



## **Environmental Impact Assessment of Trade Liberalisation:**

*A case study on the fisheries sector of the  
Islamic Republic of Mauritania*

*Summary*



## United Nations Environment Programme

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PROGRAMME DES NATIONS UNIES POUR L'ENVIRONNEMENT • PROGRAMA DE LAS NACIONES UNIDAS PARA EL MEDIO AMBIENTE  
ПРОГРАММА ОРГАНИЗАЦИИ ОБЪЕДИНЕННЫХ НАЦИЙ ПО ОКРУЖАЮЩЕЙ СРЕДЕ

This summary stems from a country study on the « *Evaluation de l'Impact de la Libéralisation du Commerce: Une étude de cas sur le secteur des pêches de la République Islamique de Mauritanie* » supported by UNEP and developed by Pierre Failler from the Centre Pour les Sciences Economiques et La Gestion des Ressources Aqautiques (CEMARE).

As part of its commitment to increase the understanding of the impacts of fisheries subsidies and to build capacity for their reform towards sustainability, UNEP has been conducting country studies on national fisheries sectors worldwide. Focusing on the impacts of trade liberalization on fisheries resources and the interaction between fisheries subsidies and fisheries management policies, the studies have confirmed the negative effects of poorly managed subsidies, particularly their contribution to resource and environmental depletion, food insecurity and unemployment. All UNEP ETB case studies clearly demonstrate the need for more coherent and transparent policy-making.

For further details on these studies, please consult our website at : <http://www.unep.ch/etb/publications/fishierSubEnvi.php> or contact Anja von Moltke at [anja.moltke@unep.ch](mailto:anja.moltke@unep.ch), tel: 0041 22 917 8137.

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## **Abbreviations**

|               |  |
|---------------|--|
| <b>ACP</b>    | African Caribbean Pacific Countries          |
| <b>ECOWAS</b> | Economic Community of West African Countries |
| <b>EEZ</b>    | Exclusive Economic Zone                      |
| <b>EU</b>     | European Union                               |
| <b>LDC</b>    | Least Developed Country                      |

## **I. Background on the Fisheries Sector in Mauritania**

The diversified Exclusive Economic Zone (EEZ) of Mauritania offers the country great potential to sustainably develop its fisheries sector, engage in international trade, reduce poverty and increase food security. With a total of 36 billions UM<sup>1</sup> in 2001, fish exports contribute up to 50% of national exports and represent about 25% of the State budget. Of highest exporting value are the celaphodes fisheries (mainly squid) and demersal fisheries (noble demersal species and shrimp). Despite the 30,000 direct and indirect employments that the fisheries sector provides, the sector is nevertheless not integrated into the national economy and its contribution to national GDP in real terms is continuously decreasing (from 4.5% in 1995 to 2.8% in 1999).

Various fleet exploit the marine resources in Mauritania's EEZ: a) national and foreign industrial fleet (from Japan, European Union (EU), Ex-USSR and East Africa), and b) national and foreign (Senegalese) artisanal fleets. The industrial fleet operates under chartered fleets, licences of access agreements between the Mauritanian government and another country or under private access agreements between operators and the Mauritanian government. The Senegalese artisanal fleet operates under the bilateral agreement between Mauritania and Senegal, re-ratified in 2002.

Completely turned towards export markets, the Mauritanian production system experiences a lack of product diversification and processing. This situation renders Mauritania very vulnerable to trade liberalisation measures in foreign markets and to changes in international context.

The objectives of this study are to evaluate the impacts of trade liberalisation of the Mauritanian fisheries sector on fish stocks and marine ecosystems in order to identify different ways to reform existing policies towards a sustainable development of Mauritania's fisheries.

## **II. Impacts of Trade Liberalisation in the Fisheries Sector**

Under trade liberalisation measures in Mauritania, the fisheries sector is predominantly influenced by the measures under the Cotonou Agreement with the EU. Cotonou provides for all ACP exports a customs free entry to the European market. This has led to an export-oriented development of the fisheries sector.

Mauritania's trade liberalisation measures are primarily characterised by a dismantling of customs duty to imports and exports, State redrawing of both public fisheries processing facilities, and numerous bilateral fisheries agreements with Algeria, Japan, Morocco, Russia, Senegal, Tunisia and the EU.

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<sup>1</sup> The Mauritanian currency is the ouguiya of which the symbol is UM. In 2004, 360 UM are equivalent to 1 €.

