SUMMARY

Exploring the Potential Impacts of WTO Fisheries Subsidies Rules :

The Case of Sardinella in West Africa

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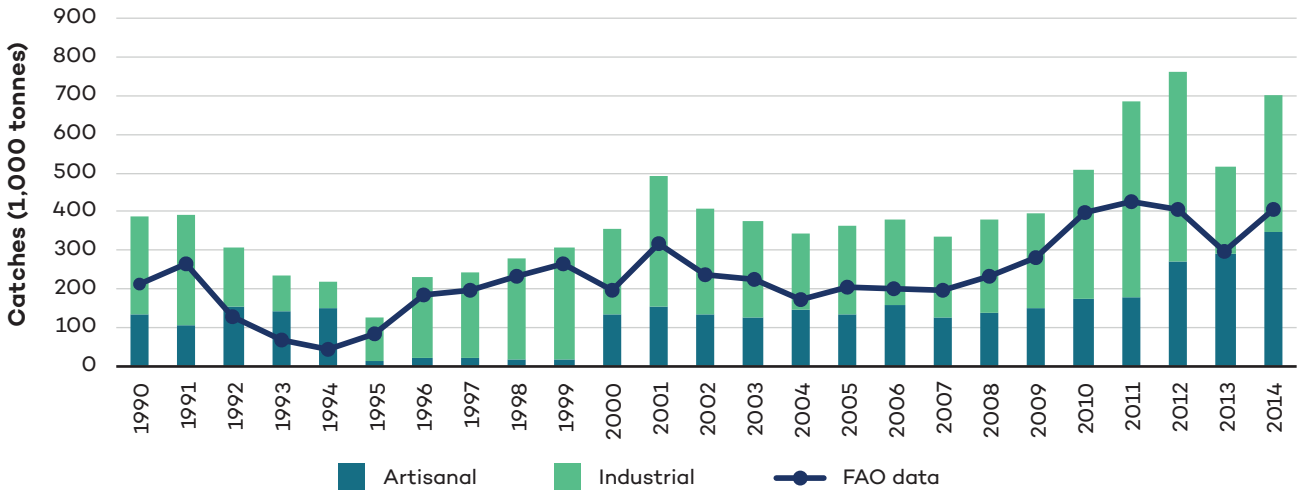
The round sardinella (*Sardinella aurita*) and the flat sardinella (*Sardinella maderensis*) are emblematic cross-border species in West Africa. They play an important role in food security, with sardinella fishing representing a means of subsistence for hundreds of thousands of people in the region. Over the past few decades, a significant increase in sardinella fishing activities, encouraged by various subsidy programs, has led to the overexploitation of stocks. This situation has significant environmental and socioeconomic implications for the people and communities that rely on sardinella fishing. This study presents a detailed analysis of the potential impacts of possible new World Trade Organization (WTO) rules on fisheries subsidies in the context of the sardinella fishery in the waters of four West African countries belonging to the Subregional Fisheries Commission (The Gambia, Guinea-Bissau, Mauritania and Senegal).

Sardinella catches in the artisanal and industrial sectors were estimated at more than 700,000 tonnes in 2014. Overall, the total landing value of sardinellas caught in the waters of The Gambia, Guinea-Bissau, Mauritania and Senegal was estimated at nearly USD 300 million in 2014, of which USD 160 million was generated by the artisanal sector and USD 137 million by the industrial sector. Most of the profits in the industrial sector are captured by foreign companies. In fact, the industrial fleets are operated mainly by factory trawlers (pelagic trawlers) of foreign origin, involving either foreign-flagged vessels operating under fisheries agreements in Mauritania and Guinea-Bissau, or vessels considered to be domestic due to being chartered by companies operating under national provisions. Industrial fishing in Senegal and The Gambia also makes use of purse seine nets. Artisanal fishing is carried out in Senegal and Mauritania using motorized pirogues with various fishing gear such as purse seine nets, gillnets and shore seine nets. Sardinella catches in the industrial and artisanal sectors have significantly increased over the last decade (Figure 1), which in the case of artisanal fishing explains its important role in contributing to the economy and supporting jobs and food security in the region

Figure 1. Sardinella catches in the studied fishery, by volume and by sector, 1990–2014



Data from Sea Around Us (2019); and FAO (2018) for reported landings.

