

**PRESENT STATUS OF SHARK FISHING IN THE MARINE WATER
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The present study was done during the period April/2006 to March/2007. A total 22 species belongs to 17 genera and 11 families including sharks, skates and rays were identified. Out of this sharks comprises of 10 species, 08 genera belongs to 06 families. In the ray group 10 species, 07 genera and 05 families and 02 species of skates belongs to 02 genera and 01 family were identified.

The total landed of sharks, skates and rays were 398.68 MT. The percentage composition should that the highest catch in percentage weight, *Himantura uarnak* was 41.11% and the lowest *Amphotistius kuhlii* which was 0.04%. The highest landing was in the month of June/06 was 81.935 MT and the lowest in the August/06 was 4.458 MT.

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Introduction:

Bangladesh being a South Asian country located in between 20-34' and 26-39' north and longitude 80.00' and 92-41' east, the country is crisscrossed with hundreds of rivers and canals. The climate of Bangladesh is unique for fisheries resource management. The Bay of Bengal is situated in the south of country. There is a total of 1,66,000 sq. km. water area including EEZ.

The Shark fishery is a newly introduced single fishery almost all the river system estuarine and the sea and contributing above 0.18% of the total fish production in Bangladesh. In Chittagong and Cox's Bazar district about 70-100 boats are engaged in this commercial fishery of the Marine territory. Once sharks were captured as a by catch of gill net, demersal trawlinh (bottom trawling) and shrimp trawling, long line, estuarine set beg net (ESBN) and marine set beg net (MSBN). But now a days the shark fishing activities are confined to the sea by newly introduced net is "Shark net". This fishery constrain sharks skates and rays under the class chondrichtheys (Fish whose skeleton is made of cartilage).

There are approximately 600 species of cartilaginous fish and are the lowest living vertebrates in the world. Most sharks and rays are marine but a few live in tropical rivers and come in brackish waters or fresh water. In the world there were 50,000 Metric tons to 70,000 Metric tons of chondrichthyes (Elasmobranch) has been caught through the year. All the sharks and rays are caught from the shore base in Artisanal fisheries and commercially in off-shore base. Generally the abundance of sharks are 10-250 meter depth of the sea (FAO-1984).

All sharks are commercially important and appear to be abundant. They are high demand in the international market. Shark fins, shark dry meat, shark liver oil and shark skin (dorsal view) are exported from Bangladesh. They are not eaten by

the common people in this country but are consumed by some Hindu and tribal people (by a cross section of population).

The EEZ of Bangladesh are abundant with sharks and their associated species the skates and the rays exhibiting diversity in their geographical distribution and catch composition, while it is true that the elasmobranch fishery in Bangladesh has increased over the years, it is a matter of urgency and almost importance that efforts be made to regulate the harvests. However to export the sharks item has been playing an important role in our economy. In near future expansion of shark fishery result very positive impute.

Catches in the exploratory surveys by the government of India Tuna long liners indicate that the pelagic sharks constitute 42% in the Arabian sea, 43% in the Andaman sea, 31% in equatorial areas and 36% in the Bay of Bengal (Devraj, CMFRI, Chchin Pers. Comn. 1998). However, there had been no organized industrial fishing for the pelagic shark till now.

Materials and Method :

The sharks fishes and related information were mainly collected from the Fishery Ghat, Chittagong fish landing center, Chittagong and BFDC Fish Harbour center, Cox's Bazar. Sample were identified and analyzed in landing station and Laboratory. Most of the samples were preserved in 10% formalin and kept at the laboratory of Marine Fisheries Survey Management Unit, Chittagong. The systematic arrangement and other information about the species listed were done with the help of books - Rhaman A.K.A (1995), Verma P.S, (1994), Storer and Usinger (1975), S.R. Munro (1982) Hussain (1970), Mustafa M.G. (1996), Misra K.S (1952), Sarkar M.N (1980), Bay of Bengal news (june-1988 , september 1989), and different working papers 1). studies of the chondrichthyes fauna- the journal of Nuami, vol-5, No-1 and 2, 1988, 2), Management of shark fisheries in to Indian costal state, F. Hanfee-1988 and others available literature consulted and the data were analyzed both manually and with the help of a computer.

Gear and Craft :

Maximum shark are captured by shark net. Which mesh size was 400-520 m, m in size. The width of the net is 10-15 m, length was 1500-2200 meter and the thread No. was 12. Each craft (boat) is made of wood and length 16-17 meter and width 4-5 meter and bear 45/ 65 and 75 HP Marine Diesel Engine. In the fishing time each boat carries 15-20 number of crews and duration of fishing time were 10-12 day per trip. These type of net is used only in Chittagong area's.

