

## Deliverable No. 5.3

Project acronym:

**FarFish**

Project title:

**Responsive Results-Based Management and capacity building for EU Sustainable Fisheries Partnership Agreement- and international waters**

Grant agreement No: **727891**

Project co-funded by the European Commission within the Horizon2020 Research and innovation programme

Start date of project: **1<sup>st</sup> June 2017**

Duration: **48 months**

Due date of deliverable:	31/05/2020
Submission date:	31/08/2020
File Name:	FarFish D5.3 Report on potential return on investments in CSs_2.0
Revision number:	02
Document status:	Final <sup>1</sup>
Dissemination Level:	PU <sup>2</sup>

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<sup>1</sup> Document will be a draft until it was approved by the coordinator

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## **Deliverable D5.3**

### **Report on potential return on investments**

#### **- Cost-benefit analysis of EU fleet investments in selected Case Studies**

31/08/2020



## Executive Summary

The overarching objective of the FarFish project is to provide knowledge, tools and methods to support responsible, sustainable and profitable EU fisheries outside European waters, both within the jurisdiction (EEZ) of non-EU coastal states as well as in international waters / high seas. In order to achieve this, the aim of this deliverable is to identify, study and potentially recommend investment opportunities for EU operators within some of the project's case study countries.

This report studies investment opportunities within the small pelagic fisheries in Mauritanian waters, and the associated value chains and the tuna fish pole and line fishery by the coast of the Atlantic Façade of Africa (mainly SW - Senegal), and the associated value chains. Also, a section is dedicated to investigating the specific case of investment of French capital in tuna fisheries in Seychelles in the Indian Ocean.

The analysis done for small pelagic fisheries in Mauritania was based on two decades of research and evaluation of the performance of the fisheries agreement with Mauritania (especially for the FAO and the EU for the ex-post evaluation of fishing agreement) and more particularly within the FarFish project over the last two years. Also, primary data was collected from IMROP collaborators, as well as key resource persons in relevant public bodies and institutions. Additional information was collected from processing plants owners and managers, as well as from the Pelagic Freezer-Trawler Association that includes nine large European pelagic fishing companies, some of which are operating in Mauritania.

This section concludes that although efforts have been made to improve the business environment in Mauritania, it remains more attractive for European investors to continue processing the landings of demersal fishes in Spain and small-pelagic ones in Baltic countries. Still, it is not suitable to foresee large European investment in developing the processing industry in Mauritania to handle the fish landed by EU vessels under the agreement, as this will go against the Common Fishery Policy (CFP) that promotes the maintaining of jobs in the EU based fishing industry. In that regards, a coherence of the external EU policies is sought: the development of the processing industry in Mauritania should be promoted only for the species that are not yet processed in the EU.

For the investigations into tuna fisheries, the analyses were based on interviews with relevant stakeholders, including shipowners and key personnel from public bodies and institutions both in West Africa and Europe (see Annex 3 for the list of stakeholders consulted). In addition, most of the data presented in this section was acquired from DG-Mare in a non-public dataset compiling every fishing lot from EU vessels operating within SFPAs in Senegal. A second case study in tuna fisheries in this case in the Indian Ocean, investigates the investment from the French company SAPMER to improve the land infrastructure in the Port of Victoria (Seychelles), as this would be the only notable investment by European interests in recent years for tuna fishing in Africa. These sections conclude that the fishing

area where EU pole-and-line vessels are active is becoming less productive, decreasing the profitability of European flagged vessels, as well as of Senegalese flagged vessels that maintain close partnerships with Europe. As a response, they have attempted to extend their fishing grounds. Additional fishing opportunities are opening in The Gambia (whose EEZ is restricted) and other countries are expected to follow. Contrastingly, the EU sustainable partnership fisheries agreement with Senegal or Mauritania could include fewer fishing opportunities in terms of tonnage, as well as increasingly restrictive conditions for access and landings. European operators have reacted so far by considering the switch to private regime, instead of operating under SFPAs, as a preferred strategy.

***The progress of this work has been somewhat delayed due to the Covid-19, as the work plan, on-site visits and interviews with operators and other stakeholders were affected by the pandemic.***

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## Abbreviations & concepts/definitions

ACP	Organisation of African, Caribbean and Pacific States
ANABAC	National Association of Tuna Freezer Vessels Shipowners, Spain (Bermeo)
COFREPECHE	Bureau d'Études International en Pêche, Aquaculture et Environnement Marin
CONDAK	Les Conserveries de Dakar
CPUE	Catch per Unit Effort
CS	Case Study
DARE	Directory of Fisheries Management in Mauritania
FADs	Fish aggregating devices
DG MARE	Directorate-General for Maritime Affairs and Fisheries, European Commission
EEZ	Exclusive Economic Zone
EIP	European Investment Plan
EPBR	Etablissement Portuaire de la Baie du Repos
EU	European Union
FAD	Fish aggregating device
FAO	The Food and Agriculture Organization, United Nations
FarFish RG	FarFish Reference Group
GAIPES	Groupement des Armateurs et Industriels de la Pêche au Sénégal.
GCM	Garde-Côtes Mauritanienne (Coast Guard Force)
GREPPAO	Gestion et Résilience des Pêcheries de petits Pélagiques en Afrique de l'Ouest
HCR	Harvest Control Rule
ICCAT	International Commission for the Conservation of Atlantic Tunas
ICES	International Council for the Exploration of the Sea
IEO	Instituto Español De Oceanografía
IMR	Institute of Marine Research, Norway
IMROP	Mauritanian Institute for Oceanographic Research and Fisheries
IRD	Institute for Research and Development - France
ISRA	Institut Sénégalais de Recherches Agricoles
ISSF	International seafood sustainability foundation
IUU	Illegal, unreported and unregulated fishing
LDAC	Long Distance Advisory Council
MCS	Monitoring, Control and Surveillance
MPEM Mauritania	Department of Fisheries and Maritime Economy, Mauritania
MPEM Senegal	Ministry of Fisheries and Maritime Economy, Senegal
MSY	Maximum Sustainable Yield
NGM	National Multi-Party Groups
ONISPA	National Office of Health Inspection of Fisheries and Aquaculture Product, Mauritania
OPAGAC	Organisation of associated producers of large tuna freezer vessels, representing the Spanish (Bermeo) tuna purse seine fleet
OPROMAR	Organization of Fresh Fish Producers of the Port and Ría de Marín, Spain

ORTHONGEL	French organisation of producers of frozen and deep-frozen tropical tuna
PAN	National Autonomous Port of Noaudhibou
RBM	Results Based Management
RFMO	Regional Fisheries Management Organization
RFMS	Responsive Fisheries Management System
RSFP	Regional Fisheries Surveillance Project
SCASA	Société de Conserverie en Afrique SA
SDG	Sustainable Development Goals
SERT	Société d 'Exploitation des Ressources Thonières
SFPA	EU Sustainable Fisheries Partnership Agreements with third countries
SMCP	Société Mauritanienne de Commercialisation des Produits de Pêche (Mauritanian Fish Marketing Corporation)
SNDP	Société Nationale de Distribution du Poisson (National Fish Distribution Company)
STECF	Scientific, Technical and Economic Committee for Fisheries
TL	Total length (vessel)
VME	Vulnerable Marine Ecosystem
VMS	Vessel Monitoring System

## 1. Introduction

This report on the potential return of investments for the EU fleet operating outside EU waters is part of the FarFish work package (WP) 5 and builds upon Deliverable 3.2 focusing on the description of the value chains of FarFish case studies (CS) and Deliverable 5.2 analysing the strengths, weaknesses, opportunities and threats of the CS value chains. The aim of this deliverable is to identify, study and potentially recommend investment opportunities for EU operators within some of the project's case study countries. This is done by conducting a cost-benefit analysis on potential investment opportunities for the EU fleet in SFPAs countries, which are under the scope of FarFish. In this deliverable, focus is on investment opportunities within the small pelagic fisheries in Mauritanian waters and the associated value chains and, the tuna fish pole and line fishery by the coast of the Atlantic Façade of Africa (mainly SW - Senegal) and the associated value chains. In addition, a section is dedicated to investigating the specific case of investment of French capital in tuna fisheries in the Seychelles (Indian Ocean). These are further described in the sections below.

This work is largely based on interviews with European and national shipowners from the selected SFPAs partner countries, whose interests are linked to the EU through mixed capital (Joint Ventures), almost exclusive economic relations i.e. single buyer or direct investments. For the analysis of small pelagic fisheries, primary data was collected from IMROP collaborators, as well as key resource persons in relevant public bodies and institutions, mainly SMCP, SNDP, the Ministry of Fishery and the Ministry of Finances. Additional information was collected from processing plants owners and managers, as well as from the Pelagic Freezer-trawler Association that includes nine large European pelagic fishing companies, some of which are operating in Mauritania.

The analyses on tuna fisheries were based on interviews with relevant stakeholders, including shipowners and key personnel from public bodies and institutions both in West Africa and Europe (see Annex 3 for the list of stakeholders consulted). In addition, most of the data presented in this section was acquired from DG-Mare in a non-public dataset compiling every fishing lot from EU vessels operating within SFPAs performed in Senegal. This deliverable also contains a second case study on tuna fisheries which investigates the investment from the French company SAPMER to improve the land infrastructure in the Port of Victoria (Seychelles). This is the only notable investment by European interests in recent years for tuna fishing in Africa. This work was further enabled by the knowledge and networking opportunities obtained throughout the stakeholder interaction conducted as part of the FarFish project. This report contributes to the FarFish specific objective to evaluate the relevance, applicability, sustainability, costs and benefits from the adequate management of the analysed fisheries.



## 2. Small pelagic fisheries: Investigations of the EU investments opportunities in small pelagic fisheries in Mauritania

### 2.1. Introduction

Mauritania benefits from an upwelling environmental system, with active warm and cold water mixing providing a nutrient-rich ocean attracting the migration of small pelagic species that makes its waters very rich in terms of fishing grounds (Diop, Inejih, Tous, Failler, & Dia, 2006). As a result, the catches have continuously increased over the last two decades reaching 1.2 million tonnes in 2018. In percentual terms, the 80% of catches are composed by small pelagic species such as sardinella and horse mackerels. Captures are shared between artisanal fleet, EU vessels under the fishing agreement and foreign fleet under free license scheme in a composition of about one third each. The artisanal fleet lands off Nouakchott and Nouadhibou, the two main fishing harbours. The bulk of the catch goes for the fish meal processing plants located in Nouadhibou (about 80%), while the rest is used to supply the national market, mainly along the coastal areas.

The valorisation of the small pelagic catches has been on the agenda for many decades both on the EU side and the Mauritanian one (Failler, Diop, Inejih, Dia, & Dia, 2006). In the first fisheries partnership agreement between the EU and Mauritania in 1990, financial support was already available for the creation of joint ventures to promote the development of inland facilities and processing plants. The poor accessibility and facilities in Nouadhibou, being the only country harbour accessible for large vessels, have hindered any joint venture development. EU vessels kept landing in Las Palmas due to its geographical proximity, technical knowledge, infrastructures and ancillary services.

Within the current Agreement Protocol, it is agreed that European Union shipowners of pelagic freezer trawlers and shrimp-fishing vessels (in the case of by-catches) engaged in fishing activities contribute to the policy of fish distribution to people in need, and provide 2 % of their pelagic catches<sup>4</sup> which have been transhipped or unloaded following a voyage. The fish distribution is handled by the national owned company SNDP (National Fish Distribution Company) set-up in 2013<sup>5</sup>. This company has

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<sup>4</sup> The 2 % shall be calculated on the basis of all catches, regardless of species and irrespective of commercial value, and shall be added to the total allowable catch. Catches which fall under the fee in kind should reflect the species composition of the total catches held on board the vessel at the time of the transhipment of that 2 %. However, for vessels targeting horse mackerel and mackerel, the 2 % shall be levied on catches of horse mackerel (size L or otherwise size M) or otherwise on catches of sardinella (size L or otherwise size M). For vessels targeting sardine, the 2 % shall be levied in equal proportions on catches of horse mackerel and sardinella kept on board or otherwise on catches of sardine kept on board.

<sup>5</sup> Using the model of SMCP that is the national company that ensures the exports of all frozen demersal fishes.

received support from Spanish cooperation for its set-up, the establishment of warehouses in Nouadhibou and Nouakchott, and selling points in many locations, both rural and urban ones.

As the accessibility of the Nouadhibou port has considerably improved, thanks to an EU project dedicated to the removal of dozens of wrecks on the port and in nearby areas. As this project advances, the landings of EU large vessels will be then possible. Mauritanian authorities have also developed the land infrastructures and processing plants and have set-up the Nouadhibou Free Trade Zone in 2013 with the support of the World Bank in order to attract investments into the fish processing sectors. More than 70 fish meal processing plants have opened from 2015 to 2019, reaching a total number of 149. Today, about 300,000 tonnes of small pelagics are processed by these fish meal plants, owned mainly by Turkish investors. However, no considerable investments have been made in processing of small pelagic for human consumption. In early 2010, the country made a 100 million USD agreement with China in exchange of fishing possibilities and for the development of small pelagic processing facilities. After a few years, it appears that the fishing possibilities have been used but the land facilities development was on stand-by. Thus, despite creating favourable conditions, the development of processing for human consumption is still in a very early stage in Mauritania.

The aim of the section is to provide a comprehensive view on the development opportunities for the valorisation of small pelagic for human consumption in Mauritania. It includes a review of recent investment initiatives in the fishery sector and more particularly in the small pelagic fish-chain. It also presents a cost-benefit analysis of the small pelagic segment of the EU-Mauritania fishing agreement over the last 20 years in order to shed light on the future presence of the small pelagic EU fleet in Mauritanian waters. It further provides some recommendations for the improvement of the Mauritanian small pelagic fisheries and value-chain where public investment can be made.

The method used to carry out the analysis is based on literature describing the work performed in Mauritania over the last 2 decades (especially for the FAO and the EU for the ex-post evaluation of fishing agreement) and more particularly within the FARFISH project over the last 2 years. It also relies on the information brought by IMROP collaborators, as well as key resource persons mainly in SMCP, SNDP, the Ministry of Fishery and the Ministry of Finances, mainly. Investigations have also been made with the processing plants owners and managers and the Pelagic Freezer-trawler Association that engages 9 large European pelagic trawlers companies, which some of them operating in Mauritania.

