

SHARK DATA COLLECTION IN MYANMAR

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1. INTRODUCTION

The Union of Myanmar located in South East Asia between North Latitude 09° 32' and 28° 31' and East Longitude 92° 10' and 101° 11', the total coastline stretch from Naaf River to Kawthoung (Victoria point) approximately about 2831 Km. Southern part of the coastline the Mergui Archipelago is forming over 800 island, the continental shelf covers 225,000 square kilometer. The Exclusive Economic Zone cover 486,000 square kilometer.

The Rakhine coast, bordering Bay of Bengal with a narrow and deep shelf and has a few inlets down to about North Latitude 16°.

The Ayeyawady coast, covering the most shallow and slightly sloping wide shelf between North Latitude 16° and 13° 30', and about East Longitude 94° and it is also dominant by the influence of the outflows of Ayeyawady, Sittaung and Thanlwin Rivers.

The Tanintharyi coast lays southern part of the country, situated between North Latitude 13° to 10°, it is bordering the Andaman Sea, and it is also belongs the Mergui Archipelago. Inside the Archipelago there is numerous islands and inlets, between these island crystal water and medium depths, and it is end to the continental shelf.

The marine capture fisheries can be categorized into two main type, coastal or inshore fisheries and offshore fisheries. The coastal fisheries operate from the shore line out of five nautical miles in the northern area, especially Rakhine coastal area, ten nautical miles from Delta area (Ayeyawady) and in the southern area (Tanintharyi).

The people of Myanmar have been associated for centuries with their own natural resources of their surrounding areas. Many depend entirely on the harvesting of the aquatic resources, both marine and freshwater, including elasmobranches. Fisheries are the main activity for the people, who live in the coastal area for many generations, as coastal community has had little or no opportunities to earn a living from alternative livelihoods.

Shark has existed for twice as long as dinosaurs and first swim in the earth's ocean over 380 million years ago. They are superbly adapted to their habitat and play a very important ecological role.

Of the 370 or so species known, over 80% are completely harmless or never encounter people at all. Only four species may occasionally deliberately attack humans, the tiger, bull, great white and ocean white tip. In the case of the great white shark at least it is usually as a result of mistaken Identity.

There are about 30 families of sharks, with the total number of species thought to be between 376 and 481 (The total is unclear because many of the shark species caught have not yet been scientifically described, while there may be others that have still not be seen by humans) About 3 or 5 new species of shark are still being described each year.

Shark fisheries in Myanmar are small scale, which utilize wooden boats with engine not more than 25 horse power. Most of the shark landings are coming from incidental catch. There are

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only few dedicated elasmobranchs fishermen, although elasmobranchs are caught by nearly an incidental catches.

Shark species were collected from many type of fishing gears, fishing boats which operate along the coastal area. The products of shark's fisheries were carried and sold in the country, since 1960'.

1.1 Fishing gear used in shark fishing

In Myanmar, shark are mainly caught as by-catch with several type of fishing gears, including long-line, gill net, grouper trap, and bottom trawl gear. And it is mostly caught by long-line and gill net, the Department of Fisheries does not permit or allowed specifically designed for catching shark fishing. There are a few direct fishing for elasmobranchs; but most of the sharks are obtained as by otter-boat trawling and gill net fisheries. Fins form the basis of the lucrative shark fin industry. This trade is seriously threading shark population.

1.2 Recent Shark Experimental Fishing

Since 1986, The Marine Fisheries Resources Survey and Research Unit, conducted experimental fishing for deep sea shark, two experimental long line deepsea sharks were conducted off the Taninthayi Coast at the depth zone of 200m to 600 meters. The species of deepsea shark *Squalus megalops* were caught in 1986. In the second experiment in 1987, 3 species were collected, out of which 21 specimens comprised of *Centrospheres granulosis* species. This species is known to contain higher squalene content in the liver. These sharks are living in complete darkness due to great depth. In order to attack to the bait, various baits and shark attracting substance were tested. This experiment was intended to study appropriate bait for shark and resources potential. In 1982 one of the experimental fishing cruise at the Thaninthayi coastal area, Alligator shark, *Echinorhinus brucus* (estimate total length 10 feet) was caught alive outside the Margui Archipelago.