Some sharks are also captured as a by catch of "Lakka Jal" (large mesh size gill net) which mesh size was 220-230 mm, the width of the net is 10m-12m, length is 3000 m-4000 m and thread No. 14 and the boat is made of wood and carrying 45-65 HP. The duration of fishing days were 10-17 days/Trip and number of

crews were 17-19 no. These types of net only used in Chittagong and Cox's Bazar areas.

But in Cox's bazar areas only Hook and line is used for shark as a by catch. The hook and line is used by the wooden engine boat. The no. of boats were used for hook and line more than 40-50 m and with 22-35 HP marine engine. The number of crews were 3-6. The fishing areas are near shore and some times offshore and their fishing duration either daily or 2-3 days per trip. Each boat contains 4000 to 6000 hooks and used the hooks are 6-21 no. But maximum used on 9 no. hooks.

Result :

1) Species composition :

There are 22 species of sharks, skates and rays are identified, which were landed at Chittagong and Cox's Bazar from April 2006 to March 2007. Of them 10 species of sharks, 02 species of skates and 10 species of rays are landed under the 17 genera, 11 families and 03 order. The identified shark species were-

(1) *Scoliodon sorrakowah*, (2) *Scoliodon walbeehmii*, (3) *Sphyrna blochii*, (4) *Sphyrna zygaena*, (5) *Stegostoma fasciatum*, (6) *Pristis cuspidatus*, (7) *Rhina ancylostoma*, (8) *Chiloscyllium indicum*, (9) *Galeocerda cuvieri*, (10) *Carcharhinus (Eulamia) melanoptera* and the identifying skates species were (1) *Rhinobatos granulatus*, (2) *Rhynchobatus djiddensis* and lastly the Rays species were (1) *Himantura gerrardi*, (5) *Amphotistius kuhlii*, (6) *Gymnura micrura*, (7) *Rhinoptera javanica*, (8) *Aetomylaeus nichofii*, (9) *Mobula diabolus*, (10) *Narcine timplei*. In March/07 the highest 17 species groups were landed and only 03 species groups were landed in April/06 (**Table-1**).

2) Frequency :

Among the 22 species around 08 were rare/limited abundant through not frequency caught and 07 were the moderate species and only 07 were the common (Major) species in the shark fishery. The most common and abundantly fished shark was *Scoliodon sorrakowah*. Among the requiem sharks, *Scoliodon walbeehmii*, *Carcharhinus melanoptera* and *Sphyrna blochii* were common.

The common skates was *Rhinobatos granulatus* and the common sting ray was *Himantura uarnak*. Other sharks which occur moderately in the landing station (Center) were the *Galeocerda cuvieri*, *Sphyrna zygaena*, *Rhina ancylostoma* and the Rays were *Rhinoptera javanica*, *Mobula diabolus* and *Himantura walga* and the moderate skate was *Rhynchobatus djiddensis*.

The most rare or limited sharks were *Pristis cuspidatus*, *Aetomylaeus nichofii* and *Stegostoma fasciatum* and the limited rays were *Narcine timplei*, *Himantura gerrardi*, *Amphotistius kuhlii*, *Gymnura micrura* and *Himantura bleekeri* (**Table-2**).

3) Landing analysis :

From the landing data it had been seen that, in the month of June/06 the highest catch was 81.935 MT and the lowest catch was 4.458 MT in the month of August/06. In the month of April 2006 the total catch was 5.905 MT and in May/06 the total catch was 19.090 MT. In the month of June/06, July/06, August/06, September/06, October/06, November/06, December/06, January/07, February/07 and in March/07 the total catch were 81.935 MT, 4.689 MT, 4.458 MT, 14.170 MT, 11.150 MT, 27.126 MT, 35.841 MT, 72.186 MT, 74.071 MT and 48.065 MT respectively. In October/06 to February/07 the total landing were gradually increased but in March/07 the total landing was decreased.

It was also observed that the highest catch of *Himantura uarnak* is 68.390 MT in June/06 and the lowest catch of *Galeocerda cuvieri* was 0.003 MT in the month of October/06. The *Himantura walga* was 44.806 MT in February/07 and *Scoliodon sorrakowah* was 8.66 MT in May/06 and *S. walbuhmii* is 6.898 MT in February/07. The most rare species was *Pristis cuspidatus* which found in December/06 and total weight was 0.220 MT. The uncommon species was *Narcine timlei* which were found in the December/06 and February/07 and total weight were 0.275 MT and 0.293 MT respectively. *Gymnura micrura* species catch limited in May/06 was 0.270 MT and in February/07 was 0.026 MT. The species *Himantura bleekeri* and *Amphotistius kuhlei* landed in only March/07 and total weight were 0.224 MT and 0.185 MT respectively (**Table-3**).