## 2.2. Context of the small pelagic fishery in Mauritania

The catch of small pelagic fish in Mauritanian EEZ is carried out by three national and foreign fleets, which are the artisanal, inshore (coastal) and offshore fleets<sup>6</sup>. They operate under different legal access legal regimes:

- national fishing licence for artisanal, coastal and offshore
- charter for foreign fishing vessels targeting small pelagics
- joint venture for coastal fleets, mainly Turkish ones
- bilateral fishing agreements for EU large pelagic trawlers and Senegalese canoes

In 2019, the foreign offshore fleet was composed of 152 ships, including 77 vessels operating under the EU-Mauritania fishing agreement targeting small pelagic, demersal and large pelagic species (tunas and associated species), 29 vessels targeting small pelagic with flags of Russia, Georgia, Central American and Caribbean states such as St. Vincent and the Grenadines and Belize and 46 vessels for large pelagic (tunas) mainly EU vessels operating under the bilateral agreement and 18 Japanese-flagged vessels.

These fleets differ depending on their size and fishing strategies. Artisanal and coastal fishermen mainly look for clupeids (sardine, round sardine and *ethmalose*). Trawling by foreign countries target mackerel, horse-mackerel and, for a small pelagic segment of the European Union fleets, sardinellas and sardines since 1996. Catches have increased sharply these last years, from 900,000 tonnes in 2014 to around 1,5 million tonnes in 2018 (see Table 1 below).

Table 1 Catches in the Mauritanian EEZ in Tonnes

Fleet and species / Year	2014	2015	2016	2017	2018
<b>Total catches</b>	<b>908 285</b>	<b>837 666</b>	<b>1 103 593</b>	<b>1 191 451</b>	<b>1 533 231</b>
Artisanal fleets	<b>301 539</b>	<b>357 351</b>	<b>282 717</b>	<b>347 908</b>	<b>270 706</b>
Coastal and offshore fleets	<b>606 746</b>	<b>480 315</b>	<b>820 876</b>	<b>843 542</b>	<b>1 262 525</b>
- incl. Small pelagics	554 696	425 136	729 972	769 040	1 189 908
- incl. demersal	22 626	31 709	68 018	44 799	42 537
- incl. cephalopod	19 937	16 424	13 537	16 139	16 368
- incl. crustacean	7 476	2 200	1 293	1 941	2 842
- incl. tunas	2 011	4 846	8 056	11 623	10 870

Source: (Garde-Côtes Mauritanienne & Directory of Fisheries Management in Mauritania, 2020)

<sup>6</sup> Access to fisheries resources in Mauritania is governed by the 2015/017 law of 29 July 2015 on the fisheries code. Article 13 of Decree No. 2015-159, which enforces the fishing code, classifies commercial fishing into three categories: (a)- artisanal fishing, (b) - inshore fishing and (c) - offshore fishing.

As seen in Table 1, about 80% of the catches in Mauritania are composed by small pelagics. The sharp increase in catches seen from 2015 is mainly due to the arrival of coastal vessels from Turkey with more than 600,000 tonnes of small pelagics captured in 2018 (see Table 2 below) compared to less than 200,000 tonnes in 2015. Overall the EU catches represent less than 10% of the total catches of small pelagics.

**Table 2 Catches per fleet in the Mauritanian EEZ in Tonnes in 2018**

	Fleet	Cephalopod	Demersal	Small pelagics	Crustacean	Total
<b>National</b>	Artisanal	24 584	22 118	270 706	74	317 482
	Coastal	132	8 147	613 052	425	621 756
	Off-shore	14 421	12 600	9 900	270	37 191
	<b>TOTAL</b>	<b>39 137</b>	<b>42 865</b>	<b>893 658</b>	<b>769</b>	<b>976 429</b>
<b>Foreign</b>	Off-shore	111	20 522	520 334	1 969	542 936
	Incl. EU	111	18 183	127 718	1 905	147 917
	<b>TOTAL</b>	<b>39 248</b>	<b>63 387</b>	<b>1 413 992</b>	<b>2 738</b>	<b>1 519 365</b>
	<i>% UE</i>	<i>0 %</i>	<i>29 %</i>	<i>9 %</i>	<i>70 %</i>	<i>10 %</i>

Source: (Garde-Côtes Mauritanienne & Directory of Fisheries Management in Mauritania, 2020)

In 2018, about half of the 300 inshore vessels were chartered (Gouvernement de Mauritanie, 2020). They have led to a considerable increase in the volumes of small pelagic landed in Mauritania in recent years. However, as they do not have the facilities on-board to ensure good fish conservation until landing, almost all of the catches made by these vessels are destined for the fishmeal industry, despite the decision of the Ministry of Fisheries to conserve 20% of the catch for human consumption. The inshore fishery is challenged with the absence of a qualified national workforce skilled in the required fishing techniques. In addition, bare-hull chartering raises a problem of underestimating the country's contribution to global fisheries resource food coverage, given that catches in this segment are accounted for on behalf of the flag country, namely Turkey. Thus, the increase in coastal catches is linked to the very large increase of fish meal processing plants, from 70 in 2014 to 149 in 2019.

Overall, the number of fish meal processing plants increased significantly between 2014 and 2019 from 94 to 149 (an increase of about 60%). Similarly, the storage capacity of fish products has been increased from 20 thousand tonnes in 2013 to 70 thousand tonnes in 2018, a growth of more than 300%.

The number of processing and storage plants in Nouadhibou represents 68 units (62% of the total) while 72% of the fish meal and oil factories are located in the Nouadhibou Free Trade Zone. As mentioned above, the Mauritanian government has made the Nouadhibou Bay a free zone (see Figure 1). Created at the beginning of 2013, the area extends over more than 1,000 km<sup>2</sup> and is home to a population of 100,000 which could rise to 400,000 by 2030.

The Autonomous Port of Nouadhibou was secured and extended in 2010 with EU support (for the removal of wrecks obstructing access and improving safety conditions to International Ship and Port Facility Security standards) and the new extension of its 660 m trading wharf was completed (Mayif, 2017). However, this important extension suffers from certain failures, particularly in the slab, which reduces its capacity to accommodate vessels. In addition, the old trading wharf that is dilapidated is due to be redone in 2020/2021. The Spanish Cooperation has also contributed in the mid-2010 to support the development of new landing facilities for Spanish vessels that land their catches in Nouadhibou to be transported by road up to Spain (about 2200 km to Madrid).

Apart from the ports of Nouadhibou and the Nouakchott Fish Market, there are no other landing points with a connection to the electricity grid and running water, which adds to the difficulties of developing the marine fisheries sector and the valorisation of the catches. Similarly, apart from these two cities and the port of Tanit, no other development hub, centre or fishing site is connected to the main road networks by paved ramps, which also limits the speed of transfer of products to the main urban centres and also the export opportunities by land or air. The design and implementation of fisheries infrastructure is poorly monitored by the Fishery Department because of the lack of anchorage within any existing structure that belongs to it. This explains some of the inadequacies found in relation to the possibilities of welcoming vessels and artisanal fishing boats (currently more than 9000) and the design of auction halls and the location of related activities.

As part of the World Bank-funded fisheries project, on behalf of the Nouadhibou Free Zone, a major programme to support existing infrastructure of the artisanal fishing port of the Baie du Repos



(Etablissement Portuaire de la Baie du Repos – EPBR) and the Nouadhibou National Autonomous Port (PAN) is being implemented and is due to be completed in 2021. It includes:

- the construction of a refrigerated warehouse at Nouadhibou airport, on an area of 600 m<sup>2</sup>, which can be transferred to the new planned international airport
- a fish auction hall for cephalopods and small pelagics for local consumption at the EPBR (1300 m<sup>2</sup>, with a reception slab, a storage and sales area, with two cold rooms for 20 tonnes of fish, shipping area);
- two pumping stations for the landing of small pelagics (one at the PAN and the other at the EPBR to strengthen the traceability of the products)

In addition, the German cooperation (GIZ) is currently funding a project to modernize the EPBR. This project involves the establishment of an auction hall for the sale of fish, the establishment of roads and utilities and a sewerage network (including a sewage treatment plant), and the construction of 600 shops for artisanal fishing. Work on this infrastructure began early 2020. This auction system should eventually serve as a model for other fishing centres. The Nouadhibou Free Zone also plans to build a deep-water port as part of a Private Public Partnership with a Chinese company. The environmental impact assessment has been carried out and the project was expected to start in 2020. The project consists of the construction, in a first phase, of a 928 m long port terminal built over an area of 38.7 ha and 3 berths with a draught of -18 m at the foot of the wharf for the container stations and -14 m for the RORO station with a median and the necessary facilities for its functioning.

Overall, public and private investment in the fishing sector has grown significantly in recent years. They reached MRU 13.5 billion in 2018 (about \$350 million euros), which is \$105 million more than the target set by the sectorial strategy for fishery 2014-2019. Major infrastructure projects (construction of new ports, rehabilitation and extension of existing infrastructure), the establishment of a shipyard and new infrastructure to enhance onshore fishing products have been implemented with the support of various cooperation agencies (EU, German and Spain mainly). Several other projects are envisaged in the short and medium term such as the construction of the headquarters for National Office of Health Inspection of Fisheries and Aquaculture Products (ONISPA) and National Institute for Oceanographic and Fishery Research (IMROP) and a wharf for the coast guard.

Despite all facility improvements, the landings of small pelagics from the off-shore fleet in the port of Nouadhibou remain very low compared to the level of catches: about 10 000 tonnes in 2018 for both the EU (about 2 500 tonnes) and other foreign vessels, according to the SNDP. The SNDP is also getting about 40 000 tonnes of small pelagic fishes from the coastal and artisanal fleets following the same rule of 2% that seems to end-up in the fishmeal plants as the quality of the fish is not suitable for human consumption.

For the EU fleet, the 2% in kind fees is mainly taken during the transshipment of the catches from the fishing vessels to a cargo vessel in the port of Nouadhibou or at the Buoy no. 10 (as indicated in the protocol). As the EU small-pelagic vessels don't have the obligation to land their catches in a Mauritanian port (in the opposite of the other categories that have to do it, such as the demersal fleet), they prefer to pay their dues during transshipment or even pay to the SNDP the equivalent monetary value of the 2% of the catches in hull. Despite requests being made to the Joint Scientific Committee and the SNDP, no report was obtained on the recording of the 2%<sup>7</sup>. It is therefore difficult to assess the effectiveness of such measure.

### **2.3. Cost - benefit analysis of the EU/Mauritania fishing agreements over the last 20 years**

The small pelagic fishing possibilities for EU vessels in Mauritania were introduced within the 1996 Agreement and attached Protocol. Before that date, European vessels were operating under a free licence regime or under the charter one. They have been operating since then in a very competitive environment.

The offshore pelagic fleet is mainly native to countries of Eastern Europe, the West, the Far East, North America and some African countries. It consists of units of high tonnage with a great autonomy, from one to several months. Over the past twenty years, flotillas from 25 different nationalities have operated in the Mauritanian area with a clear dominance of certain countries (Russia, Ukraine, the Netherlands and more recently Belize). As such, more than 300 different fishing vessels have reported fishing in the Mauritanian EEZ in recent years, reflecting the high volatility of most of these units, which generally favour peak production seasons. In that regards, most of the EU vessels that are operating in Mauritania are moving back to the North Sea during the low season (from late August to early December). The fishing effort is concentrated mainly in the north of the country. The number of pelagic vessels in the area fluctuate from year to year. On average, more than 70 pelagic vessels fish annually in the area (see Figure 2 below).

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<sup>7</sup> Even in the 2019 EU/Mauritania evaluation, no reports have been mentioned, only information transmitted by the SNDP to the evaluators.

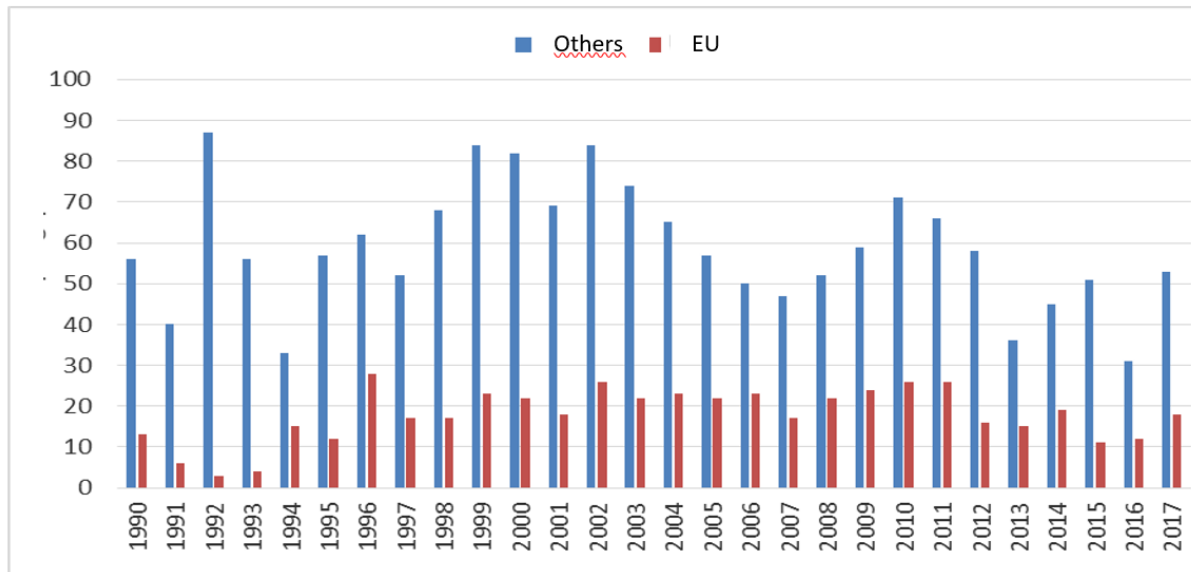


Figure 2 Number of small-pelagic vessels, 1990 to 2017 (source: IMROP/GREPPAO 2020)

Since 2012, due to the restriction to operate more than 20 miles from the coast, the number of vessels has decreased as they were targeting mainly sardinellas on their way up to the southern part of the Occidental Sahara waters (see Figure 3). Sardinellas were representing 80% of the EU vessels through the 2000s.



