

An underwater scene featuring a diver in the center, surrounded by a large stingray and numerous smaller fish. The scene is framed by a yellow border.

# Sector Profile Fisheries



**BOARD OF INVESTMENT & TRADE**  
GOVERNMENT OF BALOCHISTAN



# Preface

*The sector profiling exercise aims to capture the current state of the sector, map related regulations and identify areas of reform. It highlights basic value propositions for the selected sectors, as revealed by stakeholder interviews and the consultant's business knowledge.*



## Balochistan Board of Investment and Trade

The Balochistan Board of Investment and Trade (BBoIT) is Balochistan's premier investment promotion body, responsible for attracting, facilitating and promoting both local and foreign investment for speedy capitalization of projects in all sectors of economy in Balochistan. BBoIT is established with broad based responsibilities of promotion of investment in all sectors of economy; facilitation of local and foreign investors for speedy

materialization of their projects and to enhance the province regional competitiveness and contribute to economic and social development. BBoIT is seeking to develop a conducive environment for private sector. As an input to this process, a sector profiling exercise is required to capture the current state of the sector, map related regulations and identify areas of reform. For this purpose, BBoIT has engaged EY Ford Rhodes to develop sector profiles for designated sectors.



## Governance and Policy Project (GPP) for Balochistan

The project is expected to help Balochistan increase its own source revenues, thereby reducing the province's dependence on federal transfers and expanding fiscal space for financing public services. The Project Development Objective (PDO) is to strengthen the capacity for Sales Tax on Services collection, and improve accountability in public financial management and public service delivery in the education and irrigation sectors in Balochistan.

*This sector profile has been prepared through technical assistance from **M/s EY Ford Rhodes**, which is a member firm of Ernst & Young Global Limited (EYGL), providing professional services to its clients, both globally and in Pakistan.*

# Fisheries Sector in Balochistan



Pakistan declared 2020 as the year of **Blue Economy**.<sup>2</sup>

The Blue Economy is an emerging concept which includes many activities including fisheries, maritime transport and tourism.<sup>2</sup> Fisheries plays an important role in the country's economy and food segment. During FY2020, fisheries has contributed 0.4 percent to national GDP. <sup>1</sup>



**0.4% GDP contribution**  
In FY2020 from the fisheries sector



**700 Km Coastline**  
Strech of Balochistan



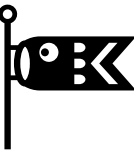
**34% contribution**  
by Balcohistan in National Fisheries Production<sup>3</sup>



**64.2K+ Fisherman**  
engaged in Balochistan



**9,467 Fishing Boats/Vessels**  
operating in Coastline of Balochistan



**4 Fish Harbors**  
hosted by Balochistan

Jiwani, Pishukan, Gwadar, Surbandar,  
Pasni, Ormara, Gadani and Damb

**Eight (08) landing stations**

Despite of occupying 70% of the national coast line, Balochistan's contribution in the national fisheries production is 34% reflecting the immense untapped potential of fisheries sector in Balochistan.<sup>3</sup>

Pakistan's coastline is around 1,100 km and 70% of that coastline is falling in Balochistan. The Exclusive Economic Zone (EEZ) of Pakistan is about 240,000 sq. km, with an additional continental shelf area of about 50,270 sq. km.<sup>4</sup>

During FY 2020 (July-March), total production (both marine and inland) was approx. 701,726 metric tonnes. 68% of total production were from marine waters and remaining from inland waters. Production has been increased by 9.7% from FY 2019. <sup>1</sup>

During FY 2020 (July-March), 133,226 metric tonnes of fish and fishery products were exported at a value of USD 317.307 million (Rs. 49,528 million). Pakistan exports fish to over 50 countries; major export destinations include China, Thailand, Malaysia, Middle East, Sri Lanka, and Japan. <sup>1</sup>

During Year 2020 (January-December), Balochistan's total marine capture/ production in terms of quantity was around 137,016 Metric Tons and in terms of value was about Rs. 19,908 million.

Balochistan has rich fishing grounds all along the coastline. The most common types of aquatic animals are fish, crustaceans and mollusks.