4) **Number analysis :**

In the analysis it was show that in April/06 the total number of sharks were 654 and in May/06 it was 8547 and in June/06, July/06, August/06, September/06, October/06, November/06, December/06, January/07, February/07 and in March/07 the total number were 11755, 4294, 6126, 9075, 10498, 23895, 20792, 25016, 14607 and 27629 respectively. In March/07 the highest number of landed shark was 27629 and the lowest number was 654 in April/06. In April/06 to March/07 the landed highest shark species was *Scoliodon sorrakowah* and total number was 65861 and the lowest species was *Pristis cuspidatus* and the total number was 03 only in December/06 (**Table-4**).

5) **Length range analysis**

Among the 22 species *Scoliodon sorrakowah* was most abundant species and its minimum length was 18 CM and maximum length is 110 CM. The moderates Shark- *S. walbuhmii* found in every month and its minimum length was 25 CM and maximum length was 275 CM. Another common shark species was *Chiloscyllium indicum* and its length range was 49-185 CM. The hammer headed shark- *Sphyrna blochii* was common and its length range were 26 CM to 100 CM. Saw shark- *Pristis cuspidatus* most limited species and its length were 68 CM – 76 CM.

The common sting Rays *Himantura uarnak* and its minimum length was 20 cm and maximum length was 150 cm. *Actomylaeus nichofii* was moderate eagle ray species and it length range were 25-136 cm. Another kite ray *Rhinoptera javanica* and it length range were 10-220 cm. *Himantura walga* was moderate

species and its length range were 13-200 cm. The most rare electric ray was *Narcine timplei* and its minimum length was 33 cm and maximum length was 165 cm. The common skates was *Rhinobatos gramlatus* and its minimum length were 30 cm and maximum length was 200 cm. Another moderate skate was *Rhynchobatus djiddensis* and its length range were 25 cm to 220 cm (**Table-5**).

6) **Species wise percentate :**

In the analysis of sharks, skates and rays, it had been observed that in the month of April/06 *Scoliodon walbuhmii* was the dominant species and its percentage was 50.80 and the *Rhynchobatus djiddensis* was lowest position and its was 2.80 percent. In the month of May/06 *Scoliodon sorrakowah* catch was in the highest position and the percentage was 46.41 and the *Rhynchobatus djiddensis* was 1.10% in lowest position. In the month of June/06, July/06, August/06, September/06, October/06, November/06, December/06, January/07, February/07 and March/07 the dominant species were *Himantura uarnak*, *Scoliodon sorrakowah*, *S. sorrakowah*, *H. uaruak*, *H. uarnak*, *H. walga*, *H. walga*, *H. uarnak*, *H. walga* and *H. uarnak* respectively and their percentage were 83.47, 47.28, 55.32, 29.20, 59.95, 25.44, 54.86, 54.80, 60.49 and 64.89 respectively. In April/06 to March/07 *Himantura uarnak* were in the highest position and its percentage were 64.89 in March/07 and the *Narchne timlii* and *Galeocerda cuvieri* were in lowest position and the percentage were 0.01 and 0.01 respectively (**Table-6**).

7) **Goupwise percentage :**

In the group wise percentage analysis of sharks, skates and rays during April/06 to March/07 it was observed that about 24.26% of the sharks (10 sp.) were landed and the skates (02 sp.) was 3.04% and the rays was 72% from the total catch of shark fishery which were represented by 10 species (**Table-7**).

Discussion :

The different sources also indicate that the shark fishery were limited to the 30-50/70 meter depth zone where the sharks were fished as a by catch by many multi species gear-like trawls and drift gill net, ESBN, MSBN, hook and line which are used all along our coast. In the shark fishery only shark net used as commercially for sharks, skates and rays and in some area only hook and line used.

The shark fishery takes a number of small species eg. *Galeocerda cuvieri*, *Stegostoma fasciatum*, *Gymnura nigrura*, *Sphyrna blochii*. A part of these juveniles of large species such as *Scoliodan sorrakowah*, *Carcharhinus malanoptera*, *Himantura uarnak* and *H. bleekeri* and a few number of other sharks also were caught as a by catch. The occurrence of many of these species was highly seasonal and their landing vary from month to month during the year.

