

SEA CUCUMBER FISHERIES, UTILIZATION AND TRADE IN CAMBODIA ²

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1. General Overview

Coastal and Marine fisheries serve a very good service to demand of sea product and human's favorability. In other words, these environmental goods are very important for supporting to the livelihoods of the coastal people and contributing to the national economy

Further, marine fisheries resources play a very important role to contribute to national food security after the production of inland fisheries. Even though, this richness was constantly declined from day to day due to lack of proper national data and information control system, past poor management and less research activities.

Along this line, many products of marine species, including sea cucumber are not included in the statistic figure of any marine catch report. And since now, there has no any research and conservation program have been directly focusing such invertebrate species like sea cucumber. Only few reports were slightly emerged information in regarding to sea cucumber in the Cambodia Sea. Through these reports elaborated that five species of sea cucumber found in Sihanoukville (Rath & Vana, 2008), three abundant species of sea cucumbers, *Holothuria fuscopunctata*, *Holothuria edulis*, and *Holothuria leucospilota*, found during the survey in the coastal areas of Cambodia (Tana, 1999) and other reported that some edible sea cucumber were also found in Koh Kong Water (Chou et. al., 2003).

Although, this species were target specie by fishermen-skin diving and were collecting by some middlemen, and till now sea cucumber is still target by fishermen even it become rare. Sea cucumber was also caught by accident by two kinds of fishing

gear, crab gillnet and trawling net (shrimp trawling). However it is known that dried sea cucumber is able to find from some Cambodian local processors in some islands or fishermen themselves as well as can find either market in the Phnom Penh city or any market of the coastal areas.

Large amount of dried sea cucumber found in few markets in Phnom Penh are imported through middlemen imported from neighboring countries, typically Viet Nam and it also occasionally imported from others sources like Hong Kong.

Through this market flow, there is no one of Cambodia do not know about sea cucumber, they generally know sea cucumber in process form (dried form) and always taste through special china food items during attending the wedding, traditional ceremonies, and restaurant, notably any restaurant serve with China Food.

The current price of dried sea cucumber is higher and higher from day to day, this because of number of stock in the sea is extremely declined by over exploitation and is due to lack of clear conservation and management manner.

These are due to limitation of research activities and limited human and institutional capacity.

2. Status of Sea cucumber in Cambodia Marine Fisheries

2.1. Habitat

In Cambodian Water, Sea Cucumbers are encountered in white sandy seagrass bed, coral areas and islands with good health of coral reef and reef. Particularly, sea cucumber likes living in coral reef or rocky area with clear water condition if compared to area with low water visibility.

² This report was prepared only for information supporting a regional study on sea cucumber fisheries, utilization and trade in Southeast Asia. Only few reports were found during the desk review, this is due to sea cucumber is a very new subject for Fisheries Administration of Cambodia.

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2.2. Catch

Sea cucumber is target species by fishermen by diving (skin diving) with air produced by compressor on boat, to specially find in the coral areas and reef areas. By using this method, in between year 2004 and 2005, per fishing trip (around 7 to 10 days) fishermen are able to collect sea cucumber in amount of 30 to 50 kg (the weight of individual piece was from 0.8-3 kg), and they can harvest Sea cucumber for round year.

Apart from targeted catch, sea cucumber was also caught by accident by some fishing gears, trawling net and floating crab net. During 2002 and 2004 only accidental catch by trawling net trawler can collect sea cucumber from 100 to 200 pieces per trip of seven-days fishing operation. Whilst, crab net can rarely accidentally caught sea cucumber in amount of only 2 to 3 pieces per trip of three-days fishing operation. Fishermen try to harvest sea cucumber either in day time or night, the fishing time is based on the species of sea cucumber.

Local fisher had informed that there are about 3 abundant species in the Cambodian sea territory. The most abundant are *Holothuria fuscopunctata*, then following by *Holothuria edulis*, and last following by *Holothuria leucospilota* so called locally as Chhloeung Kmao. These species is mainly caught by trawl as by-catches of shrimp fisheries, especially in the shallow water of the Kompong Som bay and Kompot bay (Tana, 1999).

Based on Rath and Vanna (2006) reported that two species of sea cucumber, so-called in Khmer Chhleung Maras and Chhleung Sor, were collected by fishermen during the night time, whereas

another three species were harvested by fishermen during the day time. Although, the catch effort of fishermen were only two target species, Chhleung Maras and Chhleung Saor. This was a motive of imbalance among sea cucumber species in the Cambodia Water.

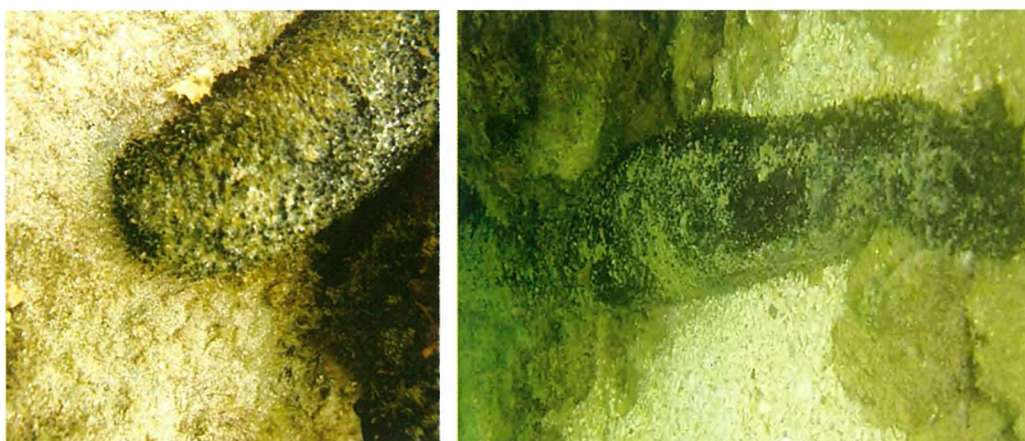
The report emphasized that the number of other three species are higher 60 % than these two targeted species. Other recent survey of Vibol and Bart (2007), reported that only few black sea cucumbers found during the survey if compared to other biodiversity. Figure below is sea cucumber found during the reef check survey.