1.3 Shark Protected Area

Conservation of marine fisheries resources has always been the primary concern of the Department of Fisheries, Marine Park and Marine Reserves as well as fisheries protected area have been established under the Fisheries Law, as one of the Department management measure. This essential to protect, conserve and manage in perpetuity of marine environment in order that is remains undamaged for the future generation. Public awareness of the need to protected the coral and other marine flora and fauna in the water surrounding the islands of the coast is been promoted to ensure the conservation. Recently, Lampi island of Taninthayi coast have been gazette as Marine Park and Marine Reserve. In "Myanmar Marine Fisheries Law", Chapter VII, number 23 mentioned that "*The Director General may, for the purpose of carrying out the fishery systematically, and for the conservation and protection of the fish, issue conditions, prohibitions, orders, and directives relating to fishery*".

In his capacity as a Director General, the Director-General of the Department of Fisheries using this law and issued order number 2/2004, regarding shark resources conservation on 5th May, 2004. According to this order, nobody can conduct shark fishing operation in the protected areas starting from "Ross" island (12° 13' N, 98° 05.2' E) to "Lampi" island (10° 48.1' N, 98° 16.1' E). Sharks and rays can be used sustainable by tourism activities, especially shark-watching dive tours. Mergui Archipelago is famous for their sharks, rays, coral reef and other marine creature.

The Department of Fisheries determined to protect *Areas* for shark fishing under the following purposes;

1. The most biologically venerable creature in the ocean.
2. Grow slow, mature late and bare few young.
3. Some species do not produce until age 12 to 20 years.
4. Play the important role of top predator in Ocean eco-system.
5. Keep the Ocean balance.

The water around the island area also have been announced as shark fishing protected areas, whereby collection of marine fauna and flora is also prohibited.

1.4 Utilization of Shark

Small shark were sold in local market at coastal areas, Myanmar people almost preferred fresh water fishes. Shark from all fisher were landed in coastal areas market and also landing site, some market collected and auction species wise or depend on its size. They produced every part of shark body, liver oil for cosmetic and medicine purpose, dried shark skin, shark jaws for souvenirs, cartilage for medicine purpose; they especially sold shark fin for local china town market and export for Taiwan, China and Hong Kong. The local people usually utilized dried shark meat for their special event. Some fishermen and local people boiled the shark skin and make salad with chilly and lemon juice, No specific data for shark fisheries in Department of Fisheries yet.

Table 1. Shark species recorded from All Landing Site

Sr. No	Scientific Name	Common Name	Local Name
	I. Family - Carcharhinidae		
1.	<i>Carcharhinus leucas</i>	Bull shark	Nga-mann
2.	<i>Carcharhinus sorrah</i>	Spot tail shark	Nga-mann
3.	<i>Carcharhinus amblyrhynchoides</i>	Graceful shark	Nga-mann-gaung-waing
4.	<i>Carcharhinus brivipinna</i>	Spinner shark	Nga-mann
5.	<i>Carcharhinus melanopterus</i>	Blacktip reef shark	Nga-mann-taung-mae
6.	<i>Carcharhinus limbatus</i>	Blacktip shark	Nga-mann-pu
7.	<i>Carcharhinus dussumieri</i>	Whitecheek shark	Nga-mann
8.	<i>Carcharhinus amblimarginatus</i>	Silvertip shark	Nga-mann
9.	<i>Carcharhinus borneensis</i>	Borneo shark	Nga-mann
10.	<i>Carcharhinus falciformis</i>	Silky shark	Nga-mann
11.	<i>Carcharhinus galapagensis</i>	Galapagos shark	Nga-mann
12.	<i>Carcharhinus plumbeus</i>	Sandbar shark	Nga-mann
13.	<i>Carcharhinus amboineensis</i>	Pigeeye shark	Nga-mann
14.	<i>Rhizoprionodon acutus</i>	Milk shark	Thae-nga-mann
15.	<i>Rhizoprionodon oligolinx</i>	Gray sharpnose shark	Nga-mann
16.	<i>Scoliodon laticaudus</i>	Spade nose shark	Lunn-nga-mann
17.	<i>Loxodon macrorhinus</i>	Sliteye shark	Nga-mann
18.	<i>Glyphis gangeticus</i>	Ganges shark	Nga-mann
19.	<i>Triaenodon obesus</i>	Whitetip reef shark	Nga-mann
	II. Family - Sphyrnidae		
20.	<i>Sphyrna mokarran</i>	Great hammerhead	Nga-mann- kywe-gyo-shae
21.	<i>Sphyrna lewini</i>	Scallop hammerhead	Nga-mann- kywe-gyo-toe
22.	<i>Eusphyrna blochii</i>	Winghead shark	Nga-mann- kywe-gyo-shae
23.	<i>Galeocerdo cuvier</i>	Tiger shark	Nga-mann-kyar-thit
	III. Family - Scyliorhinidae		
24.	<i>Halaelurus canescens</i>	Cat shark	Kyaung-nga-mann
	IV. Family - Hemiscyllidae		
25.	<i>Chiloscyllium griseum</i>	Gray bamboo shark	Nga-mann-aing-myaung
26.	<i>Chiloscyllium punctatum</i>	Brownbanded bamboo shark	