The western Indian ocean and red sea have an extremely diverse shark fauna including 23 families, 62 genera and at least 115 species. World wide there are

30 families, 96 genera and about 350 species of sharks (Condriichthyes) (FAO-1983).

The taxonomic study of 21 species of condriichthyes fauna (sharks, skates and rays) of the north-east part of the Bay of Bengal had been presented. These belong to 14 genera, 10 families and 04 suborders under 03 orders in the subclass Elasmobranchii (Quddus, Sarker and Banerjee-1988).

However, little known about Chondrichthyes fish from the Bay of Bengal mainly due to lack of adequate scientific investigation. Hussain 1972 reported 52 species in a check list from the North-eastern part of the Bay of Bengal. Day (1978) reported 63 species from Indian seas and Mishra (1952) 111 species from India. Munro (1955) described 51 species from ceylon.

Qureshi (1953) wrote about 58 species from the Arablan Sea, While Jaleel (1972) described 58 species from Pakistan, Cheu's paper (1963, 1971) included 98 species from the China Sea. There are 53 species of sharks skates and Rays reported from the Bay of Bengal (Hussain, 1970). Shafi and Quddus (1983) also described 21 species of cartilaginous fish from the Bay of Bengal.

But in this paper describes the result of investigations conducted from April 2006 to March 2007 on the shark fishery from two selected sampling stations and 22 species of sharks, skates and rays were identified.

The contribution of shark fishery was about 3539.0 MT and 0.23% of the total fish production in Bangladesh at 1998-1999. In 2000-2001 and 2001-2002 the total sharks, skates and rays production were 5162.0 MT and 6234.0 MT and their contribution were 0.29% and 0.33% respectively in the total fish production of Bangladesh.

In 2004-2005 total 4085 MT of shark fishes (sharks skates and rays) were captured from the Bay of Bengal, estuarine and rivers. The contribution of shark fishes is 0.18% of the grand total of fish production (inland and marine) and 0.86% of the total marine fish production. Shark fishes were captured by the gill net fishing (mechanized and non-mechanized), set Bag net fishing (all season), long line fishing (mechanized, non-mechanized and other long line) and trammel net fishing.

Among the total 4085 MT shark fishes, 2245 MT was captured by gill net fishing and side by side 178 MT 1570 MT and 92 MT were captured by set bag bet fishing, long line fishing and trammel net fishing respectively (DOF Statistical year book-2004-05).

But in one study during 1981/82 to 1985/86 the Elasmobranch fish percentage was 3.08 in 1981/82 and side by side in 1982/83, 1983/84, 1984/85 and 1985/86 the percentage were 3.77, 3.29, 5.27 and 3.36 respectively of the total marine fish landing in Gujarat, India.

The total catch by medium and small trawlers within San Miguel Bay, Philippines, in the month of March 1979 to February 1980, it was conducted that the shark and ray percentage were 0.7 and in March 1980 to Feb.1981 it is 0.5% of the total catch.

According to the marine resource survey (Chittagong, Bangladesh) demersal trawling cruise No-3, the percentage of composition of skates and rays catch in 10-20 meter was 42.55% and side by side in 21-30 m; 51-100m and 101-200m were 21.12%, 3.10% and 0.38% and the average total percentage was 8.01% respectively.

According to the survey cruise No.4 that, the percentage of shark contribution to the total catch of each depth zone were- 10 to 20m was 4.39%, 21-30m was 4.53%, 31-50m. was 4.68%, 51-100m was 2.90% and average percentage was 3.35%.

But in our study during April/06 to March/07 total 398.686 MT. of sharks, skates and rays were captured by trawl fishing, shark net fishing, grill net fishing, set bag net fishing and long line fishing and their contribution was 0.088% of the total marine production and 0.019% of the Grand total fish production of Bangladesh (2005-2006).

Conclusion :

It appears that fishing efforts is zigzag in nature. Though it is a new fishery, so our fishing efforts should be planned in such a way as to avoid over fishing. On the other hand under fishing will be a national loss. In fact, fishing efforts should be regulated as allow harvesting to the maximum sustainable yield (MSY) allowing space to responsible the stock in the biological annual recycling phase.

