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Ministry of Foreign Affairs

Value Chain Analysis Senegal Fish

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INTRODUCTION

Senegal's approximate 500 km of coastline create vast opportunities for the production of seafood from wild catch as well as the potential for the development of interesting fish farming sites. The latter are under discussion but not yet developed to any economic relevance. Accordingly, fish farming will not be relevant in the present analysis.

The value chain of Senegal's seafood production from wild catch can be broken down into three important strands:

- The chain of integrated operations: the often foreign-owned groups which own and operate vessels, land sea-catch at Senegal's shores, and either export the fish directly from the boat or pack it in their own premises then ship it to their mother companies abroad.
- Industrial vessels that fish and deliver fish for further processing at their owners' plants or sell to local processing companies, several of which are also foreign owned, then ship fish to their mother companies abroad or export it to importers possibly in African markets.
- Artisanal production, mainly operating with wooden boats landing at beaches or newly developed landing sites. The landings are usually collected by middlemen and distributed to processing companies, which then will export mainly fresh but also frozen fish to Europe or Africa.

A relevant local market exists, as well as fresh water operations of limited scale. Both areas could not be covered by the scope of this study, which has a strong orientation towards export developments.

This study will analyse Senegal's seafood production, the market situation and development over the past years with a special focus on trends in trade with Europe. In this context, the study will analyse the European import standards, their role and implementation, as well as make general observations in the context of fish harvest and aspects of sustainability. Since nearly 90% of Senegal's seafood production has an artisanal orientation — therefore an extremely large community — structural changes in the sector do have social implications.

The study will also describe the government's functions, mainly the ministry of fisheries, their role in structuring development in cooperation with other business support entities, such as associations and international support structures.

The growing demand for seafood worldwide has triggered more interest in the resource in Senegal than it can bear. The government is aware of the regulatory needs, but these cannot always be implemented easily. The study will analyse the problems that have developed in the value chain, among others reasons for the limited presence of the authorities, as well as suggestions and strategies that might bring change and relief to the situation. A presentation on these contributions, developed during a stakeholder meeting in Dakar, among other occasions, will close the study.

EXECUTIVE SUMMARY

There is a growing demand for fish worldwide, associated to the demand for animal protein, but ultimately to the growing wealth in the world. An average 5–7% increase in consumption over the last years could only be satisfied by farmed seafood production. Still, the consumer's preference is sea-caught fish. Since catch from the sea has basically not increased since 1988, the fish in the sea of Senegal's 500 km coastline could be considered as growing increasingly valuable, if harvested sustainably. Unfortunately, more fish has been taken out of the waters than can easily regenerate, so the resources are under pressure and factories have less predictable quantities and varieties of fish for the future.

A superficial analysis into export figures in value still shows a good picture. Senegal has a vast variety of fish, much under high demand in Europe, Asia, and increasingly also in Africa. By looking at export volumes, however, it is obvious that especially the volumes caught by artisanal fishermen are going down while volumes of frozen catch at high sea by industrial vessels are still increasing. Artisanal fisheries represent 80–90% of Senegal's total catch volume.

By value, Europe still represents the most important export market ahead of Africa and Asia, also paying on average the highest prices per kilo, which is an indication that valuable and further processed fish is often exported to Europe.

The attractive European market is counterbalanced by its high importation requirements. These requirements demand a certain administrative structure, the certification of vessels and other stakeholders, the traceability of landings from catch to export, as well as hygiene infrastructure requirements. Formally, 73 companies are EU-registered, meaning they have received the unique identification code usually referred to as an "EU number". According to local legislation, therefore, these companies fulfil most of the EU requirements. Know-how is available in Senegal, and adequate laws are in force, but implementation is lacking. Most artisanal sea product structures, most factories and industrial vessels do formally comply with the regulations, but not in practice. The problems are politically motivated on the administrative side. On the private side, financing and investment to bring the factories and vessels up to standard are lacking. The situation is dangerous and complex, since the EU might close its markets to Senegalese products in case no change occurs.

The complexity derives from the artisanal structures: the 70,000 fishermen plus their families involved in business, support structures, middlemen, etc., together make up an informal community.

It can be seen positive that the artisanal structures dominate the seafood sector, since it preserves traditions and historic skills, plus it provides a living to many people. On the other hand, it can be seen as a major bottleneck because it is very difficult to be regulated. A sound registration of all players is already difficult, but it is a precondition to managing fisheries and implementing relevant sustainability measures. The lack of control in collecting and forwarding makes traceability complicated and consequently the compliance with EU requirements.

The factories get into a defensive position since fish is increasingly less available. Fishermen and middlemen take a stronger stand that keeps prices too high for processors. This reduces their international competitiveness and their margins, so accumulation of capital for investment in maintenance and other needs gets difficult. In spite of the increasingly tighter raw material situation, processors do not seem to get closer to the primary production, i.e. to the fishermen, to secure their sources.

Associations with the ability to moderate dialogues between industry and state have been formed, such as the Groupement des Armateurs et Industriels de la Pêche au Sénégal (GAIPES) and Union Patronale des Mareyeurs Exportateurs du Sénégal (UPAMES). But these are still young and still need to find their respective roles, plus their members have yet to understand how to use them for their benefit and also how to proactively request the association's services.

Most exports to Asia and Europe flow through Asian or European companies situated in Senegal. This leaves vast market potential open, especially since Senegalese companies do react to requests from buyers but do not proactively reach out into markets. The Agence Sénégalaise de Promotion des Exportations (ASEPEX) supports companies in various ways. ASEPEX has in the past benefitted from cooperation with CBI in other sectors, so it would also benefit from cooperation in the fish industry.

Besides the issue of unsatisfactory compliance with EU import requirements by the ministry of fisheries, another element in the chain that cannot be handled by private sector alone needs urgent attention: landing sites. Currently, most fish is landed at the beach. Landing sites built with EU support or from other donors, are often not properly utilised for the lack of specific elements, such as clean water, ice or electricity. Around Dakar, the government has just taken initiatives to clean the beaches, but it is rather questionable if the resources available can render the beaches into safe landing points for food items.

The acquisition of investment needed for change is hindered by the following combination of unfavourable preconditions:

- an insecure resources development;
- an indecisive state that has good intentions, knows what needs to be done, has acted on legislation but does not implement action;
- an industry that cannot reach margins large enough to allow for the necessary investment,
- an infrastructure that cannot be managed by the private sector alone.

Additionally, these unfavourable preconditions also make it complicated for impact investors to identify projects that can be managed.

Various donors have been active in the sector with limited durable success. Still, a pilot of PRAO (West Africa Regional Fisheries Program of the World Bank) succeeded very well. It succeeded at isolating a limited but still important coastal area. The involved community manages the area towards sustainability and created a local label called "Beg Ellek". The landing site and its management meet EU requirements. The project's success derived from ensuring engaged local participation and respecting their input. An application to replicate this pilot is currently underway. The new approach addresses the issues listed with regard to the ministries' management of resources and product flow. Certification bodies such as MSC showed interest in the project. In case production from this project meets the marketing competence of CBI, a progressive synergy can be started. Such a combination could create units that may become interesting for investors.

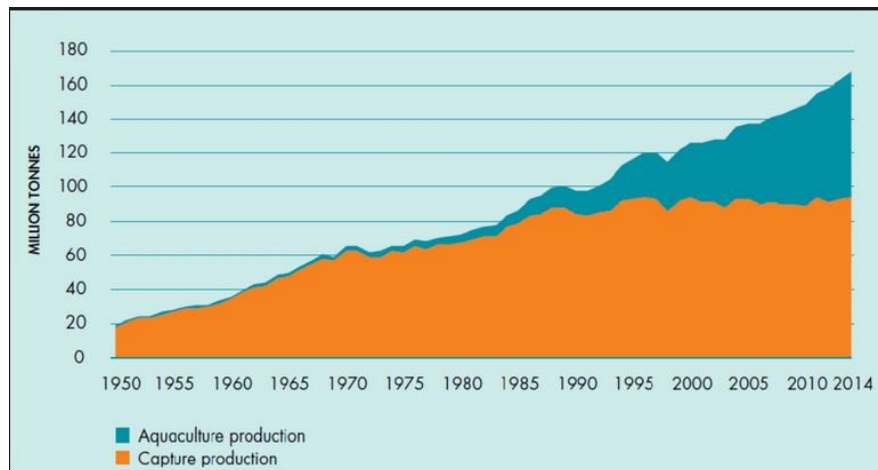
The full study lists issues and possible counterstrategies in further detail.

A. Export Marketing and Value Chain competitiveness

1. Current world seafood and availability of resources

1.1 Catch and farmed

World capture, fisheries and aquaculture (AC) production (FAO, 2016).



The value of sea-caught fish is expected to further increase since consumers worldwide still have a preference for sea-caught fish over fish from aquaculture (AC) and the demand, but not the supply, continues to grow.

Since Senegal did not develop AC, the demand pressure is entirely on the sea-caught resource.

1.2 Reaction of factories without fish

Several factories are suffering from overcapacity. As a result, they are prepared to pay high costs for raw material to cover their fixed costs, sacrificing their profit margins and consequently their future investment opportunities as well.

1.3 World market developments¹

Positive outlook for global seafood as demand surges for multiple species in markets across the world:



¹ Foods from the Ocean At:1

- An **estimated 2.3 percent hike** in global fish production combined with good market conditions around the world
- **Aquaculture** continues to increase its contribution to the world's seafood supply, **growing at a steady rate of about 4.5 percent** to reach a total harvest of 83.6 million tonnes in 2017. **Capture fisheries productions remain stable** at some 90.4 million tonnes.
- However, because a significant proportion of wild catches are utilized for fish feed, **aquaculture's share in direct human consumption is now 55 percent and increasing with each passing year.**
- **Asia, and particularly China, remains the major driver of global seafood development on both the supply and demand sides.**

Prices are also on the rise:

FAO Fish Price Index - March 2018 update, includes September 2017



The price drop in 2009 was caused by the financial crisis. Asia and the US recovered faster from the financial crisis than Europe. In Europe, general price levels recovered more slowly, especially expensive food items. This also explains a relative loss of import ratio from Senegal to the EU during that time.

The main driver for the development of higher prices and higher seafood production is the increasing need for protein-rich food by a growing population and the improving standards of living in southern parts of the world.