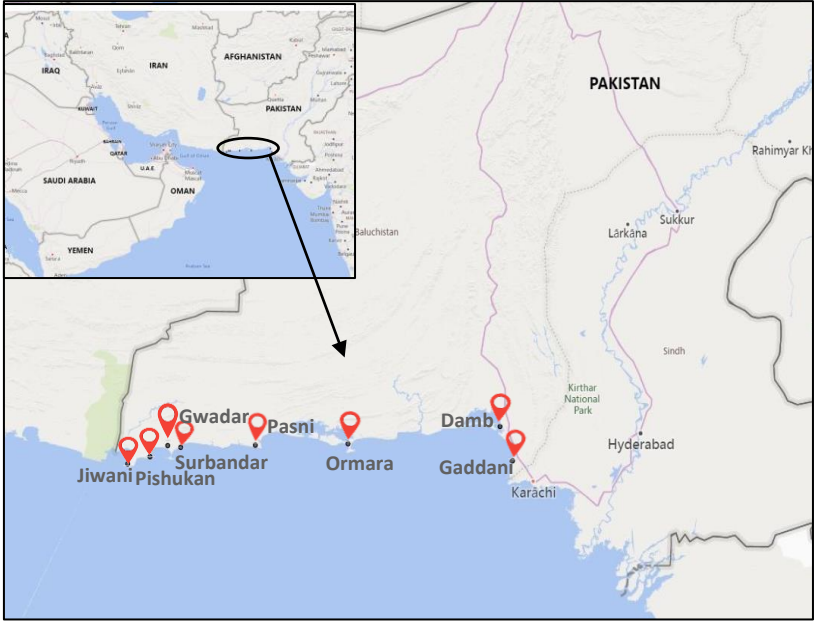
The catch consists of more than 30 species of shrimp, ten species of crab, five species of lobster, and 70 commercial species of fish including sardine, hilsa, shark, mackerel, butter fish, pomfret, sole, tuna, seabream, Jew fish and catfish.<sup>5</sup>



# Key Statistics



## Coastline of Balochistan



- ❖ Balochistan’s coastline extends from Hub river in the east towards the north to Iranian border near Jiwani in the west and spreads over a distance of about 770 km.
- ❖ Almost 64,226 fishermen engaged in Balochistan which includes 43,322 full time Fishermen, 15,017 part time Fishermen and 5,887 Occasional Fishermen.
- ❖ 9,467 fishing boats / vessels operating in Balochistan Coastline which includes 2,320 Boats with Inboard Engine, 6,951 Boats with Outboard Engines and 228 Life boats with Inboard Engine.

