



# MARINE PRODUCTS

Sea of opportunities



**Visvesvaraya Trade Promotion Centre (VTPC)**

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## Preface

With a robust agro potential the Country has, the Government of India has launched the One District One Focus Product Scheme (ODOFP) for agriculture sector by the Ministry of Food Processing Industries. Among its primary objectives, the ODOFP initiative aims to enhance the value of the products which is eventually expected to boost employment and income levels of the farmers. The identified products across the country is available at <https://www.nfsm.gov.in/odopstatecropsreport.aspx>

Karnataka has identified its product mix with high demand and export potential across all the districts. The implementing agency for this initiative is the Karnataka State Agricultural Produce Processing and Export Corporation Limited (KAPPEC), the nodal agency in the State.

VTPC being the nodal agency for promotion of exports from the State has made an attempt to draw the action plan district wise, to capture the potential, present status and future prospects in domestic and international markets. Besides, detailed insights have been provided into the biological description of the product, their local, national and international varieties, export-import analysis, HS codes. For a holistic perspective for those concerned, each report also provides SPS standards, processing technologies available, export grading and packing specifications, and suggested pivotal roles and responsibilities among the government departments, boards, corporations and Universities.

Presenting the Action Plan/Report for Marine Products , a ODOFP product mapped to Dakshina kannada and Udupi district of Karnataka, formulated by VTPC. I sincerely hope that this ready reckoner with first-hand information regarding the farming sector would help all those concerned, especially the FPOs and food processing entrepreneurs who have a desire to focus on exporting this product.

**S.R. Satheesha**

Director (Exports) & Managing Director

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# Marine Products - Sea of opportunities

## Introduction

Seafood or Marine food is any form of sea life regarded as food by humans, prominently including fish and shellfish. Shellfish includes various species of molluscs (e.g., bivalve molluscs such as clams, oysters and mussels, and cephalopods such as octopus and squid), crustaceans (e.g., shrimp, crabs, and lobster), and echinoderms (e.g., sea cucumbers and sea urchins). Historically, marine mammals such as cetaceans (whales and dolphins) as well as seals have been eaten as food, though that happens to a lesser extent in current times. Edible sea plants such as some seaweeds and microalgae are widely eaten as sea vegetables around the world, especially in Asia.



Seafood is an important source of (animal) protein in many diets around the world, especially in coastal areas. Semi-vegetarians who consume seafood as the only source of meat are said to adhere to pescetarianism.

The harvesting of wild seafood is usually known as fishing or hunting, while the cultivation and farming of seafood is known as aquaculture and fish farming (in the case of fish). Most of the seafood harvest is consumed by humans, but a significant proportion is used as fish food to farm other fish or rear farm animals. Some seafoods (i.e., kelp) are used as food for other plants (a fertilizer). In these ways, seafoods are used to produce further food for human consumption. Also, products such as fish oil and spirulina tablets are extracted from seafoods. Some seafood is fed to aquarium fish or used to feed domestic pets such as cats. A small proportion is used in medicine, or is used industrially for nonfood purposes (e.g., leather).

There is broad scientific consensus that docosahexaenoic acid (DHA) and eicosapentaenoic acid (EPA) found in seafood are beneficial to neurodevelopment and cognition, especially at young ages. The United Nations Food and Agriculture Organization has described fish as "nature's super food". Seafood consumption is associated with improved neurologic development during pregnancy and early childhood and more tenuously linked to reduced mortality from coronary heart disease. Micronutrients including calcium, potassium, selenium, zinc, and iodine are found in their highest concentrations in the head, intestines, bones, and scales.

## Types of Seafood:

Based on the International Standard Statistical Classification of Aquatic Animals and Plants (ISSCAAP) classification used by the FAO for the purposes of collecting and compiling fishery statistics, types of seafood are as follows:

**Fish are aquatic vertebrates which lack limbs with digits, use gills to breathe, and have heads protected by hard bone or cartilage skulls.**

### Pelagic fish

Pelagic fish live and feed near the surface or in the water column of the sea, but not on the bottom of the sea. The primary seafood groups can be divided into larger predator fish (sharks, tuna, billfish, mahi-mahi, mackerel, salmon) and smaller forage fish (herring, sardines, sprats, anchovies, menhaden). The smaller forage fish feed on plankton and can accumulate toxins to a degree. The larger predator fish feed on the forage fish and accumulate toxins to a much higher degree than the forage fish.



### Pelagic fish

live and feed on or near the bottom of the sea. Some seafood groups are cod, flatfish, grouper and stingrays. Demersal fish feed mainly on crustaceans they find on the sea floor and are more sedentary than the pelagic fish. Pelagic fish usually have the red flesh characteristic of the powerful swimming muscles they need, while demersal fish usually have white flesh.



### Diadromous fish

Diadromous fish are fishes which migrate between the sea and fresh water. Some seafood groups are salmon, shad, eels and lampreys.



### Freshwater fish

Freshwater fish live in rivers, lakes, reservoirs, and ponds. Some seafood groups are carp, tilapia, catfish, bass, and trout. Generally, freshwater fish lend themselves to fish farming more readily than the ocean fish.





**Fish are aquatic vertebrates which lack limbs with digits, use gills to breathe, and have heads protected by hard bone or cartilage skulls.**

## Bivalves

sometimes referred to as clams, have a protective shell in two hinged parts. A valve is the name used for the protective shell of a bivalve, so bivalve literally means two shells. Important seafood bivalves include oysters, scallops, mussels and cockles. Most of these are filter feeders which bury themselves in sediment on the seabed where they are safe from predation. Others lie on the sea floor or attach themselves to rocks or other hard surfaces. Some, such as scallops, can swim. Bivalves have long been a part of the diet of coastal communities. Oysters were cultured in ponds by the Romans and mariculture has more recently become an important source of bivalves for food.



## Aquatic gastropods

Aquatic gastropods, also known as sea snails, are univalves which means they have a protective shell that is in a single piece. Gastropod literally means stomach-foot because they appear to crawl on their stomachs. Common seafood groups are abalone, conch, limpets, whelks and periwinkles.



## Cephalopods

except for nautilus, are not protected by an external shell. Cephalopod literally means head-feet because they have limbs which appear to issue from their head. They have excellent vision and high intelligence. Cephalopods propel themselves with a water jet and lay down "smoke screens" with ink. Examples are octopus, squid and cuttlefish. They are eaten in many cultures. Depending on the species, the arms and sometimes other body parts are prepared in various ways. Octopus must be boiled properly to rid it of slime, smell, and residual ink. Squid are popular in Japan. In Mediterranean countries and in English-speaking countries squid are often referred to as calamari. Cuttlefish is less eaten than squid, though it is popular in Italy and dried, shredded cuttlefish is a snack food in East Asia.



**III. Crustaceans are invertebrates with segmented bodies protected by hard crusts (shells or exoskeletons), usually made of chitin and structured somewhat like a knight's armour. The shells do not grow, and must periodically be shed or moulted. Usually two legs or limbs issue from each segment. Most commercial crustaceans are decapods with ten legs and have compound eyes set on stalks. Their shell turns pink or red when cooked.**

### Shrimp and prawns

Shrimp and prawns are small, slender, stalk-eyed ten-legged crustaceans with long spiny rostrums. They are widespread and can be found near the seafloor of most coasts and estuaries, as well as in rivers and lakes. They play important role in the food chain.



### Crabs



Crabs are stalk-eyed ten-legged crustaceans, usually walk sideways, and have grasping claws as their front pair of limbs. They have small abdomens, short antennae, and a short carapace that is wide & flat. King crabs and coconut crabs are included under this group even if these belong to a different group of decapods than the true crabs.

### Clawed and spiny lobsters

Clawed and spiny lobsters are stalk-eyed decapod with long abdomens. The clawed lobster has large asymmetrical claws for its front pair of limbs, one for crushing and one for cutting (pictured). The spiny lobster lacks the large claws, but has a long, spiny antennae and a spiny carapace. Lobsters are larger than most shrimp or crabs



### Krill



is like baby shrimps except they have external gills and more than ten legs (swimming plus feeding and grooming legs). They are found in oceans around the world where they filter feed in huge pelagic swarms. Like shrimp, they are an important part of the marine food chain, converting phytoplankton into a form larger animals can consume. Each year, larger animals eat half the estimated biomass of krill (about 600 million tonnes).

Humans consume krill in Japan and Russia, but most of the krill harvest is used to make fish feed and for extracting oil. Krill oil contains omega-3 fatty acids, similarly to fish oil.



