

The ambiguity of the regulation of fish resources and maritime mobilities in Senegal: exploring the relationship between Senegalese fishermen and the state

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Industrial and – to a lesser extent – small-scale fishers’ overfishing practices generated today’s decrease in fish stocks in Senegal. What these fishing practices bring to the fore are the contradictory resource access and regulation policies which Senegal’s state has implemented since the independence. In fact, while Senegalese governments significantly fostered the development of national fisheries, this development policy was not combined with the application of a surveillance and access restriction policy efficient enough to regulate artisanal and industrial catches. The successive state practices have produced ambiguous relationships between Senegalese fishers and the state since the 1960s (Chauveau and Samba 1990). In fact, while Senegal’s state has increasingly opened access to the sea to foreign industrial trawlers since the 1980s (Alder & Sumaila, 2004), in parallel the same governments have made intensive efforts to regulate small-scale fishers’ movements. As a result of the fishing crisis, the sea has become a space of interaction shaped by power struggles between individuals and institutions, bringing to light the inadequacy that exists between a rapidly evolving artisanal fishing sector and an emerging postcolonial African state.

I argue that while the dynamism of the mobile fishers first expressed a positive strength which the postcolonial state wanted for Senegal’s economy, this dynamism has become a threat to marine resources’ sustainability, which the state has failed to regulate. These failures certainly involve a lack of coherence and surveillance means in the application of fisheries’ policies, but mainly reflect a poor consideration of fishermen’s practical knowledge or “*mêtis*” (Scott, 1998). As a result, fishermen’s mobility has increasingly become dynamic and uncontrollable and has conveyed negative meanings to the regulators.

This paper is based on the results of qualitative interviews conducted in Senegal in 2011 and 2012 for a doctoral research project. It first examines the development policies of small-scale and industrial fisheries in Senegal since the 1950s. I then show how state efforts have failed to regulate Senegalese fishers by dismissing their practical knowledge or “*mêtis*” and developing incoherent fishing regulation practices.

1. Fostering fishing activities in Senegal

The growth of the artisanal fishing sector

From colonial and postcolonial interventionist policy to recent participatory policy, the artisanal fishing sector has progressed independently from governmental measures, although these measures have had indirect and unexpected effects on the fisheries’ evolution. The causes for the expansion of the small-scale fishing sector lie in the reinterpretation and re-appropriation fishermen made of state intervention rather than in the potentially successful implementation of interventionist fishing policy.

Until the 1980s, the small-scale sector was considered to be an obstacle to the development of a modern system of fishery exploitation (Chauveau & Samba, 1989; Kebe & Deme, 2000). The French colonial administration and the successive postcolonial governments followed interventionist policies towards the small-scale fishing sector, assuming that fishermen’s traditional nature would slow the development of Senegalese fisheries. The state first encouraged the spread of new technologies at the beginning of the 1960s, and from 1980 onwards, it significantly subsidised

artisanal and industrial fishing activities (Kebe & Deme, 2000). In fact, the fishermen pragmatically adopted some of the state's modernising measures while rejecting others, depending on their needs, habits and practices. Two main technological development measures marked Senegalese fisheries: the advent of motors and the development of purse seine technologies (Kebe & Deme, 2000). Fishermen willingly adopted these technologies, which enabled them to spend more time at sea and bring in bigger catches. The "motor-generalisation" policy among artisanal fishers was successful from 1952 onwards because it very quickly started to spread the use of motors among coastal communities. Whereas the government's initial objective was to develop local fisheries and sedentarise the fishers, motorising boats had the opposite effect (Chauveau & Samba, 1989: 609).

Apart from these technological advances, state measures to modernise artisanal fisheries mostly failed to seduce the fishermen mainly because they dismissed fishermen's practices and specific knowledge (Kebe & Deme, 2000). In parallel to these technological advents, the state has provided financial assistance to the fishermen for their gear. Deme and Kebe (2000) argue that, again, this interventionist policy has had unintended effects on the local economy. They suggest that subsidies have led to growing competition over resources and to a devaluation of fish prices with the reduction of production costs. Fishermen, as a consequence, have needed to produce more for a better income as fish stocks decrease, because of greater fishing pressure.

