Preliminary Results of Elasmobranch bycatch in Sub regional Fisheries Commission region, West Africa

Mika Samba DIOP (diop@lafiba.org) & Justine DOSSA (justicoul@yahoo.fr)
Sub Regional Fisheries Commission (SRFC) / Fondation Internationale du Banc d'Arguin (FIBA)
S/c SICAP, AMITIE 3. Villa 4430 BP 25 485, Dakar, Senegal , www.lafiba.org

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Introduction

In the Sub-Regional Fisheries Commission (SRFC) region - Cape Verde, Gambia, Guinea, Guinea-Bissau, Mauritania, Senegal and Sierra Leona - the declared shark landings are estimated from less than 1000 tons to more than 30 000 tons between 1995 and 2005. After this period, an important decline was observed. Meanwhile the industrial fleets catch a significant numbers of pelagic and demersal species as bycatch. Resting on this, it was deemed necessary to evaluate these incidental captures to establish how much they contribute to the shark fishing pressure in the region. According to estimates, bycatch reached a maximum of approximately 12,000 tons in 1996 in all SRFC countries and are stabilized about 10000 tons for the rest of the period under review (even though some figures are missing for Guinea-Bissau from 1995 to 1999). For the remaining period, Mauritania, Guinea and Cape Verde contributed the bulk of the catch with more than 95% of the total.

Analysis of the annual development of shark bycatch in the SRFC countries

Important amounts of sharks are captured in the marine waters of the SRFC region by artisanal as well as industrial fleets. Even if specialized artisanal fleets target sharks in the SRFC countries, the industrial fisheries comprising national and international vessels do not specifically target rays and sharks - they capture them as bycatch. Additionally, even if shark catches of artisanal fisheries are today monitored thanks to the technical and financial support of the FIBA through the PSRA-Requins project, this is not the case for the considerable bycatch of industrial gillnetters and longliners, which are mostly not confirmed or monitored. In order to understand the extend of this problem and to help the decision making process, the Project PSRA-Requins attempted to estimate , albeit fairly accurate, bycatch per country in the entire SRFC region.

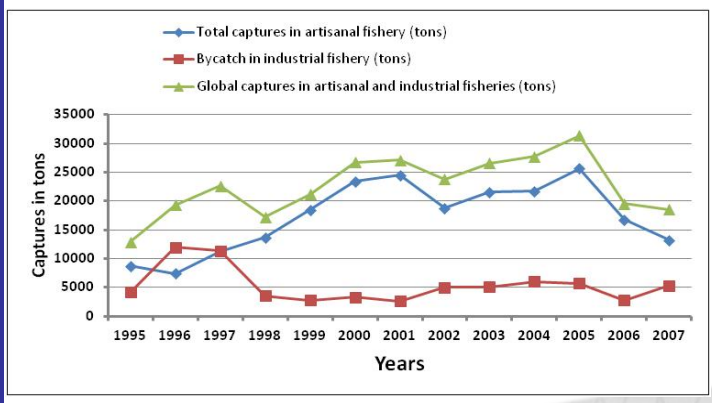

Fig. 1: Global development of bycatch from industrial and artisanal fisheries in the SRFC region from 1995 to 2007.

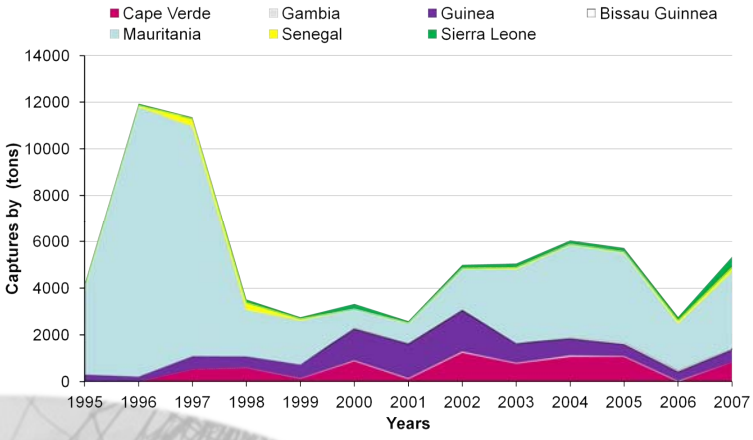

Fig. 2: Development of shark bycatch by country in the SRFC region from 1995 to 2007

With the best information available, the estimations could only go back to 1995. These records show that in the period from 1995 to 2007, the declared shark bycatch evolved irregularly with a downturn between 1998 and 2001 (figure1).