## Marine mammals

Marine mammals form a diverse group of 128 species that rely on the ocean for their existence. Whale meat is still harvested from legal, non-commercial hunts. About one thousand long-finned pilot whales are still killed annually. Japan has resumed hunting for whales, which they call "research whaling". In modern Japan, two cuts of whale meat are usually distinguished: the belly meat and the more valued tail or fluke meat. Fluke meat can sell three times more than the price of belly meat. Fin whales are particularly desired because they are thought to yield the best quality fluke meat. In Taiji, Japan and parts of Scandinavia such as the Faroe Islands, dolphins are traditionally considered food, and are killed in harpoon or drive hunts. Ringed seals are still an important food source for the people of Nunavut and are also hunted and eaten in Alaska. The meat of sea mammals can be high in mercury and may pose health dangers to humans when consumed.



## Aquatic reptiles

Sea turtles have long been valued as food in many parts of the world and are caught worldwide, although in many countries it is illegal to hunt most species. They are treated as exotic delicacies by Chinese since 5th century. Many coastal communities around the world depend on sea turtles as a source of protein, often gathering sea turtle eggs, and keeping captured sea turtles alive on their backs until needed for consumption. Most species of sea turtle are now endangered, and some are critically endangered.



Echinoderms are headless marine invertebrates, found on the seafloor in all oceans and at all depths. They usually have a five-pointed radial symmetry, and move, breathe and perceive with their retractable tube feet. They are covered with a calcareous and spiky test or skin. Echinoderms used as seafood include sea cucumbers, sea urchins, and occasionally starfish. Wild sea cucumbers are caught by divers and in China they are farmed commercially in artificial ponds. The gonads of both male and female sea urchins, usually called sea urchin roe or corals are delicacies in many parts of the world.







## Jellyfish

Jellyfish are soft and gelatinous, umbrella or bell-shaped animal which pulsates for locomotion. Mostly found in all oceans and occasionally in freshwater. They have long, trailing tentacles with stings for capturing prey. Jellyfish must be dried within hours of capture to prevent spoilage.

Traditional processing methods are carried out by a jellyfish master that involves a 20 to 40-day multi-phase procedure. Processing reduces liquefaction, odour, the growth of spoilage organisms. This makes the jellyfish drier and more acidic, producing a crisp and crunchy texture. Only scyphozoan jellyfish belonging to the order Rhizostomeae are harvested for food; about 12 of the approximately 85 species. Most of the harvest takes place in southeast Asia. In Japan they are regarded as a delicacy.

Other Aquatic animals such as waterfowl, frogs, spoon worms, peanut worms, palolo worms, lamp shells, lancelets, sea anemones and sea squirts are also harvested and used as seafood.

## Most found seafood of India

Seafood in India prominently involves fish and shellfish. Fish and other marine animals are cooked in several styles: poached or steamed, deep-fried or pan fried, baked, grilled, broiled or smoked. They are considered healthy, lower in calories and high in protein. Very easy to digest and naturally tender than other sources of meat and flesh.

Goan cuisine of India is mainly seafood-based with staple rice. Kingfish is considered the most popular delicacy in Goa. Other seafood foods contain pomfret, shark, tuna, and mackerel. Among the list of shellfish are crabs, prawns, tiger prawns, lobsters and mussels.

Seafood is also very popular in the coastal regions of Kerala and is a vital part of Kerala cuisine, eaten almost every day. Fish Curry, Shrimp Coconut Curry, Malabar Biryani, etc. are the popular delicacies of Kerala cuisine.

Seafood is known for being a natural source of vitamins (B, B complex, A and D) and minerals. These are known to influence energy production, metabolism and boost immune system. Seafood provides Omega3 fatty acids and necessary proteins that benefits human's heart health. Omega03 is also good for joints, eyesight, skin, increases concentration and brainpower. Seafood also improves immune system.

## Export scenario of India:

India is the third-largest fish and aquaculture-producing country that accounts for 7.96% of the total global fish production. Marine resources of India constitute a coastline of 8118 kms, Exclusive Economic Zone (EEZ) of 2.02 million sq. mt., and a continental shelf area of 0.53 sq. mt. The inland resources include 0.27 million kms of rivers and canals, 2.45 million hectares of ponds, 3.15 million hectares of tanks, and 1.2 million hectares of floodplain lakes.

In 2020-21, India's total marine and inland fish production stood at 14.73 million metric tons (MMT), which includes 11.25 MMT and 3.48 MMT from inland and marine sectors, respectively. Fisheries sector plays a crucial role in the national economy and is one of the key contributors to the country's foreign exchange earnings. In 2020-21, 66% of the Marine Fisheries and 51% of the Inland Fisheries potential were harnessed. India has seen a consistent growth in overall production of marine products for the last decade, from 8.67 MMT in 2011-12 to 14.73 MMT in 2020-21.

India is among the top 5 fish exporting countries in the world. About 17% of India's agricultural exports are fish and fish products. In 2021-22, the country exported marine products of quantity 1.36 million MT. The value of exports for the same year was US\$ 7.76 billion. This is an increase of about 30% over previous year.

India mainly exports frozen shrimps, fish, cuttlefish, squids, dried items, live and chilled items. Out of these, frozen shrimp is the largest exported marine product contributing to more than 53% of the total quantity and about 75.11% of the total export US\$ value. In 2021-22, the frozen fish, cuttlefish and squid contributed 6.08%, 3.61% and 4.94% of the total marine products export value, respectively. The same contributed to 16.55%, 4.31% and 5.53% of the total quantity exported in the same year.

India exports fish and fish products primarily to the following regions - USA, China, EU, Southeast Asia, Japan, and Middle East.

For more information: <https://www.ibef.org/exports/marine-products-industry-india#>

# Marine Products - HS Codes

No	HS Code	Description	No	HS Code	Description
1	03011100	Freshwater Ornamental Fish	26	03028400	Seabass Fresh or Chilled
2	03011900	Other Ornamental Fish	27	03028500	Seabass Fresh or Chilled
3	03019900	Other Live Fish	28	03028910	Hilsa (Tenualosa ilisha) Fresh or Chilled
4	03021100	Trout Fresh or Chilled	29	03028920	Dara Fresh or Chilled
5	03021900	Other Salmonide Fresh or Chilled Excluding of Heading 030291 To 030299	30	03028930	Pomfret Fresh or Chilled
6	03022300	Sole Fresh or Chilled	31	03028990	Other
7	03022900	Other Flat Fish Fresh or Chilled Excluding of Heading 030291 To 030299	32	03029910	Fish Fins Other Than Shark Fins; Heads, Tails & Maws Fresh or Chilled
8	03023200	Yellowfin Tunas Fresh or Chilled	33	03029990	Other Edible Fish Offal Fresh or Chilled
9	03023900	Other	34	03031400	Trout (Salmo trutta, Oncorhynchus spp) Other Salmonide Frozen
10	03024100	Herrings Fresh or Chilled	35	03031900	Other Salmonide Frozen Excluding of Heading 030391 To 030399
11	03024200	Anchovies Fresh or Chilled	36	03032300	Tilapias Frozen
12	03024300	Sardines Fresh or Chilled	37	03032400	Catfish Frozen
13	03024400	Mackerel Fresh or Chilled	38	03032600	Eels Frozen
14	03024500	Jack & Horse Mackerel (Trachurus Spp.)	39	03032900	Other Fish Including Nile Perch & Snakeheads Frozen
15	03024600	Cobia Fresh or Chilled	40	03033300	Sole Frozen
16	03024700	Sword Fish Fresh or Chilled	41	03033900	Other Flat Frozen Excluding of Heading 030391 To 030399
17	03024900	Other Fish Including Indian Mackerels, Crevalles, Silver Pomfrets, Scads, Capelin, Kawakawa Fresh or Chilled	42	03034100	Albacore or long finned tunas (Thunnus alalunga)
18	03025100	Cod Fresh or Chilled	43	03034200	Yellowfin Tunas Frozen
19	03025900	Other Fish of Families Bregmacerotidae, Euclichthyidae, Gadidae Etc Fresh or Chilled	44	03034300	Skipjack Or Stripe-Bellied Bonito Frozen
20	03027100	Tilapias Fresh or Chilled	45	03034400	Bigeye tunas (Thunnus obesus)
21	03027200	Catfish Fresh or Chilled	46	03034900	Other Tunas Frozen Excluding of Heading 030391 To 030399
22	03027300	Carp Fresh or Chilled	47	03035100	Herrings Excluding Livers & Roes Frozen
23	03027400	Eels Fresh or Chilled	48	03035300	Sardines, Sardinella, Brisling or Sprats Frozen
24	03027900	Other Fish Including Nile Perch & Snakeheads Fresh or Chilled	49	03035400	Mackerel Frozen
25	03028200	Rayes & Skates Fresh or Chilled	50	03035500	Jack & Horse Mackerel Frozen