These policies reflect Senegal's state interests in developing maritime fisheries as a strategic sector in order to balance the lack of development in the other economic sectors. Since the 1970s and as a response to the drought affecting Senegalese rural areas, many peasants have migrated to coastal areas, where they have been hired as workers by fishermen crews (Nguyen-Van-Chi-Bonnardel, 1980). In parallel to these developments, the Senegalese government has opened the national maritime spaces to various foreign fleets, mainly since the beginning of the 1980s.

Encouraging the large-scale exploitation of marine resources

Senegal has been party to a number of fishing agreements signed by the European Commission and African countries, which increased in the 1980s (Catanzano & Rey Valette, 2002). These agreements have enabled the West African countries whose fishing capacities and financial means are limited to take advantage of their marine grounds and benefit from a financial counterpart. These agreements have been largely criticised as European fish catches constitute a considerable loss of resources for local fisheries. Scientists have documented a serious fishing crisis (Gascuel, Laurans, Sidibé, & Barry, 2002) for which European fleets have been mentioned as sharing responsibility in West African waters (Kohnert, 2007). These formal agreements were not renewed with Senegal in 2006 because of the serious condition of the fish resource (SSNC, 2009). However, since 2006 a number of European-based companies have settled in Senegal in joint ventures. They are officially Senegalese and count as Senegalese fishing companies, but at the same time, this is an opportunity for foreign fleets to informally fish in Senegalese waters and direct their catches for export to the international market (Baché 2011).

There is a lack of transparency regarding the legal framework of industrial fishing licences' sales. The Senegalese Minister for Fisheries and Maritime Affairs, Haïdar el-Ali, estimated that around 40 Chinese, Russian or Ukrainian vessels – among other nationalities – circulate across West African waters and fish illegally in Senegal in 2014.¹ On the 5 January 2014, the Senegalese authorities seized the Russian ship *Oleg Naydenov* while it was fishing illegally off Senegalese shores. For being a "repeat offender", the ship-owner was sentenced to a XOF 600 million (£763,900) fine.² In 2011, the Senegalese fisheries organisations denounced the signature of 22 illicit agreements by the former government in 2010 allowing foreign trawlers to fish extensively in national waters (Niasse & Seck, 2011).³

Although these ships must land their catches in Dakar, they rarely do so as they can freeze up to 1,500 tonnes of fish for 12 days at sea. These ships can also process 40 to 50 tonnes of fishmeal per day (Niasse & Seck, 2011: 5).

¹ RFI, 2014, 6 March, Haïdar el-Ali, ministre Sénégalais de la Pêche et des Affaires Maritimes, Christophe Boissouvier, <http://www.rfi.fr/emission/20140306-haidar-el-ali-ministre-senegalais-peche-affaires-maritimes/>, consulted on 13 March 2014

² *ibid*

³ IPS, 2011, 2 April, *Bras de fer entre gouvernement et pêcheurs*, Souleymane Faye, IPS International, <http://ipsinternational.org/fr/note.asp?idnews=6452>, consulted on 30 July 2013

Both small- and large-scale fisheries are responsible for the decrease in resources in Senegalese seas. The Senegalese has encouraged the exponential growth of the national fisheries while the lack of surveillance means has prevented a proper and sustainable regulation of marine resources' exploitation.

2. Regulating sea mobility and fishing activities: the reasons for the state's failures

Today, as a result of resource scarcity, the fishing sector, natural resources and fishermen's mobility have reached their physical and geographic limits. As a response to successive failures and the resulting fishing crisis, state regulation is now proceeding with the implementation of participative measures and co-management programmes in local fisheries. This new policy seems to be a unique solution in that it is attempting to acknowledge the traditional, independent nature of the fishermen. Indeed, according to Trouillet et al. (2011), the main obstacles that prevent the appropriate governance of West African waters are a poor knowledge of small-scale fisheries and weaknesses in participatory processes. In this context, is the "participatory turn" a significant advance for sea regulation in Senegal? The application of such a participative policy still remains problematic because of the government's incoherence in regulating and managing the sea space, and a lack of surveillance means and consideration for fishermen's practical knowledge.