## **A. Economic and Social Impacts**

The study indicates that the impact of trade liberalisation, principally taking place under EU access agreements, has been mixed. On the one hand, Mauritania has benefited from the payments under the access agreement by reducing its national debt. On the other hand, access agreements have negative effects on national food consumption, poverty reduction, resulting in a situation of high dependence of the fisheries sector on these foreign financial payments.

Foreign financial payments under access agreements constitute a large proportion of the national state budget. In 2001 they formed 51% of the government budget, which amounted to €6.7 million. This enables Mauritania to finance investment in infrastructure, fishing material, education, training and research.

Access agreements have also benefited Mauritania's artisanal fisheries sector, which outcompetes industrial fleet in various markets, such as the cephalopodes market. By using selective gear and fishing close to shore, artisanal fleets catch high-value fish for exports. Contrary to the Mauritanian industrial fleets, the artisanal fishing fleet is able to fulfil the strict sanitary and quality requirements of external EU markets.

However, these external funds also create a situation of high dependency and hence significantly reduce Mauritania's negotiating powers in new access agreements negotiations. According to the author, a more significant and harmful effect of access agreements is the lock of the sector into a position of raw material supplier rather than fish processor. Since foreign European fleets do not dock at Mauritania's ports but transport the fresh, frozen or chilled fish to Europe, the processing stage of the fisheries production chain takes place in Europe. Mauritania currently processes only 12% of its catch, and is thus deprived of the more value-adding processing activities of the fisheries sector. This has several far-reaching impacts. First, it leads to a real disconnection between the production system under access agreements and the Mauritanian system. Second, there is no investment in Mauritania's processing facilities, remaining uncompetitive. Third, increasing exports lead to a lack of local market supply in fish, particularly in high value fish. A rise in the prices of fish in local markets has already taken place, resulting in a substitution of fish for poultry, which has become cheaper than fish. Fourth, traditional fish species are substituted by new species that are of lower value and quality. Thus, in addition to fierce competition over fish catches, the European fisheries sector also outcompetes Mauritania in the processing sector.

## **B. Environmental Impacts**

Findings reveal that overall, trade liberalisation since the 1990s has led to a diminution of marine biodiversity as a result of increased pressures on many fish species. A detailed analysis of species-specific data indicates that the diminution is particularly manifested through a disappearance of those species at the top of the food chain, since they have the highest market value.

### (i) Evolution of Hake

Fishing efforts exercised on hake stocks by trawler fleet have dramatically decreased since the 1990s, diminishing from 5000 to 2000 fishing days/year. In parallel however, the volume of catches have continuously increased during the 1990s from 2 to 5 tons/day of fishing. Furthermore, fishing efforts of longliners, rising as a result of the fleet transfer from the Moroccan EEZ to the Mauritanian EEZ, led to an increase in catches from 300 tons/year in 1993 to 1400 tons/year in 1999. Overall, hake stocks reveal a strong sensitivity to overexploitation with catches varying between 10,000 to 14,000 tons/year.

### (ii) Evolution of Shrimps and Crustaceans

The main commercial species of shrimps and crustaceans are targeted by Spanish fleets, with gambas representing 50% of the overall catch. Increasing fishing efforts and stable fishing sector earnings reflect a change in the ecosystemic nature of the crustacean resources. The modification of the marine ecosystem, in particular the significant reduction in predator species, seems to favour the abundance of shrimps. Even though this increase might benefit fisherfolk in the short run, the author argues that it will harm them in the long run. The stability of revenue from shrimp fishing demonstrates that the efforts have reached a level high enough to have a significant impact on the ecosystem. Over time, an overexploitation of crustaceans will have catastrophic repercussions on the viability of demersal fishing in Mauritania by subtracting one link in the trophic chain.

### (iii) Impacts on octopus resources

Data, ranging from the 1960s to present, indicate a significant reduction in octopus abundance, now being at its lowest historical levels.

Various models have shown that, in addition to resource harvesting, environmental conditions also heavily impact on resource abundance. In particular, the strength of upwelling can influence production levels of octopus between 27,000- 44,000 tons/year. The author however emphasizes that the variability in upwelling does not question the diagnostic of overexploitation. Excessive fishing efforts between 1991 and 2001 are estimated to be 28%, without influence of strong or weak upwelling. Even though upwelling explains the strong inter-annual variations of octopus catches, environmental variability in this case does not prevent the overexploitation of the stocks.