2. Production and Export

2.1 Senegalese Production: Types and varieties of fish produced in Senegal²

Senegal can offer a wide variety of fish. Nearly all fish is of good commercial value and find their market, most also in the EU.

² Figures compiled from different government sources, confirmed by ITC

Table 1. Top fish species caught in Senegal

Top 15 Species	Weight (kg)	ECV (USD?)
Skipjack/Bonito/Listao (<i>Katsuwonus pelamis</i>)	6 116.049	4.920
Octopus (<i>Octopus vulgaris</i>)	4 669.481	14.933
Fish (various)	4 718.429	3.275
Cuttlefish/Seiche commune (<i>Sepia officinalis</i>)	3 238.581	9.837
Deep shrimp (<i>Parapenaeus longirostris</i>)	2 989.293	9.195
Albacore (<i>Thunnus albacares</i>)	2 946.462	2.704
White shrimp (<i>Penaeus notialis</i>)	1 341.358	6.815
Grouper (Mérrou blanc) (<i>Epinephelus aeneus</i>)	1 270.953	6.903
Round sardinelle (<i>Sardinella aurita</i>)	1 059.399	0.597
Bigeye tuna (Patudo)(<i>Thunnus obesus</i>)	919.353	0.753
Senegalese sea mullet (<i>Pseudupeneus prayensis</i>)	909.669	1.610
Bengal tongue sole (<i>Cynoglossus cynoglossus</i>)	673.532	2.152
Longneck ladyfish (Courbine nanka) (<i>Pseudotolithus typus</i>)	660.477	0.998
Common squid (<i>Loligo vulgaris</i>)	630.430	2.094

Fish catches in Senegal have been relatively stable over the last five years.

Table 2: Evolution of fisheries production in volume and value

	2012	2013	2014	2015	2016	
Production (ton)	447 961	441 254	425 002	430 667	487 434	
Artisanal Fishery	405 974	398 214	372 548	383 222	397 871	fresh
Industrial Fishery	41 987	43 040	52 454	47 445	89 563	frozen
Production by value (mio FCFA)	151 631	144 003	134 954	153 991	180 225	
Artisanal Fishery	98 991	98 186	93 574	110 724	123 160	
Industrial Fishery	52 639	47 816	41 380	43 267	57 065	

Changes in fishing agreements between Senegal and Mauritania in recent years, whereby Mauritania restricted Senegal's fishing in their territory, has led to significant drops in catch numbers, particularly in northern parts of the country.

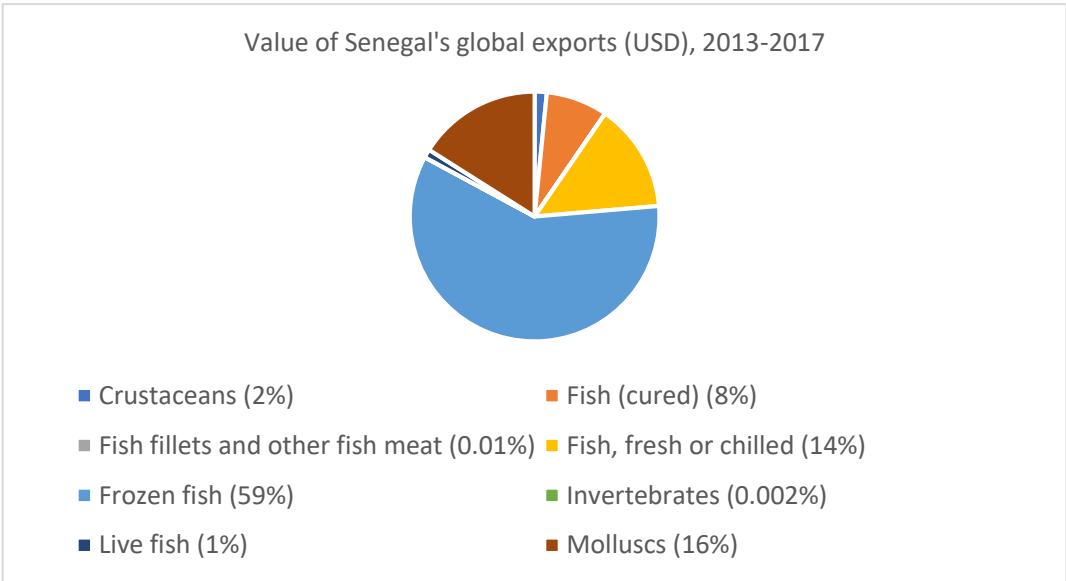
As shown below, comparing artisanal fishing to industrial shows that industrial fish catches have a price five times as high as artisanal. In total, artisanal catch generates nearly five times more fish, but only twice as much value than industrial fishing.

Volume 2015	2016	Price per Unit	price/unit relation- art./indust.	
383.222,00	397.871,00	0,31	4,44	Artisanal
47.445,00	89.563,00	1,57	2,16	Industrial
Value 2015	2016			
110724	123.160,00			Artisanal
43267	57.065,00			Industrial

In 2012, industrial catches were equivalent to just 10% of the artisanal volume but generated nearly 50% more sales value. In 2016, a shift happened towards industrial catch volume (+ 89%) with only a minor impact on value (+32%). Artisanal catch volume rose by 5% but the value for artisanal catch sales increased 10%.

2.2 Global Exports³

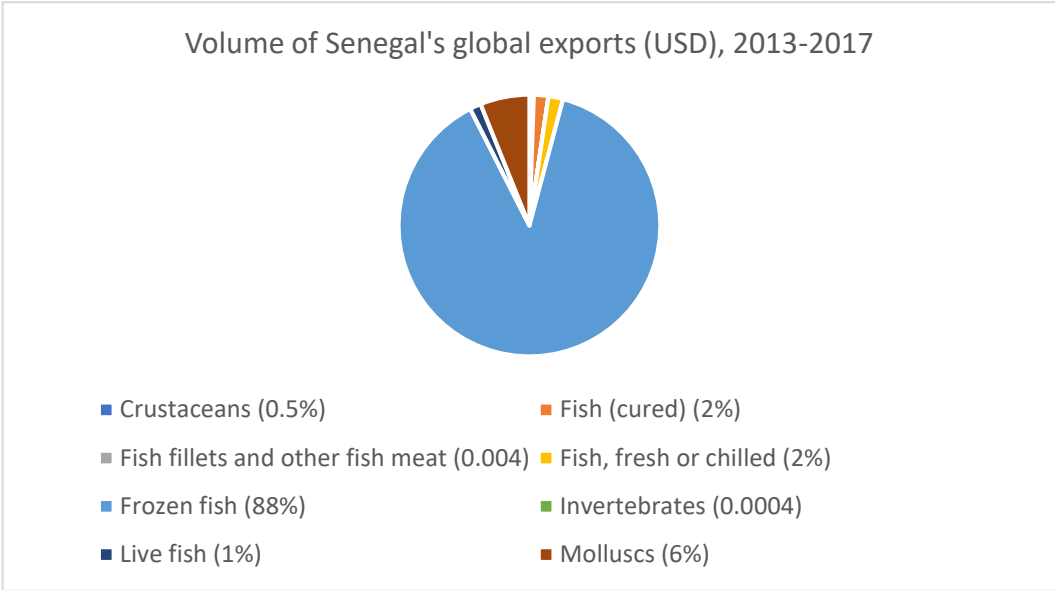
In terms of production for exports, Senegal’s fishery sector is centred around five main production categories (out of total eight). The graph below provides an overview of the main product categories as defined by the ITC (customs aggregation).



(ITC, 2018)

³ Further details see At2: Export Summary

Chart 2.



(ITC, 2018)

Table 4. Value (thousands USD) of exported fish products from Senegal to selected regions

Importers	Exported value	Exported value	Exported value	Exported value	Exported value
	2013 (000s \$)	2014 (000s \$)	2015 (000s \$)	2016 (000s \$)	2017 (000s \$)
World	302 939	374 577	283 906	337 613	393 254
Asia	57 275	98 345	65 230	73 428	77 346
Africa	9 580	116 495	116 606	134 417	143 524
EU	146 730	148 472	97 249	123 317	161 013

(ITC, 2018)

Between 2013 and 2017 Senegal exported \$ 1.7 billion worth of fish products to the world, according to ITC (2018) accounting. Furthermore, between 2013 and 2017, Senegal’s global exports of fish products grew by 30% in value. Africa experienced massive growth (58%) in imported value from Senegal. During the same period, European imports grew by a mere 10%. Senegal’s primary trading partner for fish-related products is neighbouring Côte d’Ivoire, accounting for 22.01% of total global exports. The most important European nation, Spain, accounts for 12.7%.

Table 5. Frozen vs Fresh, 2017.

Region	Frozen			Live			Fresh		
	Value (000 \$)	Volume (T)	Price (\$/kg)	Value (000 \$)	Volume (T)	Price (\$/kg)	Value (000 \$)	Volume (T)	Price (\$/kg)
Africa	575191	624406	\$0.92	1263	231	\$5.47	10426	12269	\$0.85
Asia	283229	147208	\$1.92	79	4	\$19.75	23182	2340	\$9.91
Europe	192338	36988	\$5.20	332	79	\$4.20	126048	16892	\$7.46
World	1002327	865090	\$1.16	18495	13550	\$1.36	238218	17652	\$13.50

ITC, 2018

The African region is the dominant trading partner for frozen and live product. Fresh fish is predominantly bought by European nations (43.9%) — highlighting the comparative advantage Senegal has in proximity to Europe relative to other nations. This suggests that, despite its negligible market share, the fresh fish industry plays an important role. According to the Ministry of Fishing and Maritime Economy (see Table 4), 93% of exported live fish from Senegal is bought by Asian countries.

