Assessment of On-Board Shark Processing

Short Technical Report

Nandana Godjali (nandana.godjali@ykan.or.id), Wahyu Dita Septiani (wahyudseptiani@gmail.com), I Gede Mika Winata (igede.winata@ykan.or.id)

January 11, 2021

Background

Following the evaluation of shark catch (quantity and species), a management strategy will assess whether there is a requirement for shark finning preventative measures, or whether the current practices of using shark trunks for bait represent a problem against the MSC standard. This survey was conducted based on the terms of reference (ToR) developed by Richard Banks for Yayasan Konservasi Alam Nusantara (YKAN) in early year of 2020. All field technicians of People & Nature Consulting International (PNCI) together with YKAN were undertaking an assessment of the shark processing practices on board to assess the level at which shark finning may be occurring. This survey was taking place at all of SNAPPER fisheries Crew-Operated Data Recording System (CODRS) locations throughout all Indonesian Fisheries Management Area (*Wilayah Pengelolaan Perikanan - WPP*).

The survey has been conducted since April 2020 and continues until now. However, the data that has been collected and passed the review process are in a period of June to November 2020 (6 months). Delays on the survey occurred largely because of the covid-19 situation during March until May 2020 and only be able to adjust after that period. Data from December 2020 is already existing but not yet been reviewed.

Method

The survey includes four fishing gears in deepwater groundfish fisheries (**dropline, longline, gillnet and trap**), plus vessels fishing with **mixed gears**. Even though the vessel uses mix gears, the survey will provide details about which fishing gear used when catching the shark.

Interviews were conducted at each snapper landing site to captain which joined the CODRS program. The field technicians would take the CODRS memory card which was immediately followed by interview according to the existing **questionnaire** for this shark processing survey (appendix A). Apart from being interviewed, the technician or captain will obtain **photographic evidence** of shark trunks landed into domestic landing sites or on-board processing activity whenever possible.

This report will identify the composition of each processing that takes place when shark is caught including the following **findings descriptions**:
a. retained with fins attached and landed into domestic landing sites,
b. processed on board, with meat extracted for bait and fins retained,
c. processed on board, with fins and carcase retained,
d. finned and carcase discarded at sea

During this covid-19 period, both the technician and captains are avoiding or reducing a face to face meeting so that in some cases technicians conduct interviews by phone.

Result and Discussion

1. Findings description

A total of 516 sharks were caught from 232 fishing trips or landings from all type of fishing gears (dropline, longline, gillnet and trap) that were used in deepwater snapper fisheries during the survey period. Average of 10% from total shark caught were finned and carcase discarded at sea (shark finning); other 8% were processed on board where 5% shark's meat extracted into bait and the remaining 3% were retained for both fins and carcase; and most of them approximately 82% were landed with fins attached (as a whole) (Table 1).

Table 1. Amount of shark caught based on findings description and fishing gear used on June-November 2020 period.

Findings description	**Dropline**	**Gillnet**	**Longline**	**Trap**	**Grand Total**	**Percentage**
finned and carcase discarded at sea	53				53	10%
processed on board, with meat extracted for bait and fins retained	23			1	24	5%
processed on board, with fins and carcase retained	15				15	3%
retained with fins attached and landed into domestic landing sites	143	7	238	36	424	82%
Grand Total	**234**	**7**	**238**	**37**	**516**	
Gears percentage	**45%**	**1%**	**46%**	**7%**		

2. Fishing gears

Most sharks caught were obtained from 2 fishing gears, which are (1) Dropline: 45% and (2) Longline: 46%. Trap and gillnet fishing gear were only catch a minor number of sharks, which were 7% and 1%. However, trap that were initially predicted will not catch many sharks turned out to have a higher catch than gillnet (Table 1).

3. Fisheries Management Area (or *WPP*)

Most of shark finning occurred in WPP 573 (38% from total shark catch), followed by WPP 572 (20%) and WPP 714 (19%), whereas in other WPP can be considered as low (below 7%) (Table 2). There are two WPP (716 and 718) which had no result of shark being caught yet. There are some indications that these two WPP will also have shark catches with similar composition with the other area.