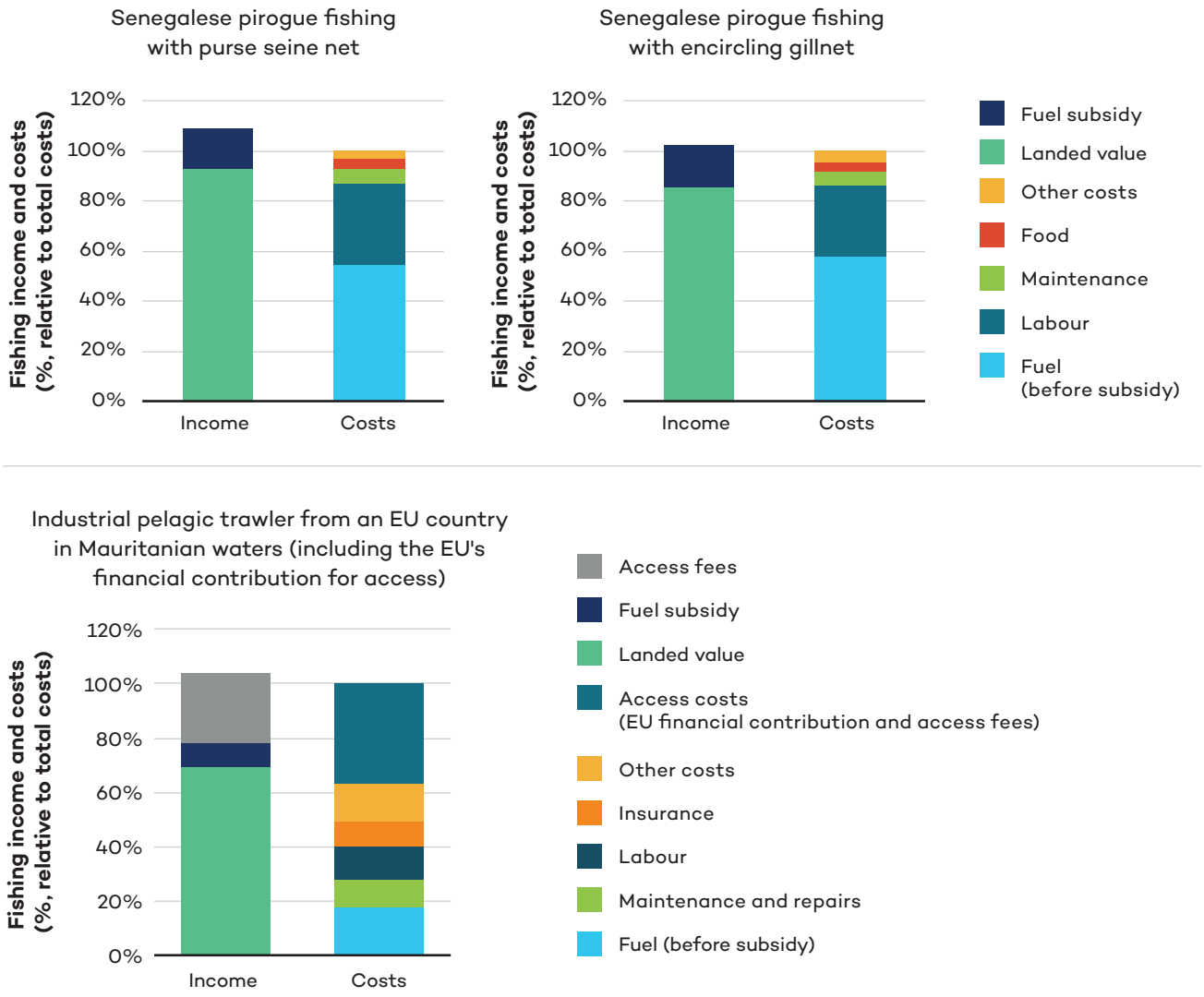
Sardinellas account for a significant proportion of the animal protein consumed by West African populations, especially, but not solely, in coastal areas. The sardinella fishery is also important from a socioeconomic standpoint. The small pelagic and sardinella fishing sector is estimated to generate more than 160,000 jobs in the countries studied, including approximately 17,500 artisanal fishing jobs, 1,700 industrial fishing jobs and 145,000 jobs in related activities, particularly in the area of processing. For some West African countries, especially Mauritania and Guinea-Bissau, the access rights paid by foreign fleets and governments also constitute a substantial source of income. Senegal and Mauritania also retain some of the value generated by small pelagic fisheries by means of significant exports. Beyond this economic value, however, it must be emphasized that sardinella fishing is strongly embedded in the social and cultural fabric of the peoples of the region, particularly in Senegal, and is therefore, in many ways, of intangible value for local communities.