Table 6. Change in global value vs volume, by product 2013-2017

Product Type	2013-2017 change (value)	2013-2017 change (volume)
Invertebrates	∞	∞
Fish fillets and other fish meat	444.4%	211%
Molluscs	97.2%	-63.7%
Live fish	70.0%	-31%
Frozen fish	33.8%	27.3%
Fish, fresh or chilled	0.7%	-100%
Fish (cured)	-2.80%	-100%
Crustaceans	-41.50%	-57.5%

ITC, 2018. Missing values for Invertebrates, fresh fish & cured fish

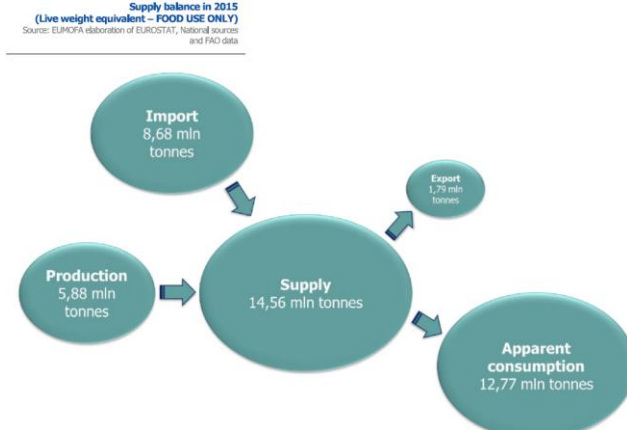
The most indicative changes in product demand are between fish fillets and other fish meats, and crustaceans. Whereas frozen fish value and volume remained largely stable, catches have increased, and more fish is being transferred to be filleted. This is a positive indication showing that a higher degree of value addition is happening domestically. In parallel, world market prices and demand for fillets grew, but availability of fish could not grow at the same pace.

The indicated change in crustaceans may be due to a change in quantity and size, the latter leading to a lower price (overfishing = smaller sizes).

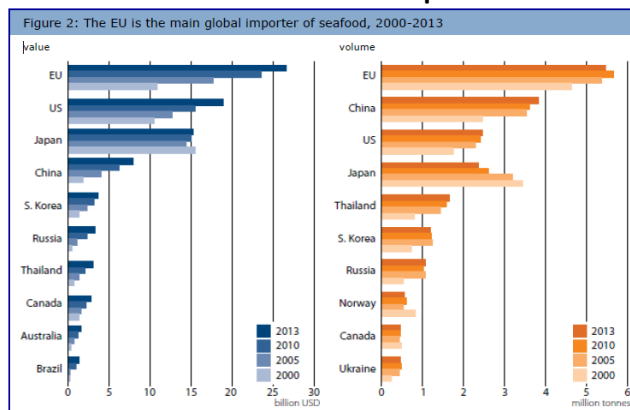
2.3 The European market for seafood products and Senegal's exports

2.3.1 Overview⁴

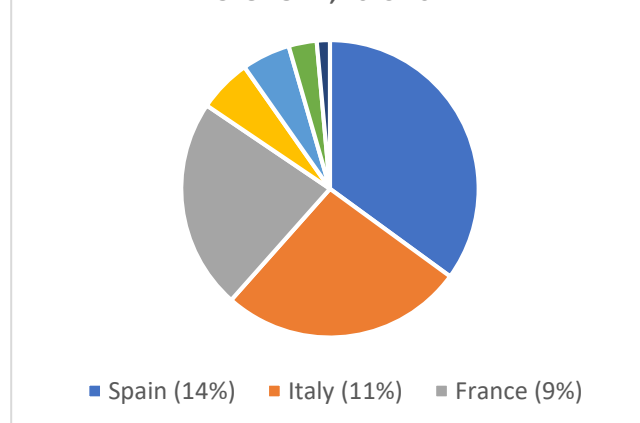
Supply balance for fish products, 2015.



Position of EU in value : volume imports to world



SHARE IN VALUE OF SENEGAL'S EXPORTS: EU28 TOP 7, 2013-2017



With the Senegalese interest to export in mind, the situation of the EU seafood market can be summarised in short as follows:

- Roughly 40% of the apparent consumption of 13 million tonnes of seafood is imported,
- In certain countries, such as Germany, it is close to 80%,
- Most imports are cold-water species,
- Warm water species are particular interesting in Southern European countries, currently the most important trading partners of Senegal
- Europe is not only the biggest seafood importer, but also pays the highest prices/kg ratio (left and attachment1)
- When interpreting Senegal's export figures, it needs to be noticed, they are heavily influenced by EU companies who are directly invested in Senegal
- Of real importance from an EU perspective are Senegal's exports to Spain, Italy, and France. Looking into individual species, Greece, Belgium, Portugal and UK may be added.
- Population and food preferences vary strongly in different EU countries, which must be considered in export marketing plans.
- Exports to the EU grew slower in recent years than to Asia or Africa
- When considering the self-sufficiency rate of European production, the arrows in the table on the left indicate products that need to be imported to the EU and are available in Senegal (Hake, Cod and Pollock need to be understood as white fish in general), indicating

⁴ Details At3: Fish 2017; At4: European Price Index



Self-sufficiency rate of the EU by fish species
(dependency, → high dependency)

Products	Self sufficiency rate
Mackerel	120%
Herring	110%
Trout	89%
Mussel	82%
Sardine	76%
Hake	38%
Scallop	31%
Tuna	26%
Salmon	17%
Squid	16%
Cod	12%
Tropical shrimp	6%
Freshwater catfish	4%
Alaska pollock	0%
Surimi	0%

further possibilities for Senegal.

The described circumstances result in the exports shown in Table 8 and in a favourable value/volume relation and interesting process on the EU market as shown in Table 7 below:

Table 7. Export Prices by Continent

2017	Frozen exports fm Senegal		
Region	Value (000 \$)	Volume (T)	Price (\$/kg)
Africa	575191	624406	\$0.92
Asia	283229	147208	\$1.92
Europe	192338	36988	\$5.20
World	1002327	865090	\$1.16

Besides frozen fish, molluscs and fresh fish are the most important seafood export items to the EU.

Table 8. Exports from Senegal to Europe by product, 2013-2017

2013-2017 PRODUCT	VALUE (\$ 000)	VALUE SHARE	VOLUME (T)	VOLUME SHARE	COST x T (\$ 000)
Crustaceans	26571	1.5701%	5202	0.5315%	\$5.11
Fish (cured)	135204	7.9894%	17650	1.8033%	\$7.66
Fish fillets and other fish meat	172	0.0102%	34	0.0035%	\$5.06
Fish, fresh or chilled	238218	14.0767%	17652	1.8035%	\$13.50
Frozen fish	1002327	59.2291%	865090	88.3846%	\$1.16
Invertebrates	38	0.0022%	4	0.0004%	\$9.50
Live fish	18495	1.0929%	13550	1.3844%	\$1.36
Molluscs	271264	16.0294%	59597	6.0889%	\$4.55
Total	1692289	100%	978779	100%	

ITC 2018

2.3.2 Import requirements ⁵

The requirements for bringing seafood to the EU market are basically divided into two categories: the legal and the voluntary, or market-driven requirements.

a) The legal requirements comprise:

⁵ Details At5 EU Requirements

- EU registration and number for the production premises, precondition is the implementation of the HACCP system;
- For exporting wild-caught fish, a catch certificate must be available and the country has to adhere to the European guidelines to prevent and eliminate illegal, unreported and unregulated (IUU) fishing;
- The exported fish has to be labelled according to the EU labelling requirements;
- The limits for maximum contamination must not be surpassed.

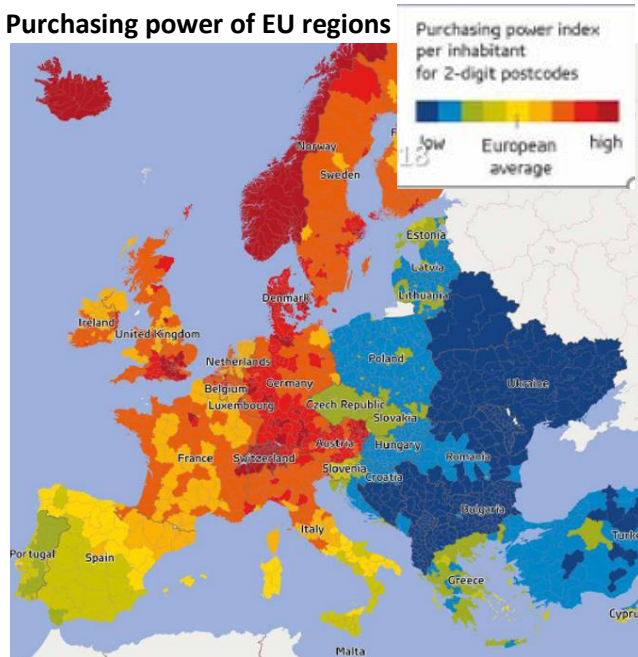
These requirements are well known in Senegal and controlled by the local competent authority.

b) Voluntary or market-driven requirements:

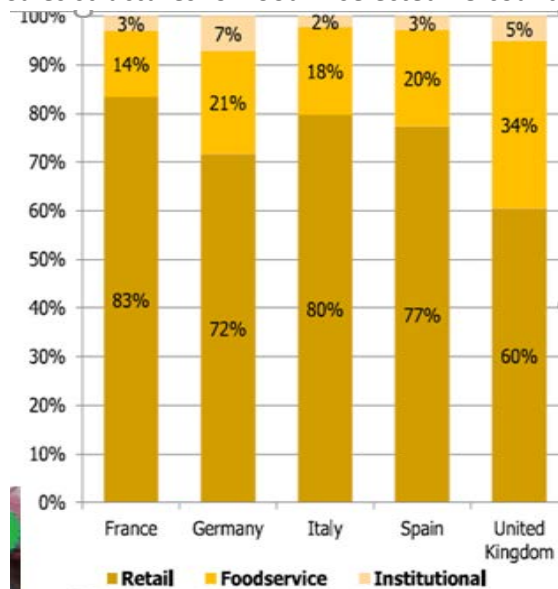
While the legal EU requirements are undisputable preconditions for entering the EU market, there are requirements that are customer related and are required for products that are sold through supermarkets (as mention and shown in the graph to the right, about 80% of fish products in the main European markets are sold through retail or food service organisations⁶). This is true across Europe, but most notably in the richer Northern European countries. The retail and food-service organisations in those countries require that processing companies are certified by BRC or to IFS standards. These institutions' standards are audited by a third party which guarantees all legal standards are in place, in addition to certain ISO management and environmental requirements. The third-party audit theoretically substitutes individual company audits. In countries such as Germany, the Netherlands, Switzerland, as well as large parts of the UK and Northern France, only marginal markets are still open for products not certified. In Southern Europe and the East this is not the case.

