



# IDENTIFICATION OF SHARK AND RAY IN LOCAL SEAFOOD RESTAURANTS IN WEST JAVA, INDONESIA

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## KeyWords

Grilled Shark, Extreme Seafood, Culinary Protected Species, Shark, Ray, Bandung, Indramayu

## ABSTRACT

In various regions in Indonesia, especially Bandung and Indramayu, there are still several restaurants that sell dishes of several species that are classified as considered, vulnerable to almost threatened according to IUCN. Among these species are sharks, rays, and green sand lobsters. With the ethnic homogeneity of Indonesia, there are many simple reasons for cultural beliefs to consume these species. The price offered is quite varied depending on how it is prepared and the type, for example shark dishes that are sold at the Pantura Seafood restaurant for Rp. 11,000 / ounce. The high supply and demand in the country and abroad has led to rampant fishing of these species. thus posing a major threat to the preservation of these species in nature. There are several methods to overcome these problems including socialization and education to the public and culinary entrepreneurs so that they are aware that the condition of protected species must be maintained.

## INTRODUCTION

Indonesia is an archipelagic country that is rich in ethnic and national diversity, where there are various types of diversity that adhere to norms according to their respective regions. Diversity is not only arts and customs, but culinary processing skills with diverse works, creativity and taste, so that it becomes an attraction for foreign tourists and makes an extraordinary culinary business opportunity [1].

In 2012 [2], fishery production reached 15.26 million tons and the level of domestic fish consumption rose to 33.89 kg/capita or an average of 5.4% per year. Capture fisheries production contributed 5.81 million tons and aquaculture 9.45 million tons. This fishery production achievement exceeded the 2012 target of 14.86 million tons. The increasing demand for domestic fishery commodities is influenced by the increasing population and awareness of the importance of nutrition for growth. Fish as the main commodity in the fisheries sub-sector is one of the foodstuffs rich in protein so it is good for daily consumption. However, fish is a perishable food commodity.

Culinary in Indonesia is quite diverse according to their respective cultures and customs, considering the high homogeneity of ethnic groups in Indonesia [3]. Interesting culinary delights don't only come in fancy restaurants with high prices, but culinary connoisseurs can eat delicious dishes in several corners of the city, where the height of the Indonesian culinary industry makes it difficult for the government to oversee every dish served.

The high interest and market demand for culinary offerings, often entrepreneurs serve preparations from protected species, with uncontrolled this creates a very high polemic, both within indigenous peoples and in Indonesian nature. Some customs often want unusual dishes, considering their diverse beliefs make even reasonable things ignored.

The IUCN Red List is a list that discusses the conservation status of living species, where the IUCN can describe the conservation

status to be used as public policy in order to improve the rarity of certain species. In Indonesia, the status of animals is protected by a detcantum in Law Number 5 of 1990 concerning Biological Natural Resources and Ecosystems [4]. The high homogeneity of Indonesian society creates friction between protected species and the existing culinary culture, to get to a better Indonesia, elements of society must be aware of the potential of protected species for ecosystem sustainability. a benchmark of how the community understands in conservation.

Directorate General of Processing and Marketing of Fishery Products-KKP [5], considering the large role of nutrition for health, fish is the right choice for consumption in the future. National fish consumption by the Indonesian people in 2019 is targeted to reach 54.5 kg/kp/year or an average increase of 7.3 percent for the 2016-2019 period (Ministry of Marine Affairs and Fisheries 2016). The consumption of fish by people around the world is also expected to continue to increase. Awareness of consuming fish can be seen from the increase in fish consumption in Indonesia which increases every year. Over time, Bandung is known as a culinary tourism destination. The cool climate, the diversity of food which is a tourist attraction is the main attraction of the city of Bandung. The growth or development of the restaurant industry in the city of Bandung is currently happening quite rapidly. This can be achieved if planned, managed and operated properly. Restaurant business in the city of Bandung has the potential to grow rapidly.