	V. Family - Stegostomidae		
27.	<i>Stegostoma fasciatum</i>	Zebra shark	Nga-mann
	VI. Family - Squalidae		
28.	<i>Squalus sp.</i>	Dogfish shark	Nga-mann
	VII. Family - Rhinidae		
29.	<i>Rhina amscylostoma</i>	Shark ray	Nga-mann-ba-lu
	VIII. Family - Hemigalidae		
30.	<i>Hemipristes elongates</i>	Snaggletooth shark	Nga-mann
31.	<i>Chaenagaleus macrostoma</i>	Hooktooth shark	Nga-mann
32.	<i>Hemigaleus micristoma</i>	Sicklefin weasel shark	Nga-mann

2. EXPLOITATION

Uses of elasmobranch in Myanmar can be categorized at two levels, major and minor.

a. Major use

Shark fin products. Shark fin are the main target for shark fisheries. Fins are taken from all sizes and all species of sharks and shark-like batoids. Prices vary according to species, size, and the quality of the processing. Pectoral fins are the highest price. In addition, parts of the gill arches are used for yielding lower grade dried shark fin material. The processing of shark fins is complicated, time consuming and dependent on specific "know how". Fins are dried by sunlight or smoking, and may be salted. Well-dried fins may either export or further processed by boiling and removing skin and any excess material until only the fin rays and filaments remain. These are re-dried and packed. The grading of fins is based on size, color, species, cut and rendering, and the moisture content of the products. In Myanmar, there are very few large-scale shark fin industries; most only process up to the stage of drying the raw fins and then export them. The largest export destination for Myanmar shark fin products is China, followed by Thailand and Singapore.

b. Minor use

Some elasmobranch species are used for ornamental or other purposes, either whole or in parts. Shark jaws are usually processed by cleaning and drying, and then sold as curios or collectables. The rostrums of sawfishes *Pristis spp.* are sold for decoration or as curios. Present time sawfish are very rare to see in market or landing site, no sawfish were recorded in the survey period for these study area.

c. Sustainable use

There is no direct protective legislation for elasmobranchs in Myanmar. However, Myanmar Marine Fisheries Law 1990 regulates fishing effort by quotas and seasonally. Sharks and rays can be used sustainably by tourism activities, especially shark-watching dive tours. Myeik archipelagoes are famous for their sharks and rays.

Sharks and rays have much use which can be classified broadly in three groups: traditional use, modern use and novel or recently developed uses.

Table 2. Shark species recorded from Sittwe Landing Site

Sr. No	Scientific Name	Common Name	Local Name
	I. Family - Carcharhinidae		
1.	<i>Carcharhinus leucas</i>	Bull shark	Nga-mann
2.	<i>Carcharhinus sorrah</i>	Spot tail shark	Nga-mann
3.	<i>Carcharhinus amblyrhynchoides</i>	Graceful shark	Nga-mann-gaung-waing
4.	<i>Carcharhinus brivipinna</i>	Spinner shark	Nga-mann
5.	<i>Carcharhinus melanopterus</i>	Blacktip reef shark	Nga-mann-taung-mae
6.	<i>Carcharhinus limbatus</i>	Blacktip shark	Nga-mann-pu
7.	<i>Carcharhinus dussumieri</i>	Whitecheek shark	Nga-mann
8.	<i>Carcharhinus amblimarginatus</i>	Silvertip shark	Nga-mann
9.	<i>Carcharhinus borneensis</i>	Borneo shark	Nga-mann
10.	<i>Carcharhinus falciformis</i>	Silky shark	Nga-mann
11.	<i>Carcharhinus galapagensis</i>	Galapago shark	Nga-mann
12.	<i>Scoliodon laticaudus</i>	Spade nose shark	Lunn-nga-mann
13.	<i>Loxodon macrorhinus</i>	Sliteye shark	Nga-mann
14.	<i>Rhizoprionodon acutus</i>	Milk shark	Thae-nga-mann
15.	<i>Rhizoprionodon oligoinx</i>	Gray sharpnose shark	Nga-mann
	<i>Glyphis gangeticus</i>	Galapagos shark	Nga-mann
17.	II. Family - Sphyrnidae		
18.	<i>Sphyrna mokarran</i>	Great hammerhead	Nga-mann- kywe-gyo-shae
19.	<i>Sphyrna lewini</i>	Scallop hammerhead	Nga-mann- kywe-gyo-toe
	<i>Eusphyrna blochii</i>	Winghead shark	Nga-mann- kywe-gyo-shae
20.	<i>Galeocerdo cuvier</i>	Tiger shark	Nga-mann-kyar-thit
	III. Family - Scyliorhinidae		
21.	<i>Halaelurus canescens</i>	Cat shark	Kyaung-nga-mann
	IV. Family - Hemiscyllidae		
22.	<i>Chiloscyllium griseum</i>	Gray bamboo shark	Nga-mann-aing-myaung
	V. Family - Stegostomidae		
23.	<i>Stegostoma fasciatum</i>	Zebra shark	Nga-mann