### Balochistan’s Fish Statistics – Calendar Year 2020 (January to December)

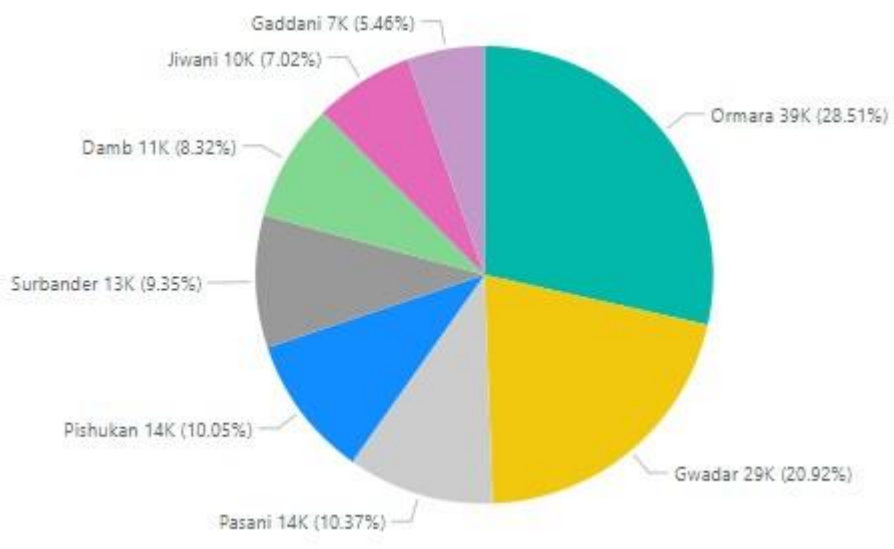


**Total Fish Catch by Quantity**  
137,015.666 Metric Tons



**Total Fish Catch by Revenue**  
PKR 19,908 million

## Quantity Breakup by Landing Stations



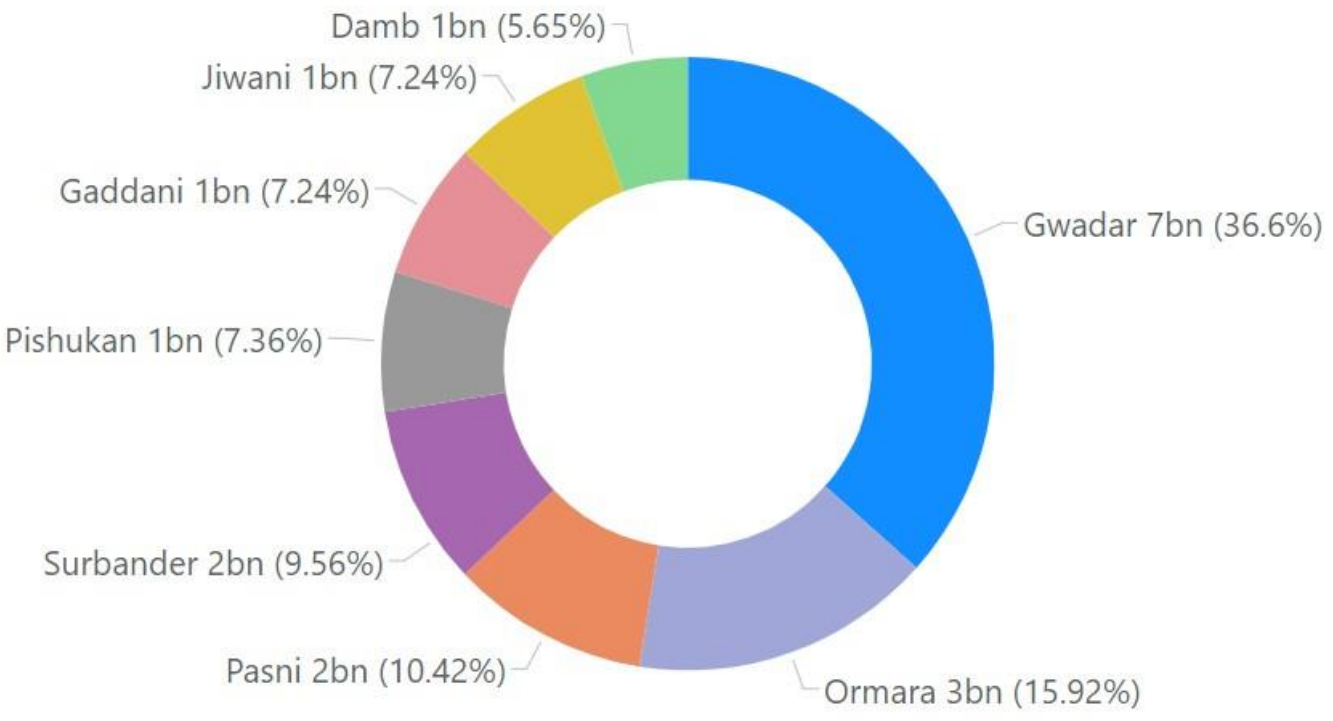
All figures are in 'Metric Tonnes'.

~ During FY 2020, Ormara contribution in fish capture in terms of quantity was around 28.51%  
 ~ Fish capture in Gwadar and Ormara represents approx. 50% of the total fish capture of the Balochistan

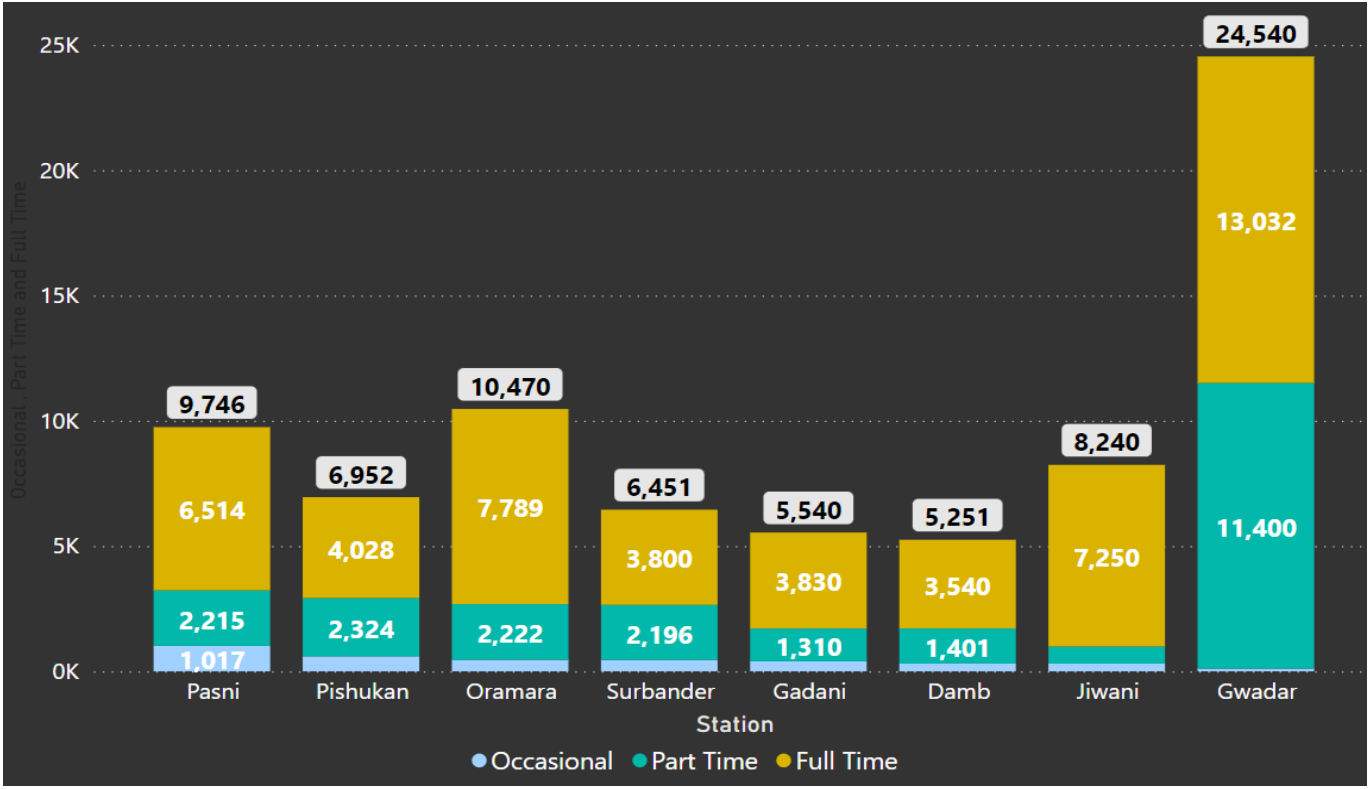
# Key Statistics (Cont'd)