However, any kind of sharks, skates and rays are commercially important and appear to be abundant and have high demand in the international market. Not only the shark fins oil, also shark skin are exported from Bangladesh. Shark fin and skin of dorsal view have exported in Singapore, Hong Kong, China and USA, also play an important role in the economy of Bangladesh

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Table : 1 Species composition of shark, skate and ray at Chittagong and Cox's Bazar landing ghat during April/2006 to March/2007

Sl. No	Group name	Species name	English name	Family name
	Sharks :			
1.		<i>Scoliodon sorrakowah</i>	Yellow dog shark	Carcharinidae
2.		<i>Scoliodon walbeehmii</i>	Walbeehm's sharp nosed shark (Milk Shark)	Carcharinidae
3.		<i>Sphyrna blochii</i>	Arrow headed hammerhead shark	Sphyrnidae
4.		<i>Sphyrna zygaena</i>	Round headed hammer head shark	Sphyrnidae
5.		<i>Stegostoma fasciatum</i>	Zebra shark	Orectolobidae
6.		<i>Pristis cuspidatus</i>	Pointed saw shark	Pristidae
7.		<i>Rhina ancylostoma</i>	Bow mouthed angle shark	Rhinobatidae
8.		<i>Chiloscyllium indicum</i>	Ridge back cat shark	Orectolobidae
9.		<i>Galeocerda cuvieri</i>	Tiger shark	Carcharinidae
10.		<i>Cracharhinus melanoptera (Eulamia)</i>	Black shark	Carcharinidae
	Skates :			
1.		<i>Rhinobatos granulatus</i>	Granulated shovel nose skate	Rhinobatidae
2.		<i>Rhynchobatus djiddensis</i>	White spotted shovel nose skate	Rhinobatidae
	Rays :			
1.		<i>Himantura walga</i>	Scaly sting ray	Trygonidae
2.		<i>Himantura uarnak</i>	Banded whip tail sting ray	Trygonidae
3.		<i>Himantura bleekeri</i>	Whiptail sting Ray	Trygonidae
4.		<i>Himantura gerrardi</i>	Sharpnose whip ray	Trygonidae
5.		<i>Amphotistius kuhlii</i>	Blue spotted sting ray	Trygonidae
6.		<i>Gymnura micrura</i>	Short tailed butterfly ray	Trygonidae
7.		<i>Rhinoptera javanica</i>	Javanese cow ray	Rhinopteridae
8.		<i>Aetomylaeus nichofii</i>	Nieuhof's egale ray	Myliobatidae
9.		<i>Mobula diabolus</i>	Leaser Devil ray (Bat Ray)	Mobulidae
10.		<i>Narcine tinglei</i>	Spotted electric ray	Torpedinidae

Table : 2 Frequency of shark, skate and rays fishery in Chittagong and Cox's Bazar from April/2006 to March/2007

SL. NO.	SPECIES NAME
	(A) Rare / Limited
1.	<i>Pristis cuspidatus</i>
2.	<i>Narcine timplei</i>
3.	<i>Stegostoma fasciatum</i>
4.	<i>Gymmura micrura</i>
5.	<i>Himantura gerrardi</i>
6.	<i>Amphotistius kuhlii</i>
7.	<i>Himantura bleekeri</i>
8.	<i>Aetomyllacus nichofii</i>
	(B) Moderate
1.	<i>Galeocerda cuvieri</i>
2.	<i>Sphyrna zygaena</i>
3.	<i>Rhinoptera javanica</i>
4.	<i>Mobula diabolus</i>
5.	<i>Himantura walga</i>
6.	<i>Rhynchobatus djiddensis</i>
7.	<i>Rhina ancylostoma</i>
	Common
1.	<i>Scoliodon sorrakowah</i>
2.	<i>Himantura uarnak</i>
3.	<i>Rhinobatos granulatus</i>
4.	<i>Sphyrna blochii</i>
5.	<i>Carcharhinus melanoptera</i>
6.	<i>Scoliodon walbeehmii</i>
7.	<i>Chiloscyllium indicum</i>

