial Fisheries by Species for 2003-2006

Species Names		**Local**	**2003**	**2004**	**2005**	**2006**
Scientific	**English**	MT				
Sardinella maderensis	**Madeiran Sardinella**	**Yabuoy**	72.2	168.0	106.7	14.4
Sardinella aurita	**Round Sardinella**	**Yabuoy**	101.5	275.0	174.6	23.4
Pseudotolithus typus	**Long neck croaker**	**Tonone**	197.6	94.7	48.5	46.1
Pseudotolithus senegsllus	**Law croaker**	**Nguka**	93.6	36.0	18.4	17.5
Pseudotolithus senegalensis	**Cassava croaker**	**Fotta**	123.3	77.0	39.4	37.5
Pseudotolithus elongatus	**Bobo Croaker**	**Jortoh**	142.3	58.0	29.7	28.2
Plectoryhncus mediterraneus	**Rubberlip Grunt**	**Banda**	282.2	524.6	268.6	255.4
Pomadasys jubelini	**Sompat Grunt**	**Sompat**	733.1	687.0	351.8	334.5
Lutjanus goreensis	**Gorean Snapper**	**Yaah**	137.8	37.9	19.4	18.5
Lutjanus agennes	**African Red Snapper**	**Jarong**	295.3	245.7	125.8	119.6
Epinephelus aeneus	**White Grouper**	**Choff**	122.7	101.5	52.0	49.4
Epinephelus guaza	**Dusky Grouper**	**Doy**	53.4	42.5	21.8	20.7
Argyrosomus regius	**Meagre**	**Beur**	43.6	53.9	27.6	26.2
Decapterus rhoncus	**Round scad**		45.0	156.6	20.3	13.3
Scomber japonicus	**Chub Mackerel**		87.1	153.0	14.9	13.0
Trachurus trecae	**Cunene horse mackerel**		257.0	189.2	246.7	16.1
Pentanemus quinguarius	**Royal threadfin**	**Ngorr Seekim**	64.4	39.7	20.3	19.3
Polydactylus quadrifilis	**Giant African threadfins**	**Kujeli**	41.0	29.1	14.9	14.2
Galeoides decadactylus	**Lesser African Threadfins**	**Chekem**	738.0	481.9	246.7	234.6
Bothus podas	**Wide-eyed Flounder**		109.5	213.1	109.1	103.8
Sepia spp.	**Cuttlefish**	**Galli dorr**	735.4	540.0	208.8	102.1
Octupus vulgaries	**Common octopus**		1,385.4	802.0	499.3	35.7

Squid			28.6	14.3	14.7	2.4
Arius spp	**Catfishes**	**Kong**	244.8	191.3	97.9	93.1
Sphyreana spp.	**Barracudas**	**Sedda**	84.0	42.6	21.8	20.7
Penaeus notailis	**Pink shrimp**	**Sipa Sipa**	364.8	131.6	126.2	130.8
Mugil spp.	**Mullets**	**Mullet**	489.1	361.7	185.2	176.1
Thunas albacares	**Tuna**		29.2	15.2	1.4	-

Contd

Table 1c: Total Catches of Industrial Fisheries by Species for 2003-2006

Species Names		Local	2003	2004	2005	2006
Scientific	**English**		MT			
Caranx crysos	**Blue runner**	**Sacca**	50.3	81.9	41.9	39.9
Caranx hippos	**Cravelle jack**	**fetta**	57.7	23.2	11.9	11.3
Drepane africana	**African Sickle fish**	**Tapandarr**	64.0	28.7	14.7	14.0
Stromateus fiatola	**Blue butterfish**		67.8	14.2	7.3	6.9
Elops	**West African ladyfish**		106.5	60.8	31.1	29.6
Dentex spp.	**Dentex nei**		131.8	197.2	101.0	96.0
Cynoglosus senegalensis	**Solefish**		1,139.3	461.9	371.3	188.1
Palinurus spp.	**Lobster**	**Suum**	51.4	26.6	20.9	
Pagellus spp.	**Pandoras nei/Seabreams**		436.5	390.3	199.8	190.0
Alectis alexandrinus	**Alexandria pompano**		30.1	2.8	1.4	1.4
Gastropoda	**Snail**		28.8			
Scorpaena spp	**Scorpionfishes**		28.6	14.5	7.4	7.1
Balistes carolinensis	**Grey triggerfish**			15.3	7.8	7.4
Pseudupeneus prayensis	**West African goatfish**		41.8		-	-
Scaridae	**Parrotfishes nei**			21.3	10.9	10.4
Acanthuridae	**Surgeonfishes nei**		270.2	24.9	12.7	12.1
Elasmobranchii	**Sharks, skates, rays**		29.4	56.9	29.1	27.7
Trichiuridae	**Hairtails, Cutlassfishes nei**		30.6	31.6	16.2	15.4
Mullus spp	**Surmullets(=Red mullets) nei**			40.8	20.9	19.9
Umbrina canariensis						
Callinectes spp			41.0	28.4		
Zeus faber	**John Dory**			15.9	8.1	7.7
Sarpa salpa	**Salema**					
Psettodidae	**Turbot**					
Liza dumerili				27.8		
merluccius senegalensis						

				24.2		
Sciana umbra						
Parakuhlia macrophthalmus			108.3			
Myrichthys pardalis						
Others			1,189.2	2.1	600.1	177.5
Rejects				1,020.4		
TOTAL			**11,005**	**8,375**	**4,616**	**2,831**