The limits of the application of the law

In 1998, the law clearly established the responsibilities of the state and of the small-scale fisheries' actors in the management of fisheries. Through this policy, both the national government and fishing villages are required to take part in this management through the creation of local committees for fisheries (CLP⁴). At the head of these participative committees, a civil servant represents the state at the local level. The rest of the committee is democratically elected by local fishermen and constitutes an intermediary between the national administration and the local fishers (Code for Maritime Fisheries, 1998). In addition, this new policy reinforces the existing licence system and clearly forbids numerous unsustainable fishing techniques. Nevertheless, it was only in 2005 that the Senegalese state formally started imposing mandatory fishing permits for artisanal fishers (Decree no 5916, 2005). As a response to the fishing crisis, the then Senegalese Ministry for Maritime Economy elaborated a sector policy letter in 2007 that aims to reinforce the entire national fisheries reform programme launched in 2000 (Sector Policy Letter, 2007). This policy letter mostly targets the preservation of the resource through the creation of protected marine areas (PMA), artificial reefs for species reproduction and aquaculture development, in parallel with strengthening restrictions on fishermen's access to the sea (Sector Policy Letter, 2007). Access to the sea is undoubtedly more limited because of this new policy whose principal aim is to protect oceanic resources without jeopardising the traditional Senegalese fishing activities. The effective application of this participative management has not convinced the fishing community which has been made difficult the application of norms and rules for the conservation of resources. A state agent translates this famous Wolof sentence he has often heard from the migrant fishermen who have been refusing to respect biological recovery in the local PMA⁵: "*Guedje amoul thiabi, bagnou koye tethie*" which literally means: "the sea has no key and cannot be locked". This sentence reflects migrant fishermen's vision of the sea: a space without limits or borders which does not belong to anybody. In this context, applying the law remains challenging for the regulators.

Furthermore, the lack of efficient application of the law has led to increasing competition over fish resources and over the development of contested fishing techniques. Despite the restrictions imposed by the 1998 Code of Maritime Fishing, fishermen keep using dynamite and poison, spear fishing, reducing net sizes and using monofilament nets (PNUE, 2004). At Ouakam's fishing wharf, Alioune argues that the development of these forbidden practices has had important impacts on fish species' reproduction. The fishery structure of Ouakam has been selected for a World Bank-funded environmental project (GIRMAC). In this context, the fishing in the local area has been restricted in order to restore the coastline's ecosystem and encourage the reproduction of endangered species. In the framework of the co-management fishery policy, the community has chosen its own monitoring and surveillance agents, under the ministry in charge of fisheries' supervision. For Alioune, the role of the surveillance agent who has been designated by the fishermen is not effective⁶. Local fishermen are

⁴ *Comité Local des Pêches*

⁵ Interview 49, April 2012, Joal, DPM

⁶ Interview 17, Ouakam, June 2011

aware they are responsible for the management of their local fishing area and that they have some legitimate control over the irregular fishing activities occurring there. However, they do not see themselves as representatives of state power, being aware that they cannot arrest people who are illegally fishing along the coastline. They find the legitimacy for their actions and for their occasional violence in their disillusion, tiredness and frustration towards both the state and the other fishermen's behaviour. Alioune acknowledges that the local fishing sector needs state action for the management of conflicts and fishing resources, although he does not seem to give much credibility to its action, because of the lack of financial resources. He seems to believe more in the traditional fishermen's regulation:

*We say that the fisherman, when he fishes in an area, maybe when he was the first to go to this area, we don't say that he is the owner of the place, but if someone else then comes, he has to pay attention to the one who has already settled there. Here it is, this is a natural fishing regulation.*⁷

The legitimacy of fish resources and fishermen's mobility regulation relies more in traditional oral agreements that tie fishermen together than in an external state authority. The state seems to struggle to impose its official and formal rules because of an apparent lack of financial resources. To fishermen, these oral regulations appear to be "natural" and in opposition to the obscure external state rules. These regulations mark spaces, places and fishermen's identity, and when they are effective, they enable a fluid regulation of the mobility. State regulation seems to have no authority on this very local scale, although it is expected by fishermen. Moreover, fishermen's relationships to Senegal's state have become increasingly ambiguous as a result of weak maritime governance and the surveillance of industrial fishing activities.