## Revenue (received by fishermen) Breakup by Landing Stations in PKR



## Fishermen Breakup by Landing Stations

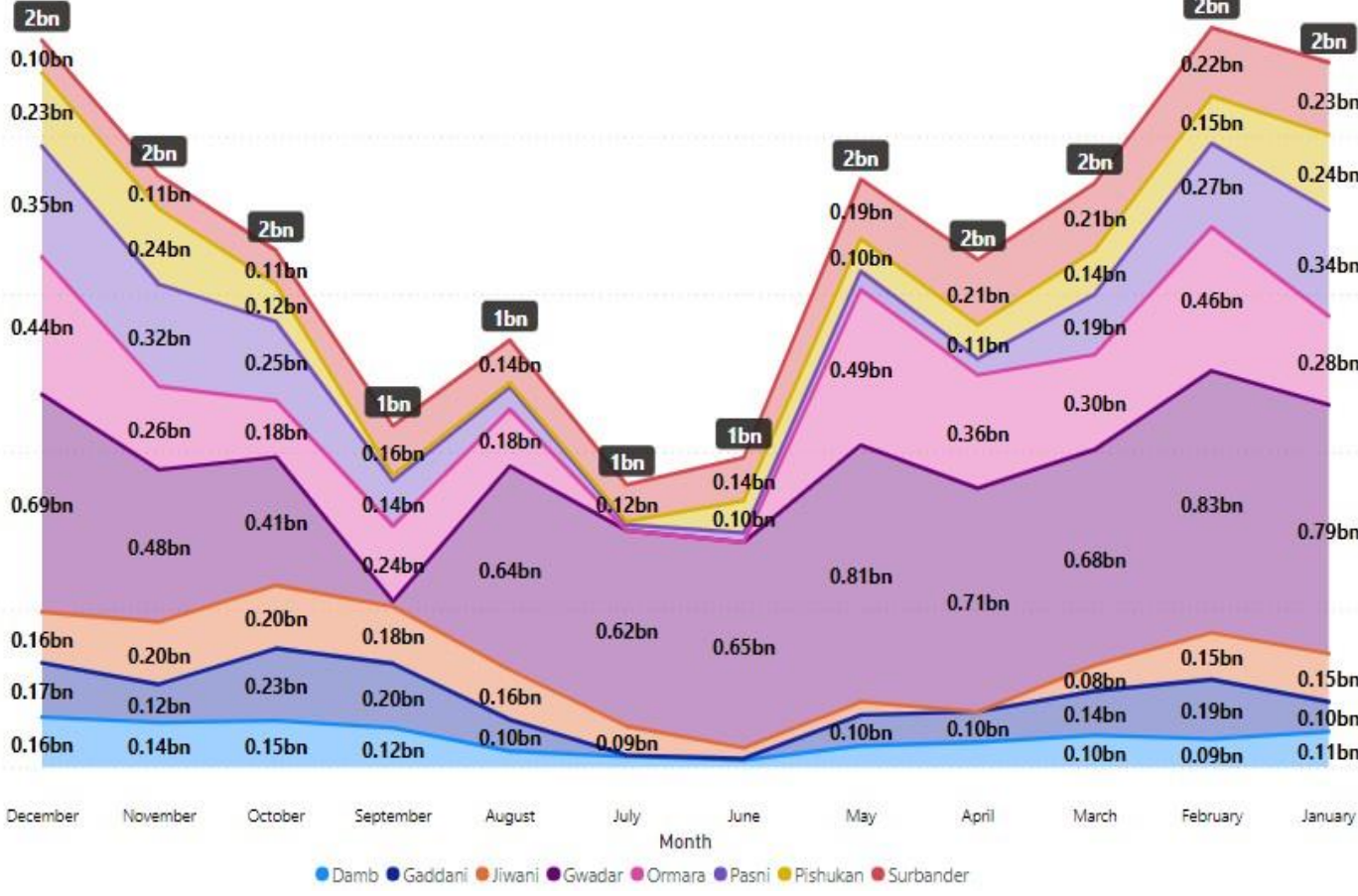


# Key Statistics (Cont'd)



## Total Revenue of Fishermen by Month (January to December) at Landing Stations– 2020

All revenue figures are in PKR and 'M' represents million.