### (iv) Bycatch

In addition to an overexploitation of targeted species, the industrial fleet in Mauritania's EEZ also produce important volumes of bycatch of up to 80% in shrimp fishing. Despite the economic and ecological distorting effects of such destructive fishing practices, political debates over bycatch reduction measures are repeatedly pushed into the background by negotiations over catch quotas and fishing licences.

According to the author, the issue of bycatch reflects two realities. First, short term economic gains largely outweigh protection of marine resources. Studies by Diop<sup>2</sup> have shown that the economic loss caused by shrimp-fishing bycatch amounts to at least 10 millions US\$, and constitute roughly 10% of the overall marine resource export revenue. Second, it also reflects the ineffectiveness of resource access management. Even though each new access agreement between the EU and Mauritania introduces stricter quotas, the compliance to such regulations is still very weak due to ineffective control measures by Mauritanian officials and the fact that foreign fleets escape Mauritanian controls by embarking at European ports.

High bycatch levels and non-compliance are exacerbated by the increasing strictness of market access criteria that is becoming incompatible with the diversity of industrial fish catches. The increasing complexity of those market access conditions and stricter quotas, which it is argued represent European commercial interests, oblige fleets to throw back all the species of less commercial value, thus resulting in wasteful and inefficient resource use. The author identifies the following immediate effects of these developments:

- Increase in production costs parallel to higher fishing efforts in order to make up for these production costs.
- High loss in marine biomass resulting in an economic and ecological loss
- A tendency to under-declare bycatch levels, distorting scientific data and thus impacting on new fisheries management measures

Artisanal fishing devices are much more selective than those utilized by industrial fleets. They limit bycatch and thus pose an undeniable advantage vis-à-vis industrial fleet in the realization of resource and biodiversity protection measures. However, despite this selectivity, the significant development of artisanal fisheries over the past 25 years as a result of their market flexibility and adaptability, increases the pressure that artisanal fleet put on marine resources. In other words, more selectivity does not necessarily lead to conservation of biodiversity.

#### (v) Marine Pollution

There exists limited data on marine pollution and its consequences that allows drawing some preliminary observations and conclusions. Pollution derives from several sources such as the absence of water treatment and the lack of sewage treatment from towns nor industrial plants (e.g. electrical plant, mining industry and port activities). No concerted efforts have so far been undertaken to ameliorate the worsening situation. Coastal water quality has deteriorated to such an extent that fish processing plants now need to use drinking water to meet sanitary requirements. Even though environmental impact assessment are imposed by Mauritanian law, they are not submitted, even if carried out, under a scientific independent evaluation.

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<sup>2</sup> Diop (1998) Pêche, commerce international et biodiversité: Etude de cas en Afrique. Cas de la Mauritanie.

### **III. Impact of Trade Liberalisation on Selachian<sup>3</sup> Fisheries**

Mauritania does traditionally not consume selachians, and selachian fisheries are thus solely dedicated to African, European and Asian export markets.

Imraguen, the peoples of the Arguin Bank National Park, started fishing selachians in the mid-1980s as a result of the depletion of grey mullet and the high market prices offered for shark fins. selachian fish are dedicated solely for export, and are traditionally not consumed in Mauritania. The selachian fisheries sector now employs around 1000 people at sea and on land. At sea the sector predominantly employs Imraguen men, whereas the locals processing facilities mainly employ foreigners, mainly women from Mali, Ghana and Senegal.

The development of selachian fisheries demonstrates the ability of Imraguen fishermen to adopt new and efficient fishing techniques. However, unfortunately this has resulted in the isolation of the Imraguen community in the role of provider of raw material, missing out on the value adding processing activities. In particular, the refusal of Imraguen women on cultural and religious grounds to be involved in the processing of sharks has led to this state of affairs. These grounds stem from the fact that, contrary to grey mullet, shark babies develop in the mother womb in similar way to humans. Imraguen women therefore refuse to participate in the processing activities that were traditionally theirs. Thus contrary to the central role they played in the processing value-adding activities in the mullet activities, they play no role anymore in the processing of selachians. Foreign workers have thus acquired these activities for themselves.

Conflicts have also arisen between national and foreign fleets over resource exploitation. The former accuse the latter of overexploiting fish stocks by using destructive fishing methods, especially in protected areas. It has now become widely accepted that selachians are in great danger of extinction and national and international measures have already been put in place to reverse the trend of overexploitation. National measures to reduce overexploitation include for example, reduced fishing periods and campaigns to reimburse fishermen for burning their shark-catching fishnets.