No	HS Code	Description	No	HS Code	Description
51	03035600	Other Fish Including Indian Mackerels, Crevalles, Silver Pomfrets, Scads, Capelin, Kawakawa Frozen	76	03044990	Other
52	03035700	Sword Fish Frozen	77	03045400	Fresh Or Chilled Fillets of Sword Fish
53	03035910	Indian Mackerels (Rastrelliger Spp.)	78	03045930	Seer
54	03035990	Other	79	03045940	Fresh Or Chilled Fillets of Tuna
55	03036300	Cod Frozen	80	03045990	Other
56	03036900	Other Fish of Families Bregmacerotidae, Euclichthyidae, Gadidae Etc Frozen	81	03046100	Frozen Fillets of Tilapias (Oreochromis Spp.)
57	03038200	Rays & Skates (Rajidae) Frozen	82	03046200	Frozen Fillets of Catfish (Pangasius Spp., Silurus Spp., Clarias Spp., Ictalurus Spp.)
58	03038910	Hilsa (Tenuulosa Ilisha) Frozen	83	03046900	Frozen Fillets of Carp, Eels, Snakeheads
59	03038930	Ribbon Fish Frozen	84	03048400	Swordfish (Xiphias Gladius)
60	03038940	Seer Frozen	85	03048700	Frozen Fillets of Tunas
61	03038950	Pomfret (White or Silver or Black) Frozen	86	03048940	Frozen Fillets of Tuna
62	03038960	Ghol Frozen	87	03048990	Frozen Fillets of Other Fish
63	03038970	Threadfin Frozen	88	03049100	Frozen Fillets of Sword Fish (Xiphias Gladius)
64	03038980	Croakers, Groupers & Flounders Frozen	89	03049300	Frozen Fillets of Tilapias, Catfish, Carp, Eels, Nile Perch & Snakeheads
65	03038990	Other Frozen Fish	90	03049400	Alaska Pollack (Theragra Chalcogramma)
66	03039110	Egg Or Egg Yolk of Fish Frozen	91	03049900	Other
67	03039190	Other	92	03051000	Fish Meal Fit for Human Consumption
68	03039910	Fish Fins Other Than Shark Fins, Heads, Tails & Maws Frozen	93	03053100	Fish Dried, Salted or In Brine, Smoked Tilapias Catfish, Carp, Eels. Nile Perch & Snakeheads
69	03039990	Other Edible Fish Offal Frozen	94	03053900	Other
70	03043200	Fresh Or Chilled Fillets Catfish (Pangasius Spp., Silurus Spp., Clarias Spp., Ictalurus Spp.)	95	03054900	Other Smoked Fish Including Fillets
71	03043900	Other Fresh or Chilled Fillets of The Family Tilapias, Catfish Etc.	96	03055910	Dried Bombay Duck Not Smoked
72	03044200	Other	97	03055930	Sprats Dried Not Smoked W/N Salted
73	03044500	Fresh Or Chilled Fillets of Swordfish (Xiphias Gladius)	98	03055990	Other Dried N.E.S. Not Smoked
74	03044930	Fresh Or Chilled Fillets of Seer	99	03056300	Anchovies Salted or In Brine but Not Dried/Smoked
75	03044940	Fresh Or Chilled Fillets of Tuna	100	03056910	Bombay Duck Salted Not Dried Not smoked

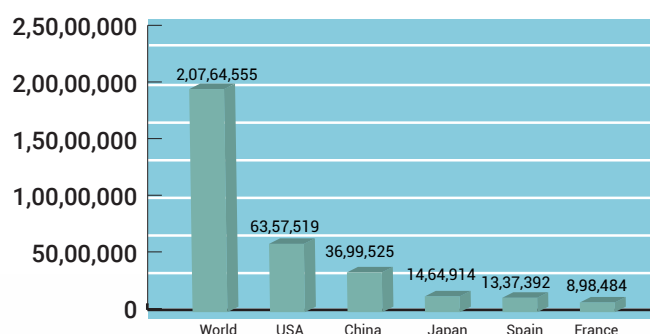
No	HS Code	Description	No	HS Code	Description
101	03056930	Fish Salted, Not Dried or Smoked & Fish in Brine Sprats	130	03071900	Other Oysters
102	03056990	Other Fish Smoked, Dried, Salted or In Brine	131	03072200	Scallops Pecten, Chlamys or Placopecten Frozen
103	03057100	Salted, Not Dried or Smoked & In Brine Shark Fins	132	03072900	Scallops Chlamys Other Than Live Fresh/Chilled & Frozen
104	03057200	Salted, Not Dried or Smoked & In Brine Fish Heads, Tails & Maws	133	03073100	Mussels (Mullus Spp Etc) Live Fresh/Chilled
105	03057900	Other Fish Fins, Heads, Tails, Maws & Offal Salted, Not Dried or Smoked & In Brine	134	03073200	Mussels Frozen
106	03061100	Rock Lobster & Other Sea Crawfish (Palinurus Sp Pp)	135	03073910	Calms-Calm Meat (Bivalvs-Victoriaia Spp Etc)
107	03061210	Whole Cooked Lobsters (Homarus Spp) Frozen	136	03073990	Other
108	03061290	Other Frozen Lobster	137	03074210	Cuttle Fish Live, Fresh or Chilled
109	03061400	Crabs Frozen	138	03074220	Squid Live, Fresh or Chilled
110	03061610	Accelerated Freeze Dried(AFD)	139	03074310	Cuttle Fish Frozen
111	03061690	Others	140	03074320	Whole Squids Frozen
112	03061711	Accelerated FreezeDried (AFD)	141	03074330	Squid Tubes Frozen
113	03061719	Other Scampi	142	03074910	Cuttle Fish Other than Live, Fresh or Chilled & Frozen
114	03061720	Vannamei Shrimp (Litopenaeus Vannamei)	143	03074920	Whole Squids Other Than Live, Fresh or Chilled & Frozen
115	03061730	Indian White Shrimp (Fenneropenaeus Indicus)	144	03074930	Squid Tubes Other Than Live, Fresh or Chilled & Frozen
116	03061740	Black Tiger Shrimps (Penaeus Monodon)	145	03074990	Other
117	03061750	Flower Shrimps (Penaeus Semisulcatus)	146	03075100	Octopus (Octopus Spp) Live Fresh/Chilled
118	03061790	Other Shrimps & Prawns	147	03075200	Octopus Frozen
119	03061900	Other, Including Flours, Meals & Pellets of Crustaceans	148	03075900	Octopus Other Than Live Fresh/Chilled & Frozen
120	03063100	Live Fresh or Chilled Rock Lobster & Other Sea Crawfish	149	03077900	Clams, Cockles & Ark Shells Other Than Live Fresh/Chilled & Frozen
121	03063200	Live Fresh or Chilled Lobsters	150	03076000	Snails Other than Sea Snails
122	03063300	Live Fresh or Chilled Crabs	151	03078400	Frozen Stromboid Conchs
123	03063500	Live Fresh or Chilled Cold - Water Shrimps & Prawns	152	03079100	Other Molluscs Live Fresh or Chilled
124	03063600	Live Fresh or Chilled Other Shrimps & Prawns	153	03079200	Flours, Meals & Pellets of Mollusca, Fit for Human Consumption
125	03069200	Lobsters Other than Live Fresh or Chilled	154	03079990	Others: Other Than Crustaceans, Fit for Human Consumption
126	03069300	Crabs Other than Live Fresh or Chilled	155	03081900	Other Sea Cucumbers Other Than Live Fresh/Chilled & Frozen
127	03069500	Shrimps & Prawns other than Live Fresh or Chilled	156	03082900	Other Sea Urchins Other Than Live Fresh/Chilled & Frozen
128	03069900	Whole Squids Frozen	157	03083020	Dried, Salted or Frozen Jellyfish
129	03071100	Live, Fresh or Chilled Oysters	158	03089000	Other Jellyfish Other Than Live Fresh/Chilled & Frozen

## World Exports & Imports: 2021 (Selected Marine Products)

**030617: Frozen shrimps and prawns, even smoked, whether in shell or not, incl. shrimps and prawns in shell, cooked by steaming or by boiling in water (excluding cold-water shrimps and prawns).**