**Total Fish Catch Quantity in Balochistan for the year 2020**

**137015.666 MT**

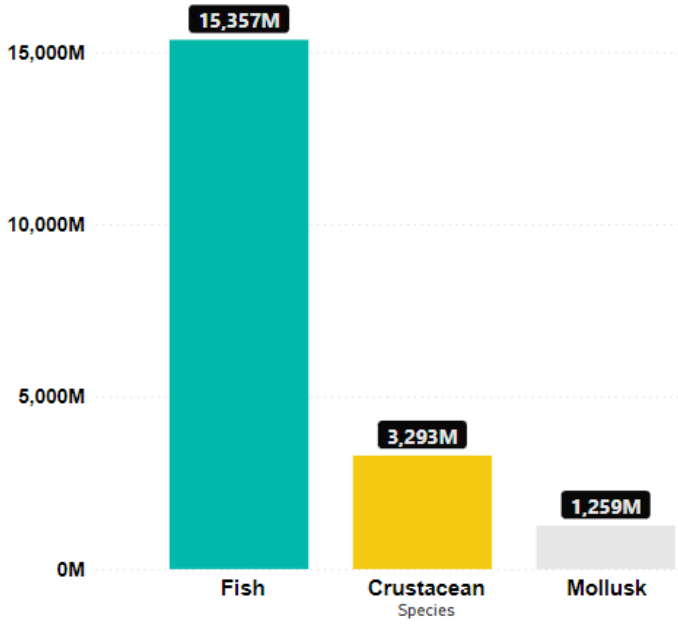
**Total Amount Received to the Fisherman for the year 2020**

**PKR 19.9 Billion Approximately**

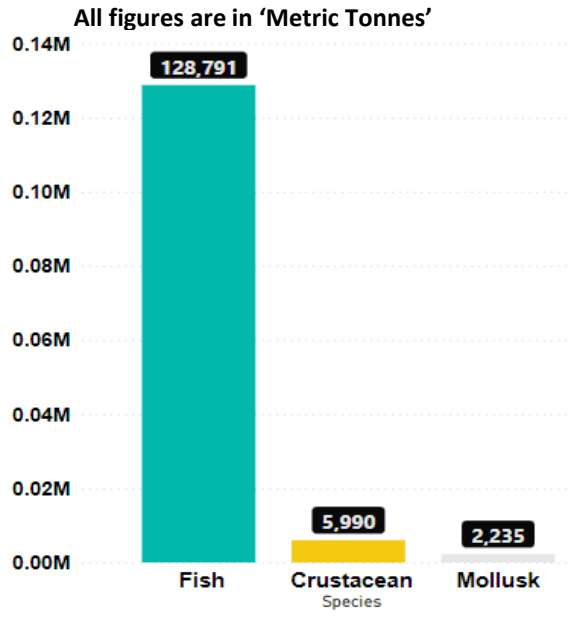
# Key Statistics (Cont'd)



