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Agenda item 8: The Djibouti Experience

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OUTLINE

GENERAL INFORMATION ON THE SECTOR

- **Developments in the fisheries sector**
- **Regulatory framework**
- **Trends in the fisheries sector statistics**

PRAREV project

- **Setting up of a data collection system**
- **Data transmission steps from a tablet to the Open artfish database**

COMPARISON BETWEEN THE NEW AND OLD DATA COLLECTION SYSTEMS

- **Data analysis with Open ARTFISH**
- **Recommendations**

GENERAL INFORMATION ON THE SECTOR

➢A 372 km coastline,

➢The Republic of Djibouti has a **47,000 tonnes/year** fishing potential;

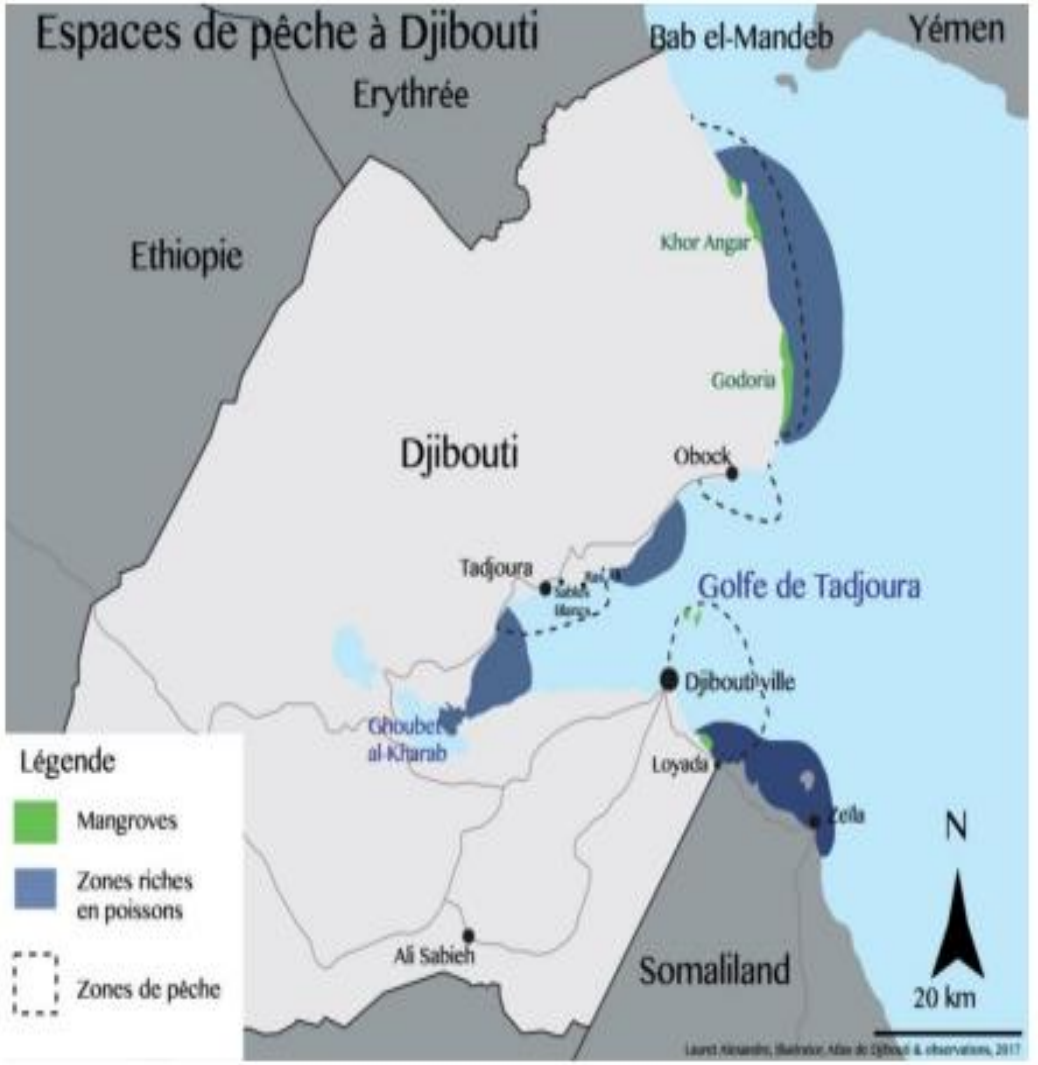
➢ It is estimated that about **9,300 tonnes** of high value-added fish can be exported **each year;**

➢ A general seasonal pattern of catches due to prevailing wind patterns;

➢Under-exploitation of the fish stock resulting in low landed volumes;

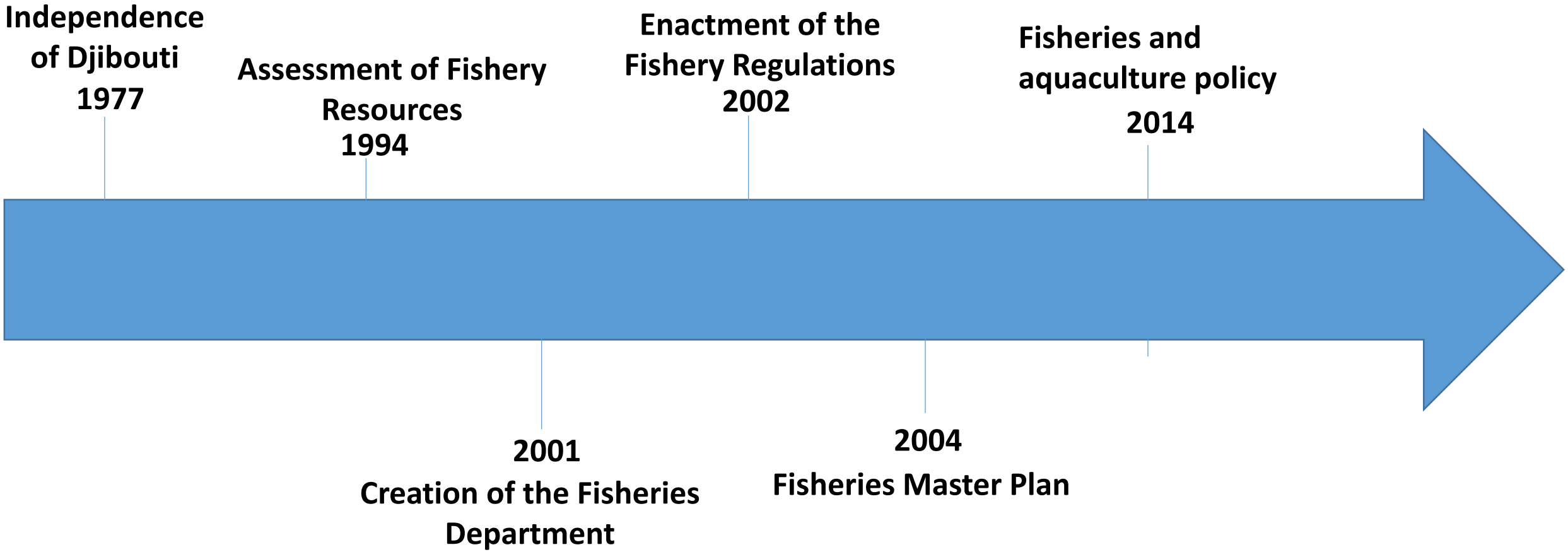
➢Djibouti's fishing sector provides direct or indirect employment for between 3,000 and 3,500 people, and a number of professional fishermen estimated at around 600;

➢A fishery with an important social dimension.