- Declared bycatch increased significantly between 1995 and 1996 - the figures changing from little more than 4,000 tons to about 12,000 tons.
- This situation remained stable until 1997.
- Then a decline in declared volumes can be observed – falling below 4,000 tons in 1998 and remaining stable until 2001 before slightly increasing to about 6,000 tons in 2004 and 2005.
- Considering the countries individually, in Mauritania, Guinea and Cape Verde (in decreasing order of value) the industrial fisheries generate the highest amount of bycatch.
- Those three countries contributed almost 11,800 tons of the total 12,000 tons for all SRFC countries in 1997 – about 95 per cent of all declared quantities (figure 2).
- The same trend can be observed for the remaining period. Therefore, almost all bycatch registered in the region took place in the waters under the jurisdiction of these three countries. This situation can simply be explained by following facts:

(1) The waters surrounding the Cape Verde are a habitat teeming with pelagic sharks;

(2) The industrial fleets in the Guinean waters, which come mainly from China, are not sufficiently monitored and they generate a lot of bycatch

(3) The waters of Mauritania are a habitat teeming with squaliformes, which are subject to bycatch by the numerous industrial fleets.

Discussions

The most bycatch of rays and sharks in the SRFC region was by pelagic and demersal fisheries and fisheries specialising in cephalopods, hakes and shrimps. Around sixty species were listed in these captures. Hake trawlers and shrimp trawlers recorded most bycatch in big species of rays and sharks. It is therefore urgent to find a solution to reduce bycatch of lager species of rays and sharks. Hence the PSRA-Requins project is developing in cooperation with the Senegalese Fishing Administration a program to experiment with devices to avoid bycatch of big species (including sharks and rays).

With this kind of experiments, the region following the recommendations of the FAO for bycatch reduction. In accordance with the recommendations of the FAO (FAO, 1999[1]), the fishing management will study different possibilities of equipping the trawlers with "devices to reduce bycatch", to allow sharks, rays and chimaeras to escape capture. They will also study different possibilities to regulate the fishing gear, mesh net and hook fabrication.

Conclusions et Suggestions

With values in the region of 12,000 tons in 1996 and 1997, the declared shark bycatch largely exceeds (1.5 times) the known landings of artisanal fishing for the same period. This brings the global effects on shark fishing to volumes exceeding 20,000 tons for the same period. The annual amount of declared bycatch varies between 3,000 and over 6,000 tons between 1998 and 2008. This constitutes an important amount and puts great pressure on these fragile resources. It is therefore important to take these facts into account for the implementation of management measures.

This information however does not take into account possible discards and therefore the total amount of bycatch can be underestimated, considering that industrial fishing vessels throw a lot of non targeted species back into the sea, in order to respect the percentage of bycatch in their captures. Hence more thorough investigations into the discards could lead to more accurate estimations and conclusions. The refinement of the information about shark bycatch should be seriously considered, especially since 32% (6% in danger and 26% vulnerable) of pelagic sharks are threatened and listed on the red list of the IUCN (Ghambi *et al.* 2009[2]).

As a conclusion, the analysis carried out on shark and ray bycatch data of industrial fisheries in the countries of the Sub Regional Fisheries Commission highlight the magnitude of this problem. This should be taken into account when implementing measures options.

[1]FAO (1999). IPOA-Shark - International Plan of Action for reducing incidental catch of seabirds in longline fisheries. International Plan of Action for the conservation and management of sharks. International Action for the management of fishing capacity. Rome, FAO. 1999. 26p
[2]Camhi, M.D., Valenti, S.V., Fordham, S.V., Fowler, S.L. and Gibson, C. (2009). The Conservation Status of Pelagic Sharks and Rays: Report of the IUCN Shark Specialist Group Pelagic Shark Red List Workshop. IUCN Species Survival. Commission Shark Specialist Group. Newbury, UK. X+78p