There were 53 samples out of a total 199 sharks caught, or around 27% of the total sharks caught in WPP 573. They were finned and their carcase discarded at sea, where this practice is included in the shark finning category. More detailed information on the 53 samples of sharks finning has been further identified. It was carried out by 6 dropline fishing vessels that landed at Tenau Fishing Port in Kupang City with fishing area in WPP 573 (Table 3).

Tabel 2. Composition of sharks caught based on 9 of 11 Fisheries Management Area in Indonesia on June-November 2020 period.

	Indonesia Fisheries Management Area (*WPP*)								
Findings description	**571**	**572**	**573**	**711**	**712**	**713**	**714**	**715**	**717**
finned and carcase discarded at sea			53						
processed on board, with meat extracted for bait and fins retained			23	2					
processed on board, with fins and carcase retained								15	
retained with fins attached and landed into domestic landing sites	1	106	123	35	28	32	98	3	8
Grand Total	**1**	**106**	**199**	**37**	**28**	**32**	**98**	**18**	**8**
WPP percentage	**0%**	**20%**	**38%**	**7%**	**5%**	**6%**	**19%**	**3%**	**2%**

Table 3. The name of the boats which has done shark finning practice in WPP 573.

Boat name	**Program Site**	**Number of sharks finned and carcase discarded at sea**
KM. Anggur Merah	Kupang	14
KM. Indah Jaya	Kupang	3
KM. Pante Nyiur 03	Kupang	16
KM. Poetra Samudera 01	Kupang	9
KM. YAKUZA	Kupang	10
KMN. Taufiqurrahman 01	Kupang	1
Grand Total		**53**

Further interviews were conducted on the six boats that were identified on this survey, to find out the reasons behind shark finning practice. Some insights were obtained from the captains, as follow:

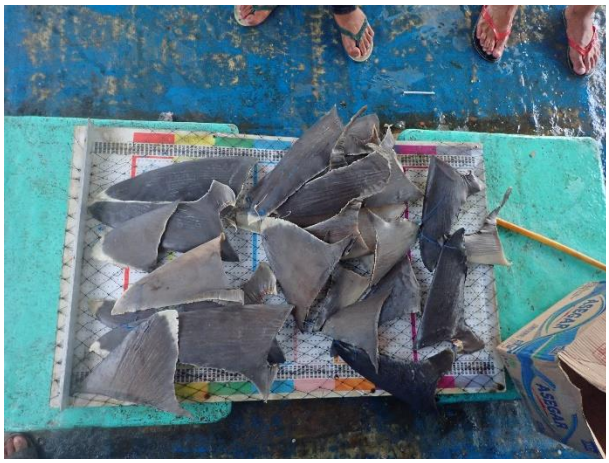
- If the fishing trip is in a shortage of bait, the shark meat will be used as bait, but when the trip does not lack of bait, the captured sharks will be finned, and the carcase will be discarded.
- The shark carcase was not landed because the captain avoided to report any shark's catch. They were feared by the existence of "unclear" enforcement officers.
- The shark fins trading was not done formally when landed. Captains were not willing to provide information on how the transaction occurred.

4. Photographic Evidence

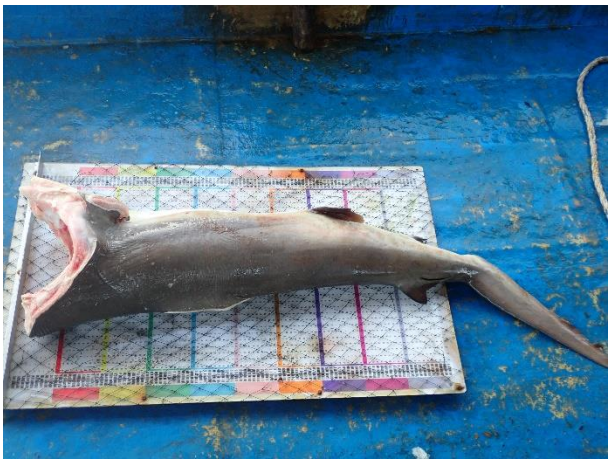
Both field technician and CODRS captains have completed the survey by including 98 sharks catch with photographic evidence either on board or on landing site. However, the captains did not hesitate to validate the shark finning because all the 53 sharks were recorded on this survey (Table 4).