### **IV. Synthesis of the Barriers to Sustainable Development of the Mauritanian Fisheries Sector**

In the 1980s the fisheries sector projected real hopes for national and sectoral development. Successive waves of nationalisation of production methods and processing industries until the mid 1990s did, however, not succeed in integrating the sector into the national economy. Consequently, today, foreign fleets largely dominate the sector.

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<sup>3</sup> Selachian is defined as “any of numerous fishes of the class Chondrichthyes characterized by a cartilaginous skeleton and placoid scales: sharks; rays; skates” ([www.word.reference.com](http://www.word.reference.com))

The fisheries sector faces two main barriers to sustainable development. First, the lack of processing facilities entails that the value-adding processing activities do not take place in Mauritania. Mauritania has thus become the supplier of raw material to processing facilities abroad. Furthermore, despite various modernisation efforts to renovate the processing facilities, they are still only partly up to the sanitary requirements of foreign markets. For example, molluscs and clams cannot be processed according to the sanitary and health standards imposed by the EU. This severely restricts the positive intentions of abolished customs duties under Cotonou and risks, in a near future, to oppose development plans of the Mauritanian fisheries sector. EU support through development funds is therefore crucial to build up the necessary sanitary and technical amendments. Unfortunately, in supporting solely the amelioration of landing infrastructure, freezing facilities, and transport.

European aid has so far only contributed to an acceleration of the exporting process of the catch, rather than the processing facilities. European aid is thus perceived to merely benefit European consumers by providing European markets with fresh and higher quality fish rather than developing the Mauritanian fisheries sector. The dependence on the foreign payment for access entails that Mauritania is less and less able to direct the development of its own fisheries sector. The sector mainly suffers from problems such as overcapacity of its fleets, multiplicity of fishing licences that do not correspond to the reality of the stocks, insufficient knowledge of economic factors to understand the determining parameters of the fisheries sector, and inefficiency of conservation measures.

A second barrier is the ecological limit to increased fish harvesting. The scarcity of the targeted export species and the bad health of the marine ecosystems rigorously threaten the sustainability of the sector. Studies have shown that many of the major fish stocks have significantly decreased over the past years with many being already overexploited or close to overexploitation. The octopus stock for example, is currently being overexploited by 24-40%.

Mauritania therefore needs to develop an integrated policy that takes account of the social, environmental and economic challenges facing the fisheries sector. Until now such a coherent policy does not yet exist. In terms of overall impact, not the fisheries sector nor the country itself really profit from the improvements through access agreements that, not based on a national capacity building strategy to process fish products, do not generate much national value. Rather, large international pressures encourage the selling of natural resources to satisfy the minimal requirements of economic growth and reduce poverty. In this context, the sea and its marine resources represent a source of exploitation and earning, without taking into account the fragility of these resources and the necessity to guarantee their long-term survival.

## **V. After 2007**

Even though the Cotonou Agreement between ACP countries and the EU will be reformed after 2008, Mauritania as a Least-Developed Country (LDC) is allowed to keep its non-reciprocal preferences. However, since Mauritania has decided to join the Economic Community of West African Countries (ECOWAS), it will keep preferential

access to European markets but on a reciprocal basis. This framework will be in place until 2020.

The imminent dismantling of access advantages of ACP countries to European markets will likely intensify the competition between African and Asian countries. Currently it seems as if Asian countries will largely outcompete African countries, since they can produce the same quality of product for a much lower price. In addition, the low air freight costs will potentially draw the EU's attention to Asian countries whose sanitary and technical norms, contrary to many ACP countries, comply with the international standards. The overprotection secured by the Cotonou Agreement, all in Europe's interests to its market supplies with primary materials, created a context of dependency from which Mauritania will have difficulties to withdraw. The structure of the fisheries sector in the absence of international competition will likely lead to an increase in poverty. The international competition will lead to a significant reduction in market prices. In other words, Mauritania will have to export more in order to satisfy the requirements of growth, intensifying the firm pressures put on fisheries resources already.

Trade liberalisation is exercised through two main streams: the privatisation of state owned processing and commercialisation facilities and access agreements with the EU. Even though some parts of the sector benefit from this trade liberalisation process (e.g artisanal fisheries), the orientation to export markets has harmed Mauritania overall, and has affected national food security by notably reducing local market supplies of fish.