Weak maritime surveillance and state regulation's legitimacy

Senegalese fishermen have expressed their discontent about Senegal's industrial fishing governance. On one hand, Senegal's governments have attempted to limit fishermen's access to the sea since the end of the 1990s, while on the other hand, these same governments have increasingly allowed foreign companies to exploit Senegalese waters' threatened resources (Le Roux & Noël, 2007) – at least until 2012. The ambiguity of Senegal's maritime governance has generated frustration among the fishermen, who got organised through a number of national professional corporations (such as Fenagie, Conipas or CNPS). These organisations call for more coherence, transparency and attention and often protest when they hear a rumour about obscure new agreements signed with foreign fishing companies.⁸ Fishermen denounce the sales of illegitimate fishing licences, the lack of surveillance of industrial ships' practices and regular incursions into small-scale fishing areas.

The Direction of the Protection and Surveillance for Fisheries (DPSP)⁹ is one of the branches of the Ministry for Maritime Economy and is in charge of monitoring sea activities. A plane, five 12-metre-long and two 20-metre-long patrol boats watch the whole Senegalese marine area and must monitor both the small-scale fishers and industrial boats.¹⁰ The French navy provides the DPSP with 5 flight-hours a month and helps the DPSP arrest illegal industrial foreign trawlers or rescue artisanal fishers. DPSP's officials record industrial ships' routes, detect pirate fishers and keep track of vessels' movements on a 24-hour basis. Each licence-holder trawler carries a beacon connected to satellite systems, which enables the DPSP agents to follow their movement at sea. These surveillance resources seem to be very weak when one knows that more than 18,000 canoes and at least 143 industrial trawlers (FAO, 2010) operate in Senegalese waters along a 718 km-long coastline.

In fact, foreign industrial trawlers operating for joint venture companies often use illegal practices. When trawlers do not have freezing capacities aboard, they illegally trans-ship their catches at sea to bigger vessels, and the catches are then sold in markets outside Senegal (Niasse & Seck, 2011). Furthermore, Niasse and Seck report the bribes that ship-owners are willing to pay to Senegalese officials to avoid formal sanctions (Niasse & Seck, 2011). Although industrial ships have been openly developing illegal practices, they were still sold licences until 2012. Since his election that year, President Macky Sall has sought to put an end to these practices. The arrest of the *Oleg*

⁷ Interview 17, Ouakam, June 2011

⁸ IPS, 2011, 2 April, *Bras de fer entre gouvernement et pêcheurs*, Souleymane Faye, IPS International, <http://ipsinternational.org/fr/note.asp?idnews=6452>, consulted on 30 July 2013

⁹ *Direction de la Protection et de la Surveillance des Pêches*

¹⁰ Interview 5, DPSP, July 2011

Naydenov's crew in early 2014 demonstrates that the Senegalese navy is in fact able to detect illegal fishing in national waters and truly apply the law despite weak material resources.¹¹

Moreover, conflicts between industrial and small-scale fishermen regularly occur and cause significant material damage for the fishermen. Although such conflicts are reported to the DPSP, which is in charge of resolving them, this institution's mediation role is rarely efficient (Dubois & Zografos, 2012). Destruction of fish nets by trawlers happens on an everyday basis either in the first 6 nautical miles or in the 6–12 nautical mile area. Between 2000 and 2005, the Senegalese authorities registered 983 nets that were destroyed by trawlers and 139 collisions between artisanal canoes and trawlers (ISRA, 2006: 112).