Source: Directorate of Fisheries.
Ministry of Agriculture, Water, Fisheries, Livestock and Fisheries Resources (Djibouti)

Developments in the fisheries sector



Legal framework

The legal framework for fisheries, which implements the Fisheries Regulation is based on the precautionary principle and provides that:

- fishing in Djiboutian waters is **reserved for vessels registered in Djibouti (national fleet) and for Djiboutian nationals**;
- only artisanal fishing is allowed in Djibouti waters;
- trawling in Djibouti waters is prohibited except for research purposes.

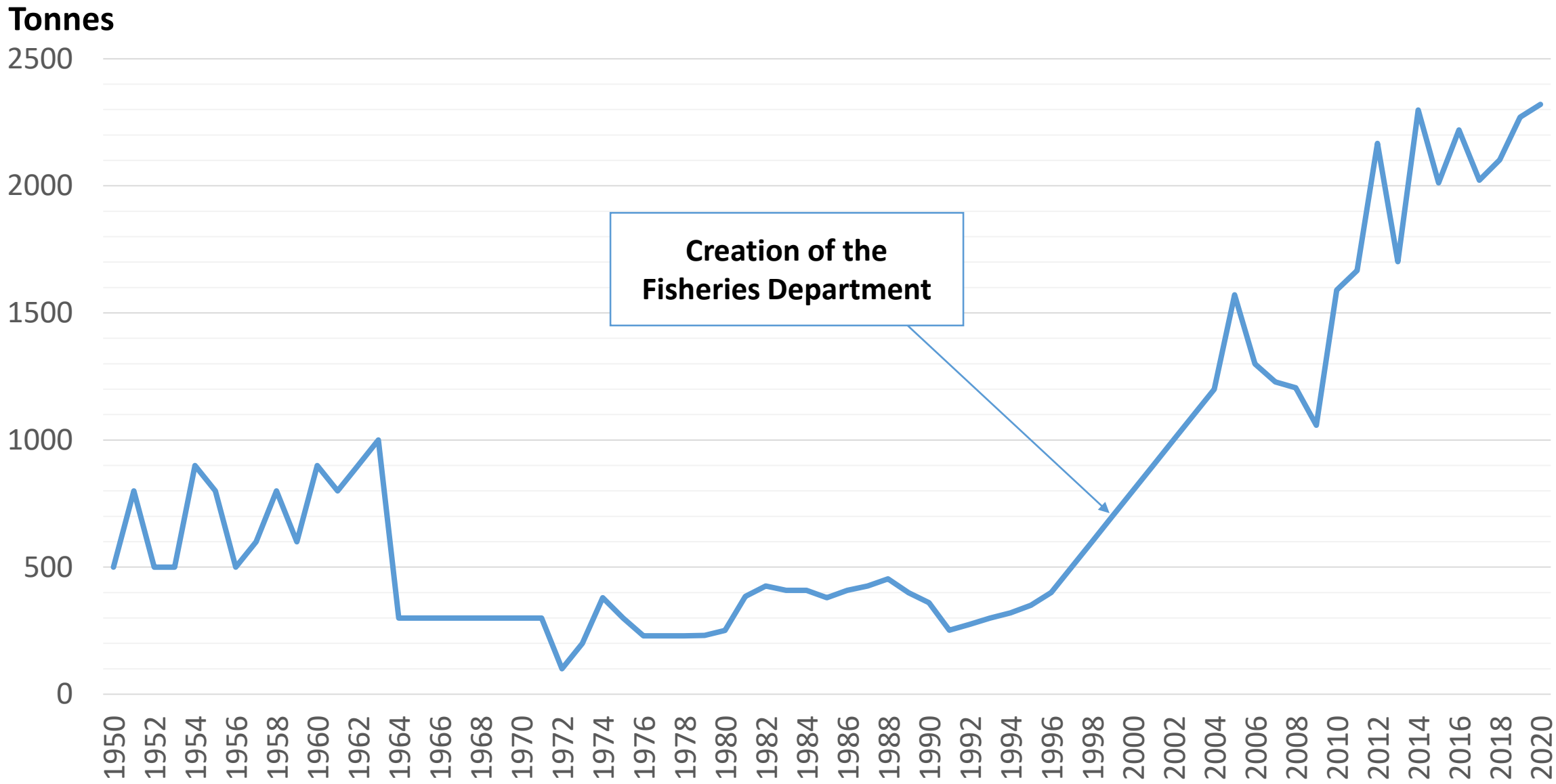
Fishing in Djibouti waters **is prohibited for foreign vessels, while industrial fishing is also prohibited.**

The Fisheries Code also defines artisanal fishing as commercial fishing carried out on foot or on vessels without refrigeration equipment.

a) **Improved artisanal fishing** with vessels of over 9 metres;

b) **Artisanal fishing with boats of less than or** up to 9 metres;

Trends in the fisheries sector statistics



PRAREV PROJECT

The FAO technical support is part of the Programme to Reduce Vulnerability in Coastal Fishing Areas (PRAREV).

The specific objectives of this programme include:

i) a better appropriation by the coastal population of activities more resilient to climate change;

ii) a large part of the target groups affected by climate change benefit from the strengthening of cooperatives and associations;

iii) an increase in income for programme beneficiaries;

iv) an increase in fish landings without affecting the state of the resource.

One of the expected outcomes, namely the development and implementation of a monitoring and evaluation system for fisheries resources, is assigned to the FAO in line with the UTF/DJI/033/DJI.

The implementation of such a statistical system involved several successive steps:

1. a **framework survey** to determine the socio-economic structure of the sector's means of production, as well as the operating models.
2. The analysis of data under this framework survey allows the definition of a **sampling plan** for the monitoring of the fishing activity, aiming in particular at estimating the catches and fishing effort.
3. **Regular monitoring of catches and effort** are then instituted with investigators operating at the landing sites according to the sampling plan.