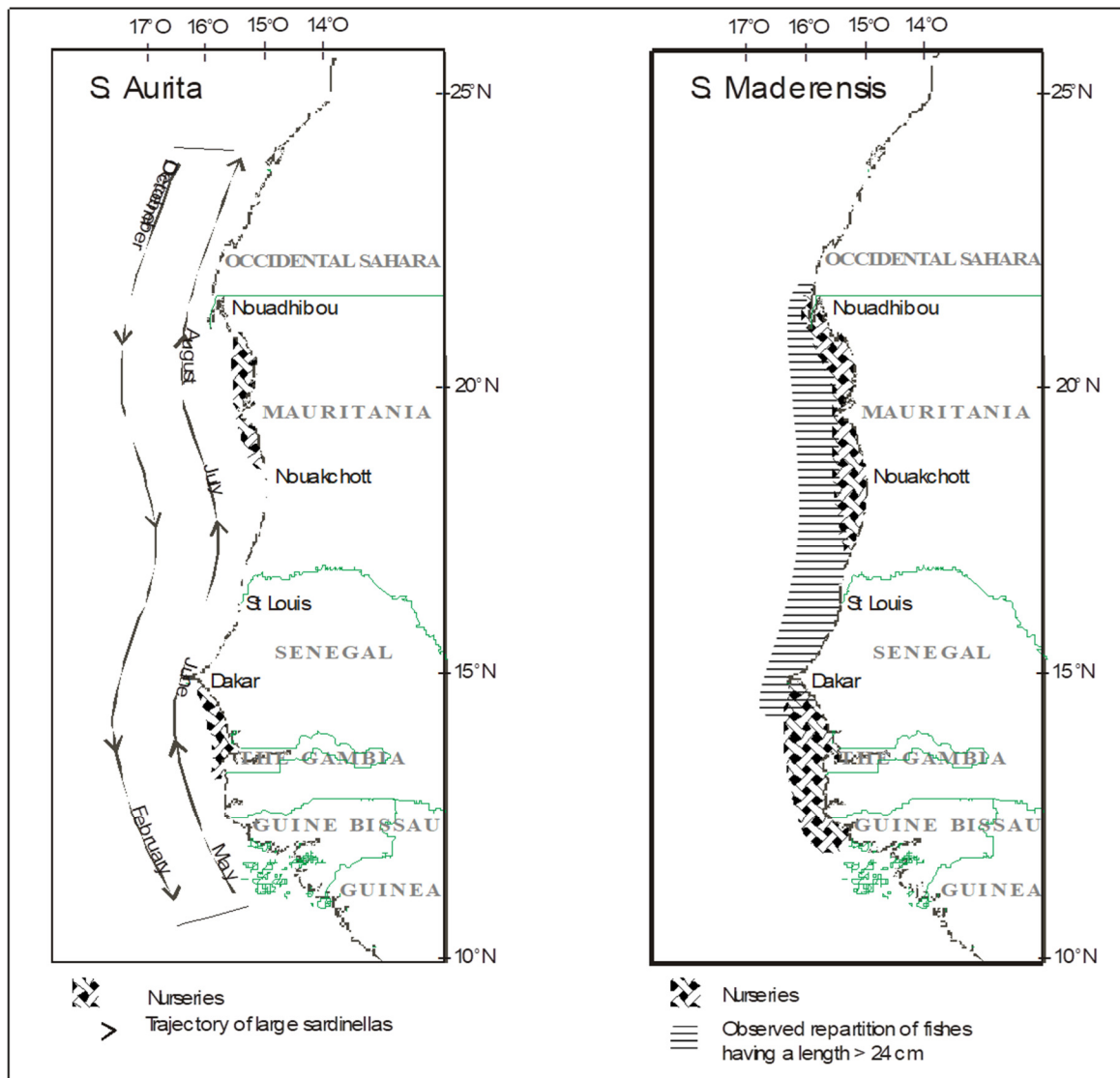


Figure 3 Distribution of the *Sardinella Aurita* (round sardinella) and *Sardinella Maderensis* (flat sardinella) (Failler, Defaux, Berrou, & Jarry, 2015)

Therefore, the number of small-pelagic vessels went down to 50 after 2012. With an average price of 20% higher, sardinellas, especially the round sardinellas, are economically more interesting than mackerel, horse mackerel and sardines. Thus, the EEZ of Mauritania became less attractive as the fishing possibilities were considerably reduced during the summer season (see Figure 4 below). Many EU vessels, mainly the Dutch and Western Europe ones stopped moving down from the North Sea at the end of spring. They have been replaced by Eastern Europe vessels.

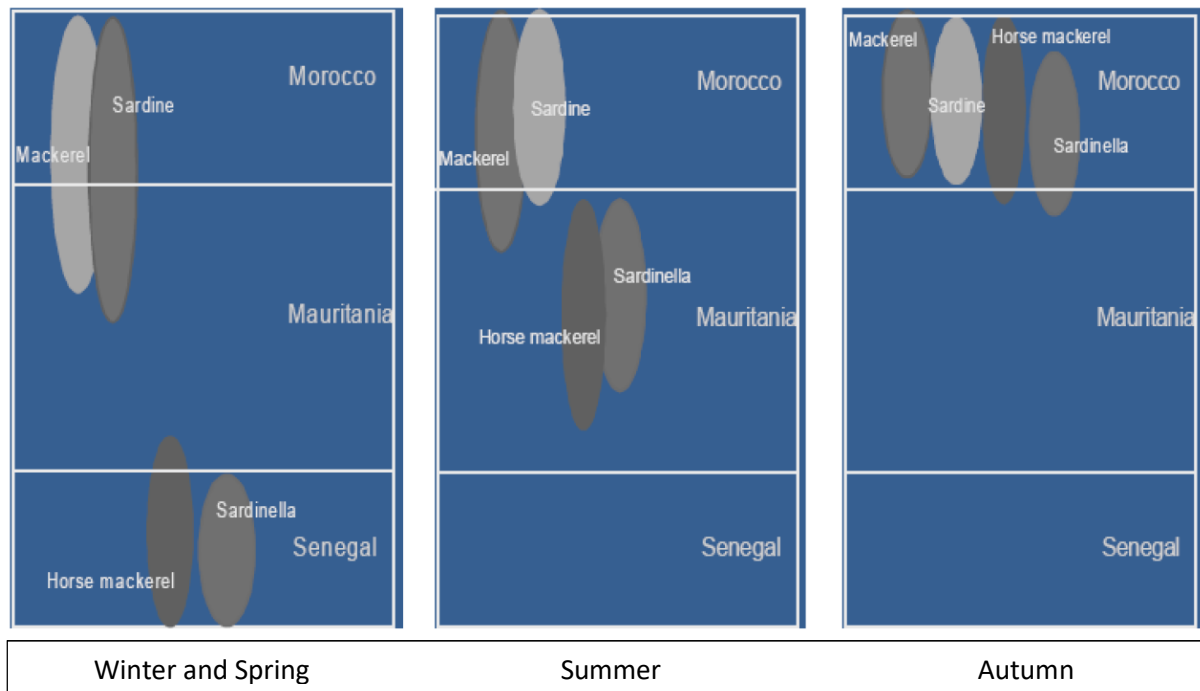


Figure 4 Distribution of the small pelagics in Moroccan, Mauritanian and Senegalese waters (Braham & Corten, 2015)

The foreign offshore fleet targeting pelagics consists of Dutch-type and Russian-type vessels. Technical characteristics of vessels vary from one type of fishing to another. The Dutch fleet currently works under Dutch or German flag. It is characterized by large trawlers up to 140 m in length with a hull capacity of more than 7,000 tonnes. These vessels have a range at sea of two months with a capacity to fill their hull in 3 to 4 weeks. The Russian-type vessels are smaller compared to the Dutch ones with a range in length from 80 to 120 m. They have a different operational strategy: Dutch-type vessels target sardinellas and sardines in the shallow waters while Russian-type ones focus on horse-mackerel and mackerels in deep offshore waters.

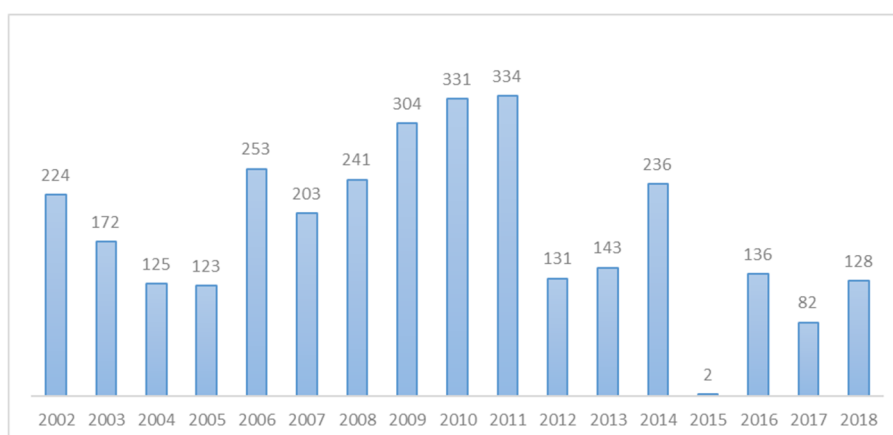
The technical characteristics of the boats have changed considerably during the period 1990 to 2018 (see Table 3 below). The change in performance is mainly related to the entry into operation of new fleets (European Union fleet mainly) and secondly to the renovation and re-powering of the majority of units already in operation in the area.

**Table 3 Characteristics of small-pelagic fleet**

	1990-1994	1995-1999	2000-2004	2005-2009	2010-2014	2015-2018
Number of vessels	70	96	106	93	82	78
Average Age of vessels	36	32	29	28	26	28
Average Length	87	99	98	97	95	98
Average Gross tonnage	3110	4236	4532	5122	4720	4791
Average Power (KW)	2334	3534	3451	3790	3569	3586

Source: (Mauritanian Institute for Oceanographic Research and Fisheries IMROP & GREPPAO, 2020)

Catches of offshore small-pelagic fleets segments are trending downward since early 2010s where more than 330 000 tonnes of catches were recorded (see Figure 5 below). At that time, EU was representing about 70% of total catches of small pelagic species in the Mauritanian EEZ compared to about 10% in recent years.



**Figure 5 Catches of small pelagics by EU vessels (thousand tonnes)**

In 2015, almost no catches were reported due to the non-renewal of the 2012-2014 Protocol on time. In 2017, the catch level was low, at 82,000 tonnes only, due to the high proportions of mackerel below minimum size at the beginning of 2017 that resulted in the departure of many European trawlers. The following year the 128,000 tonnes were mainly composed of horse-mackerel and sardines which was not satisfactory for the Dutch-type fleet.

As total allowable catches and reference tonnage for the 2016-2019 Protocol are 225,000 tonnes (compared to 300,000 t in the previous protocol, 2012-2014), this clearly indicates a low utilisation of the fishing possibility with an average use ratio of 50%. From a public monetary point of view, it indicates that the EU is paying too high access fees.

The value added generated by the small-pelagic trawler activity in Mauritanian water is, on average over the period 2002-2018, about 200 euros per tonne of fish. This has increased to almost 300 euros during the current Protocol (see Table 4 below). Nevertheless, the profits of the fishing operations have significantly dropped from the early 2000 to 2018 as the ratio between the gross operating profit and the revenue has been cut in half.

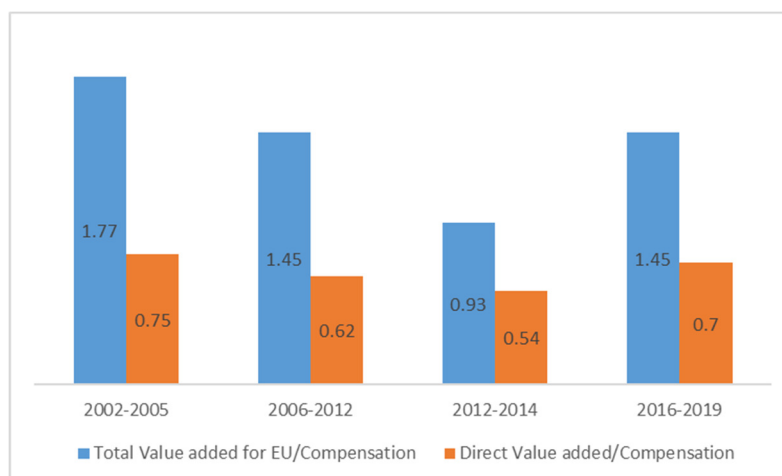
**Table 4 Catches and value added generated by EU small-pelagics vessels (2002-2018)**

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>Catches (000' tonnes)</b>	224	172	125	123	253	203	241	304	331	334	131	143	236	2	136	82	128
<b>Average annual catches (000' t)</b>	161				278						170		-	115			
<b>Value added (Million €)</b>	35				36						30		-	34			
<b>Value added per tonne (€)</b>	217				130						176		-	295			
<b>Gross operating profit/Revenue</b>	12%				8%						5%		-	6%			

Source: Own calculations from the Ex-post and ex-ante evaluation reports of the fishing agreement EU-Mauritania (COFREPECHE, NFDS, POSEIDON, & MRAG, 2014; European Commission, 2019c; Oceanic Development, 2005, 2011)

Since the first evaluation of the economic performance of the European fishing agreement (Catanzano et al., 1998), fishing agreements are assessed against their return on public investment. This is done by looking at the value generated for the EU for each euro invested through the financial compensation for access rights (which only includes the EU contribution, not the vessels owners one). The same trend as mentioned above for the value added per tonne and the profitability ratio occurs with the overall return on public investment (see Figure 6 EU Public Investment Return below). There is a significant decrease of the public investment return from the early 2000 to the previous Protocol: €0.93 of total value added<sup>8</sup> generated for each euro invested as financial compensation for the Protocol 2012-2014 compared to €1.77 for the period 2002-2005). This can be also compared to the return that occurs within other agreements which varies from €2,5 (EU/Cabo-Verde agreement) to €5 (EU/Ivory-Coast agreement).