Sittwe landing site Five Family and 23 species were record. The most dominant Family is Carcharhinidae.

Table 3. Shark species recorded from Haing-Gyi Landing Site

Sr. No	Scientific Name	Common Name	Local Name
	I. Family - Carcharhinidae		
1.	<i>Carcharhinus brivipinna</i>	Spinner shark	Nga-mann
2.	<i>Carcharhinus plumbeus</i>	Sandbar shark	Nga-mann
3.	<i>Carcharhinus sorrah</i>	Spot tail shark	Nga-mann
4.	<i>Carcharhinus amblyrhynchoides</i>	Graceful shark	Nga-mann-gaung-waing
5.	<i>Carcharhinus melanopterus</i>	Blacktip reef shark	Nga-mann-taung-mae
	II. Family - Sphyrnidae		
6.	<i>Sphyrna lewini</i>	Scallop hammerhead	Nga-mann- kywe-gyo-toe
7.	<i>Sphyrna mokarran</i>	Great hammerhead	Nga-mann- kywe-gyo-shae
	III. Family - Hemigalidae		
8.	<i>Chaenogaleus macrostoma</i>	Hooktooth shark	Nga-mann

Hyi-Gyi landing site Three Family and 8 species were recorded, the dominant Family was Carcharhinidae.

Table 4. Shark species recorded from Myeik Landing Site

Sr. No	Scientific Name	Common Name	Local Name
	I. Family - Carcharhinidae		
1.	<i>Carcharhinus sorrah</i>	Spot tail shark	Nga-mann
2.	<i>Carcharhinus amblyrhynchoides</i>	Graceful shark	Nga-mann-gaung-waing
3.	<i>Carcharhinus melanopterus</i>	Blacktip reef shark	Nga-mann-taung-mae
4.	<i>Carcharhinus falciformis</i>	Silky shark	Nga-mann
5.	<i>Carcharhinus amboineensis</i>	Pigeye shark	Nga-mann
6.	<i>Carcharhinus leucas</i>	Bull shark	Nga-mann
7.	<i>Scoliodon laticaudus</i>	Spade nose shark	Lunn-nga-mann
8.	<i>Rhizoprionodon acutus</i>	Milk shark	Thae-nga-mann
9.	<i>Triaenodon obesus</i>	Whitetip reef shark	Nga-mann
	II. Family - Hemigalidae		
10.	<i>Hemigaleus micristoma</i>	Sicklefin weasel shark	Nga-mann
11.	<i>Hemipristes elongatus</i>	Snaggletooth shark	Nga-mann
12.	<i>Chaenagaleus macrostoma</i>	Hooktooth shark	Nga-mann
	III. Family - Hemiscyllidae		
13.	<i>Chiloscyllium griseum</i>	Grey carpet shark	Nga-mann-ga-byone
14.	<i>Chiloscyllium punctatum</i>	Brownbanded bamboo shark	Nga-mann
	IV. Family - Sphyrnidae		
15.	<i>Sphyrna lewini</i>	Scallop hammerhead	Nga-mann- kywe-gyo-toe
16.	<i>Eusphyrna blochii</i>	Winghead shark	Nga-mann- kywe-gyo-shae
17.	<i>Stegostoma fasciatum</i>	Zebra shark	Nga-mann
18.	<i>Galeocerdo cuvier</i>	Tiger shark	Nga-mann-kyar-thit
	V. Family - Squalidae		
19.	<i>Squalus sp.</i>	Dog shark	Nga-mann
	VI. Family - Rhinidae		
20.	<i>Rhina anscylostoma</i>	Shark ray	Nga-mann-ba-lu