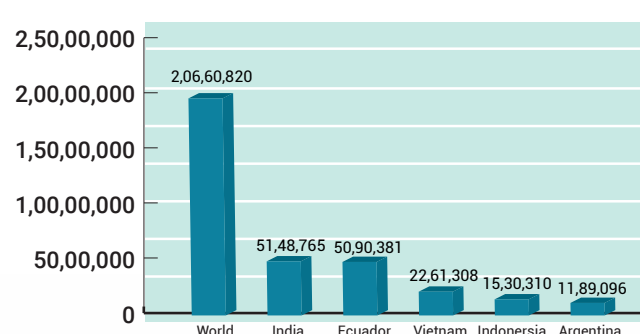
**2021 Global Imports 20,764,555 USD.**

No.	Country	Value USD
1.	USA	6,357,519
2.	China	3,699,525
3.	Japan	1,464,914
4.	Spain	1,337,392
5.	France	898,484



**2021 Global Exports 20,660,820 USD.**

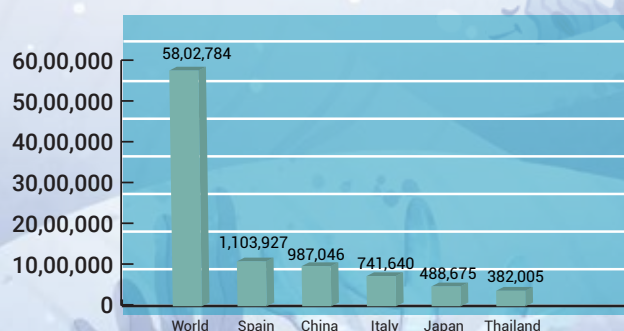
No.	Country	Value USD
1.	India	5,148,765
2.	Ecuador	5,090,381
3.	Vietnam	2,261,308
4.	Indonesia	1,530,310
5.	Argentina	1,189,096



**030743: Cuttle fish and squid, frozen, with or without shell**

**2021 Global Imports 5,802,784 USD.**

No.	Country	Value USD
1.	Spain	1,103,927
2.	China	987,046
3.	Italy	741,640
4.	Japan	488,675
5.	Thailand	382,005



**2021 Global Exports 6,674,931 USD.**

No.	Country	Value USD
1.	China	2,090,848
2.	India	600,464
3.	Spain	493,497
4.	Indonesia	492,635
5.	Peru	423,297





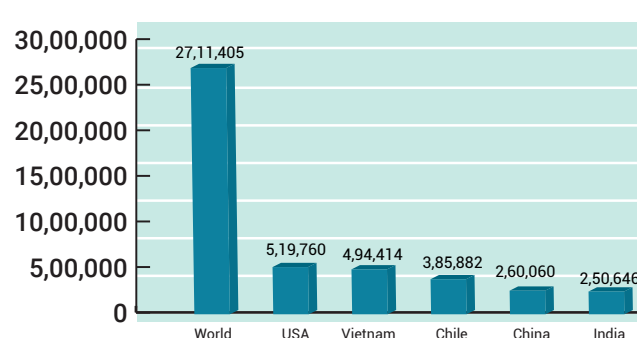
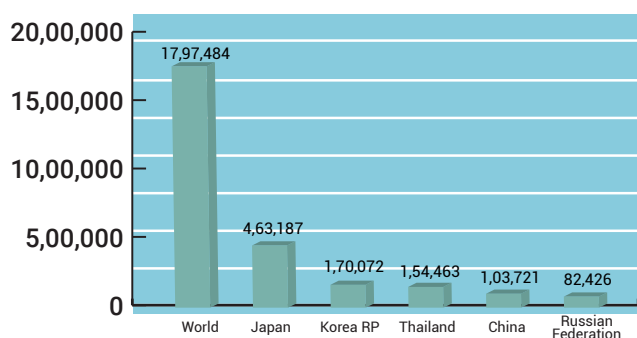
## 030499 -Frozen fish meat N.E.S. (excluding fillets)

2021 Global Imports 1,797,484 USD.

No.	Country	Value USD
1.	Japan	463,187
2.	Korea RP	170,072
3.	Thailand	154,463
4.	China	103,721
5.	Russian Federation	82,426

2021 Global Exports 2,711,405 USD.

No.	Country	Value USD
1.	USA	519,760
2.	Vietnam	494,414
3.	Chile	385,882
4.	China	260,060
5.	India	250,646



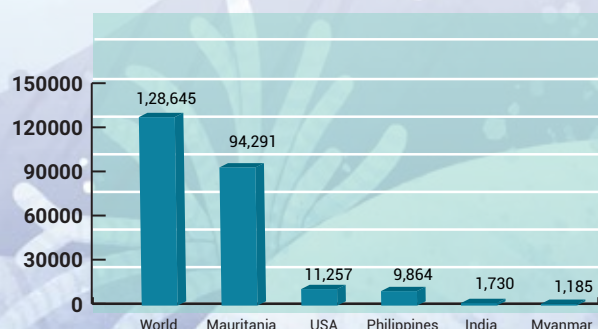
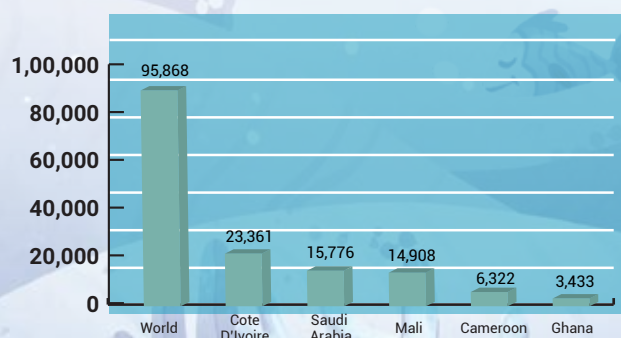
## 030319: Frozen Salmonidae (excluding trout and Pacific, Atlantic and Danube salmon)

2021 Global Imports 95,868 USD.

No.	Country	Value USD
1.	Cote D'Ivoire	23,361
2.	Saudi Arabia	15,776
3.	Mali	14,908
4.	Cameroon	6,322
5.	Ghana	3,433

2021 Global Exports 128,645 USD.

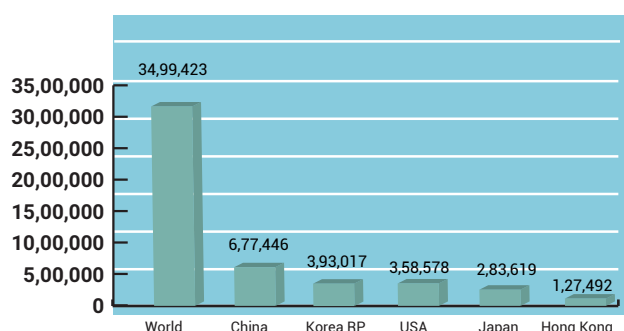
No.	Country	Value USD
1.	Mauritania	94,291
2.	USA	11,257
3.	Philippines	9,864
4.	India	1,730
5.	Myanmar	1,185



## 030389: Frozen fish, N.E.S.

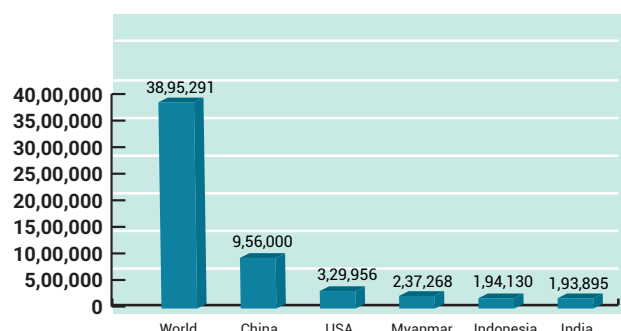
2021 Global Imports 3,499,423 USD.