<sup>8</sup> This includes the direct value added (generated by the vessel activity) as well as the indirect upstream (generated by vessels providers, logistic, maintenance, insurance, etc.) and downstream (processing and marketing sectors) value added.



**Figure 6 EU Public Investment Return**

(COFREPECHE et al., 2014; European Commission, 2019c; Oceanic Development, 2005, 2011)

For the current Protocol, the return on public investment is back to its 2006-2012 level. Nevertheless, the public investment return on the direct value added remains below one euro, which means that the economics of the fishing operations on their own do not justify the EU investment. The value added from the downstream processing industry mainly located in Spain may compensate for this. This issue was at the heart of the debate in 2014-2015 at the EU Parliament for the renew of the agreement and the main cause of the delay in the implementation of a new agreement.

The EU/Mauritania fishing agreement is thus profitable from a public investment perspective thanks to the supply of demersal fish to processing facilities located in Spain and to a lower extent thanks to the supply of small pelagic fishes to the Baltic and Polish plants (most of the catches are processed on board and only a small portion is afterward processed for canning). The obligation of landing demersal fish has not resulted, as expected by Mauritanian authorities, in the sufficient supply to local factories. All the fish is moved to Spain by truck for the fresh one, and by cargo vessels for the frozen one. So, the impact on the processing industry based in Mauritania is null. For the small pelagic, there is no change that EU vessels land and sell their cargo to local processing plants as the price paid by local factories is too low compared to the international price (about 30 to 40% lower depending on species). So, overall the obligation of landing has not resulted in creation of value added on the ground of Mauritanian, it has only contributed to the generation of port taxes.

## 2.4. Areas of Investment

In the light of the findings above regarding the landing, processing facilities as well as the way the EU fleets operate, investment opportunities are currently limited. The elaboration of the new 2020-2024 Mauritanian Fishing Strategy is tackling this issue as well as the European Investment Plan current initiative in Mauritania (Gouvernement de Mauritanie, 2020). The 2020-2024 fishing strategy follows

the 2015-2019 one and seeks to address structural issues linked to the fishing operations such as the overfishing of certain species (including sardinellas for some years now), to the processing and the integration of the fishery sector into the national economy. It is articulated around three pillars namely, the management of resources, fisheries and marine environment; the value chain development and the governance of the fishery sector. In this context, the focus will be on cleaning up the resource allocation system to make it more transparent and equitable, and also strengthening the capacity of research and monitoring. Further securing the supply of fish products and developing value chains as well as improving the business climate through, in particular, reducing product punctures and strengthening confidence and transparency in the sector. In addition, in terms of good governance and monitoring of fisheries policy, the Mauritanian Government will proceed with the adoption of the new 2020-2024 strategy after the development of its legal framework and the revision of the investment framework (Gouvernement de Mauritanie, 2020). Just as the negotiating programme for the future fisheries agreement with the EU will be adopted.

The European Investment Plan (EIP) launched a mission in early 2020 to identify investment opportunities in the fishery sector. The IEP aims to catalyse domestic and international private sector investment in partner countries and support them in their efforts to achieve the Sustainable Development Goals (SDGs). To this end, it proposes a comprehensive and integrated approach combining investment mobilization (pillar 1) with technical assistance (pillar 2) and improving the investment climate (pillar 3) with the aim of removing barriers and reducing the costs of private investment in partner countries, as well as accompanying priority reforms.

The following sub-sections will provide some insights on possible areas of investments. It starts with a report on the business and fiscal environment that required significant improvements for attracting foreign investments. It is completed by a presentation of the need for transparency as an overarching element for the improvement of the processing industry in Mauritania.

#### ***2.4.1. Investment for improving the business and fiscal environment***

Generating government revenues are among the objectives of the Mauritanian Government in 2020, as well as creating a special tax regime and incentive at fishing ports, evaluating tax incentive policies in the extraction sector and the valuation of land revenues. At the IMROP working group in February 2019, total private investment was estimated at MRU 13.5 billion in 2018 (US\$378 million). This represents 184% of the 2015-2019 strategy's target of \$205 million. Boosted by the development of the fish meal industries, FDI has become the most important source of external financing in the sector over that period (Ministères des Pêches et de l'Économie maritime, 2019). A specific note on the analysis of the sector's taxation and its reform in 2015 following, among other things, the adoption of the new Fisheries Codes Act (modification of access rights) and the introduction of the export right by the Finance Act (Loi de Finance Rectificative de 2016) highlight the fact that the revision of the tax

system has significantly increased government revenues but would have negatively impacted the operating accounts of the various segments and fisheries sectors. In the particular case of fish processing plants, this is likely to have limited the capacity to generate cash and to finance projects to modernize production tools and the extension or conversion to other more elaborate and wealth-creating products. Along with the increase in tax pressure, port pricing has also experienced a significant increase for most services.

In addition, only companies approved by the Nouadhibou Free Zone benefit from certain tax and customs incentives. Other companies not approved for the free zone or free points and those outside Nouadhibou do not receive any tax relief. This situation puts Mauritanian fish plants in a weak competitive position in global markets vis-à-vis Moroccan companies that have lower production costs and therefore have a greater ability to negotiate the prices of their products on the market, especially in the case of octopus. Moreover, the benefits granted by the Free Zone and the free points create a distortion of the burdens applied to the industry by the coexistence of several tax regimes (the common corporate tax system, the customs regime, the derogatory regime), that are applied to the same product, which is often destined for the same market, decreasing transparency. At last, there is a lack of communication and consultation between public services regarding the sharing of legal texts in the fishing sector, which constitutes an obstacle to the development of private business in the fisheries sector.

The EIP mission has identified other areas that need some improvement to attract foreign investors in the processing industry outside of fish meal. Only a few numbers of companies run by European people still exist in Mauritania. They operate in a specific segment of the fresh demersal fish that is transported to the Canaries chartered by air or to Madrid by air freight. Still, their number is in continuous decrease over the last decades as valuable demersal species are getting rare and as the business environment is not favourable anymore for this kind of activity. In that regards, Mauritanian authorities are trying to improve the business environment, including tackling corruption, human right and dispute arbitrary systems issues, as they see that their neighbouring countries, Senegal and Morocco have European fishing businesses running for a while. Spanish and French business owners report that the system of treatment of shareholders issues is biased and always favours the national part which do not encourage investment. Furthermore, the presence of Chinese entrepreneurs does not seem to contribute to the improvement of the business environment, as Europeans involved in local fishing have complained about the unfair practices of the Chinese (political pressures, discounts, ease to settle, subsidies, etc.). The World Bank “Doing Business” score presented below in Figure 7 shows in many areas the country, despite improvement from 2019 is still classified as a difficult country to develop business. Overall it occupies the 152 rank out of 190 countries.

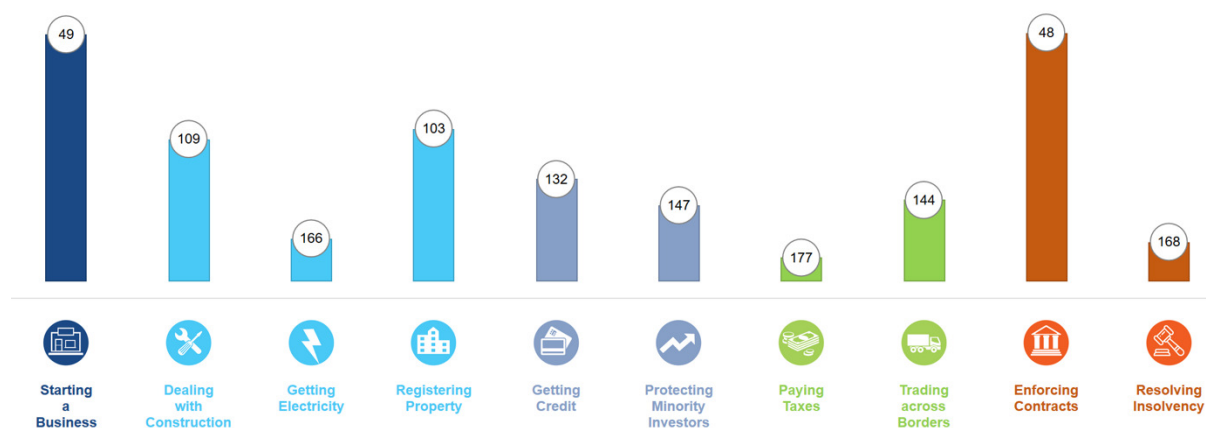


Figure 7 Ranking on Doing Business topics (1-190) of Mauritania in 2020 (World Bank, 2020)

Apart of the areas where difficulties are already identifying, one key area where public investment is required is for the development of the national capabilities to ensure the implementation of the new strategy and the related activities. If training of fishermen and maritime personnel is done at the National maritime and fishing School (Nationale d'Enseignement Maritime et des Pêches), no specific long-term training is provided to the other operators along the fish chain.

#### 2.4.2. Investment in Transparency

The new provisions of the Lisbon Treaty make the protection of EU private investment in third countries a competence of the European Union, not of the Member States. If the Union is to assume this responsibility, it must first have a clear idea of what these investments in fisheries include. However, there is currently no systematic list of these private agreements, involving vessels flying European or other flags, but belonging to European and European interests exploited by them. In this context, the Mauritanian government is required to publish information on access conditions and financial agreements for all non-Mauritanian industrial fleets, as well as the texts of the agreements, whether public or private. The Government is also required to provide the Commission with information on the number of vessels allowed to fish, their catches and the financial and technical arrangements in place to ensure access to the Mauritanian EEZ. At the moment such level of transparency is not reach as this information is not available. In comparison, a country like Sao Tome with very limited means, makes available such information with regular updates (Failler et al., 2015).

The Fisheries Transparency Initiative (FiTI) is a multi-party international initiative that aims to increase transparency and participation in fisheries for sustainable fisheries management. The first FiTI report was produced for the Seychelles in 2018 (Failler, Drakeford, Toorabally, & Kooli, 2018). After completing the FiTI accession stages process and submitting Mauritania's official application to FiTI in December 2018, Mauritania is preparing to complete its 1<sup>st</sup> FiTI Report in 2020. FiTI is based on two foundations:



- **Transparency:** A record system that lists information on the fishing sector that the authorities must make available. The Standard is made up of 12 transparency requirements and applies to all member countries. The FiTI Standard provides governments, the fishing industry (large and small scale) and civil society with a comprehensive and credible instrument to achieve a high level of transparency in the management of the marine fishing sector as well as in the activities of fishermen and fishing companies.
- **Participation:** FiTI is based on the principle of multi-actor participation. FiTI is implemented in countries through National Multi-Party Groups (NGMs), made up of representatives of government, industry and organized civil society. These groups work together to determine whether existing information at the government level is perceived to be accessible and comprehensive and to make recommendations on how to improve information published by the country's authorities.

The FiTI report will provide additional elements of information to improve the fishery sector in Mauritania. If taken on board by the Mauritanian government, it will contribute to improve the business environment and enhance the attractiveness of Mauritania for potential EU investors.

## **2.5. Conclusions for small pelagic fisheries**

Despite considerable efforts made by the Mauritanian government over the last decade, the business environment for the implementation of fish processing plants is still not enough attractive for European investors. While it is commendable to promote the development of such facilities, as the European Investment Plan recent initiative, the commercial logic is against it. For many years, the EU/Mauritania fishing agreement is beneficial thanks to the process in Spain (mainly) of the fish caught in the Mauritania fishing grounds. It is not therefore suitable to envisage the development of the processing industry to handle the fish landed by EU vessel under the agreement. This will go against the Common Fishery Policy that promotes the maintaining of EU jobs in the fishing industry. In that regards, a coherence of the external EU policy is sought.

## 3. Tuna: Investigations of value addition and potential EU investments in tuna fisheries in Africa

### 3.1. Introduction

European Tuna fisheries within SFPAs is widespread along the African coasts, 11 African coastal states currently have such an agreement with the EU. However, difficulties are growing for the three major European purse seine, longline and pole and line fleets targeting tropical tuna and tuna like species operating in West African waters. Challenges for their operation arise mainly due to the overall decrease of fishing opportunities contained in SFPAs signed with West African countries. This decrease has been exacerbated by the non-renewal of the largest European tuna agreement in Africa (in reference tonnage and reported catch) with the Coastal State of Gabon in 2017 and by the access restrictions (derived from technical measures and zoning) to the small pelagic fisheries in Mauritania, which is the largest EU fisheries agreement in terms of tonnage.

According to tuna shipowners, there would be a stagnation in European fisheries activities within SFPAs. Despite the above-mentioned trend, tuna-related activity carried out by pole and line vessels seems to be increasing in Dakar, mostly due to economic related activities. In the one hand, the operation of the European pole-and-lines vessels in the Atlantic Ocean is stable, while the national Senegalese fleet is growing, to a large degree through foreign investments, including from Spanish operators. On the other hand, the EU activities in the Indian Ocean have a different outlook than those in West Africa, with higher catches and even an investment on land which is planned by a French company in the Seychelles.

The purpose of this section is to carry out an analysis of the possibilities for tuna activity investments in African waters for some of the most relevant case studies in FarFish. First, an analysis of the recent increase in economic activity from the pole-and-line vessels based in Dakar. This in order to investigate how the European and Senegalese associated vessels are operating, through evaluating the economic profitability and distribution of income from the activity and finally drawing a summary of advantages and disadvantages for vessels operating under SFPAs and Senegalese flag. A second study is investigating the investment from the French company SAPMER to improve the land infrastructure in the Port of Victoria (Seychelles), as this would be the only notable investment by European interests in recent years for tuna fishing in Africa.

The analyses are based on literature describing the performance of the fisheries agreements in Senegal, Cabo Verde and Guinea Bissau over the last 2 decades (mainly the EU ex-post evaluation of fishing agreement) interviews with relevant stakeholders, including shipowners, institutions and experts both in West Africa and Europe (see Annex 3 for the list of Stakeholders consulted). In addition,

it relies on DG-Mare dataset compiling every fishing lot from EU vessels operating within SFPAs performed in Senegal (DG MARE, 2019).