The aim of this study are to find out what protected species are sold in Bandung and Cirebon regional restaurants, to find out the culinary diversity served by the restaurant and to find out the factors that cause these commodities to be sold inrestaurants

## METHODOLOGY

The data obtained by means of Literature Studies, namely searching for data through written sources to obtain information about objects in this research ini Bandung (Capital of West Java Province) and Northern West Java (Cirebon and Indramayu). Literature studies conducted include:

### a. Literature Study

In this literature study the author adheres to an open library system where by collecting data or information through reading materials about the problems studied.

### b. Data Search Online/Internet Searching

Internet searching is a technique of collecting data through the help of technology in the form of tools / search engines on the internet where all information from various eras is available in it. Internet searching is very easy in order to help researchers find a file/data where the speed, completeness and availability of data from various years is available. Searching for data on the internet can be done by searching, browsing, surfing or downloading.

## RESULTS AND DISCUSSION

### 1. H. Moel Seafood Restaurant (Cirebon Area)

Cirebon has relatively abundant Seafood restaurants that offer very fresh and delicious fishery commodities. However, H. Moel Seafood Restaurant is located right on Jl. South Kalibaru No.38 Lemahwungkuk, Cirebon 45123 Indonesia, sells one commodity that is quite attractive, namely the Sand Lobster (*Panulirus homarus*)

#### a. Classification:

According to [6], the classification of sand lobster is as follows:

Phylum : Arthropoda

Class : Malacostraca

Ordo : Decapoda

Family : Palinuridae

Genus : Panulirus

Species: *Panulirus homarus*



**Fig 1.** Green Sand Lobster (*Panulirus homarus*)

Source: [7]

b. IUCN Status

Not yet protected by the Law of the Republic of Indonesia. It has entered the IUCN with Least Concern status ver 3.1 [8]

c. Threat

It is one of the clans of marine crustaceans that has important economic potential, in Indonesia it is starting to develop and in some areas it is also very potential to be exported. Highly hunted, especially seafood restaurants, need to be protected in nature which is increasingly sought after both for export and for consumption by the local community and for the preservation of the species [8]

Restaurant Hj. Moel Cirebon usually processes this lobster into the main menu as lobster in Padang sauce, grilled lobster. This is because lobster meat has a high delicacy and is soft so that consumers like it.

d. Suggestions

Suggestions that can be given regarding the condition of this lobster is that it needs to be immediately included in Indonesian law and included in appendix 2, as well as in the IUCN Redlist: Vulnerable (VU) (vulnerable), because it is necessary to limit the size of the individual harvested. For the female parent to lay eggs, harvesting is prohibited.

2. Pantura Seafood (Bandung area)

Bandung is a cool culinary place where tourists can find the food they want, from expensive food at fancy restaurants, comfortable cafes to cheap sidewalk stalls, tourists are dominant looking for traditional food of their respective cultures, because of the cultural aspects of eating that they cannot leave [4]. With the high ethnic diversity in the city of Bandung, it has opened an extraordinary culinary business, including on Jalan Cibadak.

According to [9] Jalan Cibadak is a culinary place for ethnic Chinese people where there are lots of restaurants that provide culinary Chinese food that ranges from processed soup to grilled, ethnic Chinese have a culture that believes that sharks will bring they become more youthful and have a strong aura.

Pantura seafood which is located on Jl. Astana Anyar No.99-101, Cibadak, Kec. Astanaanyar, Bandung City is one of the restaurants that sells processed fish and shellfish in various cooking techniques, which can be ordered cooked with processed spices or raw so that they can be processed at home. On the menu list, there are various fish served, but it is very obvious that the restaurant sells sharks at a price of Rp. 11.000/ounce which can be served in the form of grilled, soup with processed shark sungsung with various sauces.

Sharks are seawater organisms that have an important role in the oceans [10] but currently a lot of sharks are traded on the basis of the needs of the community, so that it has a direct impact on the preservation of sharks and is categorized as a protected animal at a high level. IUCN protection, can be seen in the table (IUCN TABLE).