- 21 July to 2 August 2019: The mission concluded interventions held under the same project for the development and implementation of a statistical monitoring system.

- Landing sites were visited and a training workshop on biostatistics and sampling methods was held for Fishery Division and Coast Guard agents, enumerators and PRAREV agents.

- 11 - 14 January 2021 - Training workshop to monitor implementation of the fisheries statistics system.
- Meeting with the data collectors to ensure proper operation of the landings sampling system and use of the tablets;
- Preparation of statistical data on catches, effort and catch per fishing unit;
- Organisation of statistical fishing data by landing site, month, and fishing unit.

Photos of the Prarev programme

OPEN ARTFISH AND THE OLD DATA COLLECTION METHOD COMPARED

- Data collection on collection sheets prepared by the manager;
- Difficulty in reading the forms returned to the department by the interviewers;
- Difficulty of sending the forms in time by the regional investigators (Tadjourah, Obock and Arta);
- Slow manual data entry from the forms and risk of errors and delays in the generation of statistics;
- The collection system and the form covered only 10 species

Old data collection method

- Data collection on electrical media (tablets, phones). Paper saving and automatic transmission;
- Easy identification of the different species by the investigators (photos of the different species included in the electronic form);
- 45 species are monitored and recorded on the form.
- Time saving, immediate sending of data via internet by the interviewers from the various collection sites and reduction of the statistics generation cycle;
- Generation of more reliable statistics with a stratified sampling system.

FAO's Open ARTFISH system

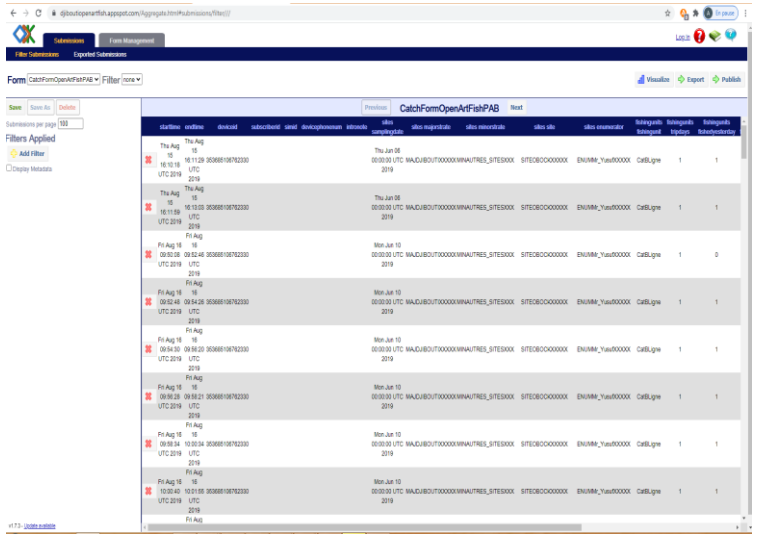
Zoning in the Open ARTFISH database

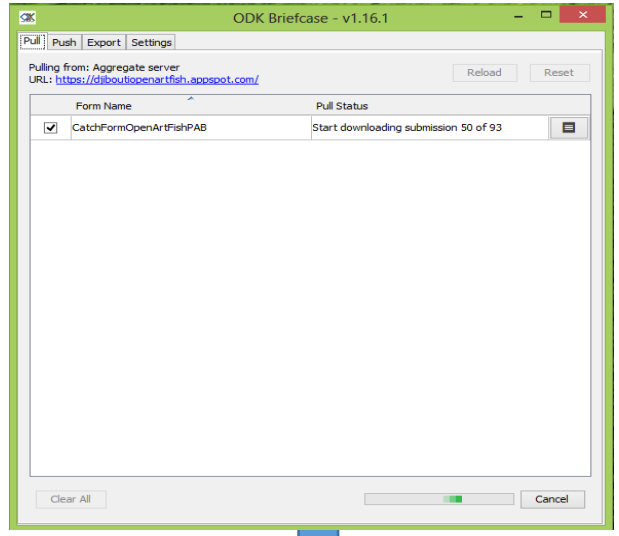
Major stratum

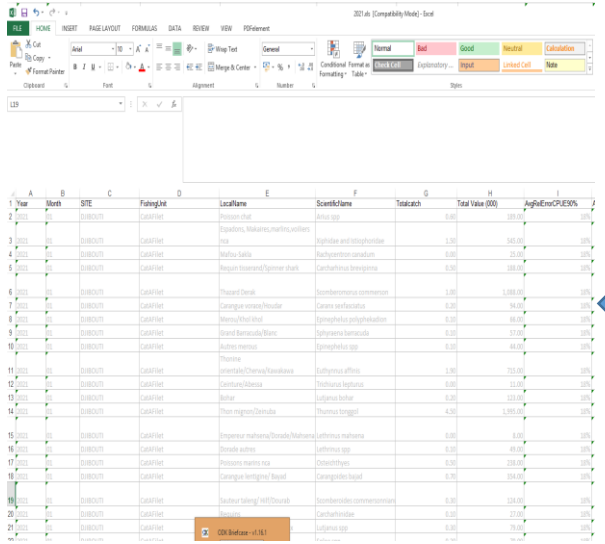
Minor strata

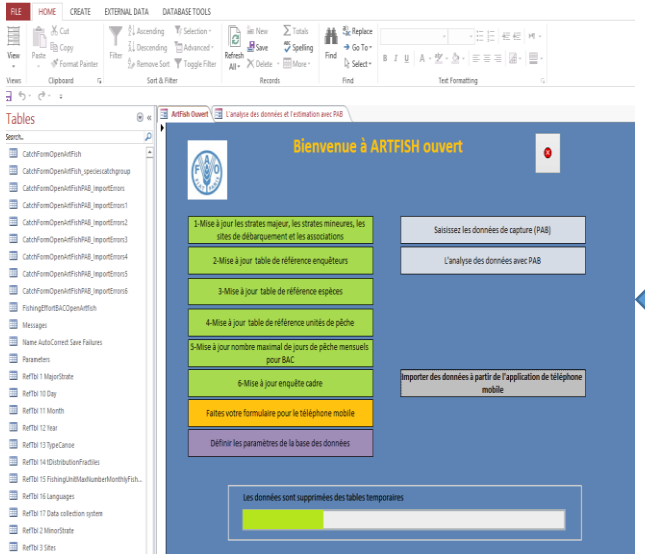
Source: Directorate of Fisheries.
Ministry of Agriculture, Water, Fisheries, Livestock and Fisheries Resources (Djibouti)