Through the analysis of these conflicts, one finds contradictory responses from fishermen and government officials. Fishermen hold the state responsible for these conflicts as they denounce the industrial fishing agreements which have made possible the large number of trawlers in their fishing areas. Furthermore, fishermen perceive the state as being absent in the resolution of the conflicts caused by a supposed trawler's negligence. Although two officials of the Ministry of Maritime Economy acknowledge that these conflicts are as a sign of a growing competition over a scarcer resource, they consider the fishermen to be responsible for these conflicts. They question fishermen's ability to modernise and adjust to fishing regulation norms (DPM¹²). For the DPM's official, lack of attention towards state norms combined with an uncontrollable dynamism characterise fishermen's behaviour and generate unavoidable conflicts. For the DPSP's director, this lack of education and maturity seems to be the main reason why the regulation of the system has been made more complex.¹³

These officials consider fishermen to be part of an informal underdeveloped community that is unable to follow state rules and regulations. Fishermen's mobility is held responsible for these conflicts. Both their "fast development" and "dynamism" are obstacles for state regulation efforts, although these dynamics have paradoxically resulted from state action. Fishermen are expected to respect standard practices in order to make their routes and fishing places visible. Failure to adopt these practices keeps them invisible and outside the regulation system. The state's norms are both a way to make fishermen traceable and controllable and a way of providing them with some legitimacy – from the viewpoint of the state. In fact, the state reinforces its power over the small-scale fishermen by developing "techné" (Scott, 1998) and by ignoring fishermen's practical knowledge. Fishermen leave visible marks such as floating plastic bottles to spot their underwater nets. Although these marks are not easy to distinguish for trawlers' skippers, fishermen pay attention to these signs when navigating and fishing. For the state, making fishermen's mobility visible – in a more appropriate way – would make it more recognisable, stable and rationalised. These expectations of the state reflect the "simplification" process performed by the state while it deals with the complexity of the movements of the fishermen (Scott, 1998).

Although fishermen's ability to comply with state rules and regulations is questioned, Alioune demonstrated a certain level of understanding of fishing regulations. As a leader, he seems to be more concerned about the way these rules cannot be integrated by other fishermen and systematically applied by state agents. The distance he puts between himself and the state is due to the lack of credibility he gives to it. He seems to believe in the regulation, although he questions its application.

Fishermen's reactions to the state's action – or lack of action – reflect more than a simple sign of cultural, social and economic 'immaturity' – as understood by the government. It seems that the state failed to manage Senegalese fisheries more because of its negligence of fishermen's local knowledge than because of fishermen's supposed immaturity. Although fishermen would agree with the aim of the state's policy to protect fish resources, they distrust state intervention. Two examples further exemplify the state practices' lack of pragmatism regarding the management of fishermen's mobility and security at sea.

Are mobility and security-related measures compatible with practical knowledge?

What arises from the study of fishermen's reactions to imposed new norms, are two examples of fishing regulation that exemplify Scott's notion of state "simplification" practices (Scott, 1998).

¹¹ BBC News, 2014, 9 January, *The unequal battle over West Africa's rich fish stocks*, Thomas Fessy, <http://www.bbc.com/news/world-africa-25660385>, consulted 20 March 2014

¹² *Direction des Pêches Maritimes*, which is a branch of the Ministry for Maritime Economy

¹³ Interview 9, DPSP, July 2011

Firstly, fishermen must wear a life jacket while at sea, and the quantity of life jackets aboard must correspond to the number of crew members. Although fishermen benefit from an important state grant to buy those life jackets, they do not respect this requirement. Fishermen observe that these life jackets limit their mobility on board because of their size and bulk. Because they need to be very reactive and mobile, especially for net fishing, they consider that the jackets make them lose time and the physical ability for the tasks they have to undertake on board. Fishers also consider that this requirement questions their ability to navigate safely and that wearing life jackets would also mean that they are interfering with God's will (Sall, 2007). Talismans, prayers and sacrifices are the safety practices that tradition allows fishermen to use in order to ward off fate and bad spirits at sea. Crews interact with each other while at sea; they recognise the boats of their fellow fishermen, teasing each other and engaging in competition. In these conditions, if wearing a life jacket is indeed seen as degrading, it can be understood why social pressure and control becomes superior to the official fishing norm. These life jackets are worth XOF 25,000 (£31): they are sold at XOF 5,000 to the fishermen, while the state funds the other XOF 20,000. It is commonly acknowledged that most of the time captain fishermen buy life jackets for crew members, but as soon as fishing gets bad, they sell them back on the informal market and use the refund to pay for the fuel spent for the unfruitful fishing day.¹⁴