## Total Revenue by Type of Aquatic Animals



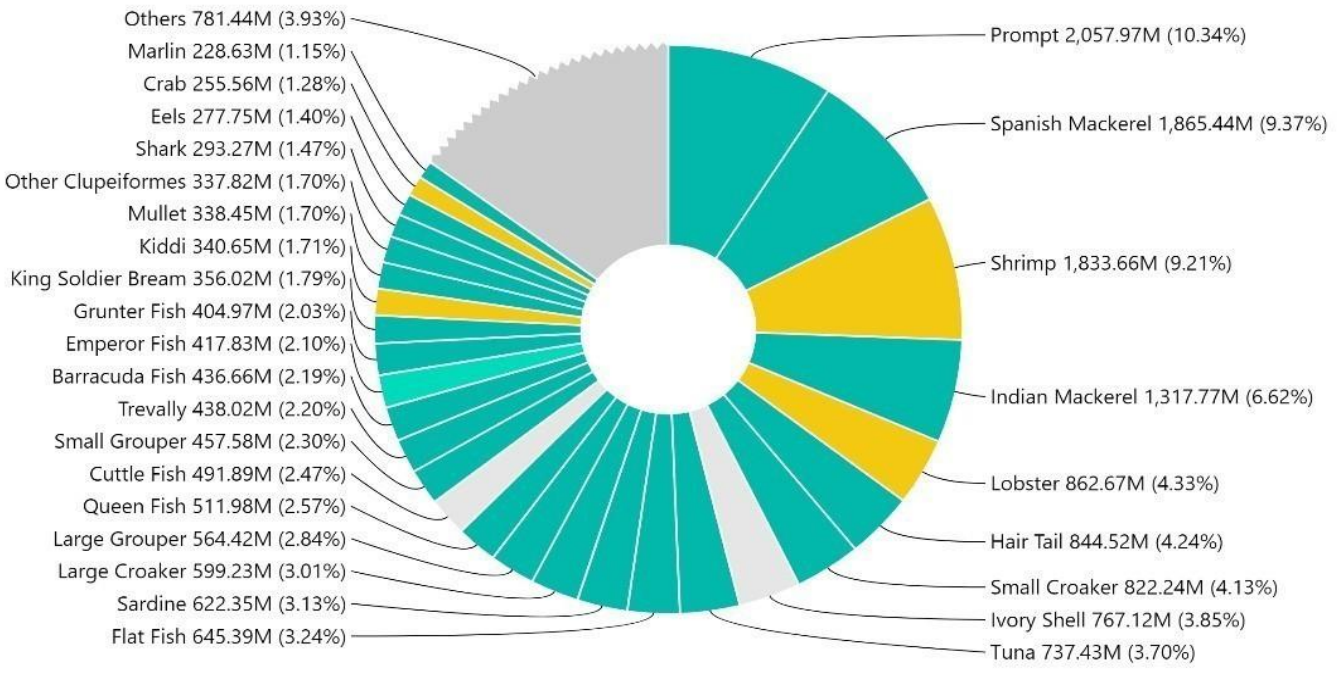
## Total Quantity by Type of Aquatic Animals



All revenue figures are in PKR and 'M' represents million.

## Total Revenue for FY 2020 by Specie Type

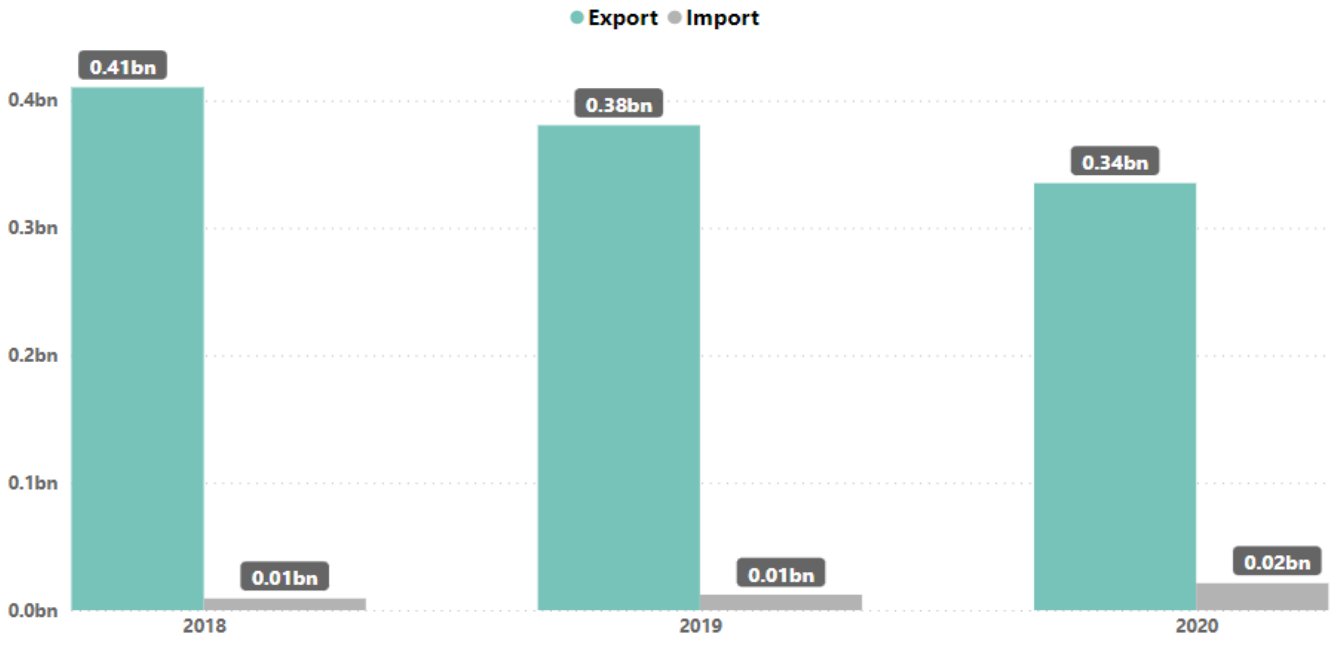
All revenue figures are in PKR and 'M' represents million.