## **3.2. Economic activity of the EU Pole-and-line Vessels in West Africa**

### ***3.2.1. Context of the EU tuna fleet operating in West Africa***

In the Atlantic Ocean, three European tuna fleets are active, the first and largest fleet segment is the industrial purse seiners targeting tropical tuna species (i.e bigeye, skipjack and yellowfin), whose great mobility makes it possible to extend their fishing grounds from Mauritania to the north to Angola in the south of the Atlantic façade in Africa. The main landing ports for this fleet are Abidjan in Ivory Coast, Tema in Ghana and Dakar in Senegal. The annual catches of the European industrial fleet of purse seiners are around 40,000 tonnes (DG MARE, 2019). The second fleet segment is the pole-and-line vessels operating in the far west of Africa, whose port base is Dakar. Their annual catch volume is around 10,000 tonnes (DG MARE, 2019). Finally, the third fleet segment is composed of long liners with main port base in Mindelo (Cabo Verde) focusing on tuna associated species, such as blue shark, shortfin mako and swordfish. Catch volumes are more modest than the purse seiners summing up to around 2,000 tonnes annually. These three fleets are essentially composed of Spanish and French vessels. Spanish shipowners are represented within the groups OPAGAC, ANABAC and Dakar Tuna. French ships are represented by the group ORTHONGEL.

### ***3.2.2. European pole-and-line vessels based in Dakar and operating in West Africa***

The pole-and-line vessels from the EU are all based in Dakar, which is also their landing port. The fleet consists of 7 Spanish pole-and-line vessels represented by shipowners' group ANABAC and a French one represented by ORTHONGEL. In addition to the EU vessels, 16 tuna vessels flying the Senegalese flag are also based in Dakar (DITP - Direction des Industries de Transformation de la Pêche, 2019). Six out of the 16 tuna vessels are owned or controlled by Spanish capital, including 5 bait boats and 1 purse seiner. Thus, overall, there are 13 pole-and-line vessels and one purse seiner of European flag or capital (see Annex I for the list of Tuna vessels based in Dakar). The other ten Senegalese flagged vessels have beneficial ownership from South Korea. The whole pole-and-line fleet is active in Senegal, while less than half of seiners are regularly present in Senegalese waters (10 out of 25 vessels active in West Africa between 2014 and 2019 - DG MARE, 2020), as seen in Table 11 below.

Table 5 Number of EU tuna vessels by gear type fishing in Senegal 2015-2017

Year	Country	Number of tuna seiners	Number of pole-and-line tuna vessel
2015	France	5	1
	Spain	4	7
	Total	9	8
2016	France	0	1
	Spain	8	7
	Total	8	8
2017	France	1	1
	Spain	9	7
	Total	10	8

Source: (Cervantes et al., 2018)

Total catches from the EU owned and associated pole-and-line vessels flagged in Senegal have varied from 13,000 to 18,000 tons annually between 2014 and 2018 (Pascual-Alayón et al., 2019). The Spanish and French flagged pole-and-line vessels average catches are 10,000 tons per year in the region (DG MARE, 2019). These catches are mainly composed of skipjack tuna (see Figure 8) linked to FADs. The catch composition of the EU purse seiners and pole-and-line vessels is quite similar, after showing considerable differences until 2015; since then the latter also focuses on Skipjack tuna. This fleet have left yellowfin tunas found on free schools because of the decrease in number of large yellowfin (Fonteneau, 2009; Pascual-Alayon et al., 2018). The two fleets (seiners and pole-and-line vessels) collaborate by sharing information about the location of tunas (information collected from interviews).

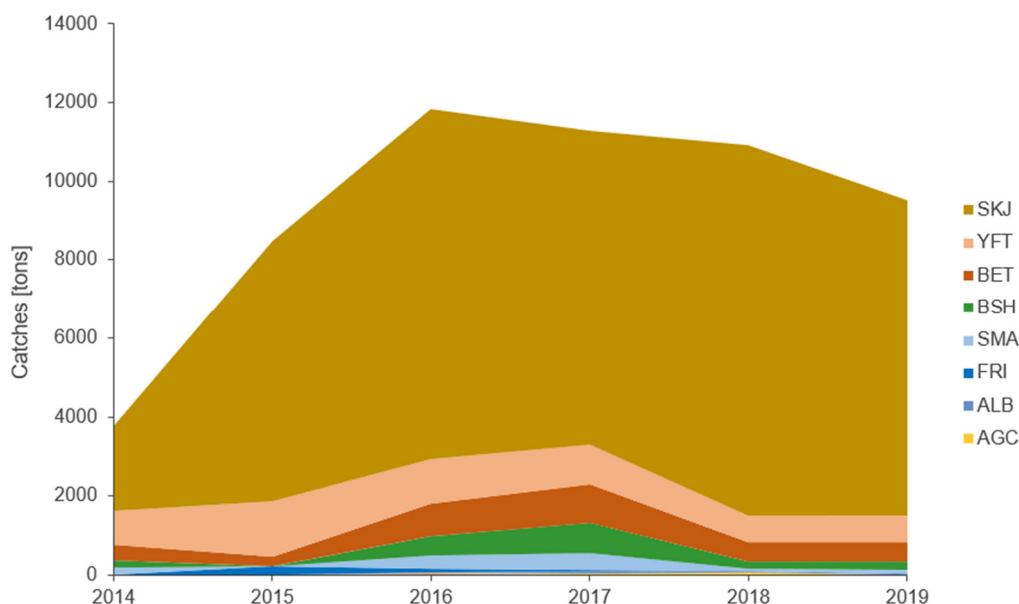


Figure 8: Total catches by EU bait boats based in Dakar according to species. Source: DG-Mare

**Table 6 Name of species from Figure 8 by ASFIS 3A\_Code**

<b>3A_CODE</b>	<b>Scientific name</b>	<b>English name</b>
<i>SKJ</i>	<i>Katsuwonus pelamis</i>	Skipjack tuna
<i>YFT</i>	<i>Thunnus albacares</i>	Yellowfin tuna
<i>BET</i>	<i>Thunnus obesus</i>	Bigeye tuna
<i>BSH</i>	<i>Prionace glauca</i>	Blue shark
<i>SMA</i>	<i>Isurus oxyrinchus</i>	Shortfin mako
<i>FRI</i>	<i>Auxis thazard</i>	Frigate tuna
<i>ALB</i>	<i>Thunnus alalunga</i>	Albacore
<i>AGC</i>	<i>Amblygaster clupeioides</i>	Bleeker smoothbelly sardinella

Source: (FAO Fisheries & Aquaculture, 2020)

The EU pole and line vessels are of medium size, generally between 30 to 40 meters LOA (Failler et al., 2015). As they are not very mobile and of limited autonomy, their activity is concentrated in a geographical area of neighbouring countries located within reach of the port of Dakar. In this way, the EEZs of Senegal, Mauritania, Cabo Verde and Guinea-Bissau, as well as the adjacent international waters are the main fishing areas where most catches take place (see Figure 9). In terms of volume of catches, Senegal is the main fishing area (47% of total catches between 2016 and 2019 according to DG-Mare database), followed by Mauritania (32%), Cape Verde (17%) and Guinea-Bissau (3%).

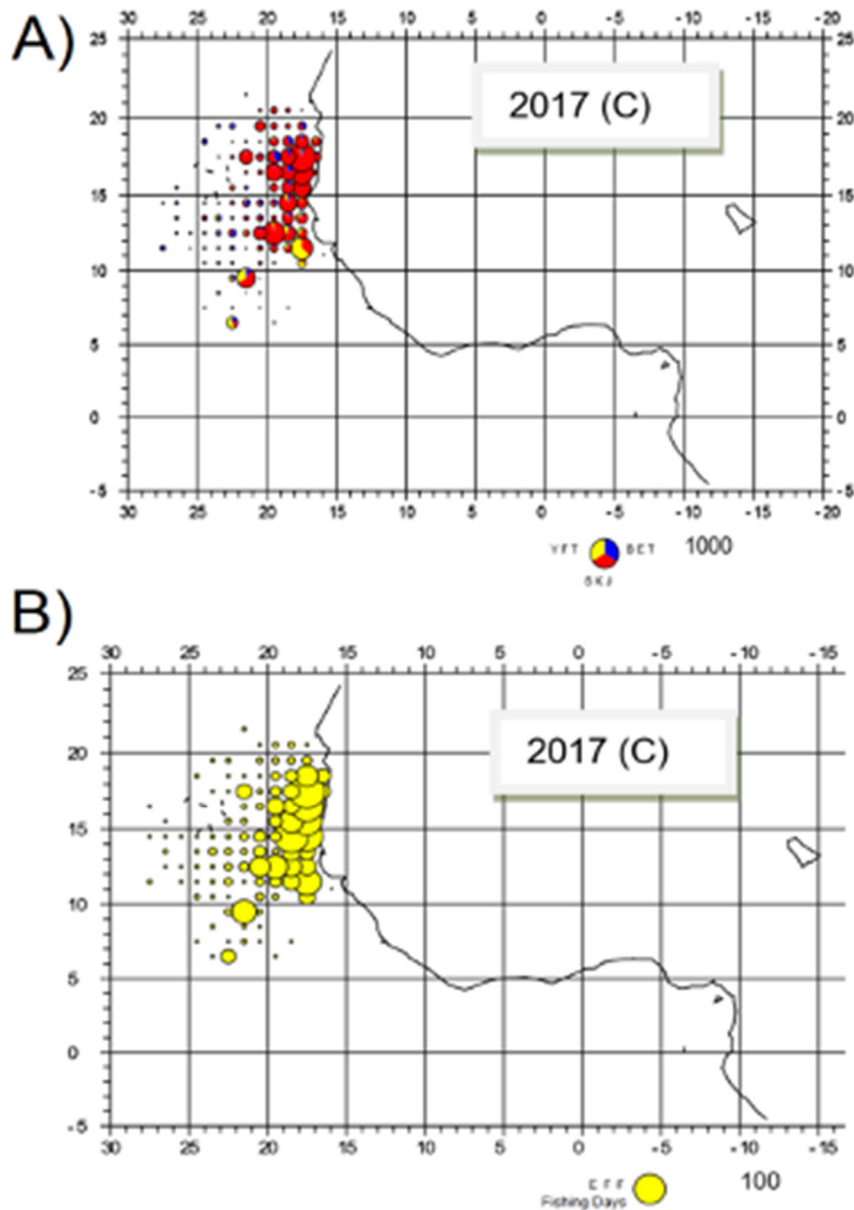


Figure 9: Fishing zone for Spanish bait boats according to A) amount of catches; B) Fishing effort (Pascual-Alayón et al., 2018) Note: There are seven Spanish bait boat, and only one French. Considering Senegalese bait boats linked to European Investments, they share more or less the same fishing areas (collected from interviews).

The share of yellowfin tuna in catches increases as vessels move south. With the development of the Senegalese national fleet, partially linked to Spanish interests/capital, has led to the emergence of competition disputes between foreign vessels and investors in Senegal. The rapid incursion of the Korean fleet in the region among other drivers, led to the creation of GAIPES (shipowners and fisheries manufacturer group in Senegal) where main tuna shipowners in Senegal have a platform to voice their concerns and defend their interests in face of foreign fleets. Another factor of tension in these fisheries is about the stock status of the three species of tropical tunas targeted (yellowfin, skipjack and bigeye),

under considerable pressure according to STECF (STECF, 2019). In response, some shipowners are considering extending their fishing area towards Guinea Conakry, Sierra Leone and even Liberia (collected from interviews).

### ***3.2.3. Economic considerations: Gross value addition in West African coastal states under SFPA***

In terms of further operations and economic activities, the pole-and-line vessels generally store their catches frozen in brine on board for subsequent processing in canneries (DG MARE, 2019). A notable difference is found for products exported from the port of Dakar - where tuna products are mainly processed into loins or whole frozen tunas (Isaksen et al., 2019), which is only a small part of the whole product transformation. These products would then be shipped to Thailand and Europe mainly, according to interests from Princes Group (UK) and Thai Union Group PCL (Thailand) into launching a “Pole and Line Tuna Fishery Improvement Project” (FIP) in Senegal, in order to reach Marine Stewardship Council Standards. Also, a small portion of the catch irregularly supplies the two canneries present in Dakar (SCASA and CONDAK). In addition, the Senegalese bait boats linked to European investments only supply these canneries sporadically (collected from interviews). They mostly supply Spanish operators based in Spain (Pereira Armadora and FRINSA in particular).

Since the fishing area for these vessels was distributed over four countries through SFPAs (Mauritania, Senegal, Cape Verde and Guinea-Bissau) since 2014, the main features within each country are presented next.

#### Senegal

The prospective and retrospective analysis of the last SFPA agreement between EU and Senegal (European Commission, 2019a) provides information about the economic performance of the EU vessels. The turnover of European bait boats was €7.838 million per year on average between 2015 and 2018 in Senegalese waters. On the costs side, intermediate consumption is estimated at €4.7 million, the details of which would be estimated as follows in Table 7:

**Table 7 Comparative costs between Senegalese SFPA and Regional costs for European flagged pole-and-line vessels**

<b>Cost item</b>	<b>2015-2019 average costs (million Euro) in Senegalese EEZ according to (European Commission, 2019)</b>	<b>Fleet costs (according to interview with Dakar Tuna 2020)</b>
Fuel and lubricant	1.023 (13.05% of the turnover)	15-20%
Repair and maintenance	0.599 (7.64%)	
Other variable costs:		
<i>Total</i>		
<i>Including crew member salaries</i>	2.699 (34.43 %)	35%
<i>Licenses</i>	1.526 (19.47%)	10-15%
Other fixed cost	0.379 (4.84%)	
All fixed & unfixed charges		Previous years: 70-80% At the time of the interview: >90%

The added value would be therefore of €3.138 million, i.e. 40% of the turnover. Deducting salaries and various taxes, mainly access rights, the gross operating profit would be €1.264 million or 16% of turnover. In the same time, the average gross operating profit for European fleets fishing outside the EU is 22%, according to STECF (European Commission, 2019a). In addition to Table 7 summarizing the costs for intermediate consumption, a summary of the main economic features developed in this subsection is presented in Table 10 of subsection “*Countries Synthesis*”, alongside with features from the other countries where European bait boats based in Dakar operate.