Given its economic, social and cultural importance, the sardinella fishery is currently in a particularly worrisome situation. The substantial increase in the fishing capacity and effort of the different fleets targeting sardinellas over the past few decades has contributed to declining stocks, causing them to be considered overfished since 2006. Despite this overexploitation, which is evidenced by, among other things, a reduced catch per unit of effort as well as by reduced profitability, fishing pressure has continued to increase, a process promoted by various subsidy programs available to the artisanal and industrial sectors, as well as by inefficient fisheries management frameworks. Our analysis demonstrates how these subsidies appear to negatively affect the sustainability of these fishing activities, highlighting, through a very concrete case, the relevance of WTO negotiations in this area.

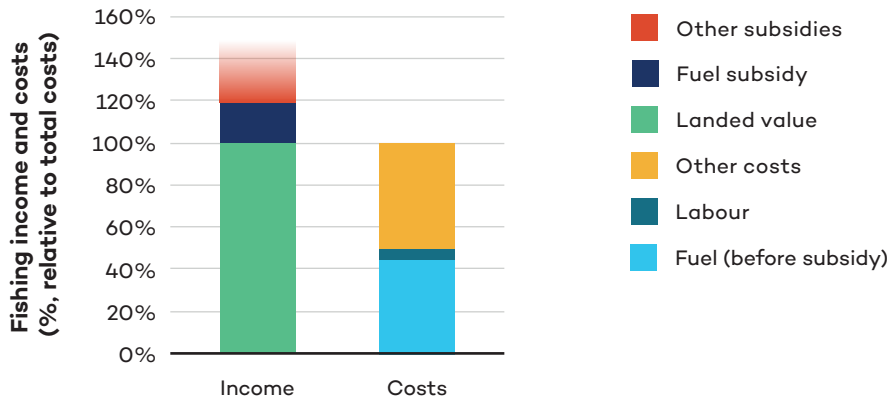
The data presented in this study suggest that most of the fleets that are actively involved in sardinella fishing benefit from subsidies that seem to play an important role in profitability. In other words, it appears that most of the industrial and artisanal fishing activities that target sardinellas would not be economically viable without the subsidies that they receive. This applies in particular to the fleets flying the flag of Mauritania (industrial fishing), Senegal (artisanal fishing) and member states of the European Union (EU) (industrial fishing) (Figure 2), all of which receive fuel subsidies. The Mauritanian artisanal fishing fleet also receives fuel subsidies, but we were unable to evaluate their

potential impact on its profitability. The EU-based ships also benefit from large subsidies in order to gain access to the waters of some West African countries. Other types of subsidies likely to significantly increase fishing capacity and effort, especially subsidies that aim to cover certain capital costs such as those linked to the acquisition of engines, have been identified, notably in Senegal. It is also very probable that China provides subsidies, notably fuel subsidies, to the industrial fleets of Chinese origin that target sardinellas in West Africa, even if no specific information could be found regarding this fishery. We also found no data suggesting that Russian fleets receive subsidies likely to increase their fishing effort (with some evidence indicating that they do not)

Figure 2. Estimated cost and income structure for some types of pirogues and fishing vessels in the sardinella fishery in West Africa for one year of operation



Industrial pelagic trawler flying the Mauritanian flag



Sources and methodology presented in Section 4 of the main study.