No.	Country	Value USD
1.	China	677,446
2.	Korea RP	393,017
3.	USA	358,578
4.	Japan	283,619
5.	Hong Kong	127,492



2021 Global Exports 3,895,291 USD.

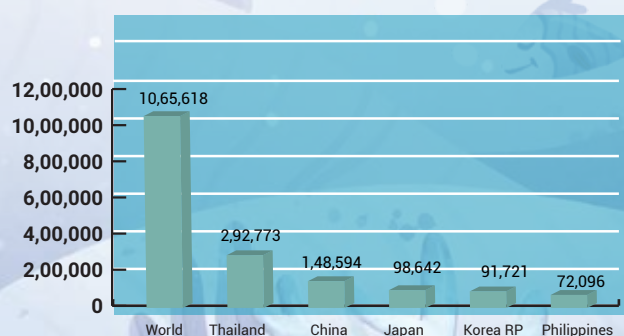
No.	Country	Value USD
1.	China	956,000
2.	USA	329,956
3.	Myanmar	237,268
4.	Indonesia	194,130
5.	India	193,895



**030359: "Frozen Anchovies" "Engraulis Spp", Indian Mackerels "Rastrelliger Spp.", Seerfishes "Scomberomorus Spp", Jacks, Crevalles "Caranx Spp", Silver Pomfrets "Pampus Spp", Pacific Saury "Cololabis Saira", Scads "Decapterus Spp", Capelin "Mallotus Villosus", Kawakawa "Euthynnus Affinis", Bonitos "Sarda Spp", Marlins, Sailfishes and Spearfish "Istiophoridae"**

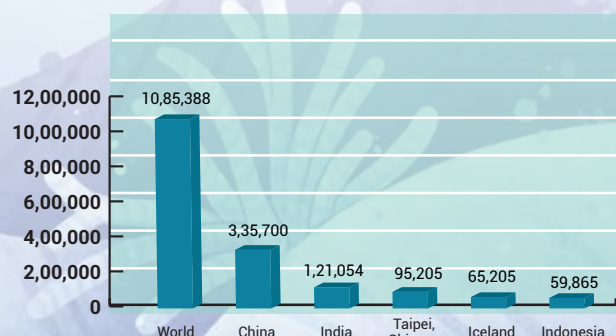
2021 Global Imports 1,065,618 USD.

No.	Country	Value USD
1.	Thailand	292,773
2.	China	148,594
3.	Japan	98,642
4.	Korea RP	91,721
5.	Philippines	72,096



2021 Global Exports 1,085,388 USD.

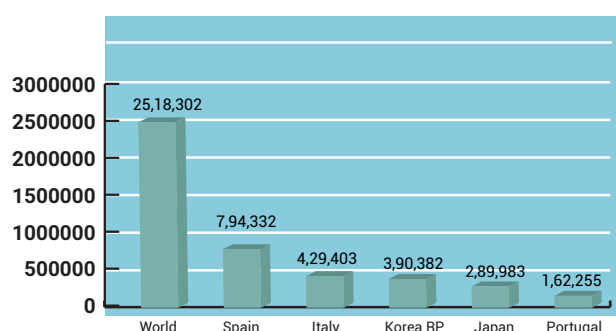
No.	Country	Value USD
1.	China	335,700
2.	India	121,054
3.	Taipei, Chinese	95,027
4.	Iceland	65,205
5.	Indonesia	59,865



## 030752: "Octopus ""Octopus spp."" , frozen"

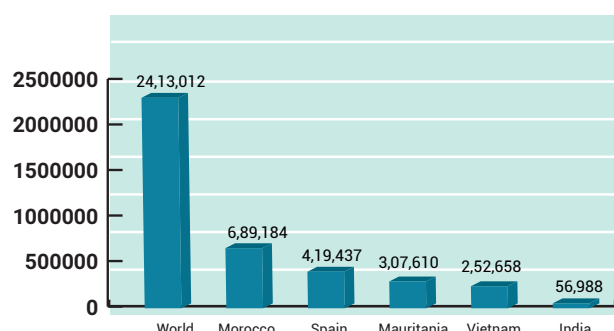
2021 Global Imports 2,518,320 USD.

No.	Country	Value USD
1.	Spain	794,332
2.	Italy	429,403
3.	Korea RP	390,382
4.	Japan	289,983
5.	Portugal	162,255



2021 Global Exports 2,413,012 USD.

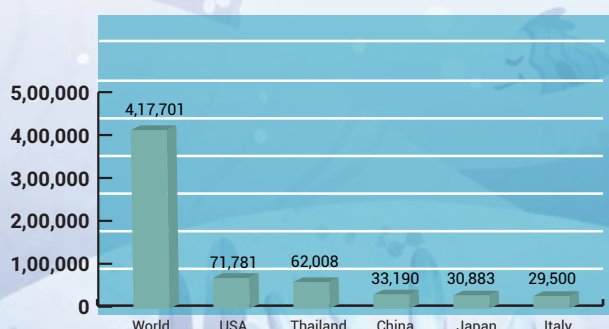
No.	Country	Value USD
1.	Morocco	689,184
2.	Spain	419,437
3.	Mauritania	307,610
4.	Vietnam	252,658
5.	India	56,988



## 030749: "Cuttle fish" "Sepia officinalis, Rossia macrosoma, Sepiola spp." and squid "Ommastrephes spp., Loligo spp., Nototodarus spp., Sepioteuthis spp.", smoked, frozen, dried, salted or in brine, with or without shell

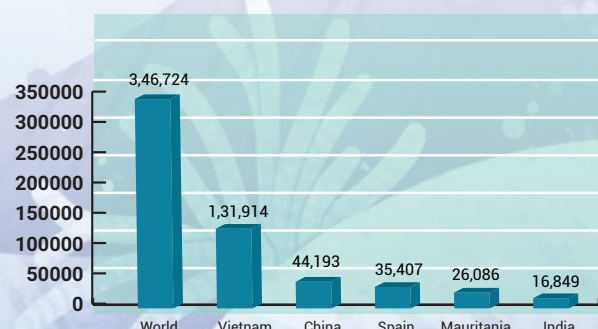
2021 Global Imports 417,701 USD.

No.	Country	Value USD
1.	USA	71,781
2.	Thailand	62,008
3.	China	33,190
4.	Japan	30,883
5.	Italy	29,500



2021 Global Exports 346,724 USD.

No.	Country	Value USD
1.	Vietnam	131,914
2.	China	44,193
3.	Spain	35,407
4.	Mauritania	26,086
5.	India	16,849





## Most exported Marine Products from India & Karnataka for last two years

No	HS Code	Description	All India Exports	2020-21 Karnataka Exports	Top Exporting States	All India Exports	2021-22 Karnataka Exports	Top Exporting States
1	03061720	Vannamei Shrimp (Litopenaeus Vannamei)	3339.5	2.51	Andhra Pradesh, Odisha & West Bengal	4553.9	10.94	Andhra Pradesh, Odisha & West Bengal
2	03061790	Other Shrimps & Prawns	326.82	2.42	Kerala, Gujarat & Maharashtra	353.25	0.61	Kerala, Maharashtra & West Bengal
3	03074320	Whole Squids Frozen	259.64	18.95	Kerala, Gujarat & Maharashtra	342.21	35.93	Kerala, Gujarat & Maharashtra
4	03074310	Cuttle Fish Frozen	219.89	12.92	Kerala, Gujarat & Tamil Nadu	276.97	12.91	Kerala, Gujarat & Tamil Nadu
5	03049900	Other: Fish Fillets & Other Fish Meat (Whether or Not Minced), Fresh, Chilled or Frozen	216.84	88.3	Gujarat, Karnataka & Maharashtra	269.14	107.74	Gujarat, Karnataka & Maharashtra
6	03038930	Ribbon Fish Frozen	76.02	2.23	Gujarat, West Bengal & Andhra Pradesh	93.75	2.79	Gujarat, Kerala & Karnataka
7	03035910	Indian Mackerels (Rastrelliger Spp.)	62.08	17.58	Karnataka, Kerala & Goa	137.89	34.4	Goa, Karnataka & Maharashtra
8	03038980	Croakers, Groupers & Flounders Frozen	44.44	0.28	Gujarat, Kerala & Maharashtra	45.83	0.56	Gujarat, Maharashtra & Kerala
9	03075200	Octopus Frozen	39.05	1.59	Kerala, Gujarat & Tamil Nadu	60.39	1.91	Kerala, Gujarat & Tamil Nadu
10	03074990	Molluscs, Whether in Shell or Not, Live, Fresh, Chilled, Frozen, Dried, Salted Or In Brine; Smoked Molluscs, Whether In Shell Or Not, Whether Or Not Cooked Before Or During The Smoking Process; Flours, Meals And Pellets Of Molluscs, Fit For Human Consumption Other	9.84	1.63	Gujarat, Kerala & Maharashtra	16.96	3.61	Kerala, Gujarat & Karnataka
11	03074330	Squid Tubes Frozen	6.74	0.34	Kerala, Tamil Nadu, & Gujarat	20.59	1.16	Kerala, Tamil Nadu & Gujarat
12	03031900	Other Salmonide Frozen Excluding of Heading 030391 To 030399	1.79	0.33	Tamil Nadu, Karnataka & Kerala	1.7	0.57	Karnataka, Tamil Nadu & Kerala
13	03024900	Other Fish Including Indian Mackerels, Crevalles, Silver Pomfrets, Scads, Capelin, Kawakawa Fresh or Chilled	0.73	0.01	Tamil Nadu, Kerala & Telangana	0.75	0	Tamil Nadu, Un Specified & Kerala
14	03035300	Sardines, Sardinella, Brisling or Sprats Frozen	0.71	0.04	Kerala, Tamil Nadu & Gujarat	0.73	0.01	Kerala, Tamil Nadu & Maharashtra
15	03039910	Fish Fins Other Than Shark Fins, Heads, Tails & Maws Frozen	0.17	0.11	Karnataka & Kerala	0.3	0.3	Karnataka & Andhra Pradesh