Among the main costs deducted from the added value, access costs for EU bait boats in the current agreement are around €400,000 per year. For all technical categories combined (purse seiners, pole-and-line and trawlers targeting hake), the SFPA including approximately 35 vessels generates around €1,7 million per year to Senegal (EU counterpart plus shipowners' fees). This excludes sectoral support at about €750,000 annually. At the same time, the hundreds of Senegalese industrial vessels directly bring about €1.2 million per year to Senegal in royalties (European Commission, 2019a).

From the shipowners' point of view, the 4,003 tons fished in Senegalese waters in 2017 (Cervantes et al., 2018) would represent €268,000 in access costs according to the increasing fees, or €64 per tonne (according to DG Mare Dataset, all bait boats exceeded the initial catches agreed within the advance payment). If the costs paid by the EU are included (distributed in proportion to the total tonnage following data contained in JSC report (Cervantes et al., 2018), 46% of the financial contribution and sectoral support (i.e. €800,000) are added. The access price for bait boats in Senegalese waters would then correspond to €264 per ton.

The indirect added value upstream of the activity generated by pole-and-line vessels would be €559,000 per year, while the indirect added value downstream from the fishery would be €1.96 million euros (European Commission, 2019a; Failler et al., 2015). On average over the four years, 50% of the total added value (direct and indirect) is for the benefit of the EU, 32% for the benefit of Senegal and



18% for the benefit of other African ACP countries. The comparatively modest share of Senegal in the distribution of added value is explained by the fact that catches from EU vessels under agreement do not enter far into the marketing / processing chain of Senegal, limiting the process to freezing, storing and transformation into tuna loins. Therefore, relatively little of the value added is captured by this sector goes to the Senegalese processing / canning / marketing industry.

Finally, the estimate number of equivalent annual jobs on board for EU pole-and-line vessels during their fishing campaigns in Senegalese waters would be 101 jobs, including 10 nationals from the EU (European Commission, 2019a; Failler et al., 2015). The remuneration costs for the employees on board the pole-and-line vessels during their activity in Senegalese waters would be €1.526 million annually during the period 2015-2018. In addition, there are 34 equivalent full-time indirect jobs upstream (including 7 from the EU), and 126 equivalent full-time indirect jobs downstream, including 38 in the EU (and only 16 from Senegal).

#### Mauritania

The prospective and retrospective analysis of the last SFPA agreement between EU and Mauritania (European Commission, 2019b) provides information about the economic performance of the EU vessels. The turnover of European bait boats was €4.611 million per year on average between 2016 and 2018 in Mauritanian EEZ waters (there were no active European bait boats in 2015). On the costs side, intermediate consumption is estimated at €2.82 million, the details of which would be estimated as follows in Table 8:

**Table 8 Comparative costs between Mauritanian SFPA and Regional costs for European flagged pole-and-line vessels**

Cost item	2016-2018 average costs (million Euro) in Mauritanian EEZ according to (European Commission, 2019)	Fleet costs (according to interview with Dakar Tuna 2020)
Fuel and lubricant	0.56 (12.14% of the turnover)	15-20%
Repair and maintenance	0.37 (8.02%)	
Other variable costs:		
<i>Total</i>	<i>1.669 (36.2%)</i>	
<i>Including crew member salaries</i>	<i>0.916 (19.87%)</i>	<i>35%</i>
<i>Licenses</i>	<i>0.237 (5.14%)</i>	<i>10-15%</i>
Other fixed cost	0.222 (4.81%)	
All fixed & unfixed charges		Previous years: 70-80% At the time of the interview: >90%

The added value would be €1.791 million, or 38.84% of turnover. Deducting salaries and various taxes, mainly access rights, the gross operating profit would be €0.638 million and 13.84% of turnover.

According to STECF, the average gross operating profit for European fleets fishing outside the EU is 22% (European Commission, 2019). Alongside with Table 8 summarizing the costs for intermediate consumption for EU bait boats operating in Mauritania, a summary of the main economic features for Mauritania as well as Senegal, Cabo Verde and Guinea Bissau is recapitulated Table 10 of subsection “*Countries Synthesis*”.

From the shipowners' point of view, the 4,347 tons fished in Mauritanian waters in 2019 (DG MARE, 2019) by EU pole-and-line vessels would represent €304,290 in access costs according to the increasing fees. Since one vessel out of eight has caught less than the annual flat-advance (calculated to be equivalent to 35 tons), the price per ton in 2019 would be slightly superior to €70 per tonne.

The indirect added value upstream of the activity generated by pole-and-line vessels would be €341,000 per year, while the indirect added value downstream from the fishery would be €1.634 million euros (European Commission, 2019; Failler et al., 2015). On average over the four years 44% of the total added value (direct and indirect) is for the benefit of the EU, 43% for the benefit of Senegal and 13% for the benefit of other countries (mainly in West Africa). The comparatively modest share of Mauritania in the distribution of added value is explained by the fact that catches from EU vessels under agreement do not enter far into the marketing / processing chain of Mauritania, limiting the process to transshipping, landing, freezing, and storing. Therefore, most of the total added value for Mauritania comes from access compensations.

Finally, the estimate of the number of equivalent annual jobs on board for EU pole-and-line vessels during their fishing campaigns in Mauritanian waters would be 90 jobs, including 9 from the EU (European Commission, 2019b; Failler et al., 2015). The remuneration costs for the employees on board the pole-and-line vessels during their activity in Mauritanian waters would be €0.916 million annually during the period 2015-2018. In addition, 100 equivalent full-time indirect jobs would be generated by EU pole-and-line tuna vessels, but none of them would happen in Mauritania and only 17 would be in the EU.

### Cabo Verde

The average annual turnover for the period 2015-2017 would be €1.851 million (European Commission, 2018), while the average catch volume was 1570 tons during the same period (DG MARE, 2019). The estimated added value would be €0.880 million, or 47.54% of turnover. About the gross operating surplus, it would be €0.273 million, or 14.75% of turnover.

In terms of the main charges for European flagged pole-and-line vessels, licenses costs would represent 4% of turnover and 9% of added value (which would be around €75,000, and around €48 per ton), despite details about these charges aren't available in the current Ex-post and ex-Ante Analysis (European Commission, 2018). In addition, the indirect added value generated downstream would be 506,000 Euros, while the one generated upstream was estimated at €130,000. Main economic features are summarized in Table 10 of subsection "*Countries synthesis*", alongside with features from other countries where European bait boats based in Dakar are active.

The European flagged pole-and-line generated 27 direct jobs, of which 5 were for European workers and 4 for workers from Cape Verde, the remaining 18 are for West African workers. In addition, according to the latest ex-ante and ex-post SFP analysis in Cape Verde, these vessels generated 39 indirect jobs (9 upstream and 30 downstream), but none of these indirect jobs occurred in the EU or Cape Verde (European Commission, 2018). However, a part of the processing for tuna catches in Cape Verde by European vessels is still carried out in Europe.

#### Guinea Bissau

European flagged pole-and-line vessels flag would not generate direct employment in Guinea-Bissau. Out of 120 people on board in 2015, 24 crew members were from the EU and 96 from the West African region (excluding Guinea-Bissau, and mainly from Senegal). In addition, 18 people were employed in the EU as management staff (European Commission, 2016). Related to proportion of the catches in Guinea-Bissau, the number of jobs generated would be 8 direct jobs and 21 indirect jobs, with most of these jobs generated in West African countries other than Guinea-Bissau (Senegal, Ivory Coast and Ghana mainly) and in the EU.

The turnover of European pole-and-line vessels would be €1.002 million in 2015 (for 838 tons of catches - European Commission, 2016). Afterwards, these vessels seemed to be less present (DG MARE, 2019). The intermediate costs were estimated to be €0.630 million, detailed in Table 9 (while main economic features are recapitulated in Table 10 of subsection "*Countries Synthesis*", alongside with features from Senegal, Mauritania and Cabo Verde):

Table 9 Comparative costs between Bissau-Guinean SFPA and Regional costs for European flagged pole-and-line vessels

Cost item	2016-2018 average costs (million Euros) in Guinea Bissau EEZ according to (European Commission, 2019)	Fleet costs (according to interview with Dakar Tuna 2020)
Fuel and lubricant	0.182 (18.18% of the turnover)	15-20%
Repair and maintenance	0.065 (6.49%)	
Other incompressible intermediate consumptions	0.014 (1.4%)	
Other variable costs:		
<i>Total</i>	<i>0.359 (35.86%)</i>	
<i>Including crew member salaries</i>	<i>0.246 (24.58%)</i>	<i>35%</i>
<i>Licenses</i>	<i>0.021 (2.1%)</i>	<i>10-15%</i>
Other fixed cost	0.222 (4.81%)	
All fixed & unfixed charges		Previous years: 70-80% At the time of the interview: >90%

Among the main charges, fuel would have cost €182,000 in 2015 (18.18% of turnover), and various taxes 10,000 (1%). Other variable costs would have been €359,000s (35.86%) in total. In this way, the cumulative variable intermediate consumption would be €551,000 or 55.04% of turnover. At the same time, the incompressible intermediate consumptions would be distributed as such: maintenance & repair would have cost €65,000 (6.49%) within the year 2015, while the other incompressible intermediate consumptions were estimated at €14,000 (1.4%).

When all these charges are subtracted from turnover, the added value would be €372,000 or 37.16% of turnover.

From this added value the access costs for fishing are deducted (€21,000 for 838 tons in 2015, which means 2.1% of turnover and a cost of €25.06 per ton) and the costs inherent in salaries for the crew members (€246,000 representing 24.58% of turnover) to calculate the gross operating surplus. In this way, this surplus would have been €105,000 in 2015 or 10.49% of turnover.

Finally, the indirect added value linked to the supply of fuel in 2015 would have been €5,000, mostly profitable for the port of Dakar. Considering the indirect added value linked to ship maintenance and repair activities in 2015, this was also estimated at €5,000 in favour of Senegal. Regarding the indirect added value linked to the processing of the catch within the Guinea-Bissau fishing zone in 2015, this would have been equivalent to €107,000 for the EU and €71,000 for West African countries. Since no vessel had economic interaction with Guinea-Bissau (except for fishing), no indirect added value was generated upstream or downstream (this economic activity linked to landings and processing in West Africa is mainly concentrated in Senegal and Côte d'Ivoire).

### Countries Synthesis

Key figures from national waters constituting the EU pole-and-line vessel fishing zone are recapitulated in Table 10. Added value and gross operating surplus seem globally homogenous, despite big differences in licences costs. The access price varies greatly, with the most frequented areas being the most expensive: according to the DG-Mare dataset, Senegalese and Mauritanian EEZs are the most frequented by pole-and-line vessels under French and Spanish flags between 2014 and 2019 (25,000 and 15,000 cumulative tons). Guinea-Bissau is not a common fishing area for the moment, despite the low cost of access: the abundance of tuna takes priority over the access costs. On the other hand, Cape Verde is a regular fishing area (10,000 tons accumulated between 2014 and 2019), with a very low access cost for pole-and-line vessels. However, this country faces a lack of bait species, which is decisive for the establishment the home port.

**Table 10 Summary of some key figures of EU bait boats activities according to fishing areas**

	<b>Turnover (millions of euros)</b>	<b>Added value (millions of euros)</b>	<b>Gross operating surplus (EU average outside European waters: 22%)</b>	<b>Shipowners' access costs (per ton)</b>	<b>EU access costs (per ton)</b>	<b>Indirect added value upstream/downstream</b>	<b>Added value redistribution (direct + indirect)</b>	<b>Jobs created (estimate equivalent to full-time annual employment)</b>
<b>Senegal</b>	7.838	3.138 (40%)	1.264 (16%)	91 euros	200 euros	559 000 / 1.96 million	<ul style="list-style-type: none"> <li>• 50% EU (5.01 million euros)</li> <li>• 32% Senegal (3.244 million)</li> <li>• 16% other west African countries (1.863 million)</li> </ul>	101 (10 EU)
<b>Mauritania</b>	4.611	1.791 (39%)	638 (14%)	70 euros	integrated with other categories	Total: 1.975 million	Undetermined (but mostly EU and Senegal)	90 (9 EU)
<b>Cabo Verde</b>	1.851	0.88 (47.54%)	0.273 (14.75%)	48 euros	integrated with other categories	130 000 / 506 000	Undetermined (but mostly EU and Senegal)	27 (5)
<b>Guinea Bissau</b>	1.002	0.372 (37.16%)	0.105 (10.49%)	25.06 euros	integrated with other categories	10 000 euros / 178 000 euros	<ul style="list-style-type: none"> <li>• 57% EU (107 000 euros)</li> <li>• 43% west African countries (81 000 euros)</li> </ul>	8 (1 EU)

### *3.2.4. Perspectives from EU investors in West African tuna fisheries*

The fishing area where EU pole-and-line vessels are active is becoming less and less productive, which decreases the profitability of European flagged vessels, as well as of Senegalese flagged vessels that maintain close partnerships with Europe. The fleet informants reported that the pole-and-line fleet has responded by extending their fishing grounds. Which also concurred with the increasing price of fuel which further reduced the profitability and attractiveness of fishing in areas far from the landing ports.

Regarding additional fishing opportunities, The Gambia (whose EEZ is restricted) has opened a tuna agreement with the EU since 2019. Other countries are expected to follow. Contrastingly, the EU sustainable partnership fisheries agreement with Senegal or Mauritania could include less fishing opportunities in terms of tonnage, as well as increasingly restrictive conditions for access and landings. European operators have reacted so far by considering switching to private regime, instead of operating under SFPA, as a preferred strategy.

The development of the port of Mindelo is interesting for tuna vessels, since more of them are landing there. The infrastructure is adequate, and the port is located near the fishing area. However, in the case of pole-and-line vessels, the factor limiting their installation is the need to provide baits along the coasts of Senegal. About Las Palmas, the port is a hub for maintenance and repair. However, it is situated relatively far from the main fishing areas.