Myeik landing site total 6 Family, 20 species were recorded, and 7 Carcharhinus, 1-Tiger, 1-Blacktip, 1-Zebra and 1-Bull shark were recorded. No record of Hammerhead shark in this landing site.

d. Traditional use

The two main traditional uses of sharks and rays have been for food, and for the production of tools and weapons. Elasmobranchs as food are sold mainly fresh on ice, although in tropical countries their meat and fins are usually salt-dried.

3. SHARK FISHERIES DATA COLLECTION

Shark, ray, and many specific species resources and research have not yet been studied in Myanmar detailed. In order to collect current information about shark fisheries in Myanmar, three appropriate landing sites, "Sittway" from Rakhine Coastal Area, "Haing-Gyi" from Ayeyawady Delta Coastal Area and "Myeik" from Taninthayi Coastal Area were selected. Three research staffs from Marine Fishery Resources Survey and Research Unit were assigned in the respective landing sites for one month to conduct their duty as an enumerator and a researcher. They visited to the fish markets, fishing ports, fish buyer's house etc. to collect information about shark fisheries in their respective areas. Two approaches were used: interviews with fishers and sale data collection and analysis. Interviews of those fishermen engaged in directed shark fisheries were more detailed and included: dominant species catch volumes, fishing grounds, and timing of operation and fishing gears. For other fisheries with sharks as by catch more general information was collected, including the proportion of sharks to total catch and dominant species. First quarter of the projected was started in mid of January, 2004 to mid of February, 2004. Similarly, the second quarter of this project was conducted in mid of March, 2004 to mid of April, 2004, the third quarter of this project was started in end of June to end of July, and the fourth quarter was conducted in mid of September to mid of October.

4. SURVEY RESULT

After the data collection of all landing site, 8 Family and 32 species were recorded. All result data from Sittwe landing site 23 species of sharks were found, and out of these species, 11 species of Carcharhinidae, 2, -Hammerhead, 1, Tiger shark, 2- Blacktips were recorded. In Haing-Gyi landing site 5 -Carcharhinidae, and 2, Hammerhead was recorded.

Hyi-Gyi landing site Three Family and 8 species were recorded, the dominant Family was Carcharhinidae. Myeik landing site total 20 species were recorded, and 7 -Carcharhinus, 1- Tiger, 1-Blacktip, 1- Zebra and 1-Bull shark were recorded. No record of Hammerhead shark in this landing site.

In " Sittway " sharks are captures as target species of shark-longline, while as by catch of fish trawlers and shrimp trawlers. During the whole year of observation in the year of 2004, sharks were captured as 19.9% of total landings in first quarter, 51.5 % of total landings in second quarter, 52.4% of total landings in third quarters and 8.7% of total landings in fourth quarter. It showed that shark-longline were effective for catching in this area. The percentage of shark landing in this area is a little bit more than the other two landing sites, " Haing-Gyi" and " Myeik " due to data collection error. This calculation is only base on information gathered from the shark buyer's house not on the whole landing data. The percentage of the shark landing will be nearly the same with the other two landing sites if the calculation is based on the whole landing data. From this survey, we can observe that sharks were captured as 17.6 % of total landings in this area during project period in 2004.

In " Haing-Gyi " sharks are captures as target species of shark-longline, while as by catch of fish trawlers and shrimp trawlers. During the whole year of observation in the year of 2004, sharks were captured 0.43% of total landings in first quarter, 0.63% of total landings in second quarter, 1.99% of total landings in third quarter and 0.26% of total landings in fourth quarter. For the whole year round of the survey period, it was found that shark composition in the total landings of " Haing-Gyi" is only (0.38 %).

In " Myeik " sharks are captures as target species of shark-longline, while as by catch of fish trawlers and shrimp trawlers. During the whole year of observation in the year of 2004, sharks were captured 0.08% of total landings in first quarter, 0.03% of total landings in second quarter, 0.07% of total landings in third quarter and 0.065% of total landings in fourth quarter. For the whole year round of the survey period, it was found that shark composition in the total landings of " Myeik " is only (0.06 %).