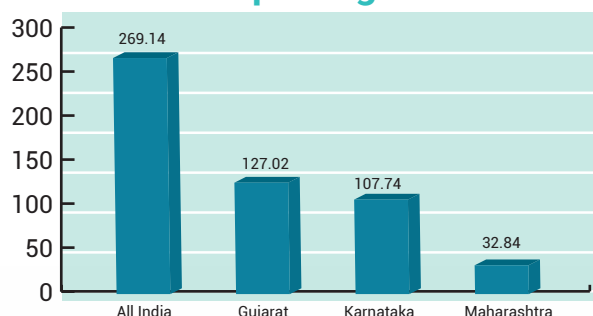


## World Exports & Imports: 2021 (Selected Marine Products)

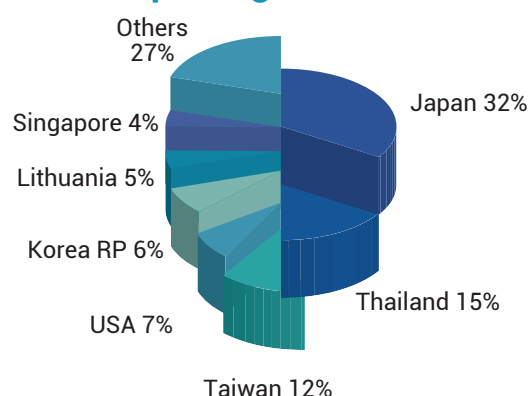
### 03049900: Other: Fish Fillets & Other Fish Meat (Whether or Not Minced), Fresh, Chilled or Frozen

No.	State	Value USD Mn	Destination
	All India	269.14	Japan, Thailand, Taiwan(+29)
1.	Gujarat	127.02	Japan, Thailand, Taiwan (+15)
2.	Karnataka	107.74	Thailand, Taiwan, USA (+15)
3.	Maharashtra	32.84	Belarus, Russia, Japan (+12)

#### Exporting states



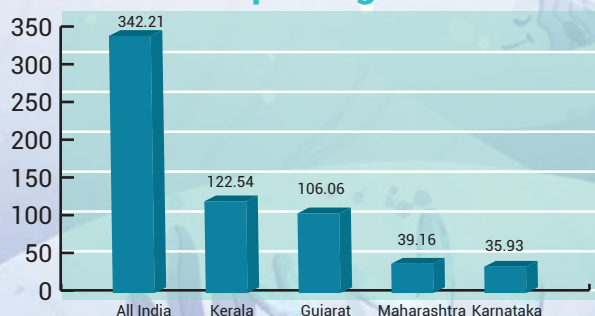
#### Importing Countries



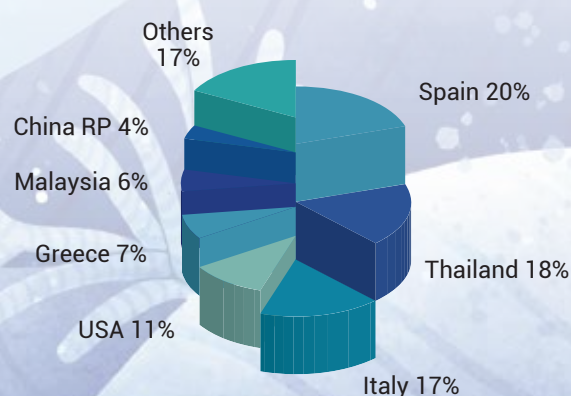
### 03074320: Whole Squids Frozen

No.	State	Value USD Mn	Destination
	All India	342.21	Spain, Thailand, Italy (+47)
1.	Kerala	122.54	Spain, Thailand, Italy (+32)
2.	Gujarat	106.06	Italy, Spain, Malaysia (+26)
3.	Maharashtra	39.16	Thailand, Greece, Spain (+22)
4.	Karnataka	35.93	Thailand, USA, Greece (+8)

#### Exporting states



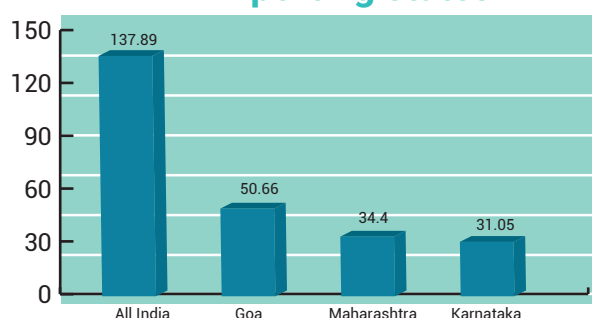
#### Importing Countries



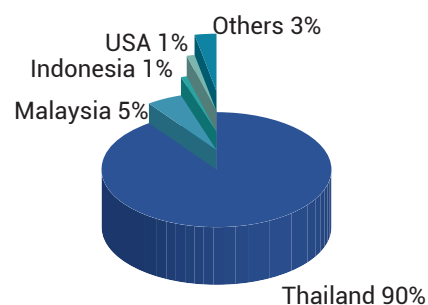
### 03035910: Indian Mackerels (Rastrelliger Spp.)

No.	State	Value USD Mn	Destination
	All India	137.89	Thailand, Malaysia, Indonesia (+30)
1.	Goa	50.66	Thailand, Malaysia, Indonesia (+1)
2.	Maharashtra	34.40	Thailand, Malaysia, Indonesia (+3)
3.	Karnataka	31.05	Thailand, Malaysia, Kuwait (+11)

#### Exporting states



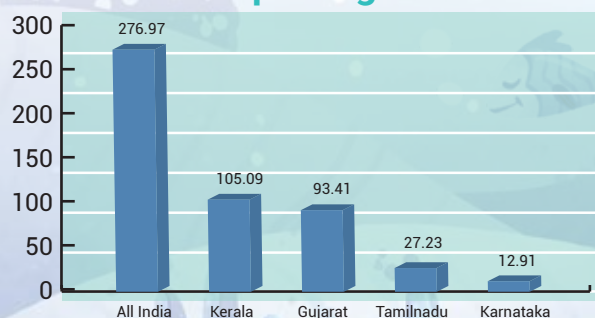
#### Importing Countries



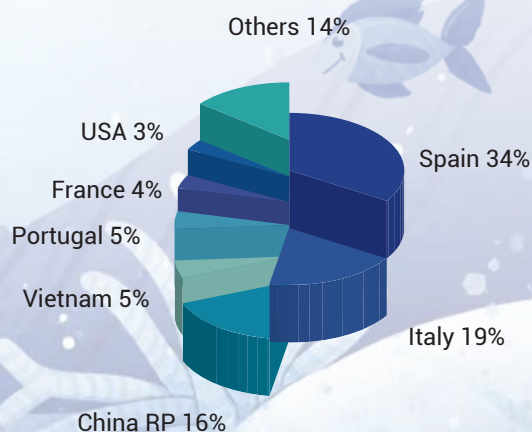
### 03074310: Cuttle Fish Frozen

No.	State	Value USD Mn	Destination
	All India	276.97	Spain, Italy, China RP (+42)
1.	Kerala	105.09	Spain, Italy, Vietnam (+26)
2.	Gujarat	93.41	Italy, Spain, France (+30)
3.	Tamil Nadu	27.23	Spain, Italy, USA (+19)
4.	Karnataka	12.91	China RP, Spain, Vietnam (+9)