# Key Statistics (Cont'd)

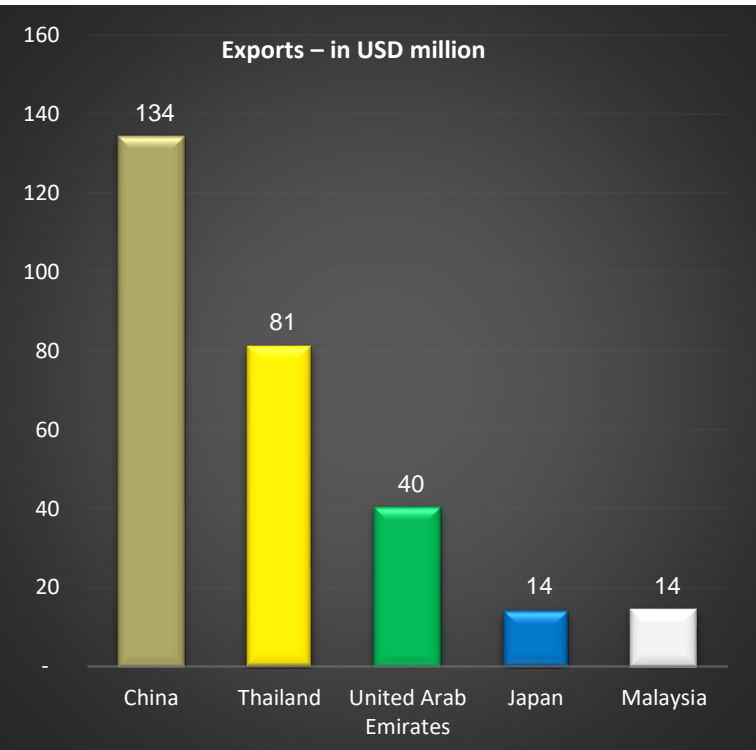


## Annual Fish Export and Import in FY 2020 in USD

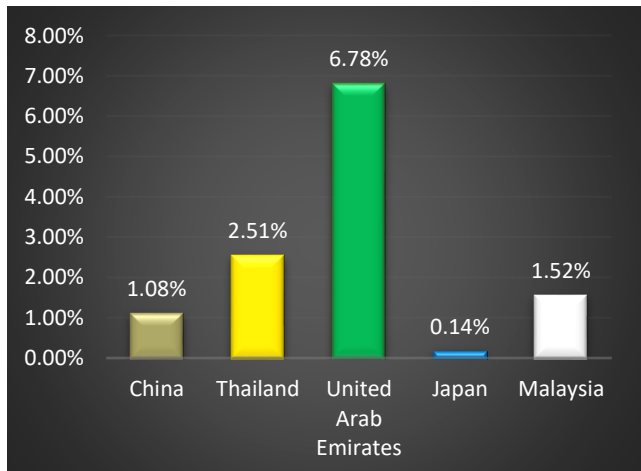


Pakistan has consistently remained a net exporter in fisheries resources. However, the trade balance was slightly affected during Covid19 due to strict surveillance in food commodities at ports. It is reported that several fish consignments destined to China were rejected due to detection of virus in packaging. Subsequently, a number of fish trading companies were banned for export to China for a few weeks.<sup>12</sup>

## Top Five Export Destinations of Pakistan's Fish and Other Related Products <sup>1</sup>



Top five Export destinations of Pakistan's fish and other products are China, Thailand, UAE, Japan and Malaysia. It still represents an immense gap that can be cover up by increasing exports to these destinations as Pakistan currently occupies a very little share in total import spend of these countries. Pakistan occupies following share in import by these destinations.