Corporate Social Responsibility standards, sustainability certificates (for example, MSC for wild catches and ASC for aquaculture) are also driven by consumer preferences. The regional relevance is the

Purchasing power of EU regions



Sales structures for food in selected EU countries



⁶ At6 Retail sales

same as for BRC of IFS.

Fish and seafood consumption by
distribution channel (2016),
in volume
Source: EUMOFA elaboration of
Euromonitor data

If these standards can be met, products are usually more easily accepted in the higher retail categories. Usually this means better chances for higher prices, definitely more stable sales markets. Since these high-value markets are not easily accessible, they should be approached through a good importer.

Most EU companies are interested in local value addition, since the work is more expensive in the EU, in combination with the successful compliance with the aforementioned voluntary standards. During the missions to Senegal only one of the visited companies was identified as being already compliant with most of the requirements and working on improving the sustainability of its operation.

The processor nearly always sees the implementation of these standards as a management and financial burden. After the standards implementation, usually it is found out that management, security of production and market access improve substantially and make the investment worthwhile.

2.3.3 How do European importers view the Senegalese export proceedings?

Deeper analysis of export statistics shows clearly that exports to Europe are dominated by European processors in Senegal. So, the following interview results indicate on which points European traders see obstacles to enter in a direct trade relationship with Senegalese producers:

Communication:

- Seafood trade in the EU happens mainly in English language, while many Senegalese producers and sellers do mainly speak French, which renders detailed communication difficult;
- Communication pattern: changes such as delivery delays and changes in the composition of agreed batch-composition do happen. Buyers would expect to be informed proactively. Often this is only the case when delays become obvious and on request of the buyer;
- Many of the relatively bigger SMEs are not well represented on the Internet, so they cannot be easily found, or buyers need additional effort to find background information for the company. In such cases, they may turn elsewhere;
- The often-exclusive use of cell phones for communication might lead to misunderstandings and errors; relevant legal issues cannot always be efficiently understood on a small screen;
- Often the owner of the product is not the owner of the factory or EU number. Relations need to be clear for the buyer to estimate risk, including with respect to product liability.

Legal and Voluntary requirements:

- Legal export requirements are in place, but there are doubts with some potential buyers that hygiene standards and adequate cooling conditions are kept throughout the value chain;
- Voluntary standards are very rare exceptions. They are mostly missing, especially sustainable social standards. This makes products less interesting for whole market segments;
- In the past, some EU companies were engaged in building up voluntary standard preconditions in potential purchasing areas. Products are available already but only in small amounts.
- For certain EU companies it is a precondition for starting trade talks that labels like MSC and ASC or BRC and IFS are in place.

Transportation fresh:

Structures to transport fresh or frozen fish do not pose problems. The obstacles are rather seen in the communication between EU buyers and Senegalese exporters to follow certain preferences of buyers important to them:

- All Airports have their own dynamics: for the Netherlands, Frankfurt is often used as a port since it has faster proceedings than Amsterdam;
- When choosing hubs, it is important that airports have facilities for re-icing when planes are changed. In Casablanca, when Air Moroc is used, this is not the case;
- Flight routes should be agreed upon with the customer, since they often have a preferred port of entry in the EU where customs and veterinarian clearing happen.
- Principally for fresh fish, the south of the EU is relatively well covered by direct airlines and no problems have been raised with timely health certificates for fresh fish.
- **No problems have been mentioned in frozen transports.** Dakar's strategic location at one of the major crossroads of global shipping routes and regional trucking routes, offers sufficient transport facilities. This situation will improve even more with the new port for Dakar being built in Bargny, around 45 km from the centre. Concrete plans for port development in St. Louis and Casamance have been designed. Frozen fish is also mainly transported to the EU by European companies active in Senegal.

2.3.4 Opportunities the EU market offers to the Senegalese seafood community

The EU depends heavily on seafood imports as much to keep seafood trade and processing going as for satisfying consumer market. Its self-sufficiency rate in seafood is only 60%, so 40% needs to be imported.⁷

The EU is one of the biggest markets worldwide with the best volume to value ratio. This indicates that high value-added seafood is often imported. This provides opportunities for producers in Senegal.

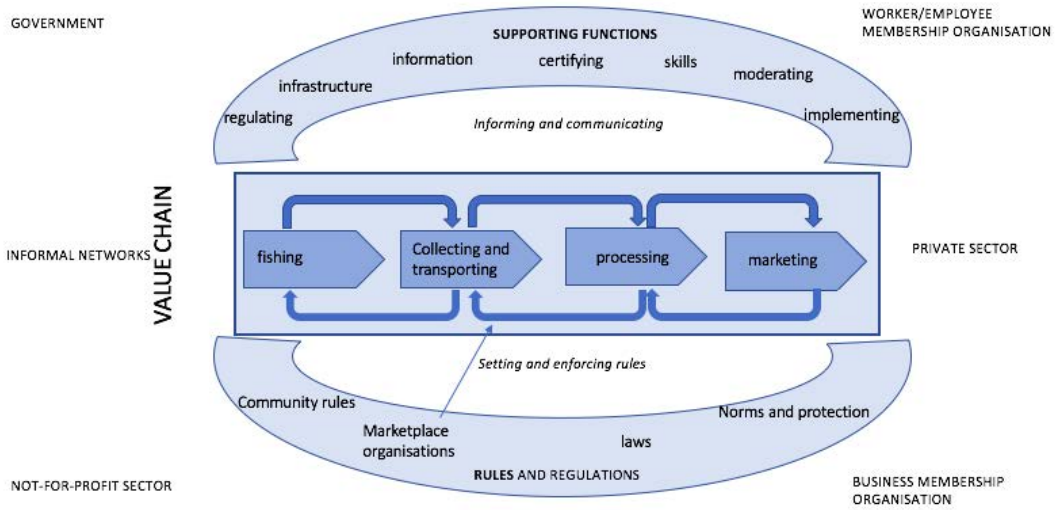
Many of the species available in Senegal are in demand, especially but not only in the southern parts of Europe, from local consumers and tourists, both groups more focused on warm water species.

3. Main Characteristics of VC

The value chain, including different support functions, can be summarised as in the schema below. One needs to keep in mind the value chain in Senegal is dominated by artisanal operations:

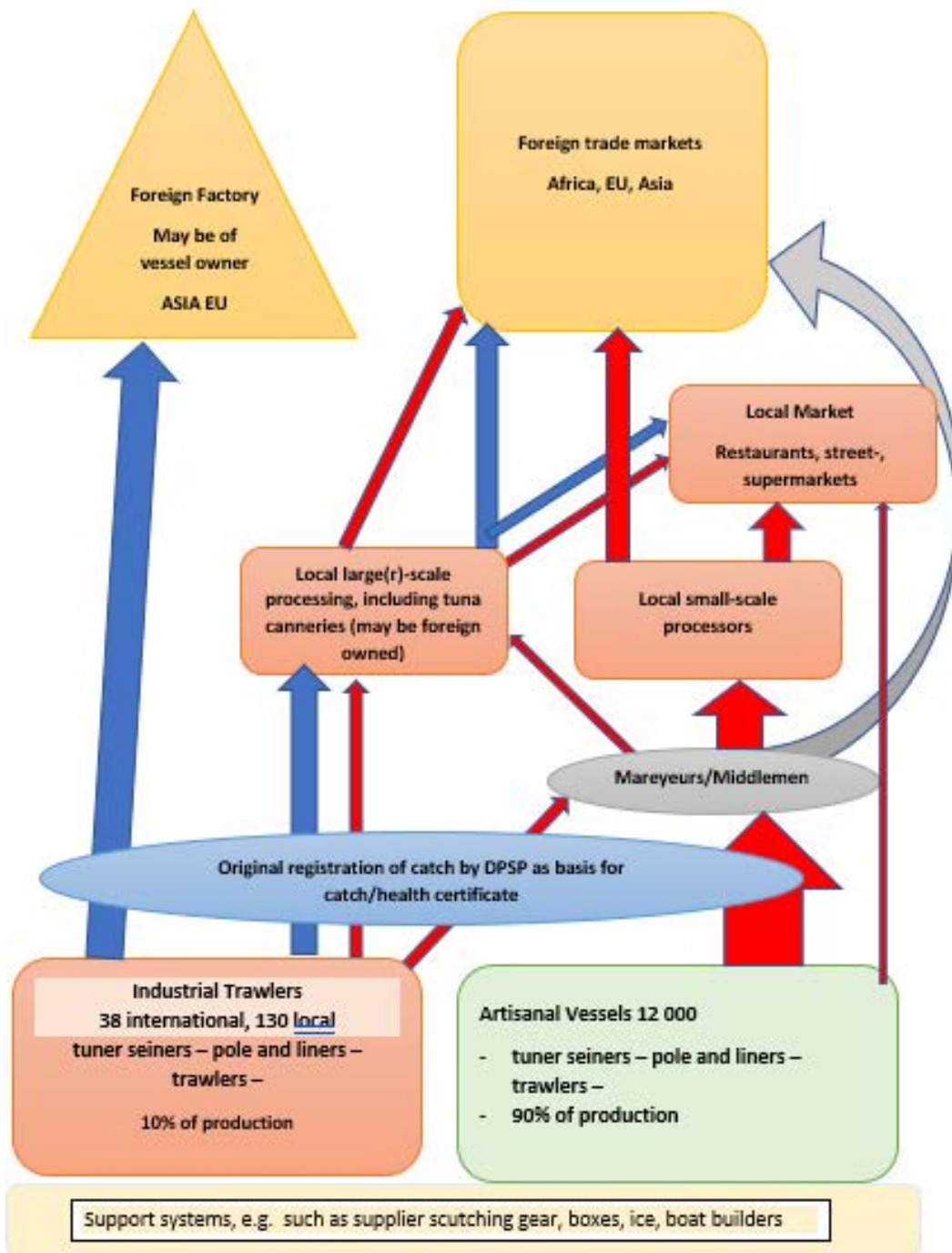
⁷ At7 Eumofa fish2017

MARKET PLAYERS



The further differentiated product flow is shown in the table below:

Table X: Product flow, **fresh** → **frozen** → **border Trade**



One of the main characteristics of Senegal's seafood value chain is the 90% dominance of artisanal fisheries. This has a direct impact on post-harvest operations such as product landing, collection and transportation. An accordingly adapted infrastructure is required, and the artisanal structure needs a particular business and public administration. Changes in climate or society have a direct effect on the artisanal community and production. Taking steps to counteract or manage those changes is difficult or requires a rather complex approach. For example:

Environmental and climate changes:

- This leads to an influx of people from more rural areas (low water availability, diseases in peanut plantations, etc.) into the coastal communities that is difficult to integrate and control;
- More people in the coastal fishing community means further pressure on the resources and less predictability for fishing in the future due to potential changes in water temperature, change of seasons and water currents;
- The socio-economical aspect: diminishing resources need to be distributed to more actors.
- Since many of the stakeholders tend to have precarious backgrounds, low income and low education level, reorienting people to alternative fields of activity is not easy.