Table 4. Amount of evidence collected during the survey from each finding's description.

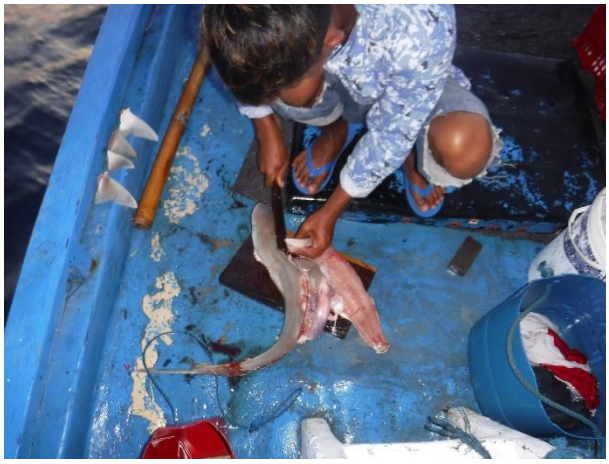
Findings description	**Complete with evidence**
finned and carcase discarded at sea	53
processed on board, with meat extracted for bait and fins retained	23
processed on board, with fins and carcase retained	15
retained with fins attached and landed into domestic landing sites	7
Grand Total	**98**



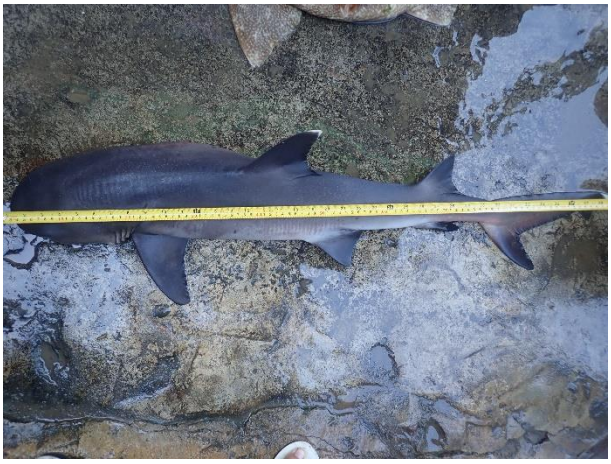
A



C



B



D

Figure 1. Four photographic evidence examples of shark processing from each category of 'findings description'. A. finned and carcase discarded at sea; B. processed on board, with meat extracted for bait and fins retained; C. processed on board, with fins and carcase retained; D. retained with fins attached and landed into domestic landing sites.

It was assumed that all captains from the CODRS boats recorded all sharks caught, taking a photo of each individual sharks as instructed on the CODRS manual standard. The total number of samples of shark catch is still considered a little compared to the 100 species targeted fish catch in the deepwater groundfish fisheries. This can be seen from the composition of the shark catch from all species of the total catch sample as in Table 1.5 (Figure 2), where the composition of the shark sample is only less than 0.2% of the overall CODRS samples from the beginning CODRS period in year 2016 until now.

Table 1.5: Sample Sizes over the period 2016 to 2024 for Other Species in Assessment of Deepwater Demersal Fisheries in Indonesia