In view of their importance for the profitability of the fleets concerned, these subsidies probably result in the reinforcement of their fishing capacity and effort, for both the artisanal and industrial sectors, thereby contributing to the current situation of overcapacity and overfishing of sardinella stocks. The resulting depletion of resources further exacerbates the competition between an artisanal sector that supplies fish for consumption and local markets and an industrial sector that essentially targets international fishmeal markets. Our analysis also indicates that this type of support seems to contribute to allowing certain illegal, unreported and unregulated (IUU) fishing activities that also encourage overfishing.

Given the role of sardinella fishing in employment, poverty reduction and food security, as well as its role in the broader regional marine ecosystem, it seems clear that the continuation of subsidies that enable an increase or maintenance of the fishing effort runs counter to the attainment of several United Nations Sustainable Development Goals (SDGs) in the region. In this context, the fact that the profitability of the various fleets seems to be highly dependent on the subsidies received suggests that a reform of these subsidies could greatly promote the sustainability of fishing activities. For this reason, the WTO negotiations on fisheries subsidies represent an important opportunity to discipline detrimental subsidies of this kind, while ensuring that the diverse socioeconomic implications of possible new rules are taken into account.

Within the framework of these negotiations, new rules are currently being considered in three specific areas: (1) subsidies that contribute to IUU fishing, (2) subsidies to the fishing of stocks that are already considered overfished and (3) subsidies that contribute to overfishing and overcapacity in a broader sense. We have examined the potential effects of a series of options discussed at the WTO for these three areas.

Regarding a possible prohibition of subsidies that contribute to IUU fishing, the key question is which actors could identify cases of IUU fishing and therefore trigger the prohibition to subsidize the operators of the vessels involved. At present, identification by the coastal state would be the most effective option, because this is how IUU fishing activities are most frequently identified. There are also good reasons to include identification by the state that provides a subsidy, as well as by the flag state, but the monitoring of fleets by these actors is usually more complicated (when they are different from the coastal state). In all cases, the impact of this discipline will depend to a significant extent on

the willingness and ability of the states to monitor the fishing fleets involved. In order to maximize this potential impact, a combination of the three options (the subsidizing state, the flag state and the coastal state) appears to be the best solution. This approach could potentially result in a considerable reduction in IUU fishing activities in the region. It would nonetheless also be important to see to the improvement of the monitoring, control and surveillance capabilities of the states concerned. As for identification by inclusion on the IUU lists of regional fisheries management organizations, this option seems important but would not apply to the fishery studied, which is not subject to regional management.

The impact of a prohibition of subsidies to the fishing of overfished stocks would be very significant. With the region's sardinella stocks considered to be overfished, this prohibition would potentially apply to all subsidies for sardinella fishing (regardless of the specific option selected), which would probably have a substantial impact on the ability of most fleets to pursue their operations. This discipline can therefore be expected to lead to a significant decrease in the overall fishing effort in this fishery (for both artisanal fishing and industrial fishing) due to the expected loss of profitability of the various fleets, especially those flying the flag of Mauritania (industrial fleet), Senegal, EU countries and potentially China. As a consequence, sardinella stocks would likely recover, enabling an increase in catch levels and in the profitability of the pirogues and vessels remaining in the fishery, or re-entering the fishery, over the long term. In the short term, this prohibition could have considerable negative effects from a socioeconomic standpoint, particularly for the artisanal sector in Senegal. One option worth considering would consist of applying such a subsidy prohibition to the industrial sector first, then later re-assessing the stocks to determine if a prohibition would be necessary for the artisanal sector or not. Finally, it should be noted that the question of whether this prohibition would cover bycatch and unassessed stocks, or perhaps be restricted to subsidies having a negative effect on overfished stocks, is of relatively little importance for this particular fishery.