Management of these groups is complicated

- The dominance of informal communication makes access to the communities complicated;
- Alternative offers of activity such as fish farming, seaweed production, etc. are still in an early development stage.

The implementation of sustainability⁸ measures is an issue

- since the fishery is mainly concentrated in the coastal areas, that are also places of recreation for fish stocks. To control catching gear would be particularly important, besides the quantitative harvest management;
- suspending fisheries for regeneration of stocks would not just hit profit margins, but directly affect the livelihood of families that have little reserves.

The above insinuates the strong necessity for change but also the enormous challenges. But there are examples and developments that provide hope.

3.1 Fishing

The estimated number of fishermen grew from 53,101 in 2015 to **71,177 in 2017**. Most new fishermen are people migrating from inland regions to the coast.

There were **165 decked fishing vessels** ranging 30–45 m in length, fishing in Senegalese waters. As of 2017, the **Senegalese fleet consists of 118 vessels**. The **European fleet⁹, which fish only for tuna, grew from 18 to 38 in 2017**. There are 3–4 vessels from other countries ¹⁰ active in Senegalese waters.

The artisanal fleet differentiates slightly in size, but in its wooden structure it is very similar. Catching gear and methods, however, are surprisingly varied.

Catching Gear: Smaller vessels, using **long- or hand-line gear** target demersal species, squid and white fish, etc. These fish are primarily intended for export. Fish caught using **trawling gear**, mainly large migratory fish such a swordfish are caught to be exported fresh. The larger pirogues measuring 20 meters or more use **nets (either gill or purse nets)** to target mainly small pelagic varieties. Pirogues fishing for octopus and cuttlefish use **traps** as their fishing gear.

The landing points are an issue: For artisanal fish they resemble a stereotypical African market, a chaotic mix of people buying and selling innumerable products, some which have nothing to do with fishing at all. These markets are not very well regulated and as such do not meet the health

⁸ At 9: Source halieutique...

⁹ AT12: European Partnership agreement

¹⁰ E.g. PANAMA, CAPE VERDE, EL SALVADOR, CURACAO

standards set by the EU. There is awareness of this reality and the need to meet higher standards is understood.

The government has started to build **purpose-built wharves** for products intended for export. The wharves are controlled by the DITP and the DPM and the management thereof is headed by the **fishing community associations (CLPAs)**. Further expansion is planned in cooperation with World Bank financing.

3.2 Mareyeurs and Middlemen

Mareyeurs play a crucial role in the Senegalese fishery value chain. Since the individual landings by boat are too small for the processors or traders, most of the products landed by fishermen are bought by the mareyeurs. There are two categories:

Micro-mareyeurs (*lag laggal locally*), act as intermediaries, collecting catches landed at various sites along the Senegalese coast.

Mareyeurs consolidate and sell their aggregated product on to **industrial companies** if the fish is intended for export (e.g. **octopus, grouper, sea bream and red mullet**), or to **retailers** (pelagic species) if the product is intended for domestic consumption.

The subsector of fish trading in Senegal is not very organised. Like the fishermen, mareyeurs are often self-employed. They manage teams of micro-mareyeurs who are paid to collect the fish landed from pirogues along lengthy stretches of beach.

In few cases, **mareyeurs are financed, employed and managed by factories**. Companies that have reliable integrated or close-linked mareyeurs should have the most direct access to the raw materials and control over quality.

However, most of the mareyeurs are independent and self-financed. There are **official government mandates regarding the registration and control of mareyeurs**. They should hold registration cards to obtain sales certificates for export factories. These are legal Senegalese requirements, but the implementation still shows gaps.

3.3 Processors and Exporters

There are 73 EU-registered seafood companies in Senegal. The majority (55) are based in Dakar. In Thies-Mbour, there are 10, while in Casamance 5 companies are registered. The remaining 3 are spread along the coast. Companies are generally not very visible by outsiders. Ten of them took part in the 2018 Seafood Expo Global (SEG) in Brussels, but only very few of them have websites or other visible representation. There are basically no traders in the value chain. The processors tend to export their products directly.

3.3.1 Integrated companies

Integrated companies have both vessels and a processing plant. They tend to have a high turnover and employ more than 300 people. They are generally partially or entirely owned by European parent companies. There is no law limiting control of foreign entities. Chinese and South Korean companies in this category tend to control 100% of their companies' shares.

One integrated canning company is owned exclusively by Senegalese nationals. Two canneries have EU approval: one Korean-owned, the other, CONDAK, is Senegalese.

3.3.2 Medium-size companies

Medium-size companies own processing plants employing about 100 people. Their exported products to Europe are fresh and frozen fish, and pelagic varieties to African markets. Lack of financing usually restricts their operational capacity. They purchase fish directly from decked vessels as well as pirogues or having to pay for the services of mareyeurs in case they are unable to fill their quota independently.

There are either: a) foreign-owned and controlled companies; b) foreign- co-owned companies with autonomous decision-making ability, and c) underdeveloped companies.

However, there is another subgroup that would be of interest to CBI. In this subgroup, some companies have sister companies in Europe, but their management and marketing decisions are made independently.

The third subgroup, medium-sized companies, lack markets, marketing strategy or both. Most of the time, they had a partner or customer they started their operations with and have not further developed. Financially, they do not operate on solid ground.

3.3.3 Small plants

Small processing plants mainly export fresh fish to Europe. They employ around 15 people and are mostly owned by a Senegalese national. They are the main clients of the artisanal fishermen, buying 95% of their fish from them. The health and development of these businesses has a direct impact on the fishing villages they buy from.

This group of companies could improve a great deal with some marketing assistance. There are 30 to 40 companies exporting 6,400 tonnes, most of which is already going to Europe.

They face many challenges, ranging from their ability to get finance, to consistently buying enough fish to ensuring that their fish is of good enough quality for export. Their main challenge is to get enough quantity from the mareyeurs, but they also have limited ability to improve control of their cooling chains and hygiene infrastructure.

Their main focus will be cephalopods and fresh demersals for export. The fresh fish export industry in Senegal is still relatively small. Fresh fish processors rarely export their produce via agents, preferring to deal directly with buyers.

Senegalese fishing industry does subcontracting. Companies, with the consent of the owner and the approval of the factory, will rent their EU number licence out on an annual, daily, or on a per-shipment basis. This swapping and sharing of licences operate in a legal grey area.

3.3.4 Hygiene, food safety, and EU requirements for processors and exporters, know-how and implementation

Elaborated know-how on hygiene, food safety, and EU requirements is available in Senegal¹¹. Manuals and handbooks have been developed and are at the disposal of industry or other interested stakeholders. Also the legislation developed by ministries and parliaments are up to date. Still, most production and processing facilities in Senegal are not run according these requirements, although know-how on proceedings and requirements are in place and partly adapted to the artisanal

¹¹ At10 Guide Du Systeme....

structures¹². Many of the active players are aware of this situation and requested support in the implementation process during the validation workshop.

3.4 Importers and Processors

As shown above, Spain, France and Italy are the main importing countries from Senegal. They are the closest language-wise and due to their geographical location they have a tradition of warm water fish. Most importantly, those are the countries whose companies are invested in the fish business in Senegal: They are Europeans producing their own fish in Senegal. They are significant, importing the lion's share, but their imports are not variable to any marketing strategy. They also do not publicise their particular interest or future strategy.

Their particular role in the business model: The following comments we received from buyers in Europe.

Fresh fish: The transactions are the result of a straightforward relationship between buyer and seller — buyers try to develop relationships with more than one seller to mitigate risk of supply shortages. Bureaucratic issues relating to provisions of papers for export and availability of airport services are less of a problem in this subsector. Buyers are interested in dorado rosé and flat fish, mostly sole. In most cases, one of these species is their 'anchor product', making up more than 50% of a 400 kg order — ideally, it is often less. The remainder is filled with 'other species' that are selected depending on availability. Value-added products are already on the market. Fillets of white fish are available.

Frozen fish: Also here business usually goes directly from producer to seller. Availability of fish and reliable communications are preconditions for the success of the relationship. The challenge is to fill 9–12 m containers with the desired species.

Sole: Several of the interviewed companies were interested in warm water sole. This fish comes mainly from Senegal and The Gambia and is used to substitute for North Atlantic sole. Often this substitution is not adequately declared to the consumer.

Communication and logistical issues in this context were discussed in § 2.3.3.

3.5 Chain influencers and most important business support organisations

Like in most areas, the value chain is influenced or supported by state organisations and by private sector collectives as associations, which focus on different stakeholder groups. Also foreign support projects, some of them long term, play a role. The various organisations are described below in their function and performance.

3.5.1 State: Ministry of Maritime Economy, Transport and Fisheries

The **Ministry of Maritime Economy, Transport and Fisheries** is comprised of six technical directorates primarily involved in the management of fisheries:

¹² At11 Senegalese concept of traceability

- Directorate of Maritime Fisheries (DPM)
- Directorate of Fish Processing Industries (DITP)
- Directorate of Fisheries Protection and Surveillance (DPSP)
- Directorate of Inland Fisheries (DPC)
- Directorate of Merchant Shipping (DMM)
- Directorate of Management and Exploitation of the Seabed (DGEFM)

Regional and departmental fisheries and surveillance services exist across all administrative regions. They together make the decentralised and deconcentrated fishery structures in Senegal. The Ministry relies on two additional structures for governance:

- a scientific structure for oceanographic research, the Centre de Recherches Océanographiques de Dakar Thiaroye (CRODT)

The CRODT's main task is to monitor the evolution and health of fisheries and stocks, as well as preparing fishery management plans, considering both biological and socio-economic constraints.

Most relevant Directorates:

3.5.1.1 DITP: Directorate of Fish Processing Industries

The role of the DITP is to centrally manage national export approvals to Europe. In addition, they also monitor the quality control system of sea products in companies and on-board freezing-enabled trawlers as the competent authority.