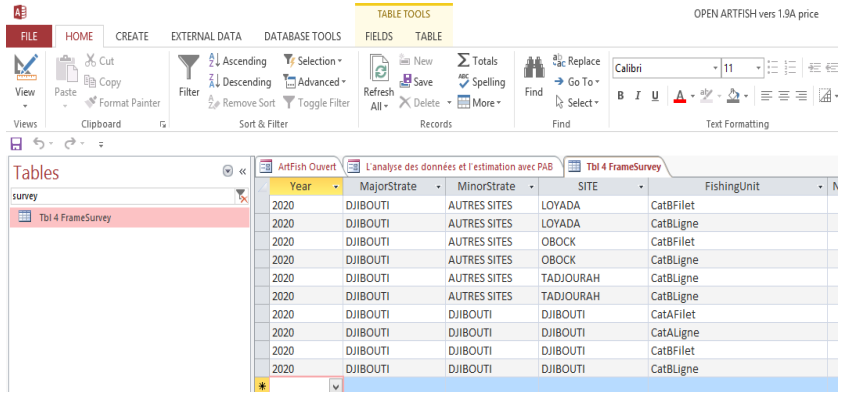
Data transmission steps from the tablet to the Open artfish database

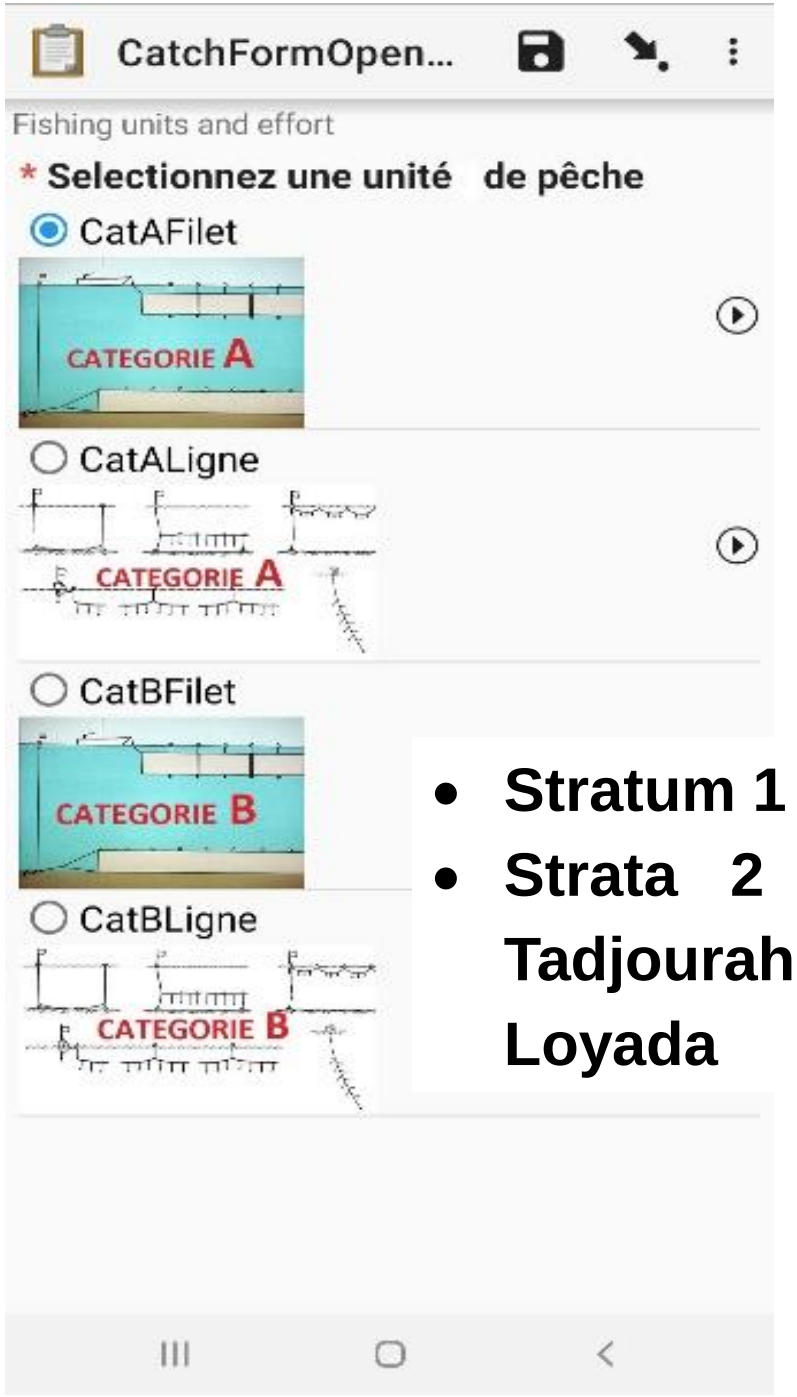


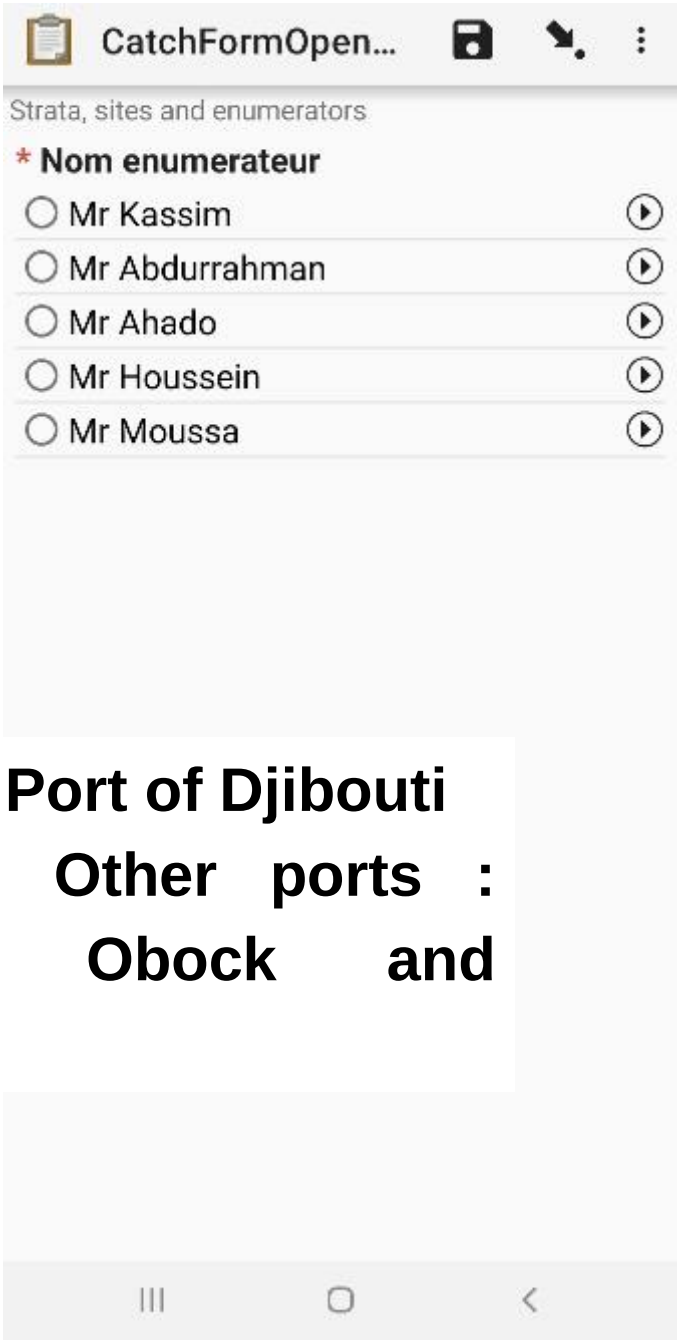