#### Exporting states



#### Importing Countries

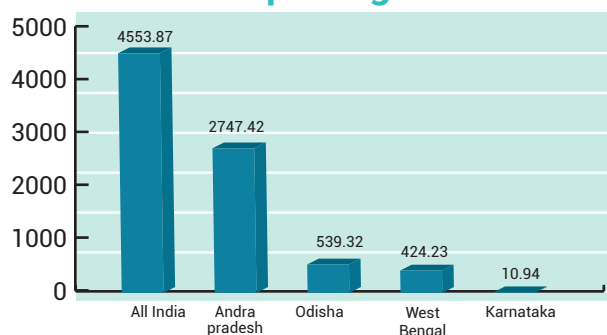




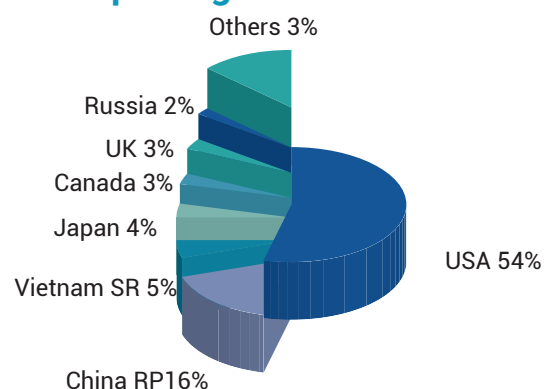
### 03061720: Vannamei Shrimp (*Litopenaeus Vannamei*)

No.	State	Value USD Mn	Destination
	All India	4553.87	USA, China RP, Vietnam SR (+89)
1.	Andhra Pradesh	2747.42	USA, China, Canada (+52)
2.	Odisha	539.32	USA, China, Vietnam (+30)
3.	West Bengal	424.23	USA, Japan, China RP (+36)
4.	Karnataka	10.94	China RP, Vietnam SR, Malaysia, USA

**Exporting states**



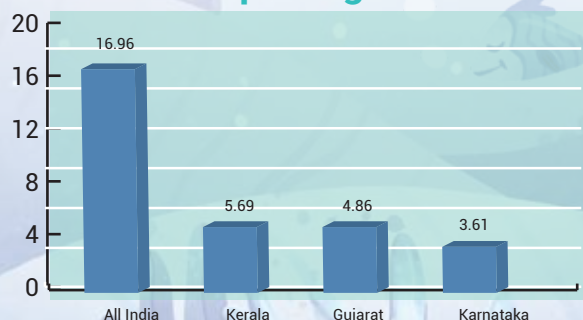
**Importing Countries**



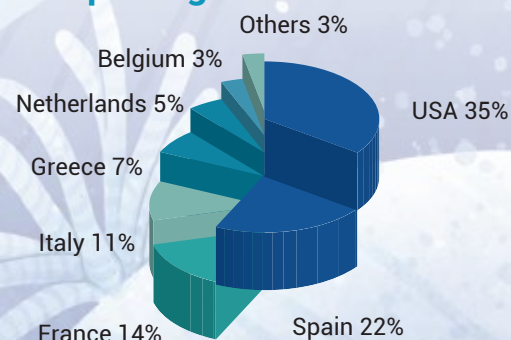
### 03074990: Molluscs, whether in shell or not, live, fresh, chilled, frozen, dried, salted or in brine; smoked molluscs, whether in shell or not, whether or not cooked before or during the smoking process; flours, meals and pellets of molluscs, fit for human consumption: Other

No.	State	Value USD Mn	Destination
	All India	16.96	USA, Spain, France (+22)
1.	Kerala	5.69	USA, Spain, France (+12)
2.	Gujarat	4.86	Spain, Italy, USA (+6)
3.	Karnataka	3.61	USA, Spain, Italy (+3)

**Exporting states**



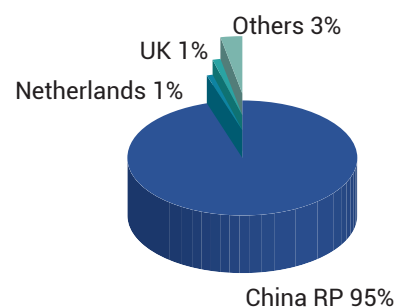
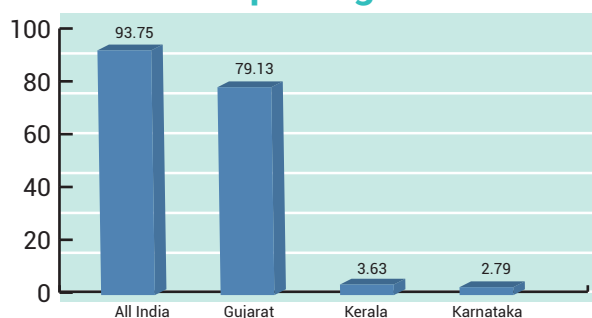
**Importing Countries**



## 03038930: Ribbon Fish Frozen

No.	State	Value USD Mn	Destination
	All India	93.75	China RP, Netherlands, UK (+5)
1.	Gujarat	79.13	China RP, USA, Netherlands (+2)
2.	Kerala	3.63	China RP
3.	Karnataka	2.79	China RP, UAE, Malaysia, USA

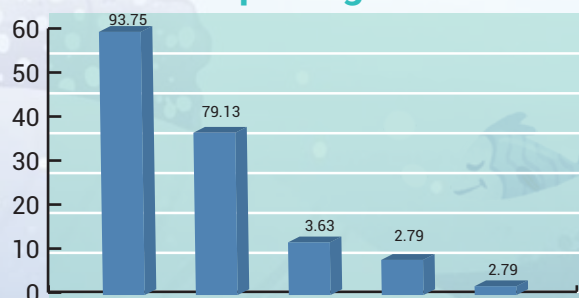
### Exporting states



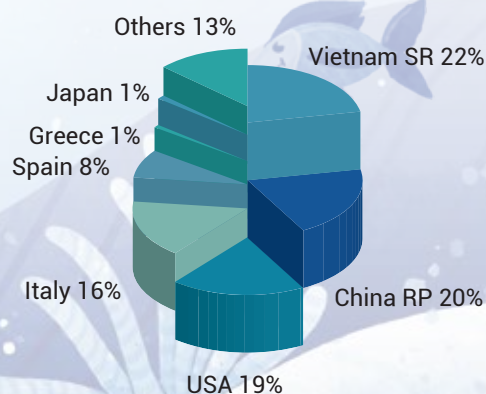
## 03075200: Octopus Frozen

No.	State	Value USD Mn	Destination
	All India	60.39	Vietnam SR, China RP, USA (+36)
1.	Kerala	36.83	China RP, USA, Vietnam SR (+22)
2.	Gujarat	12.17	Italy, Spain, Vietnam SR (+20)
3.	Tamil Nadu	8.67	Vietnam SR, Italy, USA (+17)
4.	Karnataka	1.91	China RP, Vietnam, Thailand (+2)

### Exporting states



### Importing Countries



Source: Exim analytics, DGCIS: 2021-22

## Production Data of Sea food: 2020-21

1. **Capture Fishes:** List of commercially important species of India - peak season & distribution:  
[https://mpeda.gov.in/?page\\_id=573](https://mpeda.gov.in/?page_id=573)

### 2. Culture Fishes:

- ★ State-wise Aquaculture Production: [https://mpeda.gov.in/?page\\_id=651](https://mpeda.gov.in/?page_id=651)

- ★ Area utilized, production & productivity of L. vannamei:

Totally 1,08,526.27 ha is under L. vannamei culture in 9 maritime states producing 8,15,745 MT. Top state being Andhra Pradesh, followed by Gujarat & Tamil Nadu - Pondicherry. All India average productivity is 7.52 MT/ha/year.

No.	State	Area under Culture (ha)	Production (MT)	Productivity (MT/ha/yr.)
1	Andhra Pradesh	71921	634672	8.82
2	West Bengal	6059	35392	5.84
3	Gujarat	8986	50410	5.60
4	Tamil Nadu & Pondicherry	8600	44735	5.20
5	Orissa	10649	43677.4	4.10
6	Maharashtra	1183.49	4252.1	3.59
7	Kerala	157.39	420.85	2.67
8	Karnataka	970.39	2185.84	2.25
9	Goa	0	0	0
	Total	108526.27	815745	7.52

- ★ Area utilized, production & productivity of Black Tiger Shrimp:

The nine farming states have produced 27,616 MT of Black Tiger shrimp with West Bengal topping the production followed by Kerala and Andhra Pradesh.