DITP issues health certificates for exports and collects export statistics. It carries out regular visits to all seafood factories involved in exporting — a task that is necessary to ensure they keep the EU's approval and credibility intact.

An ambitious seafood incubator centre is currently planned to assist companies to increase the added value of seafood products.

3.5.1.2 DPM: Directorate of Maritime Fisheries

The Department of Maritime Fishing plays an important role for the artisanal sector of the industry. It is the first in line when it comes to controlling the landing beaches and the quality of seafood brought to market by pirogues. The DPM is the first link in the chain of traceability of seafood products. It issues certificates of first sale, which then enables the DIPT to issue the health certificates, allowing the product to then be exported.

3.5.1.3 DPSP: Directorate of Surveillance

The DPSP monitors fishing activities in the Senegalese EEZ as well as compliance with fisheries agreements between Senegal and other countries.

For exports, the DPSP is responsible for issuing catch certificates to certify the origin of the product and the vessel that caught it. Therefore, the DPSP is an essential link for the safeguarding of resources, ensuring compliance with the regulatory provisions of the Fisheries Code as well as export documents.

All four entities (ASEPEX (s. 4.3), DITP, DPM and DPSP) are involved in the issuing of export documentation necessary for customs to clear their product for export.

3.5.1.4 Agence Sénégalaise de Promotion des Exportations (ASEPEX)

ASEPEX's mission is to promote 'Senegal Origin' products to foreign markets. More specifically, they aim to reinforce domestic export supply capacity in compliance with requirements of target markets. This ranges from the intrinsic and commercial quality, ensuring conformity of products to set standards of traceability, etc.

3.5.1.5 National Agency for Aquaculture (ANA).

ANA has a national strategic plan for aquaculture development, but the implementation is very slow due to lack of resources. Another challenge they face is that this strategy is not sufficiently oriented towards the private sector for its sustainability and to mitigate investment risks.

3.5.1.6 Others

The **Food Technology Institute** (ITA) manages research pertaining to improving fish processing and packing techniques.

The **Caisse Nationale de Crédit Agricole du Sénégal** (CNCAS), the FONSIS (guarantee funds) and the national bank (BNDE), and other commercial banks are involved in financing the sector.

3.5.2 Private Sector Organisations

In the VC, the following two private sector organisations play an important role:

3.5.2.1 Groupement des Armateurs et Industriels de la Pêche au Senegal (GAIPES)

The Association of Ship-owners and Fishing Industrialists in Senegal is an organisation for employers in the industrial fishing sector, established in 1975. Their main mission is to:

- Defend the material and moral interest of their member companies;
- Strengthen solidarity between members;
- Maintain and seek new opportunities to collaborate with other export-oriented organisations;
- Act as a resource for members to help them with information that could be of use to them;
- Promote partnerships between industry professionals and the administration.

GAIPES exists to defend the interests of its members, all of which are exclusively fishing companies. They have a direct connection to the government in an advisory capacity, offering advice and input on issues related to the development and management of the fishery sector.

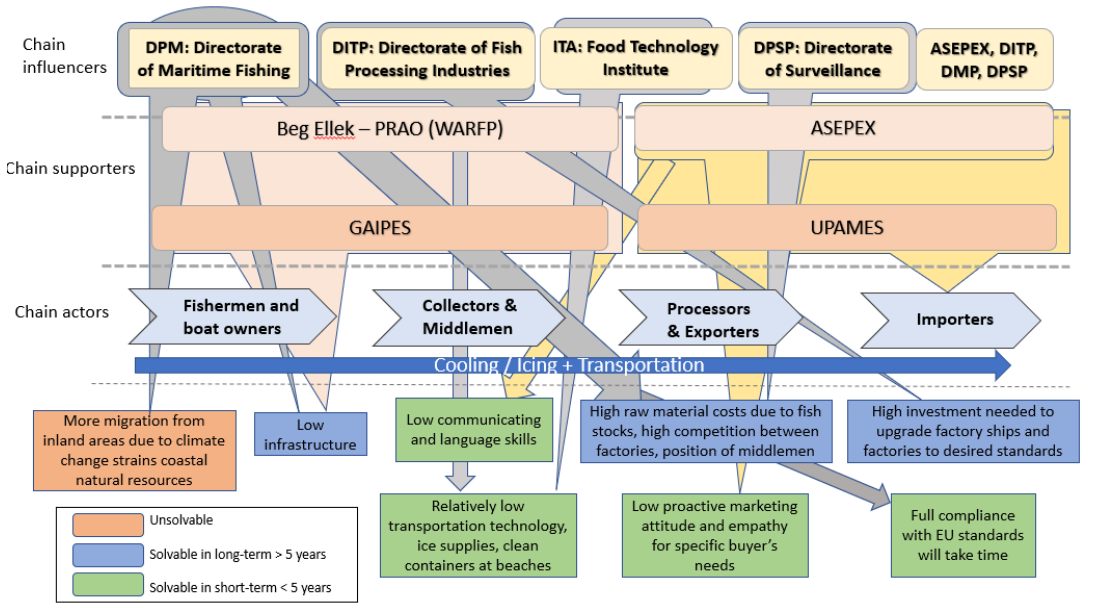
3.5.2.2 Union Patronale des Mareyeurs Exportateurs du Senegal (UPAMES)

The employer's union of wholesalers and exporters of Senegal (UPAMES) represents a group of companies, mainly SMEs and SMIs active in the export sector to Europe dealing in fresh or frozen seafood products, whole or processed.

They bring together some thirty companies under one umbrella, all of which operate in a niche. They obtain 90% of their product from the beaches along the coast of Senegal and neighbouring countries.

UPAMES participates in most private and public structures set up to manage the fishery sector in Senegal.

Both UPAMES and GAIPES are independent of the government. They have enough strength to defend their interests when threatened by the government or when they believe that their interests are compromised or threatened by international agreements signed by the government.



4. International Organisation’s Activities

4.1 PRAO¹³ (WARFP) — pending World Bank funding

PRAO plans to construct and support management of landing points and implementation of sustainable structures for artisanal fisheries. This is in direct relation to the Beg Ellek label program.

The project is oriented to the sustainable management of resources as well as monitoring, control and surveillance of fisheries, improving fishermen’s safety, small scale fishing, fisheries management (for shrimp, octopus and cymbuim), biological rest, registration of pirogues, introducing an artisanal fishing licence, improving product quality with the construction of new quays, labelling sea products. It would bring a now missing reliable structure in artisanal fisheries if fully implemented. Funding is expected in shortly.

The program of PRAO¹⁴ reads like the answer to all the weak points in the value chain. The programme is very comprehensive and covers the complexity of the Senegalese situation in artisanal fisheries. It addresses legal issues, support to administration and implementation of legislation, registration of smaller boats and stakeholders in the value chain, data collection and management of resources, development of alternatives to fishing for the community, technical preconditions for the processors.

4.2 International Finance Cooperation (IFC)

IFC has no activities in fishery yet, but it is working on:

- Agro-based products and stimulating business, mango being the main focus. IFC is working on these issues:
 - How can the market get more attractive?

¹³ Details/program: At8, planned interventions in §6 of the report

¹⁴ Attachment x

- Sourcing information
- Finding solutions for logistics with Apix, a Senegal institution
- Market studies and market observations:
 - Serious warnings for fruit flies in mango
 - Studying public private dialogue (meetings and technical support)
 - Increasing number of controls

The methodology could be activated for support of sales-oriented programs such as the ECP. The IFS was particularly open for this.

4.3 USAID COMFISH

USAID/COMFISH and USAID/COMFISH PLUS: Collaborative Management for a Sustainable Fisheries Future in Senegal

The objective of USAID/COMFISH is to contribute to achieving the following three major results:

1. Strengthening institutional and stakeholder capacity at all levels to implement an ecosystem based, co-management approach towards sustainable fisheries, taking into account climate change impacts in the fisheries sector.
2. Identify, test, assess and apply governance strategies, policies and best practices to build ecosystem resilience to threats to biodiversity conservation and climate risk.
3. Enhance social and economic benefits to artisanal fishing communities and provide incentives to a continued sustainable fisheries agenda.

5. Sustainability and other issues in the sector are closely linked with pressing social issues.

Government initiated research shows that the resources in Senegal waters are overfished or under pressure. This is not due to massive industrial fishing but overcrowded artisanal landing points due to strong migration from rural areas to the coast. Stakeholders in artisanal fishing have increased by more than 15% yearly. The government does not regulate out of fear for losing voters and maybe social uproar.

5.1 IUU fishing

The government and the most relevant players in the fishing community are aware of the consequences from illegal, unreported and unregulated fishing. Considering circumstances with the high number of artisanal fisheries that are difficult to administer, the conceptual development is relatively far, an issue shared with other African countries. A major turning point in the war against IUU fishing in Africa took place in 2017 at the U.N. Oceans Conference, where the United Nations outlined a series of Sustainable Development Goals designed to spur progress on ocean-focused sustainability efforts.

GUIDE SECTORIEL D'AUTOCONTRÔLE (GSAC) POUR LE SECTEUR

A guide¹⁵ on how to handle fisheries, landing, and processing, including all legal requirements was developed in Senegal, and to a great extent entered into legislation. Artisanal and industrial fishing were covered, and the proceedings described separately. This was not a top-down approach but happened with the participation of the respective sector associations. It seems that for efficient implementation, the government is either lacking power or determination.

Still, there are fishing techniques and also vessels within the Senegalese fishing areas not compliant with the rules. Civil servants do not have the presents or recognition at the landing points to make a difference. Implementation of legislation is an issue. Landings are not registered as they should according Senegalese rules. The many middlemen are an issue, not all registered and when registered, they are also not as monitored as other stakeholders in the chain are. The later mentioned point is a universal theme. It leaves room for uncontrolled manipulation of raw materials. But this is not unique for Senegal but a more universal issue.¹⁶

5.2 CSR and Child Labour¹⁷

While social and labour relations are regulated by legislation, as in other areas, there are still many issues in the open regarding CSR requirements, which partly lie in the artisanal structures. One issue that seems particularly pressing is child labour and its impact on the social economic development of the society, as well as an obstacle in the marketing of seafood products.