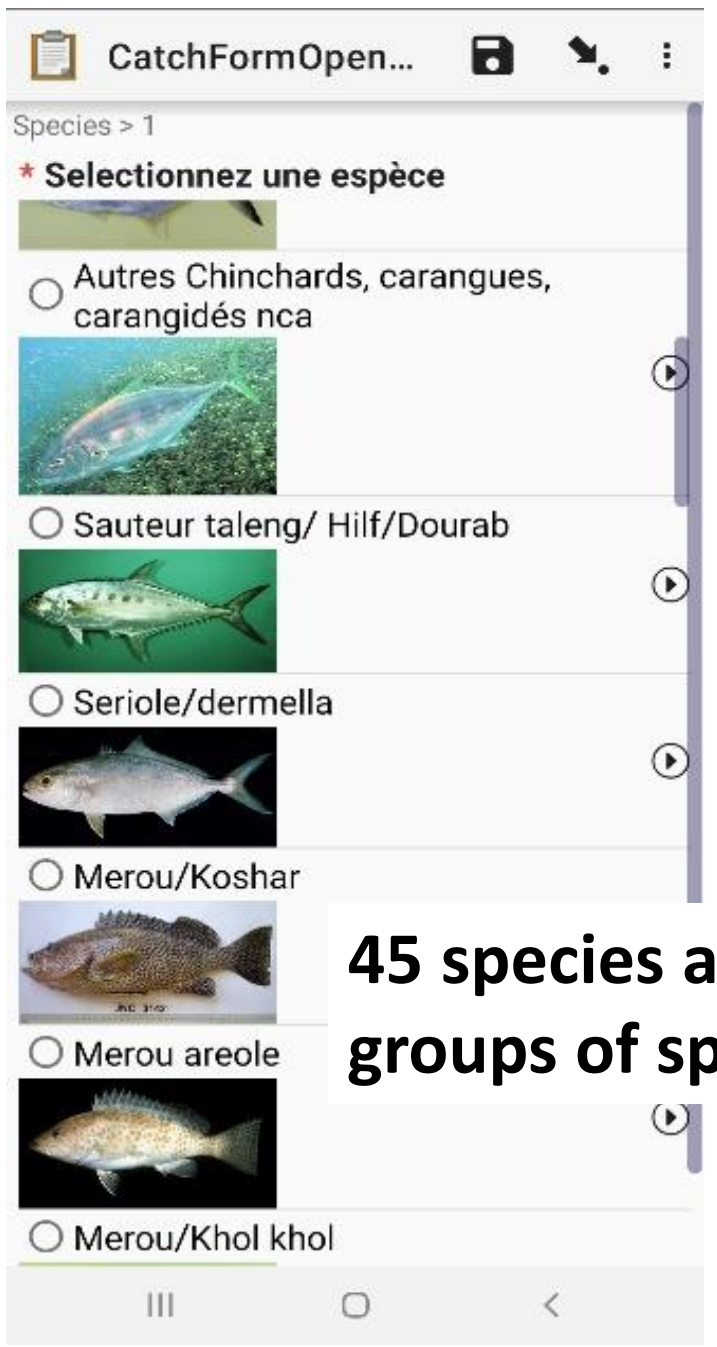








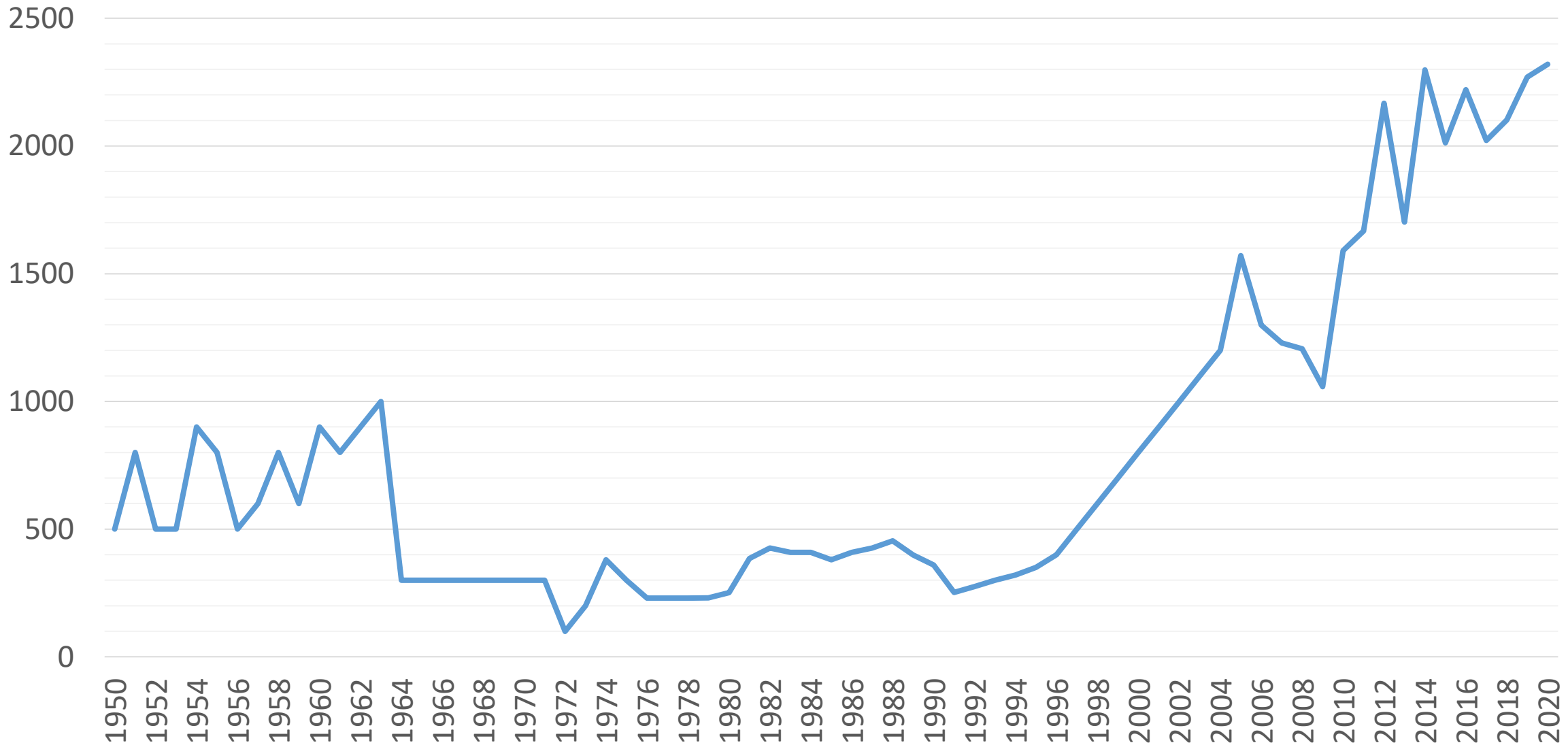
- **Stratum 1 : Port of Djibouti**
- **Strata 2 : Other ports : Tadjourah, Obock and Loyada**