Table 5. 1st, 2nd, 3rd, 4th, Quarter (Shark catches data at Sittway)

	Sharks	%	Non Sharks	%	Total	Fishing Gear
I Q	2251.50	19.9	9053.10	80.1	11304.60	L.L
II Q	21094.06	51.4	19949.30	48.6	41043.36	Gill net
IIIQ	7972.00	8.7	83396.00	91.27	91368.00	
IV	392.00	1.01	35092.00	98.89	35484.00	
Total	31709.56		147490.4		179199.96	

Table 6. 1st, 2nd, 3rd, 4th, Quarter (Shark catches data at Haing-Gyi)

	Sharks	%	Non Sharks	%	Total	Fishing Gear
I Q	483.23	0.43	110368.0	99.56	110851.23	L.L
II Q	1435.19	0.63	224648.32	99.36	226083.51	Gill net, L.L
IIIQ	356.15	1.99	17478.38	98.0	17834.53	Gill net
IV	2040.156	0.26	780621.92	99.68	782662.07	G.N,L.L, Fish trawl
Total	4314.726		1133116.6		1137431.2	

Table 7. 1st, 2nd, 3rd, 4th Quarter (Shark catches data at Myeik)

Quarter	Sharks	%	Non Sharks	%	Total	Fishing Gear
I Q	4822.2	0.08	5727575.0	99.65	5732397.2	
II Q	2099.5	0.03	6327959.8	99.35	6330059.3	L.L
IIIQ	4625.15	0.07	6151433.80	99.6	6156058.95	G.N,L,L, Fish trawl
IV	4221.0	0.065	6434470.0	99.73	6438691.0	G.N,L,L, Fish trawl
Total	15767.85		24645658.0		24661426.0	

Table 8. Shark catches data of Three landing site (1st, 2nd, 3rd, 4th Quarter)

Sr. no	Landing Site	Sharks	%	Non Sharks	%	Total	Fishing Gear
1.	Sittway	31709.56	17.69	147490.4	82.30	179199.96	G.N,L,L, Trawl
2.	Haing-Gyi	4314.726	0.38	1133116.6	99.60	1137431.3	G.N,L,L, Trawl
3.	Myeik	15767.85	0.06	24645658.0	98.58	24661426.0	G.N,L,L, Trawl
Total		51792.14		25926265.0		25978057.0	

5. PROBLEMS AND CONSTRAINTS

As this is the first systematic survey project on shark fisheries in Myanmar, there are a lot of problems and constraints met by project staffs. First fishermen from the selected landing site area misunderstood on the activities of the project staffs. Because they afraid that staffs from the Department of Fisheries are coming to record shark fisheries activity in their respective areas to ban shark fisheries in the future. For this reason, it was very difficult for the project staff to collect accurate data from the fishermen and they don't want to cooperative with the staff. The fishers and buyers move new landing site, to protect the reverse effect for them, if the Department of Fisheries should take an action plan or Law enforcement for their business. Some project staff presents food or some useful things to the fisher/ buyer to make encourage and more familiar to get information of shark fisheries. With kind assistance from the local authorities and local DOF staff and good organization of the project staff, the project activities become smoother after one week.

Due to lack of experience in biological study on shark, even length frequency and weight data are recorded from some species, maturity stage data of the shark are still lacking. It was found that more training on shark biology are need for the project staff to implement the project successfully and effectively. But after discussion and sharing their experiences among researchers and national project coordinator, it is envisage that the outcome from the second quarter will gain more fruitful results for this project.

6. CONCLUSION

This preliminary data indicated that, some shark species were rare in Myanmar waters or not? It is also need to answer this question, the researcher also need to collect data different month, and different landing site. The comparison of the shark species recorded from various recent researches record and the present shark data recorded by researcher. It was shown that some shark species were hidden from the shark fisheries. Elasmobranches are very important to marine and freshwater ecosystems as ' keystone species '. They are at the top tropic level of the aquatic food web, and act as bio-indicators for the health of aquatic environments. Management for sustainable use of this group of fish needs to be implemented globally. In Myanmar, this implementation is needed urgently, based on:

- Inventory surveys on systematic, biology and fisheries within Myanmar and adjacent waters. Collaborative research activities are welcome.
- Conservation measures relevant to elasmobranches, including protection of their habitats.
- Appropriate proposals for regulating the international trade in shark products should be considered.

- Myanmar is both a signatory state to CITES and a member country of FAO, and thus is required to implement a national plan of action for the conservation and sustainable use of shark resources.