**Table-3 : Total landed (MT) of shark, skate and ray at Chittagong and Cox's Bazar from
April 2006 to March 2007**

Sl. No.	Scientific Name/ Group name	April' 06	May '06	June '06	July '06	Aug '06	Sept '06	Oct '06	Nov '06	Dec '06	Jan '07	Feb '07	Mar' 07	Total Landing
1.	<i>Scoliodon sorrakowah</i>	2.740	8.860	5.235	2.217	2.466	2.455	1.623	1.273	2.447	1.760	1.100	2.240	34.415
2.	<i>S. walbeehmii</i>	3.000	2.950	3.080	1.299	0.547	2.607	0.078	5.775	4.083	0.294	6.898	2.354	32/895
3.	<i>Himantura walga</i>	-	-	-	-	-	0.488	0.024	6.902	19.662	26.290	44.806	4.510	102.682
4.	<i>H. uarnak</i>	-	2.560	68.390	0.618	1.089	4.138	6.684	2.887	2.640	39.556	4.155	31.187	163.904
5.	<i>H. bleekeri</i>	-	-	-	-	-	-	-	-	-	0.220	12.610	2.292	15.122
6.	<i>Sphyrna blochii</i>	-	0.350	0.099	0.121	0.092	0.350	0.250	0.585	0.621	1.359	0.366	0.044	4.237
7.	<i>S. zygaena</i>	-	-	0.275	-	-	0.251	0.146	1.162	0.762	0.639	0.554	0.324	4.113
8.	<i>Gymnura micrura</i>	-	0.270	-	-	-	-	-	-	-	-	0.026	0.018	0.314
9.	<i>Rhinobatos granulatus</i>	-	3.110	0.220	-	-	0.027	0.133	2.227	0.742	0.090	1.478	1.331	9.358
10.	<i>Rhynchobatus djiddensis</i>	0.165	0.210	-	-	-	-	0.181	1.196	0.550	0.393	0.058	-	2.753
11.	<i>Rhinoptera javanica</i>	-	-	-	-	-	0.055	0.122	0.220	0.154	0.048	0.019	-	0.618
12.	<i>Aetomylaeus nichofii</i>	-	-	-	-	-	-	-	0.564	0.104	0.004	0.019	0.369	1.123
13.	<i>Stegostoma fasciatum</i>	-	-	0.206	-	-	-	0.006	-	-	0.044	-	-	0.256
14.	<i>Mobula diabolus</i>	-	-	0.165	0.225	0.072	0.302	0.574	-	-	0.022	-	0.088	1.448
15.	<i>Pristis cuspidatus</i>	-	-	-	-	-	-	-	-	0.220	-	-	-	0.220
16.	<i>Narcine timplei</i>	-	-	-	-	-	-	-	-	0.275	-	0.293	0.770	1.338
17.	<i>Rhina ancylostoma</i>	-	0.250	0.028	-	-	0.082	-	0.055	0.004	-	0.034	-	0.453
18.	<i>Chiloscyllium indicum</i>	-	0.530	4.067	0.279	0.005	1.884	0.780	1.065	1.018	0.578	0.258	0.571	11.035
19.	<i>Galeocerda cuvieri</i>	-	-	0.170	-	-	0.027	0.003	0.085	0.052	0.009	0.160	0.388	0.894
20.	<i>Carcharhinus melanoptera</i>	-	-	-	-	0.187	1.505	0.546	3.130	2.507	0.880	1.066	1.170	10.991
21.	<i>Himantura bleekeri</i>	-	-	-	-	-	-	-	-	-	-	-	0.224	0.224
22.	<i>Amphotistius kuhlii</i>	-	-	-	-	-	-	-	-	-	-	-	0.185	0.185
	Total:	5.905	19.090	81.935	4.689	4.458	14.170	11.150	27.126	35.841	72.186	74.071	48.065	398.686