Although the EU access agreement, concluded in 1995, has significantly contributed to state finances and the reduction of public debt, it has nevertheless harmed the national industry. With a competitive advantage, the European fleet slowly but surely outcompetes Mauritanian fleets. The Mauritanian artisanal sector, on the other hand, does not suffer under the new regime and has increased its total catch, from a few hundred up to 80,000 tons/year. The key to such a success seems to arise from the utilisation of cost-effective fishing methods that allow catching the fish alive, in close proximity to the shore. In that way, artisanal fisherfolk are able to export high quality fish to foreign markets. Artisanal fishing, in use of very selective fishing methods and a lack of bycatch, is often viewed to be more in harmony with the marine environment. However, the destruction of large population of shark and raie along the Mauritanian coast opposes such statements and allows concluding that a general change in perception of the marine environment is necessary if Mauritania wants to continue using its marine resources.

The author calls for access agreements to be considered as part of a larger relationship between the EU and Mauritania and their effects cannot be easily singled out. In other words, what Mauritania cedes to the EU in the fisheries sector, it gains in other sectors. Financial pressures on the government are currently so strong, that access agreements are perceived as an immediate financial solution. The development of the artisanal and industrial fisheries sector is taken into consideration during the negotiations, however they are not a final determinant of the outcome of the agreement.

## **VI. Recommendations**

This country study has found that, overall, the liberalisation of multilateral trade and trade liberalisation and access agreements with the EU have contributed, thanks to an amelioration of trade terms and a maintenance of a preferential trading regime, to an increase in fishing efforts of commercial fish species with negative impacts on the targeted fish stocks and marine ecosystems. The fisheries sector seems to be directing itself into a position of raw material supplier, building on a politics of quantity rather than quality.

The findings of the study lead to the conclusion of several recommendations to ensure the sustainable development of the Mauritanian fisheries sector:

- The golden rule for sustainable fisheries development is to adapt fishing fleets to the availability of the resource in time and space. Fisheries management needs to adapt to the abundance of fish stocks and thus to the fluctuating characteristics of coastal upwelling. Scientific data is a prerequisite for sound quota setting.
- In order to ensure the sustainability of the Mauritania fisheries sector, the question of national interest should be separated from the fisheries sector. It is thus necessary to disconnect the budget of the Fisheries Ministry from the payments received under access agreements.
- There is a growing need for a local market supply policy. Mauritania is experiencing a change in consumption patterns away from so-called noble fish species to cheaper species, paralleled by a shift from fish consumption to poultry consumption. A recent World Bank study warns that a food security policy is fundamental to eradicating poverty. Trade liberalisation currently endangers food security as it resulted in a large shift towards exports.
- Coherence of national public policy is also highly desirable. The analysis of the impacts of trade liberalisation clearly shows a lack of internal coherence in the fisheries sector and on the national level in regards to development policies. Planning should take into account the international context of trade, environment, ethics and democracy but also national phenomena such as poverty reduction, economic growth. In other words, Mauritania needs to adopt an integrated strategic approach to planning.
- The environment dimension, in particular the biological state of fish stocks, also seems to be left out in national planning. Most demersal species are under threat of depletion and overexploitation. Furthermore, there is an ecological dumping happening, or a selling off of marine resources which reinforces economic development by relying on overexploitation of natural resources. Comparing the fishing licences given to foreign and national fleet in the 1990s, at a time when production levels were lowest, demonstrates that the concept of sustainable development receives not much more attention than lip service. In particular, squid is a financial opportunity to grasp before its stocks are so depleted or foreign competition takes over. Thus, the preservation of marine resources is a precondition for the maintenance of economic rent. Nevertheless the scientific

warnings of overexploitation have so far only been taken as information rather than source of action.

- There is also a need for a policy encouraging the sector to focus on the quality of fish products and diversification of the sector.
- Coherence of national public policy: coherence of national public policy is highly desirable. This need is recognised in light of trade globalisation, adjustment plans put forward by the Bretton Woods institutions, development objectives, diminution of public aid since the 1990s, and the reduction of European aid.
- The fisheries sector, in midst a context of intensifying trade, is more and more dependent on the workings of the international market.
- Furthermore, in light of the decreasing importance of the mining and agricultural sector, the valorisation and exploitation of fish resources is becoming economically and socially crucial.

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For further details on these studies, please consult our website at :  
<http://www.unep.ch/etb/publications/fishierSubEnvi.php> or contact Anja von Moltke at  
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