SENEGALESE FISHERIES
CASES STUDIES

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CASE STUDY IDENTIFICATION AND SELECTION

Types of resources

- Coastal pelagic resources: sardinella spp, Decapterus rhonchus, Trachurus trecaei, Scomber japonicus, etc...

- High-sea pelagic resources: albacore, listao and patudo and other tuna-allied and dependent breeds (thonine, bonito, mackerel, sailfish, and spearfish).

- Coastal demersal resources: crustacean (Peaneus notialis, Palinurus spp, Leptinus yalides, etc..), cephalopods (Octopus vulgaris, Sepia officinalis, Loligo vulgaris) and fish (Pseudopeneus prayensis, plectorhinichus spp, Epinephelus spp, Cynoglossus spp, Polydactylus quadrifilus, etc...).
CASE STUDY IDENTIFICATION AND SELECTION

Types of resources

- Deep demersal resources: Peaneus spp and fish (Merluccius senegalensis, Carcharhinus spp, and Palinurus spp).
Catches and values
(1985-2005)

<table>
<thead>
<tr>
<th>Type</th>
<th>Captures (T)</th>
<th>VC (1000FCFA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pelagic</td>
<td>318 461</td>
<td>34 834 843</td>
</tr>
<tr>
<td>Demersal</td>
<td>62 418</td>
<td>50 702 627</td>
</tr>
<tr>
<td>Others</td>
<td>29 675</td>
<td>19 757 390</td>
</tr>
<tr>
<td>Total</td>
<td>410 554</td>
<td>105 294 860</td>
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</tbody>
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Main fleets and gears

- Small-scale fishing: Around 12000 units, 58000 fishermen, around 20 fishing techniques using line, pot, crate, dormant, mesh fishing, etc…

- Semi-industrial fleet: 3-5 purse seine (15-28 m long), operating daily in the coastal area of Dakar.


- Foreign industrial fleet: mainly trawlers of the EU (20 to 40 boats) and surface gears and trawl lines (30 à 45 units).
Four majors metiers are identified:

- Artisanal purse seine canoe pelagic
- Surrounding gillnet canoe pelagic
- Handline Ice-box bottom canoe demersal
- Coastal demersal octopus trawling
## Relevance of case studies

<table>
<thead>
<tr>
<th>Case study</th>
<th>Fleet</th>
<th>Gear</th>
<th>Species</th>
<th>Ecology</th>
<th>Economy</th>
<th>Sociology</th>
</tr>
</thead>
</table>
| C1         | Artisanal  | Purse seine           | Sardinella aurita, Sardinella maderensis, Scomber japonicus | 54% of total landings and depletion of mangrove in the artisanal processing of fish | 7500 fishermen  
Thousands of middlemen and fish processors  
Exports to African markets | Food security  
Women employment in the processing sub-sector |
| C2         | Artisanal  | Surrounding gillnet   | Sardinella maderensis, Sardinella aurita, Ethmalosa dorsalis | 16% of total landings and depletion of mangrove in the artisanal processing of fish | 1650 fishermen  
Thousands of middlemen and fish processors,  
Exports to African markets | Food security  
Women employment in the processing sub-sector |
| C3         | Artisanal  | Handline bottom ice-box | Arius gambiensis, Epinephelus aenus, Epinephelus goreensis, Lutjanus fulgens | Species over-exploited | Hard currency, exports (10% of total commercial values) | Conflicts artisanal and industrial fleet |
| C4         | Industrial | Coastal octopus trawler | Octopus | Species over-exploited and fish discarded | Hard currency exports (34.5% of commercial values) | Conflicts artisanal and industrial fleet |
Purse seine canoe pelagic

- The typical unit usually consists of two canoes (16 to 21 m), propelled by out-board motors (40-55 Hp), net of 300 to 400 m long, catch of fish made possible by encircling.