Another point is the constitution of a Fisheries Improvement Project (FIP) for pole-and-line tuna Fishery in Senegal<sup>9</sup>. Jointly led by Dakar Tuna shipowner group (in charge of pole-and-line vessels under European flags), Senegalese shipowner TUNASEN (under Spanish capital), WWF-UK and some manufacturers (Thai Group from Thailand, Princes Group from UK and SENEMER from Senegal), the project aims to improve stocks management, environmental impacts and efficiency of the sector, in order to achieve Marine Stewardship Council (MSC) standards. Therefore, the products would be valued, in order to reach demanding markets in terms of quality.

Some other challenges are the lack of specialized crew members, that adds to the problem of crew rotation. This could be mitigated by the establishment of a regional agency. There are also growing issues linked to the emergence of Korean tuna vessels fishing under the Senegalese flag. The latter have opaque practices, and the government has only little control over them. There are now 10 Senegalese tuna vessels under Korean capital (6 purse seiners and 4 long liners; see annex 1).

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<sup>9</sup> <https://www.princesgroup.com/news/senegal-pole-and-line-tuna-fishery-improvement-project-officially-launches/>

### ***3.2.4.1. Joint ventures and Senegalese societies linked to European investments***

Some key facts and figures

#### **Bait boats (pole and line vessels)**

Out of the 6 Senegalese tuna vessels linked to European ownership interests, 5 are bait boats. Out of this 5, 4 are owned by the same group (Société d'exploitation des ressources thonières - SERT / Dakar Thon / Sénégalaise de la pêche thonière) whose direction is the same for all of them. The last pole-and-line vessel belongs to the company TUNASEN, which relies on Spanish investment. The Senegalese company Sénégalaise de Thon, who owns the last Senegalese vessel linked to European investments, is owned by SOPERKA, a Spanish fishing operator also present in Dakar and who shares the same office.

The SERT group is large and generates an annual turnover of around 5 to 6 million euros, with annual catches around 3,500 to 4,000 tons. According to its head director and expressed to the author of this report important charges to the operation, although not in detail. However, some of the mentioned charges have been described as follows:

- The handling and transport costs in the port are €600 per shipment and per container. A shipment consists of 2 to 15 containers, which is serviced on an irregular basis timewise (approx. once every week).
- The monthly costs of storing fish in the only cold warehouse in the port of Dakar (Socofroid, owned by the French group Bolloré) are around €914 for 300 tons (€3.04 per ton) per month, or around €11,000 per year.
- License prices represent only a small share of the total charges, since there are official agreements between governments from Senegal, Cabo Verde and Guinea-Bissau. In this way, the shipowner would only pay €500 per year for license fee in Cabo Verde. The sum of all licenses would not exceed a few thousand euros annually.

#### **Industrial tuna purse seine vessels**

Regarding the Senegalese tuna purse seiner, it generates a turnover of 7 to 8 million euros annually. The license fees in foreign countries are up to 1 million euros per year, since the fishing area extends from Mauritania in the north to Angola in the south. On the other hand, the salary expense is only 600,000 euros, or less than 10% of turnover. In addition, material costs are estimated at 300 to 400,000 euros, which corresponds to 5% of turnover.



### ***3.2.4.2. Perspectives from Joint ventures and Senegalese societies linked to European investments***

For Senegalese shipowners who are in close partnerships with Europe, there is a challenge linked to unfair competition with other fleets. Among others, the group of shipowners and fishing industry in Senegal (GAIPES) is trying to highlight to the government the unfair competition with European vessels, including the purse seiners. But above all, the local shipowners are concerned about the rapid emergence of a South Korean fleet. This fleet has several purse seiners and long liners, partially linked to SCASA cannery based in Dakar. In addition, these Korean vessels under Senegalese flag have opaque activity, since they show a lack of will in collaboration with the institution responsible for the monitoring of landings in Senegal. According to local actors, it is said that Korean vessels supply the local fake tuna market (damaged or undersized tuna as well as by-catches that are not used by canneries) and that they also supply fishmeal factories. In this way, the action undertaken by Senegalese companies maintaining close partnerships with European companies are mainly aimed to protect their activities against competition from foreign investors who can mobilize greater financial resources. However, TUNASEN (Senegalese shipowner under Spanish capitals) joined a Fisheries Improvement Program for Pole-and-line Tuna Fishery in Senegal jointly with European and Asian stakeholders, in order to reach MSC's standards.

Because of the perceived decrease of productivity in the area, SERT group is considering extending its fishing zone to Liberian waters (they already are active in Sierra Leone), implying more fuel consumption and less time available for fishing.

Finally, Senegalese shipowners worry about gas and oil prospection in the region, because they do not know how this could impact fishing. Purse seiners' shipowners keep in mind that Angola and Gabon have compromised their own fishing prospects in this way.

### ***3.2.4.3. Advantages and disadvantages: SFPA vs private status***

As a European shipowner, there should be no alternatives to SFPA for European fisheries within a country where an agreement is pending. The financial arrangements which use the Senegalese flag will therefore leave direct room for maneuver of the European Union, with the risks that this implies Table 11 shows that advantages as shipowners are very interesting: low fees and a clear and transparent framework. However, the additional obligations and contractual restrictions are perceived as disadvantages from an investors' perspective.

Table 11 Advantages et disadvantages: SFPA vs private status. Investor's perspective

	SFPA	Private
Advantages	<ul style="list-style-type: none"> <li>• Stability during several years</li> <li>• Low license fees (EU contribution)</li> <li>• Clear legal framework, protection under the SFPA protocol</li> <li>• Solidarity in terms of allocation of fishing possibilities and information exchange between the different EU fleets (communications between bait boats and purse seiners)</li> </ul>	<ul style="list-style-type: none"> <li>• Selected legal framework</li> <li>• Independence from limited perspectives under the SFPA</li> <li>• Autonomy, freedom to pursue access to all countries</li> <li>• Possibility of elaborating a financial “package set up” following the principle of “communicating jars” by involving foreign companies (i.e. SOPERKA / Sénégalaise de Thon)</li> <li>• The supply chain structure is clear and well-established (long-time Spanish partnerships)</li> <li>• For pole-and-line vessels where the fishing area is limited to a few countries, the costs of accessing foreign EEZs are relatively low. In addition, some agreements are in force with other countries in the region, which further lower the costs allocated to license fees.</li> </ul>
Disadvantages	<ul style="list-style-type: none"> <li>• Compromised access in countries where agreements are suspended</li> <li>• Subject to SFPA negotiations hazards, whose prospects for fishing possibilities are "downing"</li> <li>• Contractual restrictions (reduced fishing zones, landing obligations, obligations to employ local staff although some EEZs are only sparsely frequented and situated far from home ports...)</li> <li>• Obligations to work closely with unplanned partners (i.e. intermediate agencies in Mauritania)</li> <li>• Potential risk of carding system linked to implementation of IUU Regulation (e.g. red card for Guinea Conakry in the past forbidding fishing and trading products into the EU market)</li> </ul>	<ul style="list-style-type: none"> <li>• No protection in case of dispute with administration (boarding, seizures, fines ...)</li> <li>• Unsuitable or uncertain legal framework (can be patchy, outdated, unclear or incomplete due to lack of transparency)</li> <li>• High license fees for purse seiners, whose fishing area is extended to many countries (but possibility of “circumvention” of these commitments, and preferential agreements are in force in certain neighbouring countries)</li> <li>• “Unfair” competition from European fleets which communicate with each other</li> <li>• Dependence on one or few customers for the sale of the products, vulnerability of the supply chain.</li> </ul>

### ***3.2.5. Conclusions on bait boats fishing in West Africa***

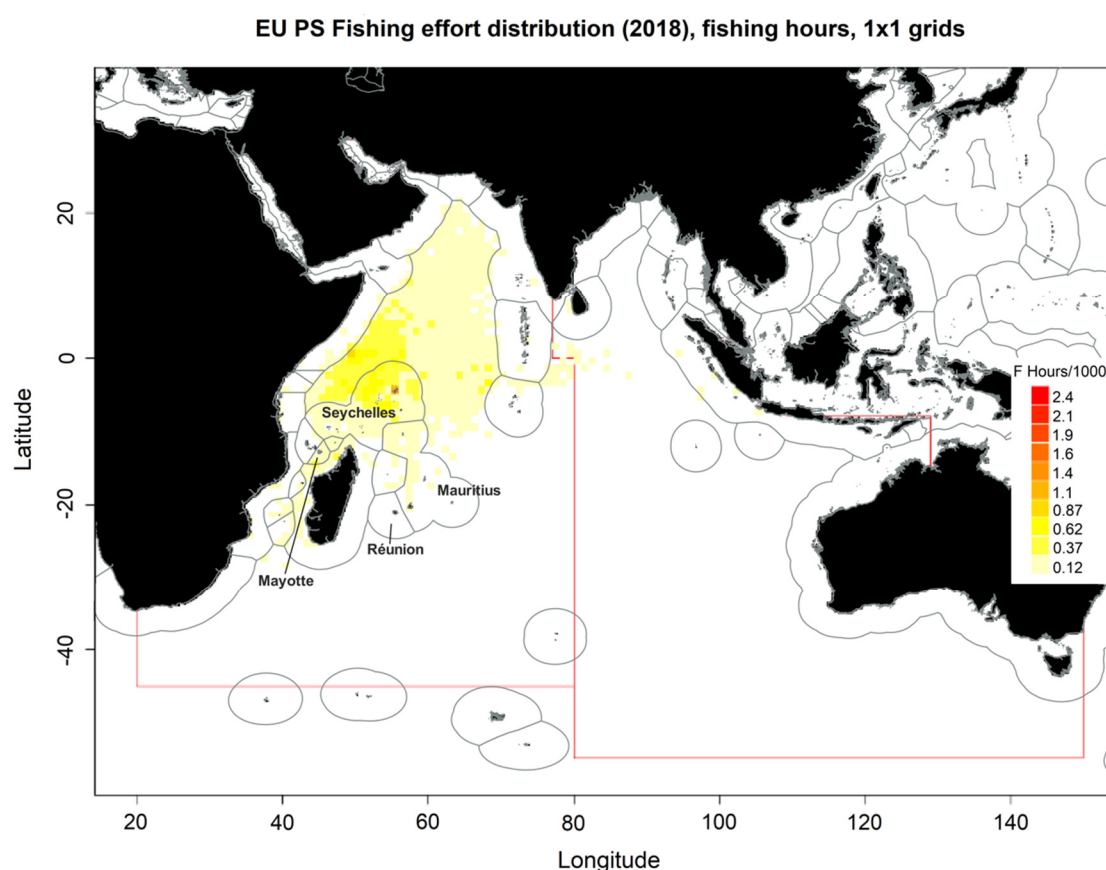
It might be interesting to analyse in the same way the national tuna fleets in other West African countries. For example, Ghana and Liberia also have national tuna vessels (Ghana even has a bigger fleet), although these countries go out of the scope of this project and also some do not have a SFPA (ie. Ghana). However, we recommend that further investigations be made in countries which have national tuna fleets, and which have SFPA, in order to make a more complete comparison which could also extend to seiners and long liners.

The pole-and-line vessels under the European flag, as well as the pole-and-line vessels under the Senegalese flag who are in close partnerships with European interests, are all subject to transparency requirements. Thus, they all meet ICCAT's conditions, including the use of VMS. By the way, European flagged tuna vessels are also monitored by an AIS system. In addition, the European and associated shipowners actively participate in the initiative for the Transparency of the tuna fishery (TTI), led by the Ministerial Conference on Fisheries Cooperation between African States bordering the Atlantic Ocean (COMHAFAT). Among others, the Initiative stipulates that the coverage with on-board observers have to be fully complete (COMHAFAT, 2015, 2016). Although this coverage has declined since then (collected from interview), it remains relatively high.

### 3.3. European Privat Investment in Tuna Fisheries in Seychelles

#### 3.3.1. Context of the Tuna Fisheries in Seychelles

The Indian Ocean is one of the main areas for tuna fishing, with Seychelles being the biggest tuna SFPAs in terms of tonnage. As a result, more than 100 industrial purse seiners from many countries were active in 2019 within the area under the responsibility of the Indian Ocean Tuna Commission (IOTC), while hundreds of pole and line vessels and long liners also fished there. The annual catch of tropical tunas is over one million tons (IOTC Secretariat, 2020). About European purse seiners, there are several dozen large-sized (generally more than 80m) vessels under French and Spanish flags, that are active within an area located along the coasts of East Africa north of Madagascar (Figure 10). The latter are supported by logistic vessels as well as by other tuna vessels under non-European flags but owned by European capital.



**Figure 10. Fishing effort of EU purse seiners and associated (non-European flags but held by European capital) during the year 2018. Source: Fishing Hours:(IOTC Secretariat, 2020); EEZs (gray thin lines): Marine Flanders Institutes (VLIZ v11)**

About SAPMER, the French company owns 9 modern large purse seiners active in the Western Indian Ocean (WIO). Historically based on the French overseas territories (Réunion and Mayotte) as well as on Maurice (Mauritius), SAPMER targets tropical tuna, in order to freeze it and to sell it as loins, fillets

or steaks. However, as shown in previous Figure 10, SAPMER's home ports are relatively far from the fishing area. This means wasted time and increased expenses and being even more sensitive to the price of fuel. Furthermore, the company's turnover dropped drastically in the first half of 2014, in line with fluctuations in the price of raw tuna (Le Marin, 2014). Consequently, the company had to make adjustments.

### **3.3.2. SAPMER's Investments**

Since 2014, SAPMER wanted to develop its presence as close as possible to its fishing area, with Victoria in Seychelles being the closest port suitable for tuna infrastructures. SAPMER began with the reception facilities for its purse seiners on site: a new 425-meter quay at Île du Port was built, as well as infrastructures including 5-places dock facilities (equivalent to the number of purse seiners owned by SAPMER at that time). The objective for the company was to relocate its vessels close to the fishing areas (see Figure 10 in the previous subsection), in order to decrease travel and increase fishing time, and thus increase the catch volume per vessel by 50%. At the same time, the costs inherent in traveling in the fishing area would be reduced. Initially, the catches were always transported directly to the processing site on Mauritius (Mauritius) using transshipments to transport vessels. However, a refrigerated hangar for storing tuna at -40 degrees Celsius was inaugurated in 2018 near the Seychelles quay to complete the logistics. The company recently acquired 4 additional vessels (SAPMER, 2020), bringing the total to nine currently active vessels, compared to 5 between 2014 and 2016 (SAPMER, 2017), in addition to the completion of two charter contracts with companies from Mauritius (two purse seiners) and Seychelles (two purse seiners as well).