There are very few recent studies focusing on CSR in Senegal, except for bigger raw material exploitation operations. There is nothing in particular on the seafood sector, and the existing studies in general on child labour are not recent. The section below draws on GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit) studies¹⁸ of the past years.

Education, professional training and employment

The rate of labour productivity growth is low and Senegal risks losing its lead over countries that currently do not perform as well in this area. A lag of basic education may add to this downward trend in labour productivity. Adding to the low productivity issue, the considerable size of the informal sector and the low rates of job creation in the formal sector. A formal sector can be influenced only by state administration. Most of the workplaces in the artisanal fish sector are family driven. They are not characterised by “forced labour” nor are many of the workplaces managed by contracts. This may also be acceptable in a given context. The real problem seems to lie in the lack of education of young people in the field. The lack of education hinders improvements in other fields that may be required for sustainability goals.

Health

The health sector in Senegal also desperately lacks funding, which results in poor healthcare service delivery and access. Infant and maternal mortality rates are very high, and malaria remains one of the principal causes of death in the country.

¹⁵ At10 Guide du system

¹⁶ At11 Traceability; At13 African incentive against IUU

¹⁷ CSR material on Senegal is available, little is recent and close to nothing on the seafood industry in Senegal At14 -CSR file

¹⁸ Attachment 4 GIZ-CSR

In the fishing villages most people still rely on traditional healers and remedies. The fish factories often provide some healthcare on a voluntary basis. Since most employment is without formal contract, there is no formal base for demand.

Good governance and the fight against corruption and public administration

Another major issue to be resolved is good governance and transparency within government and the business sector. In spite of government efforts, Senegal dropped 10 places on the Transparency International Corruption Perception Index. It is very likely that the fish business is also influenced by the situation, for example the landing controls for traceability by government officers.

In spite of the progress achieved in improving the effectiveness of public services, public administration still faces a number of obstacles. From the project experience we are not able to validate an in-depth analysis. But we know that legislation is not sufficiently implemented, and government officers complained about not being able to achieve designed changes, be it keeping the seas free of fish pirates or supporting companies in value addition.

The GIZ study reported that the government of Senegal has little awareness of CSR, as it is generally viewed as a concept adopted exclusively and voluntarily by private businesses for philanthropic reasons. And CSR in business is still in its early stages in Senegal.

The rather artisanal dominated fish sector will not be on the forefront of CSR development. It might also be interesting to assess what kind of communal structures might exist in the fishing villages where there are organisational units that offer security and protection to individuals, which may not correspond in form with CSR but may match its objectives.

On the issue of child labour, the following information is available¹⁹:

Child labour

Table 1. Statistics on Children’s Work and Education		
Children	Age	Percentage
Working (% and population)	5 to 14	22.3
Attending School (%)	5 to 14	53.0
Combining Work and School (%)	7 to 14	13.9
Primary Completion Rate (%)		58.9

Overview of Children’s Work by Sector and Activity	
Sector/Industry	Activity
Agriculture	Herding cattle
	Fishing, activities unknown

¹⁹ Source for primary completion rate: Data from 2016, published by UNESCO Institute for Statistics, 2018.
 Source for all other data: Understanding Children’s Work Project’s analysis of statistics from Demographic and Health Survey, 2015.

Overview of Children’s Work by Sector and Activity	
Sector/Industry	Activity
	Farming, including the production of cotton, rice, peanuts, and mangoes

Laws and Regulations on Child Labor			
Standard	Meets International Standards: Yes/No	Age	Legislation
Minimum Age for Work	Yes	15	
Minimum Age for Hazardous Work	Yes	18	

According to this data, still 77% of the children between ages 7 and 14 are attending school and close to 60% get to complete primary education.

Within the structures of artisanal seafood production, where family units often form a kind of enterprise, it is hard to differentiate between family support by children and child labour.

6. Value Chain Obstacles, who can intervene how

In §§ 2.3.4/5 we demonstrated how the EU offered interesting market opportunities to the Senegalese seafood industry that can materialise when the market orientation and some marketing techniques fall in place. But the elements to offering high quality product involve certain preconditions not yet fully present in Senegal. The SWOT analysis below will indicate changes that might be necessary to support the potential of the industry for trade partnership with the EU.

(Chapter 1-2) Seafood Market Development – Senegalese Production and Export

Strength:

- a. The resources offer a strong opportunity that can be further developed and managed.
- b. The geographical position close to the EU offers an opportunity to also extend the fresh fish trade.
- c. Senegal has built up a substantial fresh fish business that can be further expanded, offering interesting margins, if risk can be mitigated.
- d. The EU market appreciates value added products = this can support the creation of jobs in Senegal and is in line with government policies.
- e. The EU market appreciates sustainable, durable production = this can support preservation for income from the sea in the long run and is in line with government policies and return on investment for building up sustainability. This will be supportive in development for the future.
- f. A substantial fleet exists with qualified fishermen and organised logistic systems.
- g. The high-sea fleet can still be further expanded. Additional licensing fees could be imposed on better-managed landing points and the development of infrastructure for aquaculture might attract private investment and release pressure at the beaches.
- h. Middlemen are more organised in Senegal than in many other countries. This offers the opportunity to integrate them into the value chain in a supportive manner.
- i. Weak points in management are recognised and concepts for solutions have been developed, including with international support. Positive effects could already be observed and may serve as good example.

Weaknesses:

1. As 90% of landings are done by artisanal fishermen, the following problems get exposed:
 - the coast near fishing areas get overexploited;
 - beaches are getting overcrowded as too few landing points offering hygiene conditions, including water and ice, are currently available.
2. Over exploitation of resources means longer fishing times for a certain quantity of fish and limited landing spots. This has a negative effect on quality (longer sailing times, ice availability, etc.) and raises prices. High prices would make Senegal less competitive internationally.
3. The small-scale fishing operations and the associated logistics are difficult to manage. The government is aware of it but not always in the position to solve the problem. The same is the case for associations, whose abilities to offer solutions are limited.
4. There is a lack of market information and understanding of benefits of sustainable production in the community. Know-how transfer has been requested by stakeholders, but knowledge dissemination in the artisanal communities is complicated.
5. Alternative industries such as fish farming and seaweed production have barely been

developed.

6. Changes will need complex investment, covering infrastructure as well as socio-economic structures.

(Chapter 3a) Main Private Stakeholders of the VC

Strengths:

- j. Fishermen and fleet:
 - Overachieving skills and fishing equipment from a low-investment base
 - An industrial fleet, whose output barely reaches the local market, but exports via integrated companies, generating jobs and revenues for the state from exports.
- k. Existing export structures in place, such as logistics and provision of formalities (health certificates, etc.) by the state, also allow small- and medium-size companies to export directly, for instance, getting papers in time for fresh exports.
- l. Several mature companies keep up these structures — they understand and apply international requirements and regulations and are able to serve high-end importing partners = know-how for these requirements is in the country.
- m. In some international companies, no internationally recognised certificates for labels referring to social, environmental or food safety issues were found = know-how is available in Senegal.

Weaknesses:

6. Low quality of processing and logistical infrastructure:
 - lack of ice in the value chain, both at fishing and transport
 - wooden vessels in artisanal fishing, not efficiently maintained metal vessels in industrial fisheries
 - plenty of insulated trucks, but mostly with faulty or without cooling technology and either entirely lacking or having broken insulation panels
 - most Senegalese-owned factories do not comply with EU standards
7. Lack of regulatory integration of middlemen into the value chain
8. Deterioration of value production in raw material handling, such as adding water to fish
9. Lack of raw material is driving prices since factories want to use their structures = reduction of margins and reduced investment capacity for producers; having to work based on insecure fish landings and precarious raw material availability
10. Analytical infrastructures such as laboratories are available, but not in the companies and the ones visited were not well equipped = lack of easy access to analytical capacities
11. Lack of legal understanding and trust in contracts with EU partners, lack of understanding of international trade law
12. Lack of market understanding and marketing abilities: limited English language ability, understanding of market, passive or inexistent internet presence and lack of active research capacities
13. Except for some international companies, no internationally recognised certificates for labels referring to social, environmental or food safety issues were found.

14. Legal preconditions are in place, but the implementation of IUU and corporate social responsibility (CSR) remain problematic. Within CSR, the eradication of child labour would be most pressing.
15. Difficult access to finance throughout the value chain.

Chapter 1 – 3a Market and Private Sector

Opportunities:

Seafood demand and consumption is growing constantly. Prices are expected to further stabilize.

Foreign investors are prepared to invest in the Senegal seafood industry. The available products and high-end products are well positioned for export markets, while pelagic fish could be provided for the local market and for export to other African countries.

Alternative coastal industries such as fish farming or seaweed production have barely been developed and bears further potential.

Threats:

The government is not able to manage the influx of stakeholders on the coast competing for a limited resource.

The limited availability of fish will have a self-regulating effect, but in its course will destroy resources, production, trade structures and families.

Not only the fish in the water must be seen as a limited resource but also the beach itself. The way it is presently utilised might lead to a difficult and expensive situation to clean up and prevent further pollution.

Insecurity of resources in the future also due to climate change.

Strength – Weakness – Opportunities - Threats

(Chapter 3 b) Public and Private BSOs

Public Strength:

- n. Analytical capacities, understanding of critical situations and initiation of corrective action — nearly all problems have conceptual answers.
- o. Admission of foreign vessels kept at a limit.
- p. Regulatory intervention in beach landing structures, such as the registration of middlemen.
- q. Using influence to support clean landing points, such as gifts of foreign countries.
- r. Regulatory support of sustainability initiatives, such as Beg Ellek.
- s. Structure for defence against foreign invaders into Senegalese waters.
- t. Technical and structural support for innovation, such as a product development centre.
- u. Good marketing support institution, for example by Asepex.

v. Associations have been set up for proactive presentation and defence of the interest of their clients, such as to defend private sector interest in negotiations with the government.

Public weaknesses:

16. Situations are often so complex that satisfactory solutions cannot fully be implemented. For example, migration to the coast cannot be rapidly stopped since readily available alternatives for the people do not exist.

17. Non-registered middlemen are still active, jeopardising traceability without penalties.

18. Efficient sustainability measures would need stronger legal regulations.

19. Structure of defence of foreign invaders into Senegalese waters is in place, but insufficient.

20. Technical and structural support for innovation, such as a product development centre, would be important to build understanding as to what are the destination markets of these products.