- Species targeted: Sardinella aurita, Sardinella maderensis, Scomber japonicus, Mugil cephalus, Pomadasys rogeri, Tachurus tracae, Caranx carangus, Decapturus rhonchus

- Fishing grounds: From Mauritania to Cap-Vert (Grande Côte) and from Cap-Vert peninsula to the border with the Gambia (Petite Côte, Saloum).
Purse seine canoe pelagic

- Seasonality: active all year long with a slight shift of catches from February to April

- Main landings sites: Saint-Louis, Mbour, Joal, Hann

- Average catches and commercial values: 222,350 tons (54%) and 22,709 millions of CFA franc (21%)

- Number of units: 250

- Employment: 7500 fishermen
CASE STUDY IDENTIFICATION AND SELECTION

Description of metiers

Surrounding gillnet canoe pelagic

- The representative fishing unit consists of a canoe of 16 m long and a capacity of 5 tons, propelled by an out-board motor of 40 Hp with a 300 to 500 m.

- Two types of net are used depending on the targeted species. The wide mesh catches *Ethmalosa fimbriata* whereas the narrow mesh is more adapted to fishing flat sardinella.

- Targeted species: *Sardinella maderensis*, *Sardinella aurita*, *Ethmalosa dorsalis*.

- Fishing grounds: From Cap-Vert peninsula to the border with the Gambia (*Petite Côte, Saloum*).
Surrounding gillnet canoe pelagic

- Seasonality: High season August to April
- Main landings sites: Joal
- Average catches and commercial values: 63,937 tons (16%) and 4,253 millions of CFA franc (4%).
- Number of units: 150
- Employment: 1,650 fishermen
CASE STUDY IDENTIFICATION AND SELECTION

Description of metiers

Handline bottom ice-box canoe demersal

- The fishing units consists of a motorized canoe 16 to 18 m long equipped with an icebox. It can carry along several types of fishing lines at each tide. The fishing lines are made up of nylon fibre and are 100 to 200 m long according to the depth of the fishing grounds.

- Targeted species: *Arius gambiensis, Epinephelus aenus, Epinephelus goreensis, Lutjanus fulgens*…

- Fishing grounds: From Mauritania to Cap-Vert (G Côte), from Cap-Vert peninsula to the border with the Gambia (PCôte, Saloum) and from the border in the south of the Gambia to G. Bissau (Casamance).
Handline bottom ice-box canoe demersal

- Seasonality: Fluctuation in catches, highest catches in April and December.

- Main landings sites: Saint-Louis, Kayar, Yoff, Soumbedioune, Mbour

- Average catches and commercial values: 10,342 tons (2.5%) and 10,962 millions CFA franc (10%).

- Number of units: 300

- Employment: 3600 fishermen
Coastal demersal octopus trawling

- Fishing grounds: operating from 6 nautical miles of the Grande Côte and Casamance and 7 nautical miles of the Petite Côte.

- Targeted species: *Caranx carangus*, *Galeoides spp*, *Trichiurus lepturus*, *Pseudopeneus prayensis*, *Sepia officinalis*, *Octopus vulgaris*, *Paeneus notialis*. 
Coastal demersal octopus trawling

- Fishing grounds: From Mauritania to Cap-Vert (Grande Côte), from Cap-Vert peninsula to the border with the Gambia (Petite Côte, Saloum), from the border in the south of the Gambia to Guinea Bissau (Casamance), and the « Sierra Leone – Liberia » zone corresponding to the shrimp fishing grounds of these two countries.

- Seasonality: active all year long with decrease of catches in October and November.

- Main landings sites: Port of Dakar

- Average catches and commercial values: 44,414 tons (11%) and 37,288 millions of CFA franc (34.5%).
CASE STUDY IDENTIFICATION AND SELECTION

Description of métiers

Coastal demersal octopus trawling

- Number of units: 125 in 2005
- Employment: 1240 fishermen
Processing types

The types of processed products from targeted species are mainly:

- *Kéthiakh*: grilled, salted and dried
- *Guedj*: fermented and dried
- *Tambadiang*: whole fish salted and dried
40% of pelagic fish, 127,384 tons
10% of demersal fish, 6,240 tons

Factors explaining the high figures are:
- High African market demand of processed fish products
- Development of a new Asian market of shark fins and cymbium
- Remoteness of some fish landing centers.
FISH CHAIN PROFILE
Employment in processing

- Around 6,600 are numbered, 92% are women, less than 4% are foreigners.
- Each processor employs about 5 persons to help.
- More than 40,000 actors are occupied in the artisanal fish products processing.
Local markets mainly supplied by pelagic fish and artisanal processed fish products.

European markets absorbs on average 63% of total fish products exports (high market-value).