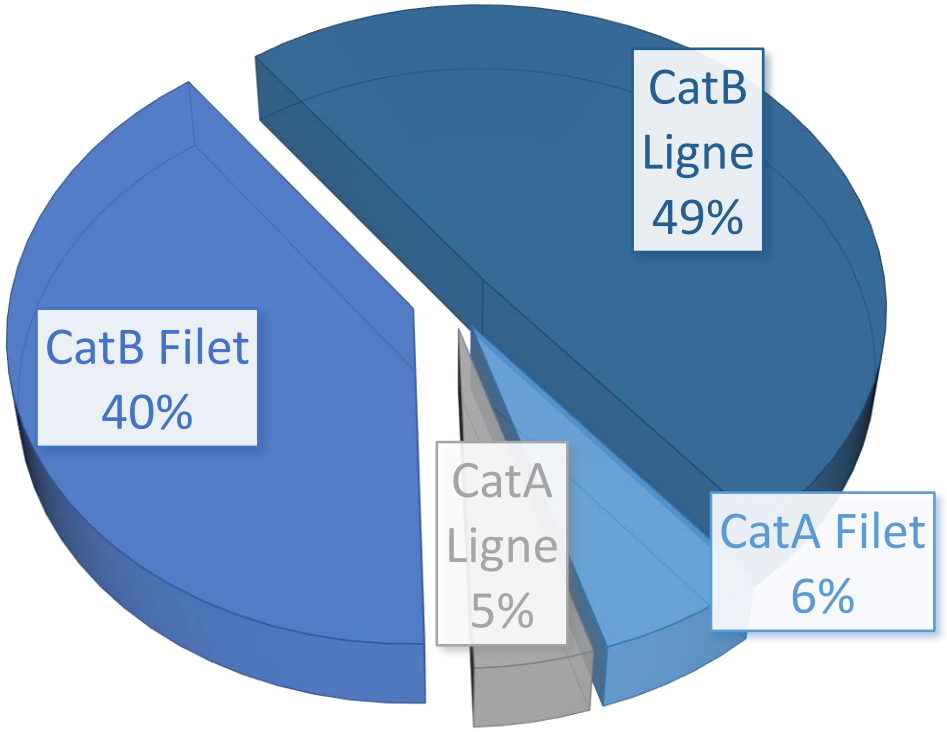
45 species and groups of species

Data analysis on Open ARTFISH

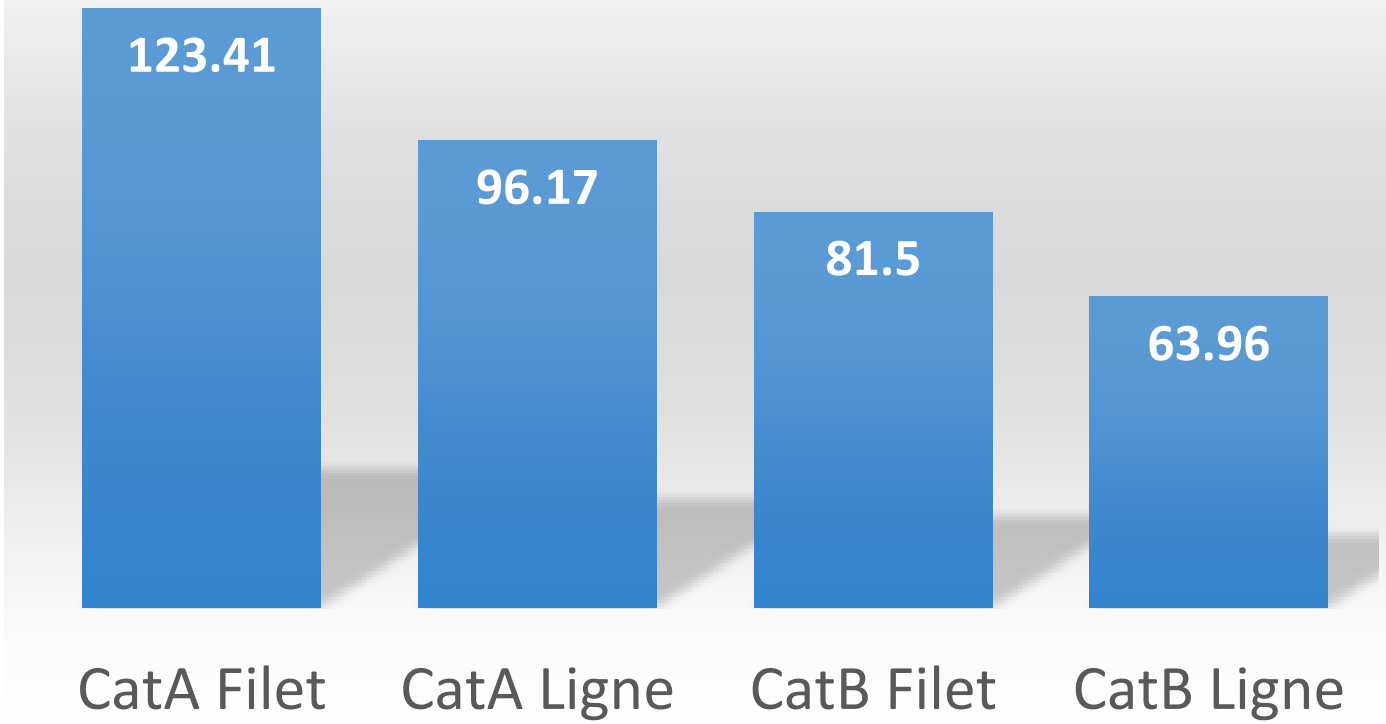
Annual catch (in tonnes)