1) Shark

a. Classification

Kingdoms : Animalia  
Phylum : Chordata  
Subphylum : Vertebrates  
Class : Chondrichthyes  
Subclass : Elasmobranchii  
Family : Sphyrnidae

b. IUCN Status

From some available information, the type or species of each fish sold is not disclosed, so to determine the IUCN status of the animals sold is a little difficult to do because you do not know exactly what species are being sold. However, from several sources that we have summarized, here are some orders and species of sharks that are included in the IUCN List.

c. Threats

Production of processed shark on the market can lead to a large increase in shark fishing, and can lead to scarcity of sharks in the oceans, considering that Indonesia is one of the countries with a high rate of shark catching in the world due to the high demand for sharks both domestically and abroad [10]. If there is a scarcity to the extinction of sharks in the ocean, there will be niches that dominate in the waters, either below the shark or one level above the shark.

d. Suggestions

Providing education about the importance of teaching shark conservation in the sea to the community and restaurant managers is very important, to reduce the level of supply and demand for sharks both domestically and abroad, by holding a program to increase understanding of sharks and rays to the public, both knowledge about the functions of sharks in the ocean and science where sharks are caught accidentally, in other words we can open their horizons to be more tolerant of shark conservation in Indonesia.

2) Stingray

a. Classification

Kingdom : Animalia  
Phylum : Chordata  
Subphylum : Vertebrates  
Class : Chondrichthyes  
Subclass : Elasmobranchii  
Family : Dasyatidae

b. IUCN

Status Stingray status based on IUCN data from 156 species of stingray, 10 species are included in the endangered category, 3 species are included in the Critically Endangered category, 21 species are in the near threatened category, 27 species are vulnerable, 33 species are of least concern, and 62 species including deficient.

c. Threats

Currently, the population of sharks and rays is experiencing overfishing or commonly known as overfishing, which is triggered by the high market demand for shark and ray meat and skin. Shark meat itself can be served by burning, but also can be made into several preparations such as shredded meat, meatballs, sausages, dried fish, and so on. While shark fins and skin are usually exported to be used as leather crafts, medicine, and also shark oil, even teeth, bile, stomach contents, bones, gills and other body parts can still be processed to be used as decorations or ornaments, glue materials, animal feed, medicinal ingredients, and others (Wibowo and Susanto 1995). It's the same

with sharks, rays too, their meat is usually taken for food, and parts of the fins, skin and cartilage are exported for later use as crafts, medicine and so on [11].

Processed production of shark on the market can lead to a large increase in shark fishing, and can lead to scarcity of sharks in the oceans, given that Indonesia is one of the countries with a high rate of shark fishing in the world due to the high demand for sharks both domestically and abroad.

Exploitation of sharks and rays on a large scale, especially in their flesh, skin and fins causes the number of shark and ray species in nature to experience a sharp decline. If this is not taken seriously then this will endanger the population of sharks and rays in the future which will experience extinction, and if there is an extinction then of course the balance of the ecosystem will be very disturbed.

#### d. Suggestion

It is necessary to conduct socialization and education to fishermen at fish auctions, to owners of seafood restaurant businesses, as well as to consumers of sharks and rays so that they both care and begin to realize that there are no more shark and ray populations, therefore activities need to be stopped. the capture and sale and consumption of sharks and rays. Socialization and education activities are also important to reduce the level of supply and demand for sharks both domestically and abroad, by holding programs to increase understanding of sharks and rays to the public, both knowledge about the function of sharks in the ocean and knowledge of how sharks are caught accidentally, in other words we can open their horizons to be more tolerant of shark conservation in Indonesia. In addition, there is a need for strict regulations and actions from the government, specifically the Ministry of Maritime Affairs and Fisheries of the Republic of Indonesia to prohibit the capture of sharks and rays, strict sanctions and clear rules are expected to have a deterrent effect on the community. anyone who still violates the rules that have been made by the government

## Conclusion

From this research it can be concluded that several seafood restaurants in West Java still sell ecologically important species in terms of conservation status such as sharks and rays. There is an urgency to educate the locals about the importance of conservation of these fish species to maintain a sustainable seafood practice, especially in sharks and ray fisheries. Overall, the most common ecologically important species found in Bandung, Cirebon and Indramayu are Sharks and Ray.

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