21. Good marketing support, provided for example by Asepex, as well as stronger implementation of English language and IT-supported marketing would be desirable.

22. Associations have not yet found their roles yet and industry stakeholders do not see them as their instrument yet.

O: intervention of CBI or other market-oriented organisation may generate understanding of market opportunities by sustainable and clean production and support willingness of industry to comply with government sustainable requirements.

T: The situation is already very complex. In case action does not bring change, the consequences for the sector may become more severe.

The weaknesses are described in the below chart with indications of possible interventions and which players might be supporting change. The red numbers in the second column refer to the weaknesses identified above.

No.	Obstacle	Intervention	Who
Artisanal Structure			
1	Sustainability and traceability of artisanal fisheries not in place (overfishing, insecurity of origin) 1, 18,	Introduction of the artisanal fishing licence based on fishery performance and available resources Strengthening the national pirogue registration system Design and management of a national fisheries and aquaculture information system — Sustainable community management of fisheries Implementation of the management plan for the scroll fishery	PRAO ²⁰

²⁰ Att 8 PRAO concept

2	Pressure building on the resources a) from too many people from inland migrating to the fishing communities	Support for the implementation of alternative livelihood activities to fishing	PRAO
	b) from growth of existing communities 1, 5, 17, 18	Alignment of the national legal framework with regional and international instruments that support community resource management	
3	Lack of market information and understanding of benefits of sustainable production 4	Market Information	CBI, ASEPEX
4	Changes will need complex investment, covering infrastructure as well as socio-economic structures 6	Combination of structural and private investment	World Bank in combination with impact investors
Artisanal Enterprise Structure			
5	Middlemen: insufficient integration into the value chain and lack of implementation of state regulation 7	Institutional strengthening of the implementation of key fisheries sector reforms (control of regulation of middlemen) Influence by private sector through associations	Ministry, Associations
	Increasing habits of illegal manipulation of raw material to gain cheap extra weight is also applied in Senegal (mainly by middlemen) 7, 8	Better alignment between the national legal framework and law enforcement	
6	Lack of involvement, particularly of artisanal stakeholders, due to lack of belief in change 16	Beg Ellek shows that change is possible and provides practical advice	Beg Ellek ²¹
7	Lack of involvement of stakeholders due to lack of belief in market perspectives 16	Provision of market perspective (MI) and market access (ECP) especially for sustainable catch and value-added products	CBI
No.	Obstacle	Intervention	Who
Private Enterprise Structure			
8	Technical issues: icing, quality of vessels, transport gear, maintenance of factories and other investment related to profit margins 6,	Regulation of fisheries, stakeholders and middlemen in combination with a structured market approach should bring <ul style="list-style-type: none"> more security into the value chain and trust in development for 	PROA, CBI, Ministry

²¹ Att 14 Beck Ellek

9	Insecurity of landings, quantities and qualities 2, 11	investors	PROA, CBI, Ministry, IFC, ADB
10	Lack of access to finance: banks have little trust in the seafood industry currently, international donors will not invest in potentially exhausted resources 15	<ul style="list-style-type: none"> • predictability would be re-established with stock management • an upward trend of the industry could attract international financing 	
11	Lack of legal understanding and trust in contracts with EU partners 14	<ul style="list-style-type: none"> • understanding of EU trade regulations, maybe insurance systems would make trade negotiations easier 	CBI, Asepex, ECP or special work shops
12	Lack of market understanding and marketing abilities 12	<ul style="list-style-type: none"> • MI- marketing techniques 	CBI, Asepex, ECP or special work shops
13	Not all legal access requirements are in place, also when EU number exists 14	<ul style="list-style-type: none"> • understanding of EU trade regulations 	CBI, ECP
14	Lack of understanding of the relevance of voluntary access requirements, access abilities 13	<ul style="list-style-type: none"> • understanding buyer needs, MI – exposure to market 	CBI, ECP
15	Laboratories are available and accessible but usually are poorly equipped, which renders companies vulnerable in case of conflicts 13	<ul style="list-style-type: none"> • private sector should be interested in product safety, but also in data to protect themselves from unjustified claims 	Private sector or organised through a association
No.	Obstacle	Intervention	Who
BSO Structures			
16	Structural support for innovation needs market orientation 20	ECP is special workshops in value addition	CBI
17	The marketing of ASEPEX needs more proactive energy and orientation to English language for industry 21	Local further education institutes, organised by ASEPEX, financed by private industry	ASEPEX
18	Lack of monitoring and management of both deep sea and high sea sustainable fishing 19	Strengthening the National Fisheries Monitoring, Control and Surveillance System	Ministry
19	Structure of defence of foreign invaders into Senegalese waters is in place, but insufficient 19		

20	Lack of government compliance 3	Institutional strengthening for the implementation of key fisheries sector reforms	
21	Associations seem not yet have found their role, so they cannot be supportive to companies yet 3, 9	Building up the functions of associations to get involved in the process 1–7	CBI BSOD
22	Implementation and reinforcement of legal structures in the value chain 1, 2	Improving national systems for sustainable fisheries management <ul style="list-style-type: none"> • General • Developing a perspective for the EU market 	PRAO CBI – BSOD program, only if PRAO is implementing basic preconditions

7. Conclusion:

Seafood production and export is one of Senegal's most important economic sectors, creating national income and providing jobs. Worldwide demand on one hand supports the development of the sector, but on the other hand it increases the pressure on resources since catch can be sold anywhere, also when not produced under optimal and sustainable conditions.

Actually, without changes in administration and structural adaptations, an optimal use of this valuable resource is questionable. Problems in the value chain include:

Sustainability:

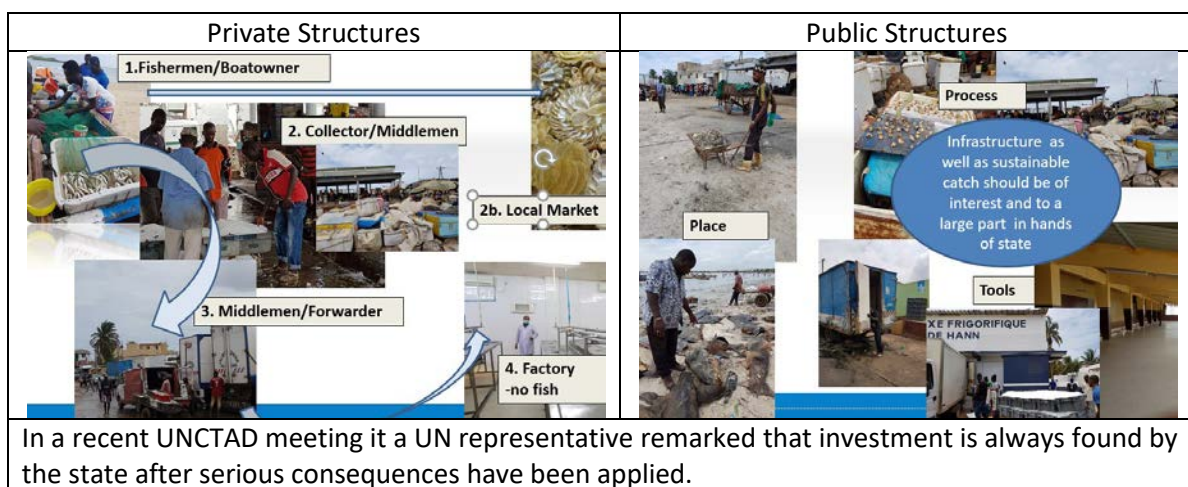
- sardinella is overexploited — it is one of the main items for the African markets but also a valuable part of the food chain for bigger fish;
- most other fish, especially ground fish, cephalopods, shrimp, and certain tuna resources are at their limit and need urgent resource management;
- the above refers to coastal fishing. The exploitation of high-sea resources can still be further developed, while the fight against fish pirates within the 200-mile zone of Senegal needs further support.

Administration:

- most of the legislation for food safety regulations, including EU legal requirements, are in place, but enforcement is insufficient, both on issues of traceability and food safety. The latter includes SMEs holding EU numbers;
- the administration has to juggle between offering alternative income sources at the coast for people who have to leave their areas inland and keeping structured and safe seafood operations, including resource management. This includes aspects such as IUU and legal regulations related to CSR, on which little specific research into the seafood sector is available.

Private sector:

- the industrial operations, high seas fishing, integrated operations and other foreign companies seem to be operating on a sort of self-structured island based on investments high enough to stay within the range of customer requirements; but they remain still basic in the sense that high seas vessels function, but their maintenance is oriented on short periods of time;
- SMEs will need investment in order to fulfil EU regulations. They are currently working on a basis that is accepted by the local competent authorities;
- The situation is dangerous since it contains the risk that the EU might withdraw import permits for certain groups or the whole Senegalese sector due to lack of compliance with food safety requirements;
- For the private sector to be prepared to invest and to find investors, a relative raw material sustainability security would need to be in place. Additionally, public infrastructure must allow for safe sourcing of raw materials at landing points.



Solutions and Donors:

- An efficient solution can only be one that includes state changes in infrastructure , administrative reinforcement, and private sector investment.
- Various donors have been active in Senegal. The project with the strongest positive long-term perspective is the one of the World Bank: “PRAO”. This will most probably be continued.



It covers as well administrative aspects, sustainability, and private infrastructure. MSC has already indicated interest based on the pilot project.

- An intervention of CBI would in the first place allow products to find adequate markets so that investments would yield returns more easily. BSOD projects administration could help, for example, to support competent authorities and strengthen associations not only in their structures but also by supporting the communication processes with their members. The latter would go against the individualization of single SMEs, but could help to express their needs to the government as a group and make the sales market more visible to buyers.

Investments:

Finally, investors search for projects with reduced complexity. Here, the combination of sustainable development and focused marketing could support the creation of durable entities.

8. Attachment

1. Foods from the Ocean
2. Export requirements
3. EU Report Fish 17
4. European price Index
5. EU Requirements
6. Retail sales
7. Eumofa Fish2017
8. PRAO
9. Ressources halieutiques et aquacoles
10. Guide du system autocontrôle
11. Traçabilité
12. EU Sustainable Partnership
13. African incentive against IUU
14. Beg Ellek
15. Rabobank World Seafood Map, also old figures, tendency still relevant

<https://research.rabobank.com/far/en/sectors/animal-protein/world-seafood-trade-map.html>