Secondly, an anonymous respondent in the DPM explains why it has been so difficult for the Ministry for Maritime Economy to efficiently implement the national canoes registration programme. A wide programme to register Senegalese artisanal canoes was launched in 2008 by the ministry. In July 2012, this programme was still running, and the definitive number of canoes in Senegal still remained unknown.¹⁵ Each boat owner must register his canoe(s) with the administration through local fisheries services. The ministry's officials then compile these local statistics at the national level. In theory, every owner needs an administrative authorisation to be allowed to build and then register a new canoe. This programme seeks to track the exact number of canoes in Senegal in order to limit the number of fishing permits and canoes. These limitations aim to reduce the fishing efforts by regulating the sector and access to resources. Indirectly, these limitations would also enable better control of fishermen's mobility as this system enables state agents to identify the fishermen when they control the boats: fishermen are supposed to report their arrivals and departures to local administrative representatives.

Nevertheless, in addition to institutional slowness, fishermen's traditional beliefs, reluctance, distrust and lack of comprehension have been great obstacles to this programme's implementation. Once registered, local state agents paint the registration number on the boat and insert a small chip into the boat hull that contains information about the boat's dimensions, date of construction, registration number, ownership and home port. However, my informant explains that fishermen often refuse to let the agents do so. Although the chip inserted in the frame of the boat only gives information about the characteristics of the canoe, fishermen think it allows the administration to localise them everywhere permanently and trace their routes at a distance.¹⁶

This behaviour shows how essential freedom of movement is for the fishermen. They do not understand how official programmes and measures work, and tend to assume that these measures will jeopardise their ability to move and fish. In addition, fishermen have their own identification system, using the paintings of traditional, regional and/or familial signs on their boats. They generally paint the name of the boat on it. In this way, fishermen recognise each other at sea according to their region of origin, family and social groups and so forth. By imposing the painting of a registration number on the frame of the boat, the state is simplifying and ignoring this traditional identification system. These procedures have generated distrust among fishermen, especially because they think that this registration process would have an impact on their mobility and would enable the state to control their movements.

Conclusion

Fishermen and the Senegalese government are, today, facing a great dilemma. Fishermen want to keep being mobile and exploiting the sea. Fishermen's mentality seems to be more complex than reducible to a lack of comprehension and maturity, although state agents' considerations initially convey this feeling. This paper has revealed the ambiguities of fishermen's expectations of state

¹⁴ Field notes, 2012 and 2013

¹⁵ Interview 69, Dakar, DPM, August 2012

¹⁶ Interview 69, Dakar, DPM, August 2012

action are. Resource scarcity and competition undeniably generate power struggles and conflicts between fishermen and state agents. Paradoxically, fishermen denounce an absent state, which is responsible for a lack of resources, and at the same time, they reject its intervention, which nevertheless seeks the protection of the same resources – despite the state’s disproportionately lax attitude towards international industrial fishers. Participatory policies seem appropriate but only to the extent that state agents would coherently apply the law and regulate both industrial and small-scale fisheries in a fair and rational way.

Power struggles between state and non-state actors socially construct the Senegalese Atlantic, which makes the meaning of the ocean, the functions of state agents and the expectations of fishermen more confused. Spreading their movement across the Senegalese waters has constituted for the fishermen a powerful means to escape state domination as the government’s control has expanded. Mobility has enabled the fishermen to strategically overcome the measures originally intended to limit their movement.

Day after day, the Senegalese maritime space consequently takes on new outlines: starting as a resource-rich, free-access space, it was first a space of freedom and growth, and was then changed into a limited and competed-for space where fishermen’s trajectories have become more strategic. Rather than being an obstacle to the sector’s development and dynamism, their quick adaptation and non-modernised structure has eased their expansion throughout the Atlantic Ocean.

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