African market counts for 26% of total exports and 35% of frozen and processed products.

Asian market weights for 10% of fish exports (sharks fins, cephalopods,…).

American market with entry barriers is limited to only 1% of total fish products exports.
FISH CHAIN PROFILE

Employment in the marketing chain

- Fish traders are implicated in many functions: financing of the artisanal fishery, collect of fish products along the coast line, conditioning and transportation of fish towards exports enterprises, international and local markets.

- Activity largely dominated by men

- 9500 fish traders are numbered
Socio-economic importance of fishery

- Is a major component of the government's food security policy, contributes largely to poverty alleviation particularly in rural areas.

- Employs about 15% of the working population

- Counts about one-third of the value of foreign sales.

- Contributes to State budget et finance publics investments.

- Induces integration of African fishermen through migration

These two acts specify the rights and norms of use of the fishing grounds.

- Industrial boats with Senegalese flag must have a fishing licence and access to the fishery for small-scale fishermen is now subject to a permit.
- Industrial boats with foreign flag can operate in the Senegalese sea-waters either with the framework of a fishing agreement or chartered by Senegalese.
Types of fishing gears are defined, mesh sizes and trawl, minimal size for unloading certain species, fishing grounds are settled up;

Fishing with explosive materials and use of monofilament are prohibited;

The first six miles are reserved exclusively to small-scale fishery;

The notion of biological rest is introduced to favour reproduction and/or recruiting by a limitation of fishing mortality;

The use of trawlers more than 400 tjb targeting coastal shrimp fishing grounds is prohibited in the Senegalese sea-waters.
NATIONAL CONTEXT
National management framework

- Reduction of fishing capacity: no new licence delivered in the coastal demersal fishery since 2000 and undergoing project to withdraw from the sector artisanal and industrial units.

- Management of fish resources: elaboration of management plans for the demersal fishery heavily exploited, institution of local council for a greater participation of fishermen, institution of marine protected areas to protect nurseries areas.
NATIONAL CONTEXT
Fiscal incentives

- Tax and customs incentives (gears, engines, gasoline,…) aim to increase the value of production by facilitating the use of technologies (outboard engines, fishing gears,...) adapted to industrial and small-scale sectors.

- The devaluation of the CFA franc in 1994 had a significant impact on the sector by improving competitiveness and boosting exports.
Costs of management can be seen as the budget of the following institutions:

- DPM and DPCA (central administration of the fishery sector)
- DPSP (monitoring of the fisheries)
- CRODT (oceanographic research)
- GIRMaC (project)
- NGOs involvement
- International institutions like FAO
The export subsidy instituted by law from 1980 to 1994 aimed to facilitate penetration of external markets by national products.

The free export enterprise status (customs, tax, financial, social and economic advantages) help to reinforce the sector’s external competitiveness.

The devaluation of the CFA franc aimed to improve the competitiveness of Senegalese fish exports.

Fishing agreement with the EU has boosted exports of Senegalese fish products to Europe.
Lome Agreement

- Instituted a custom duty-free regime applicable to most of the products originating from ACP countries on entry onto the European market.

- Puts in place also a regime authorising almost all the products of ACP countries to penetrate the European market without any non-tariff (quotas) barriers imposed on other supplying countries.

- Considerably strengthened ACP countries competitiveness on the European market by absorbing up to 80% of African fish exports.
The West African Economic and Monetary Union (UEMOA)

- Instituted a transient preferential tariff regime applicable to trade within the Union.
- The regime (1996) exempts piscatorial products from all entry taxes.
NATIONAL CONTEXT
Fishing agreements

- Sub-regional fishery agreements
  - Shared stocks, migrations of species and fishermen
  - Senegal has signed reciprocal fishing agreements with coastal States neighbour: Guinea Bissau, Mauritania, Gambia, and Cap-Vert.

- Regional fishing agreements: Ivory Cost, Nigeria, weak resources, financial compensations.

- Bilateral fishery agreements: Japan in the tuna fishery, construction of infrastructures et financing of research programs.
Multilateral fishing agreement with the EU since 1979

- Seven (7) protocols of two years and two protocols of four years have been signed.
- Financial compensation, financial supports for monitoring the fisheries, oceanographic research, formation and supports of professional organisations.
- Suspended in 2006.
THANKS