**Table-4 : Total Number of shark, skate and ray landed at Chittagong and Cox's Bazar
from April 2006 to March 2007**

Sl. No.	Scientific name or Group name	April '06	May '06	June '06	July '06	Aug '06	Sept '06	Oct '06	Nov '06	Dec '06	Jan '07	Feb '07	March/07	Total nos.
1.	<i>Scoliodon sorrakowah</i>	509	7439	3383	2348	5225	39	5879	5065	11962	9248	4563	10201	65861
2.	<i>S. walbeehmii</i>	131	751	1595	1100	129	140	17	311	236	62	92	62	4626
3.	<i>Himantura walga</i>	-	-	-	-	-	66	02	1298	3479	1040	6807	1386	14078
4.	<i>H. uarnak</i>	-	104	344	74	212	717	1286	839	129	8870	586	10076	23237
5.	<i>H. bleekeri</i>	-	-	-	-	-	-	-	-	-	20	89	59	168
6.	<i>Sphyrna blochii</i>	-	11	72	127	77	239	188	517	294	559	144	18	2246
7.	<i>S. zygaena</i>	-	-	08	-	-	179	92	916	489	383	230	221	2518
8.	<i>Gymnura micrura</i>	-	05	-	-	-	-	-	-	-	--	10	13	28
9.	<i>Rhinobatos granulatus</i>	-	160	08	-	-	08	29	457	214	44	61	81	1062
10.	<i>Rhynchobatus djiddensis</i>	14	61	-	-	-	-	32	231	121	46	19	-	524
11.	<i>Rhinoptera javanica</i>	-	-	-	-	-	06	12	66	22	13	02	-	121
12.	<i>Aetomylaeus nichofii</i>	-	-	-	-	-	-	-	30	16	02	10	29	87
13.	<i>Stegostoma fasciatum</i>	-	-	06	-	-	-	02	-	-	02	-	-	10
14.	<i>Mobula diabolus</i>	-	-	17	41	19	39	76	-	-	09	-	02	203
15.	<i>Pristis cuspidatus</i>	-	-	-	-	-	-	-	-	03	-	-	-	03
16.	<i>Narcine timlei</i>	-	-	-	-	-	-	-	-	06	-	02	09	17
17.	<i>Rhina ancylostoma</i>	-	08	03	-	-	19	-	03	03	-	05	-	44
18.	<i>Chiloscyllium indicum</i>	-	08	6311	604	04	385	132	546	435	276	136	194	9031
19.	<i>Galeocerda cuvieri</i>	-	-	08	-	-	03	01	14	05	02	01	15	49
20.	<i>Carcharhinus melanoptera</i>	-	-	-	-	460	7235	2750	13602	3378	4440	1850	5250	38965
21.	<i>Himantura blukeri</i>	-	-	-	-	-	-	-	-	-	-	-	08	08
22.	<i>Amphotistius kuhlii</i>	-	-	-	-	-	-	-	-	-	-	-	05	05
	Total	654	8547	11755	4294	6126	9075	10498	23895	20792	25016	14607	27629	

**Table-5 : Length range(cm) of shark, skate and ray landed at Chittagong and Cox's Bazar
from April 2006 to March 2007**

Sl. No.	Scientific Name/ Group name	April '06	May '06	June '06	July '06	Aug '06	Sept '06	Oct '06	Nov '06	Dec '06	Jan '07	Feb '07	March '07
1	<i>Scoliodon sorrakowah</i>	30-55	42-65	42-60	45-80	18-60	38-110	18-60	20-65	30-65	25-60	30-60	30-60
2	<i>S. walbeehmii</i>	32-52	40-59	35-210	25-65	45-80	60-280	38-170	65-380	75-275	50-80	60-260	65-380
3	<i>Himantura walga</i>	-	-	-	-	-	28-65	36-85	13-140	14-100	15-40	30-140	70-200
4	<i>H. uarnak</i>	-	32-55	130-135	53-85	40-115	38-95	40-110	35-145	100-150	20-45	30-120	50-70
5	<i>H. bleekeri</i>	-	-	-	-	-	-	-	-	-	20-35	50-80	65-90
6	<i>Sphyrna blochii</i>	-	48-55	49-55	32-65	40-65	40-70	45-75	50-75	40-90	26-83	50-100	50-80
7	<i>S. zygaena</i>	-	-	50-60	-	-	50-80	48-86	52-75	48-76	40-45	70-220	60-73
8	<i>Gymnura micrura</i>	-	22-36	-	-	-	--	-	-	-	-	22-34	60-80
9	<i>Rhinobatos granulatus</i>	-	36-82	75-160	-	-	80-100	60-200	55-170	60-150	30-40	60-80	60-90
1	<i>Rhynchobatus djiddensis</i>	40-85	38-110	-	-	-	-	60-160	70-220	50-165	25-40	75-180	-
1	<i>Rhinoptera javanica</i>	-	-	-	-	-	48-69	45-72	10-220	40-60	30-65	55-62	-
1	<i>Aetomylaeus nichofii</i>	-	-	-	-	-	-	-	45-136	48-77	25-40	46-56	30-45
1	<i>Stegostoma fasciatum</i>	-	-	45-105	-	-	-	70-80	-	-	40-45	-	-
1	<i>Mobula diabolus</i>	-	-	150-170	48-90	62-80	40-65	40-83	-	-	25-35	-	35-50
1	<i>Pristis cuspidatus</i>	-	-	-	-	-	-	-	-	68-76	-	-	-
1	<i>Narcine timlei</i>	-	-	-	-	-	-	-	-	33-56	-	165	68-73
1	<i>Rhina ancylostoma</i>	-	58-62	120	-	-	55-70	-	100-120	45-55	-	50-80	-
1	<i>Chiloscyllium indicum</i>	-	55-65	65-110	59-98	52-65	52-165	65-185	70-130	62-113	50-104	49-94	80-85
1	<i>Galeocerda cuvieri</i>	-	-	50-68	-	-	40-52	45	55-85	62-75	60-88	79	45-100
2	<i>Carcharhinus melanoptera</i>	-	-	-	-	50-85	40-85	42-95	40-78	55-70	48-92	37-89	35-87
2	<i>Himantura bleekeri</i>	-	-	-	-	-	-	-	-	-	-	-	35-45
2	<i>Amphotistius kuhlii</i>	-	-	-	-	-	-	-	-	-	-	-	30-50