No	State	Area under Culture (ha)	Production (MT)	Productivity (MT/ha/yr.)
1	Gujarat	35	116	3.31
2	Tamil Nadu & Pondicherry	30	81	2.7
3	Andhra Pradesh	2591	5222	2.02
4	Orissa	551	878	1.59
5	Karnataka	2175	1000	0.46
6	Kerala	2813.85	1128.98	0.40
7	West Bengal	50000	19190	0.38
8	Goa	0	0	0
9	Maharashtra	0	0	0
	Total	58196	27616	0.47

3. **Ornamental fish species:** [https://mpeda.gov.in/?page\\_id=791](https://mpeda.gov.in/?page_id=791)



## Role of MPEDA:

The Marine Products Export Development Authority (MPEDA) was set up by an act of Parliament during 1972. MPEDA has been given the mandate to promote the marine products industry with special reference to exports from the country. It is envisaged that this organization would take all actions to develop and augment the resources required for promoting the exports of "all varieties of fishery products known commercially as shrimp, prawn, lobster, crab, fish, shell-fish, other aquatic animals or plants or part thereof and any other products which the authority may, by notification in the Gazette of India, declare to be marine products for the purposes of (the) Act". The Act empowers MPEDA to regulate exports of marine products and take all measures required for ensuring sustained, quality seafood exports from the country. MPEDA is given the authority to prescribe for itself any matters which the future might require for protecting and augmenting the seafood exports from the country. It is also empowered to carry out inspection of marine products, its raw material, fixing standards, specifications, training as well as take all necessary steps for marketing the seafood overseas.

## Major Functions of MPEDA:

- ★ Registration of infrastructural facilities for seafood export trade.
- ★ Collection and dissemination of trade information.
- ★ Promotion of Indian marine products in overseas markets.
- ★ Implementation of schemes vital to the industry by extending assistance for infrastructure development for better preservation and modernized processing following quality regime.
- ★ Promotion of aquaculture for augmenting export production through hatchery development, new farm development, diversification of species and up gradation of technology
- ★ Promotion of deep-sea fishing projects through test fishing, joint ventures and up gradation & installation of equipment to increase the efficiency of fishing.
- ★ Market promotional activities and publicity.
- ★ Carry out inspection of marine products, its raw material, fixing standards and specifications, training, regulating as well as to take all necessary steps for maintaining the quality of seafood that are marketed overseas.
- ★ Impart trainings to fishermen, fish processing workers, aquaculture farmers and other stake holders in the respective fields related to fisheries, promotion of modernization of fishing harbours.
- ★ Conduct research and development for the aquaculture of aquatic species having export potential through Rajiv Gandhi Centre for Aquaculture (RGCA).

- ★ Conduct extension and awareness activities, trainings etc., through Network for Fish Quality Management and Sustainable Fishing (NETFISH) & National Centre for Sustainable Aquaculture (NaCSA).
- ★ To prescribe for itself any matters required for protecting and augmenting the seafood exports from the country in the future.

## Services for exporters, farmers and fisherman

- ★ MPEDA also offers services like Catch certificate, Certificate of Origin, DS-2031 certification, ICCAT certification and much more to exporters.
- ★ Capacity building programs, Farm enrolment and live demonstrations to fish farmers.
- ★ Educates Fishermen through NETFISH and also provides information about major fishing harbours and fishing grounds.
- ★ MPEDA also has quality and residue control (NRCP), approved testing labs (QC & ELISA), approved processing plants and cold storages to aid in domestic and export markets.

## Data available for Exporters:

- ★ **Marine Products Exports:** Item Wise, Market wise and Port wise Export Data of various marine products for the last 10 Years: [https://mpeda.gov.in/?page\\_id=438](https://mpeda.gov.in/?page_id=438)
- ★ **Region wise Exporter's directory:**  
[https://e-mpeda.nic.in/registration/Rpt\\_Region\\_Wise\\_Exporters\\_new.aspx](https://e-mpeda.nic.in/registration/Rpt_Region_Wise_Exporters_new.aspx)
- ★ **SPS-TBT agreements:** [https://mpeda.gov.in/?page\\_id=1061](https://mpeda.gov.in/?page_id=1061)
- ★ **Market research report:** [https://mpeda.gov.in/?page\\_id=7662](https://mpeda.gov.in/?page_id=7662)

## Data available for Exporters:

- ★ Rajiv Gandhi Centre for Aquaculture (RGCA) – R & D arm of MPEDA
- ★ Network for Fish Quality Management and Sustainable Fishing (NETFISH)
- ★ National Centre for Sustainable Aquaculture (NaCSA)

## Product catalogue from MPEDA:

1. Shrimp products: [https://mpeda.gov.in/?page\\_id=1321](https://mpeda.gov.in/?page_id=1321)
2. Squid: [https://mpeda.gov.in/?page\\_id=1329](https://mpeda.gov.in/?page_id=1329)
3. Cuttlefish products: [https://mpeda.gov.in/?page\\_id=1333](https://mpeda.gov.in/?page_id=1333)
4. Fish Products: [https://mpeda.gov.in/?page\\_id=1338](https://mpeda.gov.in/?page_id=1338)
5. Value added products: [https://mpeda.gov.in/?page\\_id=1351](https://mpeda.gov.in/?page_id=1351)
6. Fresh Water Prawn (Scampi): [https://mpeda.gov.in/?page\\_id=1326](https://mpeda.gov.in/?page_id=1326)
7. Lobster products: [https://mpeda.gov.in/?page\\_id=1341](https://mpeda.gov.in/?page_id=1341)
8. Crab Products: [https://mpeda.gov.in/?page\\_id=1345](https://mpeda.gov.in/?page_id=1345)
9. Octopus products: [https://mpeda.gov.in/?page\\_id=1348](https://mpeda.gov.in/?page_id=1348)
10. List Of Value-added Seafood Items: [https://mpeda.gov.in/?page\\_id=933](https://mpeda.gov.in/?page_id=933)

For more information please visit: <https://mpeda.gov.in/>

## Processing Technologies available:

1. Sausage preparation: Meat, Fish, Chicken & Pork:  
<https://cftri.res.in/technologies/MMP/spm.pdf>
2. Wafers: Chicken, Egg, Fish, Meat, Pork, Prawn: <https://cftri.res.in/technologies/MMP/waf.pdf>
3. Prawn Pickle: <https://cftri.res.in/technologies/MMP/ppw.pdf>
4. Instant gravy mixtures: <https://cftri.res.in/technologies/MMP/igm.pdf>

Source: [https://cftri.res.in/technology\\_search](https://cftri.res.in/technology_search)





## Responsibility Matrix

No.	Actions	Responsibility
1.	Cultivator's database & aggregation of the produce	MPEDA, GOI
2.	Inviting Exporters/entrepreneurs to Investors meet for contract farming & processing industries	MPEDA, GOI
3.	Arranging Buyer – Seller meet & International trade fairs	MPEDA, GOI & KAPPEC
4.	Post-harvesting technologies, Grading & Processing of Marine Products	MPEDA, GOI & CFTRI, Mysore
5.	Export training, orientation, & Market Intelligence	MPEDA, GOI & VTPC Karnataka

## Regulators and Service providers

No.	Organization	Service	Contact
1.	MPEDA	RCMC, Market survey and assistance.	MPEDA House, 18-3-154, Attavar Rd, Attavar, Mangaluru – 575001 No: 0824 298 5988 E: <a href="mailto:ho@mpeda.gov.in">ho@mpeda.gov.in</a> , <a href="mailto:sro.man@mpeda.gov.in">sro.man@mpeda.gov.in</a>
2.	KAPPEC	PMFME Scheme	17, Richmond Rd, Shanthala Nagar, Richmond Town, Bengaluru - 560025 E: <a href="mailto:kappec1996@gmail.com">kappec1996@gmail.com</a>
3.	DGFT	IEC, Customs and ICEGATE	6th floor, Kendriya Sadan, C & E Wing, 17th main, Koramangala 2nd Block, Bengaluru – 560034 E: <a href="mailto:bangalore-dgft@nic.in">bangalore-dgft@nic.in</a>
4.	Quality Certification EIA – Bengaluru and Mangaluru	Inspection certification & Custom clearance	2nd Floor, Jeevan Sampige Building, No.1/1, 2nd Main, Sampige, Road, Malleswaram, Bangalore – 560003 Tel: 080-23444931 / 23567556 E: <a href="mailto:eia-bangalore@eicindia.gov.in">eia-bangalore@eicindia.gov.in</a> School Book Building-3rd floor, temple, Square, Car Street, Mangalore - 575001 Tel: 0824-2496813 E: <a href="mailto:eia-mangalore@eicindia.gov.in">eia-mangalore@eicindia.gov.in</a>
5.	New Mangalore Port Authority (NMPA), Mangaluru	Freight and Flight	Panambur, Mangalore, Karnataka - 575010, D.K. District. Tel: 0824-2407341 (24 lines) Help Desk: 9731519177 Email: <a href="mailto:chairman@nmpt.gov.in">chairman@nmpt.gov.in</a> W: <a href="https://newmangaloreport.gov.in/">https://newmangaloreport.gov.in/</a>