In the present case, SAPMER's strategy is clear: to bring part of its activities as close as possible to the fishing area, even though it means investing in the construction of infrastructure (landing dock, storage hall, etc.). This was accompanied by the development of its tuna fleet, in line with the positive recovery in raw tuna prices. Since then, the company's economic progress has been rapid: from a turnover equivalent to 87.2 million euros in 2015 (SAPMER, 2017). SAPMER has grown to a turnover of 180.9 million euros in 2018, before falling to 165.2 in 2019, due to a drop in the price of skipjack tuna due to its high availability on the market following large catches that year.

## **3.4. Conclusions on Investigations in Tuna Fisheries in Africa**

As tuna fisheries continue to be highly profitable, limitations arise for European investors in West Africa with the reduction of fishing opportunities contained in SFPAs signed with these coastal states. The largest European tuna agreement in West Africa with Gabon is now ended with non-renewal and new agreements have been contracted in order to compensate. In addition, other foreign fleets are rapidly growing, some of them not abiding to the same rules and requirements that the European fleet abides through the SFPAs. This growing competition affects the business environment

and profitability, as well as an even playing field in West African fisheries. National companies, particularly in Senegal, with European relations are forced to focus on protecting their activities against competition from foreign investors who can mobilize greater financial resources.

Moreover, fishing areas where EU baitboats are active are becoming less productive, further affecting the profitability of European flagged vessels, as well as of national flagged vessels, in the analysed case from Senegal, that maintain close partnerships with Europe. The response of these actors is then to extend their fishing grounds. Yet if the price of fuel increases, this can further reduce the profitability and attractiveness of fishing in areas far from the landing ports.

Nevertheless, when analysing the costs that the European fleets incur into to operate in this area, the added value and gross operating surplus seem globally homogenous, despite big differences in licences costs. The access price varies greatly, with the most frequented areas being the most expensive: according to the DG-Mare dataset, where Senegalese and Mauritanian EEZs are the most frequented by pole-and-line vessels under French and Spanish flags between 2014 and 2019 (25,000 and 15,000 cumulative tons). Guinea-Bissau is not a common fishing area for the moment, despite the low cost of access. This analysis concurs that the abundance of tuna takes priority over the access costs. Yet, with fewer fishing opportunities, as well as increasingly restrictive conditions for access and landings under SFPAs, European operators are considering whether to shift to the private regime, further threatening the sustainability and transparency of the tuna fisheries.

On the other side of the continent, in the tuna fisheries taking place in Seychelles, the European investors are facing similar factors but mostly the need to extend their turnover. Private investors, in particular from the French group SAPMER, have adopted the clear strategy of developing their presence with large modern seiners as close as possible to the fishing areas. To this end, investing is made in the relevant landing ports to build the necessary infrastructure such as landing dock, storage hall, etc. In this way, developing a strong tuna fishing fleet entails a mobile fleet with landing ports close enough to the fishing areas, even investing in them to adequate them for the operation. The particular case of Seychelles, country with an active SFPAs, might be an interesting one to evaluate how to overcome the challenges currently growing for tuna fishing in the west coast of Africa and potentialize a closer collaboration with West African coastal states with the potential for extending the available fishing grounds for foreign investors and to benefit from it. The question remains on how to promote the utilization of a clear and transparent framework, such as the SFPAs when competition arises under different conditions.

## 4. Final Remarks

This report on the potential return on investments from European operators within selected FarFish case study countries, focused on the analysis of two of the most relevant fisheries for the European fleets, the small pelagic fisheries in the EEZ of Mauritania and the tuna fisheries both in West Africa, with particular focus in Senegal and, in the Indian ocean in Seychelles. The document reports important challenges on all of the fishing grounds analysed. But also highlighted different strategies that investors are preferring under the growing competition and productivity of the fishing areas. In the centre of the investigations stands the Sustainable Fisheries Partnership Agreements (SFPA) that aim for creating a transparent and clear framework to operate in these areas. However, the growing presence from large fleets entering the fishing areas under different, sometimes not transparent conditions, may deteriorate the business environment, potentially threaten the profitability and may even affect the sustainability of these fisheries.

In the small pelagic fisheries in Mauritania, the analysis involved two decades of research (especially for the FAO and the EU for the ex-post evaluation of fishing agreement), including the two years of work in the project FarFish and also, primary data collected from key personnel in relevant public bodies and institutions in Mauritania. The analysis concluded that although efforts have been made to improve the business environment to promote value addition in their landing port Nouadhibou, European operators continue to benefit from landing in Spain. While additional infrastructure is still needed to handle the catch of EU vessels in Mauritania, it is not foreseeable to handle the fish landed by EU vessels under the agreement, even with the necessary infrastructure, as this will go against the Common Fishery Policy that promotes the maintaining of EU jobs in the fishing industry. At the end, coherence of the external EU policy is still needed to create the adequate business environment and promote the needed investment that can potentially restore the fishing opportunities under equitable conditions in the small pelagic category in Mauritania. But also, additional effort from the coastal State is necessary to ensure regulated and transparent conditions for the access of additional foreign fleets into the small pelagic fisheries in the area,

In tuna fisheries, investigations were based also on FAO and the EU for the ex-post evaluation of fishing agreement, as well as on interviews with relevant stakeholders, including shipowners and key personnel from public bodies and institutions both in West Africa and Europe. The data analysed was accessed from unpublished raw data provided to the FarFish project by DG-Mare. The investigations show that the fishing areas where European vessels are active in the West coast of Africa are becoming less productive. Both European flagged vessels and national flagged vessels with close relations to European interests are showing less profitability. As a response these investors are seeking to expand their fishing grounds which can potentially lead them to incur in additional costs when the landing ports are farther away and with some of the closer ones not having the capacity to handle the landings. Additional fishing grounds are opening up, however the restrictive conditions for accessing fishing rights and landings are pushing the European investors to consider whether to continue abiding to the

SFPAs or to shift to the private regime, also in the light of emerging competitions from third party nations, including host countries, not abiding to the same regulations.

Yet, on the other side of the continent in the Indian Ocean, facing similar circumstances, a clear strategy has been adopted, by private European investor SAPMER group. They seek to develop their presence as close as possible to the fishing areas, investing in the necessary facilities in the relevant landing ports. This strategy indicates a closer collaboration with the coastal states as well as a long-term investment approach, of establishing and consolidating a large, mobile fleet with supportive landing ports close to the fishing grounds. They prioritize the access to the tuna over the current additional burden of investing in adequation the necessary landing ports. The contrasting prospective in these two areas, West Africa and the Indian Ocean, invites to further reflect on the different factors that might be contributing to adopt a more long term investment strategy under the SFPAs framework, instead of retreating from it and seeking to operate under the private regime, an initial analysis was presented here, however as concluded in the relevant section, extending this analysis to other coastal states will provide a broader and clearer pictures of the potential to continue to expand and establish long term investment in a profitable and sustainable tuna fisheries in the African coasts.



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## Annexes

### Annex 1: List of Tuna vessels based in Dakar

Senegalese flag:

No.	Vessel Name	Vessel Type	Equity	Remark
1	PRESIDENT MAGATTE AYA DIACK II	PL	According to shipowner: Senegal	Same group.
2	PRESIDENT MATAR NDIAYE II	PL	According to shipowner: Senegal	
3	COMMANDANT BIRAME THIAW	PL	According to shipowner: Senegal	
4	RAMATOULAYE	PL	According to shipowner: Senegal	
5	LIO I	PL	Spain	
6	PONT SAINT LOUIS (UVI Number 8222422)	SEI	Senegal/Spain	
7	GRANADA (UVI Number 8102907)	SEI	South Korea	Same Group
8	WESTERN KIM (UVI Number 8003242)	SEI	South Korea	
9	XIXILI (UVI Number XIXILI)	SEI	South Korea	
10	ORIENTAL KIM (UVI Number 7827495)	SEI	South Korea	
11	SOLEVANT (UVI Number 8104204)	SEI	South Korea	Same Group
12	SEA DEFENDER (UVI Number 8996190)	SEI	South Korea	
13	LISBOA	LL (supposed)	South Korea	Same Group
14	MAXIMUS	LL (supposed)	South Korea	
15	MARIO 7	LL (supposed)	South Korea	
16	MARIO 11	LL (supposed)	South Korea	
17?	<i>CAP ATLANTIQUE?</i>	<i>PL</i>	<i>Japan?</i>	<i>Source: ISSF Proactive Vessel Register (PVR)</i>
18?	<i>LIO II?</i>	<i>PL</i>	<i>(supposed Spain)?</i>	<i>Source: ISSF Proactive Vessel Register (PVR)</i>

European flags:

No.	Name	Type	Flag
1	CORONA DEL MAR? (UVI Number 9093206)	PL	France
2	AITA FRAXKU (UVI Number 9212943)	PL	Spain
3	BERRIZ SAN FRANCISCO (UVI Number 9297450)	PL	Spain
4	GAZTELUGAITZ (UVI Number 9200249)	PL	Spain
5	IRIBAR ZULAIKA (UVI Number 9154373)	PL	Spain
6	KERMANTXO (UVI Number 9212955)	PL	Spain
7	NUEVO SAN LUIS (UVI Number 6403979)	PL	Spain
8	PILAR TORRE (UVI Number 6403979)	PL	Spain

## Annex 2: List of EU flagged Tuna vessels operating in Senegal

Data source: LDAC / GFW 2012-2016 / ICCAT Vessel Finder (up to 2019) / WhoFishesFar Database

NAME	MMSI	FLAG	BASE PORT	FS GEAR
STERENN	226180000	FRANCE	CONCARNEAU	PS
GUEOTEC	227549000	FRANCE	CONCARNEAU	PS
GUERIDEN	227550000	FRANCE	CONCARNEAU	PS
GEVRED	228066900	FRANCE	CONCARNEAU	PS
PENDRUC	228071900	FRANCE	CONCARNEAU	PS
CAP BOJADOR	228280000	FRANCE	CONCARNEAU	PS
CORONA DEL MAR	228967000	FRANCE	BAYONNE	HL
PEGASO	247083500	ITALY	MESSINA	LL
SALVATORE PRIMO	247110330	ITALY	MARTINSICURO	LL
AITA FRAXKU	224070000	SPAIN	Ex-HONDARRIBIA	PL
GAZTELUGAITZ	224073650	SPAIN	BERMEO	PL
KERMANTXO	224089000	SPAIN	HONDARRIBIA	PL
SAN FRANCISCO	224098930	SPAIN	HONDARRIBIA	HL
RIO LANDRO	224295000	SPAIN	A GUARDA	PL
PLAYA DE BAKIO	224405000	SPAIN	BERMEO	PS
SIEMPRE NUEVO ANGEL	224452000	SPAIN	FOZ	PL
PLAYA DE NOJA	224531000	SPAIN	BERMEO	PS
EGALUZE	224580000	SPAIN	BERMEO	PS
ZUBEROA	224587000	SPAIN	BERMEO	PS
ALBACORA QUINCE	224727000	SPAIN	VIGO	PS
MAR DE SERGIO	224733000	SPAIN	CÁDIZ	PS
ALBONIGA	224745000	SPAIN	BERMEO	PS
PILAR TORRE	224896000	SPAIN	BERMEO	PL
PLAYA DE RIS	225459000	SPAIN	BERMEO	PL

**Other flags but linked to European Interests between 2015-2020 (data source: Joint Scientific Committee 2019 / ISSF database):**

No bait boats. Seiners from Belize (2), Cabo Verde (3), Curaçao (5), Salvador (4), Guatemala (2) and Panama (2).

## Annex 3: Stakeholders Consulted

Contact	Institution
Moustapha Deme	Fisheries Economist, CRODT (Senegal), in charge of the economic Component of the World Bank Project for the Free Economic Zone of Nouadhibou
Sidy Mouhamed Kandji	Director/Shipowner, Sénégalaise de thon (Senegal)
Adama Mbaye	Fisheries Economist, CRODT (Senegal)
Khallahi Brahim	IMROP
Abu Elimane Kane	IMROP
Marie Traore	General Secretary, RAMPAO (Regional Network for Marine Protected Areas in West Africa)
Ndiaga Thiam	CRODT
Fambaye Ngom Sow	Tuna Specialist, CRODT (Senegal)
Renaud Bailleux	IUCN (Marine & Coastal Program, IUCN West & Central Africa)
Ibrane Ndao	Director, SERT Group (Senegal)
José Maria Aurtenetxe	Dakar Tuna (EU – Senegal) Representative
Patrick Furic	Fleet Director, Saupiquet (France)
Vincent Defaux	DG-Mare (EU) consultant, Poseidon Aquatic Resource Management Ltd.
Didier Moisan	Ex-ORTHONGEL (France)
Michel Goujon	Director, ORTHONGEL (France)
Miguel Herrerra	Director, OPAGAC (Spain) – <i>E-mails exchanged only</i>
Anthony Claude	Saupiquet (France)
Alain Fonteneau	Tuna Specialist, Institut de recherche pour le développement - IRD (France)
Pierre-Alain Carre	Fleet Director, CFTO (France)
Philippe Lallemand	Poseidon Aquatic Resource Management Ltd.
Abdou Daïm Abdoul Aziz Dia	Socio-Anthropologist, IMROP (Mauritania)
Mohamed Ould Lemine Tarbia	Economiste, Adviser to the ministry of Fishery, Mauritania
Mohamed Vall	Director, IUCN Mauritania
Ad Corten	Biologist, Scientist in charge of small pelagic CECAF working group
Hachim El Ayoubi	Former COMHAFAT Executive Secretary
Mikia Diop	CSRP Adviser for small pelagic fishery management
Peter Wekesa	OACP Secretariat Fishery expert