**Table-6 : Species wise Percentage (%) of Sharks, Skates and Rays catch at Chittagong and Cox's Bazar
from April 2006 to February 2007**

Sl. No.	Scientific name or Group name	April '06	May '06	June '06	July '06	Aug '06	Sept '06	Oct '06	Nov '06	Dec '06	Jan '07	Feb '07	March '07	Total percentage
1.	<i>Scoliodon sorrakowah</i>	46.40	46.41	6.39	47.28	55.32	17.32	14.56	4.69	6.83	2.43	1.49	4.66	8.63
2.	<i>S. walbeemii</i>	50.80	15.45	3.76	26.21	12.27	18.40	0.70	21.30	11.39	0.41	9.31	4.90	8.25
3.	<i>Himantura walga</i>	-	-	-	-	-	3.44	0.22	25.44	54.86	36.42	60.49	9.38	25.76
4.	<i>H. uarnak</i>	-	13.41	83.47	13.18	24.43	29.20	59.95	10.64	7.37	54.80	5.61	64.89	41.11
5.	<i>H. bleekeri</i>	-	-	-	-	-	-	-	-	-	0.30	17.02	4.77	3.79
6.	<i>Sphyrna blochii</i>	-	1.83	0.12	2.58	2.06	2.47	2.24	2.16	1.73	1.88	0.49	0.09	1.06
7.	<i>S. zygaena</i>	-	-	0.34	-	-	1.77	1.31	4.28	2.13	0.89	0.75	0.67	1.03
8.	<i>Gymnura micrura</i>	-	1.41	-	-	-	-	-	-	-	-	0.04	0.04	0.08
9.	<i>Rhinobatos granulatus</i>	-	16.29	0.27	-	-	0.19	1.19	8.21	2.07	0.12	2.00	2.77	2.35
10.	<i>Rhynchobatus djiddensis</i>	2.80	1.10	-	-	-	-	1.62	4.41	1.53	0.54	0.08	-	0.69
11.	<i>Rhinoptera javanica</i>	-	-	-	-	-	0.39	1.09	0.81	0.43	0.07	0.03	-	0.16
12.	<i>Aetomylaeus nichofii</i>	-	-	-	-	-	-	-	2.08	0.29	0.01	0.26	0.77	0.13
13.	<i>Stegostoma fasciatum</i>	-	-	0.25	-	-	-	0.05	-	-	0.06	-	-	0.06
14.	<i>Mobula diabolus</i>	-	-	0.20	4.80	1.62	2.13	5.15	-	-	0.03	-	0.18	0.36
15.	<i>Pristis cuspidatus</i>	-	-	-	-	-	-	-	-	0.61	-	-	-	0.05
16.	<i>Narcine timlei</i>	-	-	-	-	-	-	-	-	0.77	-	0.40	1.60	0.34
17.	<i>Rhina ancylostoma</i>	-	1.31	0.03	-	-	0.58	-	0.20	0.01	-	0.05	-	0.11
18.	<i>Chiloscyllium indicum</i>	-	2.78	4.96	5.95	0.11	13.30	7.0	3.93	2.84	0.80	0.35	1.18	2.77
19.	<i>Galeocerda cuvieri</i>			0.21	-	-	0.19	0.03	0.31	0.15	0.01	0.22	0.80	0.22
20.	<i>Carcharhinus melanoptera</i>	-	-	-	-	4.19	10.62	4.90	11.54	6.99	1.22	1.44	2.43	2.76
21.	<i>Himantura bleekui</i>	-	-	-	-	-	-	-	-	-	-	-	0.47	0.06
22.	<i>Amphotistius kuhlii</i>	-	-	-	-	-	-	-	-	-	-	-	0.38	0.04

**Table-7 : Group wise Percentage of Sharks, Skates and Rays at Chittagong and Cox's Bazar
from April 2006 to March 2007**

Sharks %	Skates %	Rays %	Total
24.96	3.04	72.00	100%