As for subsidies that contribute to overfishing and overcapacity in general, the option that would have the most profound impact would involve the targeting of fuel subsidies. Rules that prohibit subsidizing access to the waters of other countries and fishing activities carried out beyond the exclusive economic zone of a WTO member would also have a significant, though lesser, impact and would apply essentially to the industrial sector. These prohibitions would very likely also lead to a decreased overall effort within this fishery and to improved economic conditions for the actors remaining in the fishery over the long term, thanks to an improvement in catches per unit of effort and therefore in profitability. The prohibition of fuel subsidies would probably also engender some negative socioeconomic effects in the short term, particularly for artisanal fishing in Senegal, which are important to take into account. The prohibition of subsidies relating to capital costs could also potentially lead to decreased overcapacity and fishing effort, but to a lesser degree and on a longer-term basis. It should be noted here that this could present a potential risk for artisanal fishers going to sea with faulty equipment.

It is important to emphasize that, as we have noted, a prohibition of subsidies that contribute to overfishing and overcapacity could have not only positive effects, particularly for the health of fish stocks and the profitability of fleets over the long term, but also negative effects, notably for the socioeconomic well-being of local communities in the short term. It is therefore essential to proceed with caution when designing such a prohibition. An exception for the artisanal sector seems justified here, namely because (a) this sector is essential for employment, poverty reduction and food security, (b) isolating the impacts of the artisanal sector from those of the industrial sector and of climate

change is almost impossible and (c) opportunities for alternative livelihoods are currently very limited for artisanal fishers. Such an exception could be transitional and of limited duration, with the subsidy prohibition applied first to the industrial sector. With the increase in artisanal-sector catches that would be likely to result, fuel subsidies and subsidies aimed at building fishing capacity could become obsolete, and incomes could increase even despite their removal.

The complete fulfillment of the potential positive impacts of new WTO rules will also depend on the capacity of West African states to improve the monitoring, control and surveillance of the fishing activities carried out in their waters, as well as fisheries management in general. For the moment, it is clear that the systems in place are insufficient. In response to subsidy prohibitions and the potential financial losses arising from them, some fleets could implement various compensation strategies, such as engaging in certain particularly damaging IUU fishing activities. Some options could also entail a redeployment of fishing efforts toward the waters of the country granting a subsidy, especially in the case of the Senegalese migrant artisanal fleet (if the artisanal sector is included in the prohibition). In this particular context, it therefore seems important to provide for a management system capable of limiting the increased fishing effort at the local level, which would be felt at the regional level given the cross-border nature of sardinella stocks. It is also possible that some operators will try to adapt by reducing labour costs through a reduction in wages and crew numbers or through a deterioration in working conditions.

Even if the artisanal sector were exempt from a possible ban on subsidies contributing to overfishing and overcapacity, the potential rules in the two other areas (IUU fishing and overexploited stocks) would nonetheless involve efforts toward reform. In particular, the prohibition of subsidies to the fishing of stocks assessed as overfished would mean that, in the current situation, subsidies to sardinella fishing should be phased out. It is therefore important to give some thought to how these reform efforts can be designed, supported and complemented. We suggest that it could be useful to improve monitoring, control and surveillance, provide financial support to negatively affected fishers, redirect public funds toward non-sectoral forms of support and provide technical assistance to facilitate the reform process.

The sustainability of fishing activities in the sardinella fishery is of fundamental importance in view of attaining the SDGs in West Africa, especially in certain coastal regions. For this reason, it is vital to ban subsidies that have detrimental effects on these stocks, particularly those aimed at the industrial sector, which supplies the fishmeal market, and to strengthen management and monitoring capacities, notably by reorienting certain subsidies. Such reforms would contribute not only to a reduction in poverty by increasing the long-term income earned by artisanal fishers through increased catch opportunities, but would also provide an increased supply of fish, an affordable source of animal protein, to vulnerable segments of society at the regional level. Healthier sardinella stocks could also reduce conflicts over the use of resources and the threat of potential civil unrest should they collapse. In general, these reforms could preserve the great importance of the sardinella fishery for the economic, social and cultural fabric of local communities.

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