Family Name	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total	%Sample
Acanthuridae	0	0	532	1129	1914	0	0	0	0	3575	0.097
Alepisauridae	0	0	0	0	44	0	0	0	0	44	0.001
Ariidae	18	494	1987	8182	4837	0	0	0	0	15518	0.421
Ariommatidae	0	0	0	233	313	0	0	0	0	546	0.015
Balistidae	0	9	1623	5033	6576	0	0	0	0	13241	0.359
Belonidae	0	0	0	1	11	0	0	0	0	12	0.000
Bramidae	34	0	0	378	42	0	0	0	0	454	0.012
Caesionidae	0	0	833	4668	11029	0	0	0	0	16530	0.448
Carangidae	364	1984	20149	63085	29721	0	0	0	0	115303	3.128
Chaetodontidae	0	0	91	57	174	0	0	0	0	322	0.009
Clupeidae	0	0	0	6	45	0	0	0	0	51	0.001
Coryphaenidae	0	0	124	424	863	0	0	0	0	1411	0.038
Ephippidae	0	0	607	1727	1267	0	0	0	0	3601	0.098
Epinephelidae	169	287	1697	6489	7320	0	0	0	0	15962	0.433
Gempylidae	36	0	66	389	202	0	0	0	0	693	0.019
Haemulidae	12	10	313	1051	789	0	0	0	0	2175	0.059
Holocentridae	17	87	222	3116	2841	0	0	0	0	6283	0.170
Istiophoridae	0	0	0	8	6	0	0	0	0	14	0.000
Labridae	0	0	258	765	557	0	0	0	0	1580	0.043
Lethrinidae	122	328	2297	9699	11211	0	0	0	0	23657	0.642
Lobotidae	0	0	1	37	134	0	0	0	0	172	0.005
Lutjanidae	96	299	2068	8756	12726	0	0	0	0	23945	0.650
Malacanthidae	24	35	24	55	839	0	0	0	0	977	0.027
Monacanthidae	0	0	196	323	166	0	0	0	0	685	0.019
Mullidae	0	0	68	642	2006	0	0	0	0	2716	0.074
Muraenesocidae	0	0	122	1678	873	0	0	0	0	2673	0.073
Nemipteridae	24	244	1897	5117	6237	0	0	0	0	13519	0.367
Other	523	2610	4555	3735	2777	0	0	0	0	14200	0.385
Polynemidae	0	0	0	30	7	0	0	0	0	37	0.001
Pomacanthidae	0	0	12	93	45	0	0	0	0	150	0.004
Priacanthidae	8	100	334	2271	3124	0	0	0	0	5837	0.158
Psettodidae	0	0	0	1613	38	0	0	0	0	1651	0.045
Rachycentridae	0	0	4	12	11	0	0	0	0	27	0.001
Rays	17	103	379	1113	1081	0	0	0	0	2693	0.073
Scaridae	0	0	113	508	1094	0	0	0	0	1715	0.047
Sciaenidae	0	0	5	282	963	0	0	0	0	1250	0.034
Scombridae	289	659	4740	8115	6673	0	0	0	0	20476	0.556
Scorpaenidae	0	0	2	21	123	0	0	0	0	146	0.004
Serranidae	63	16	43	141	369	0	0	0	0	632	0.017
Sharks	83	791	2368	2001	1331	0	0	0	0	6574	0.178
Siganidae	0	0	289	1693	1719	0	0	0	0	3701	0.100
Sparidae	0	0	2	30	7	0	0	0	0	39	0.001
Sphyraenidae	57	108	211	439	187	0	0	0	0	1002	0.027
Terapontidae	0	0	0	3	23	0	0	0	0	26	0.001
Tetraodontidae	0	0	131	155	15	0	0	0	0	301	0.008
Trichiuridae	0	0	604	4881	721	0	0	0	0	6206	0.168
Total	1956	8164	48967	150184	123051	0	0	0	0	332322	9.017

Figure 2. A Screenshot of table 1.5 from the Ifish Deepwater Demersal Live Report, as the below link: http://72.14.187.103:8080/ifish/pub/IFishDeepwaterDemersal.pdf

Conclusion and recommendation

- Several obstacles were found in the field to obtain all the evidence because captains do not always have time to take pictures on-board and cannot meet in person with the field technician on the landing site considering that not all landing sites are always accessible.
- Although from this survey we only found the practice of shark finning in WPP 573 from drop-liners, this could still indicate that there is other possibility that shark finning is still occurring in Indonesian waters.
- Report on sharks caught in WPP 716 and 718 has not been obtained, but there are indications that the practice will be similar with other WPPs.
- Deepwater groundfish fisheries will continue the survey and assess the remaining WPP that has not been obtained in this period. We are still waiting for the survey data that has been collected and will give an extra focus to get a clearer information on WPP 716 and 718.
- The photographic evidence of the processed shark catches will continue to be taken for a better validation of the real situation on board or on the landing sites.
- Management measures for shark finning practices will be developed when the real situation from this survey has become clearer.