Unfortunately, during the desk review there is a very few pictures of sea cucumber to prove existing species in Cambodia water.

2.3. Market

The market for sea cucumber had started since 1985 in small collection activity and then later during 2002 and 2004, there have been a big market of collection of sea cucumber in large amount by middleman in Sihanoukville. Meanwhile, the middlemen were able to buy dried sea cucumber in amount of 500 kg per month. These dried sea cucumbers distributed to market in Viet Nam, Thailand and Phnom Penh, and only 10 % was used by Sihanoukville people.

Apart from the process form, during year 2004, alive or fresh sea cucumber was also sold in the market of Sihanoukville. And also there were some collection in fresh form by middlemen from the fishermen. The price is following the market value of species demand. The report was only wrote those sea cucumber name in Khmer language.



Source: Vibol and Bart, 2007

No.	Local Name	English and Scientific	Price (\$)
1	Chhleung Maras	There is a need to find out	2.5-3.00
2	Chhleung Sor		2.5-3.00
3	Chhleung Khmao		0.075-0.125
4	Chhleung Chor		0.075-0.125
5	Chhleung Dangkov Toek		

Source: Rath and Vanna, 2006, Sihanoukville Fisheries Office, in Khmer.

Although through this report many relevant data and information relating to sea cucumber provided. Clearly, the table below indicated the name of sea cucumber in local language with market price in 2004.

Through interview with few middlemen in Sihanoukville responded that total collection of number of dried sea cucumber current time is about 20 to 30 kg per month. Through such huge drop in production, the collection of dried sea cucumber by middlemen was stop, but there is still a distribution activity of dried sea cucumber to the city by some local processor or fishermen themselves.

2.4. Information-based direct interpersonal interview to support the desk review

Current Source of dried sea cucumber: through some observation in few markets in Phnom Penh, found that most of dried sea cucumber number sell in a few shop were provided by middleman imported from Viet Nam, Hong Kong, and only small amount of dried sea cucumber from Kampot province. These three markets are selling dried sea cucumber with the price per kilogram of dried sea cucumber is in between 70 to 100 \$USD, its price is based on the market classification. Three kinds of dried sea cucumber, in which type one is the processed product produced by Cambodian processor in some island and fishermen, type 2 is the dried sea cucumber imported from Viet Nam through Kampot province, and type 3 is the dried sea cucumber imported from Hong Kong. Figure below is pictures of dried sea cucumber in the Phnom Penh market

However, there is still no any official record to clearly prove about dried sea cucumber circulation in the country, especially in the city or other resident center.

2.5. Usage of dried sea cucumber

The dried sea cucumber is not commonly consume for the daily meal (the price is too expensive). Favorably, dried sea cucumber is for making China Food items in some ceremonies, especially during the wedding season, Chinese New Year and Khmer New Year (only household who are living in/around the resident center). Apart from special ceremonies, dried sea cucumber was also bought, for occasional daily meal, by especially China people who are employing in Cambodia.



3. Management and Conservation of Sea Cucumber

In terms of management and conservation of the fisheries resources, biodiversity and habitat, several legislations have been adopted in a general perspective on marine resources management. In relation to this some location are became a protected area and some areas are proposing for Marine Sanctuary for marine biodiversity.

It is due to the fact that, one national plan of action on coral reef and seagrass had adopted and distribute to the relevant stakeholder and along line with this

many management approach and mechanism, and conservation activities, have been implementing in collaboration with all relevant line agencies, as well as good collaboration with neighboring country like Viet Nam. In regards to this context, even there has no any specific plan and activities, research or sea ranching, in association with the direct management and conservation among the Fisheries Administration Plan, in terms of Sea cucumber, but this may indirectly help protecting the sea cucumber species in Cambodia water.

4. Future Consideration

Inside the Action Plan of Fisheries Administration, in terms of marine fisheries management and conservation, there are gaps that need to be eliminated from item to item from day to day by filling with a good collaboration and practical implementation with its partners either in broad manner or specific action.

Within such conceptual perspective, even specific action in connection to the management and conservation of sea cucumber will be initiated and started some actions even in the trial process or kick-started activity. In support to such consideration, SEAFDEC is an unavoidable partner to take into account in sea cucumber management and conservation for Fisheries Administration, to enable to overcome its constraints and approach its dream, respectively.

5. Suggestion and Recommendation

Even all above elaborated information is not enough yet, but it is a light lantern to enable to know the ways and approaches to address any difficulties encountered in the past and fill information lack for better future perspective.

By understanding this context, it would suggest to take more action on sea cucumber issue in Cambodia water to enable to make a proper plan

and activities for management and conservation of all sea cucumber species and habitats. In doing so, there is a need of conducting a survey or research program on its status in Cambodia water as well as in the regional scale. Then following to the result of the research, a management and conservation plan will require making for sustainability of sea cucumber species. Consequently, an appropriate legislation and challenge policy are significantly needed to formulate and perceive, for the sack of good implementation of formulated plan and activities among the relevant institution.

Apart from such regards one unforgettable effective factor that really wanted is a very good collaboration of all research academic institution, NGOs and line agencies in both financial and technical support to Fisheries Administration to enable to improve its human and institutional capacity in addressing sea cucumber issues, as well as this will become a good background for other marine species resulting in fisheries resources harmonization in the future.

References

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