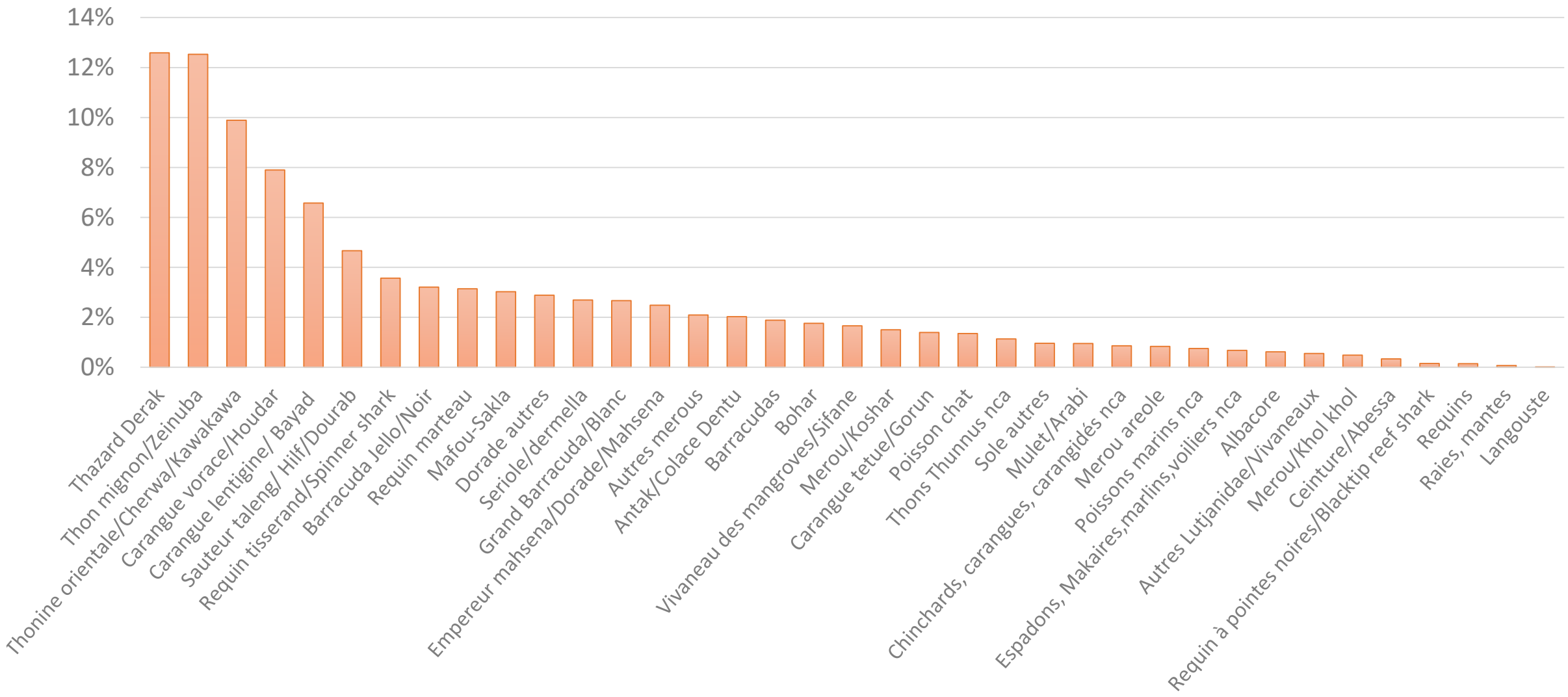
CATCH PER FISHING UNIT

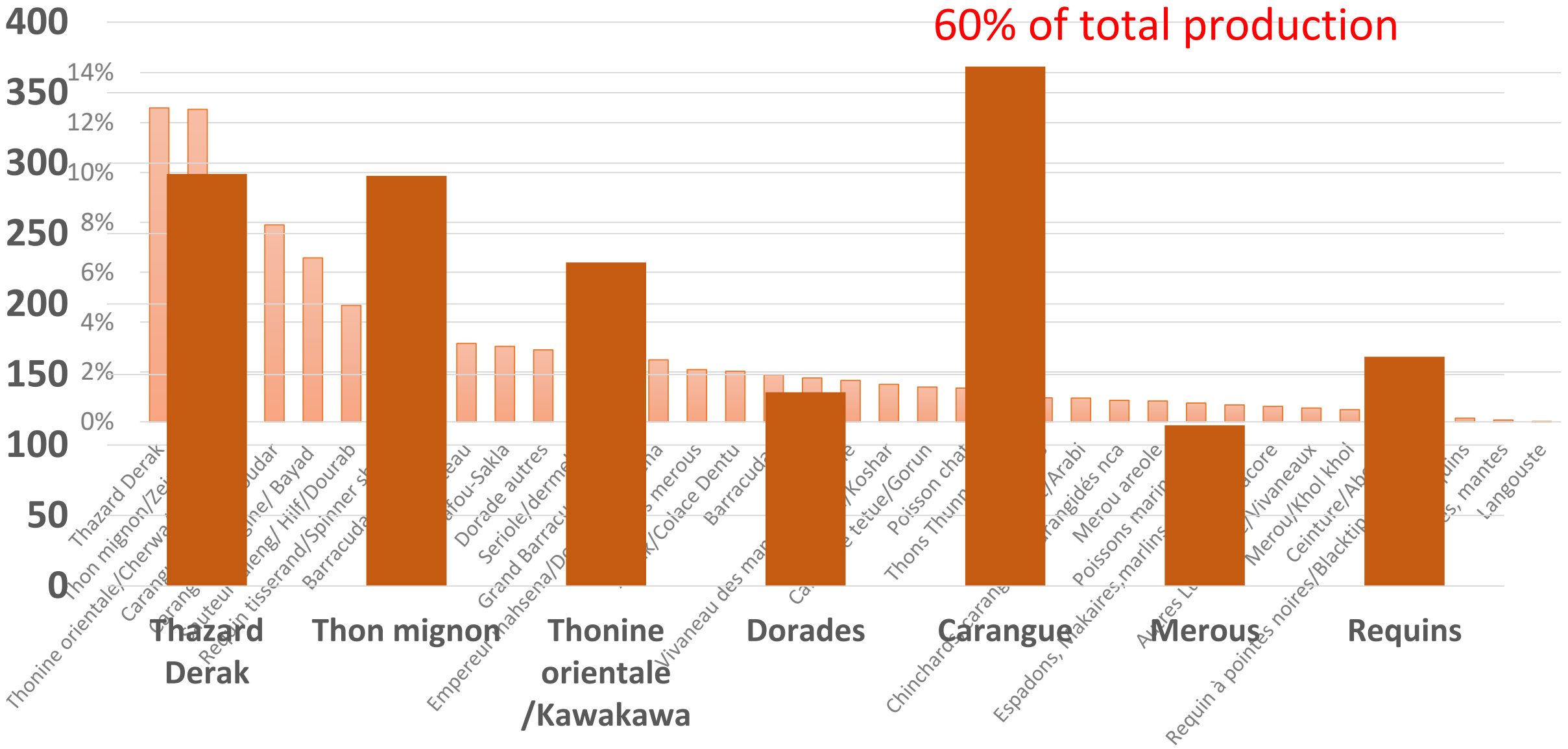


CPUE (kg/day)



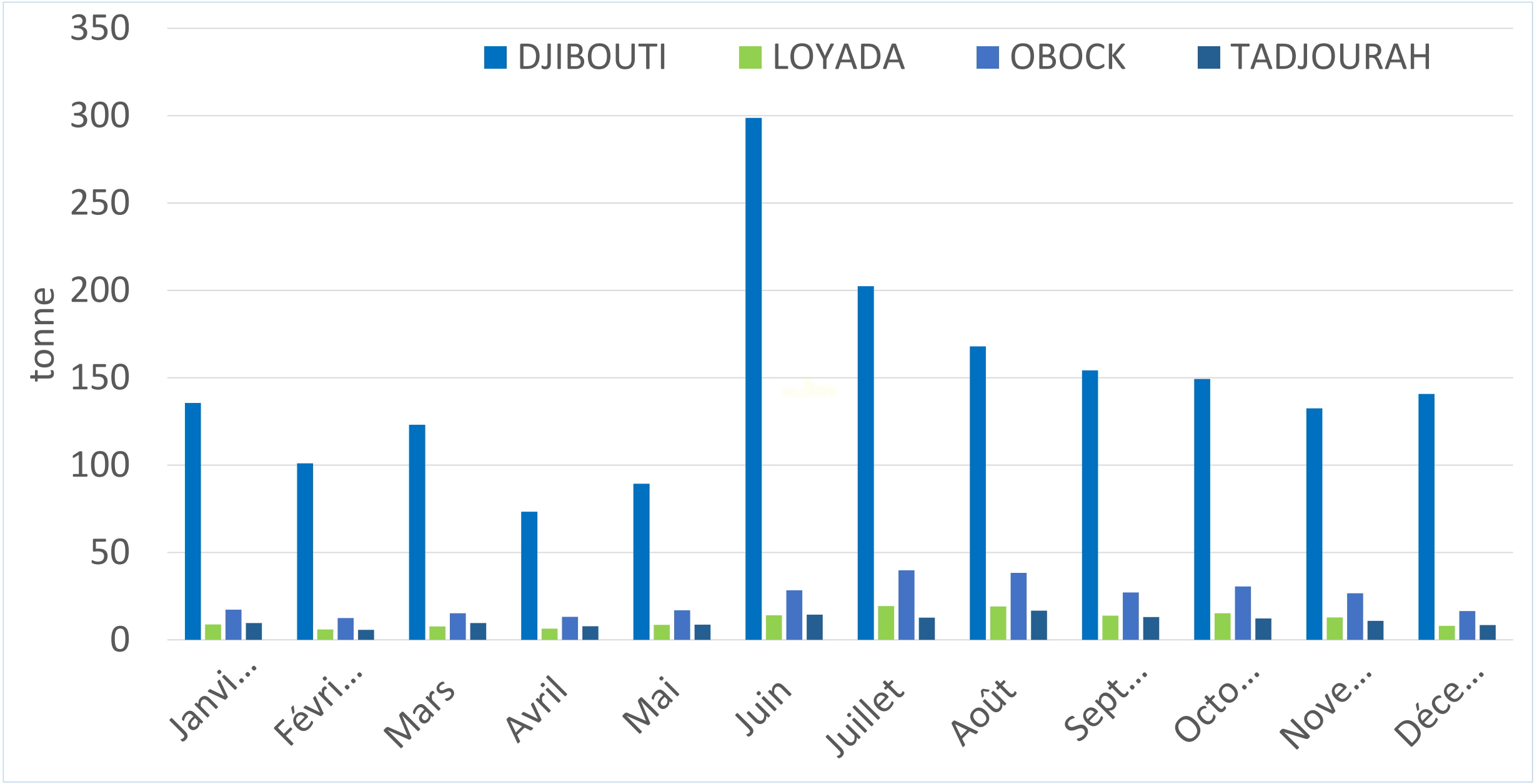
Total catch by species or groups of species




60% of total production
400
350
300
250
200
150
100
50
0
14%
12%
10%
8%
6%
4%
2%
0%
Thazard Derak
Thon mignon
Thonine orientale /Kawakawa
Dorades
Carangue
Merous
Requins

Monthly catches in tonnes and by landing site

	Landing site				Total
Month	DJIBOUTI	LOYADA	OBOCK	TADJOURAH	
January	135.6	8.8	17.3	9.7	171.4
February	101.1	6	12.5	5.8	125.4
March	123.2	7.7	15.3	9.6	155.8
April	73.4	6.5	13.2	7.8	100.9
May	89.4	8.6	17	8.7	123.7
June	298.8	14.1	28.4	14.5	355.8
July	202.5	19.4	39.9	12.7	274.5
August	168	19.1	38.4	16.7	242.2
September	154.3	13.9	27.2	13.1	208.5
October	149.4	15.2	30.6	12.3	207.5
November	132.5	12.9	26.7	10.9	183
December	140.8	8	16.5	8.5	173.8
Total	1769	140.2	283	130.3	2322.5
	76%	6%	12%	6%	


DJIBOUTI
LOYADA
OBOCK
TADJOURAH
tonne
350
300
250
200
150
100
50
0
Janvi...
Févri...
Mars
Avril
Mai
Juin
Juillet
Août
Sept...
Octo...
Nove...
Déce...

Recommendations at the end of the project

- Improvement in data generated annually by Open ARTFISH (taking into account quantities in kilogrammes and not in tonnes);

- Take into account countries that have a small catch volumes;

- Continuous capacity building to improve the database;

- Inter-African capacity building and sharing of experience in stock assessment using the indirect method.

Thanks for your attention