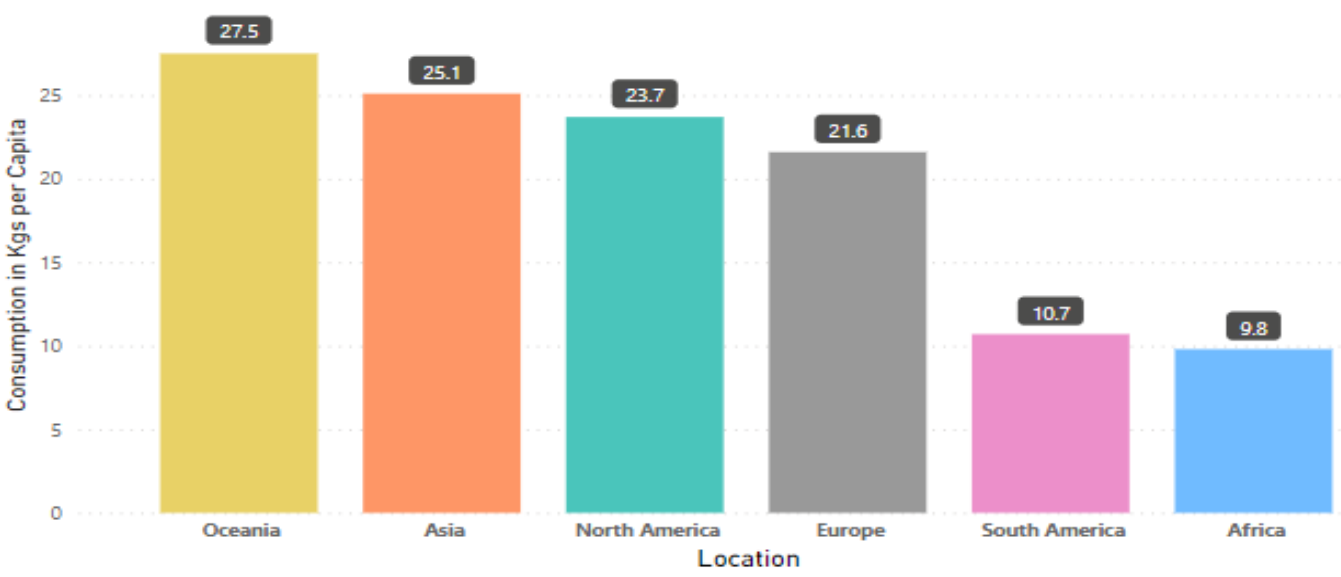




# Key Statistics (Cont'd)



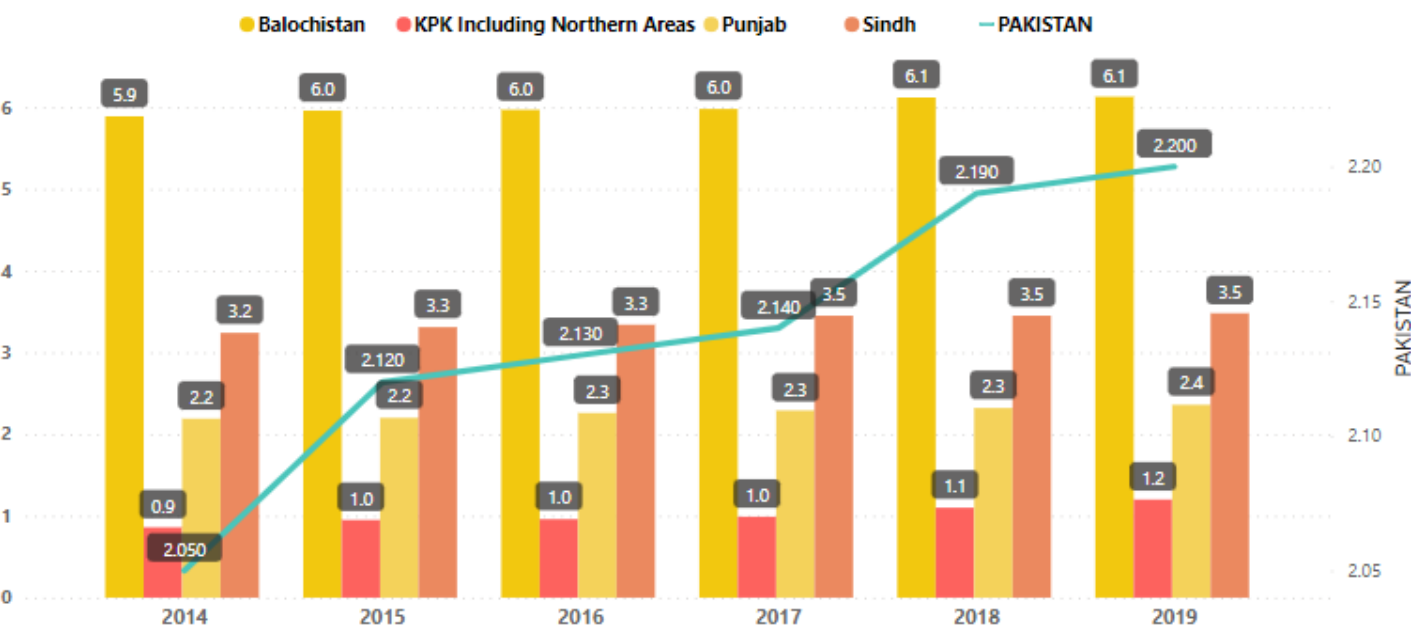
## Per Capita Consumption of Fish in 2019 (Kgs) – Global <sup>6</sup>



The global fish consumption per capita stood at 20.9 Kgs in 2019. The per capita fish consumption is above world average in Oceania, Asia, North America and Europe. <sup>6</sup>

The global food fish consumption rose by **122%** from 1990 to 2018 and it is expected to be **18 percent** higher in 2030 than in 2018. <sup>7</sup>

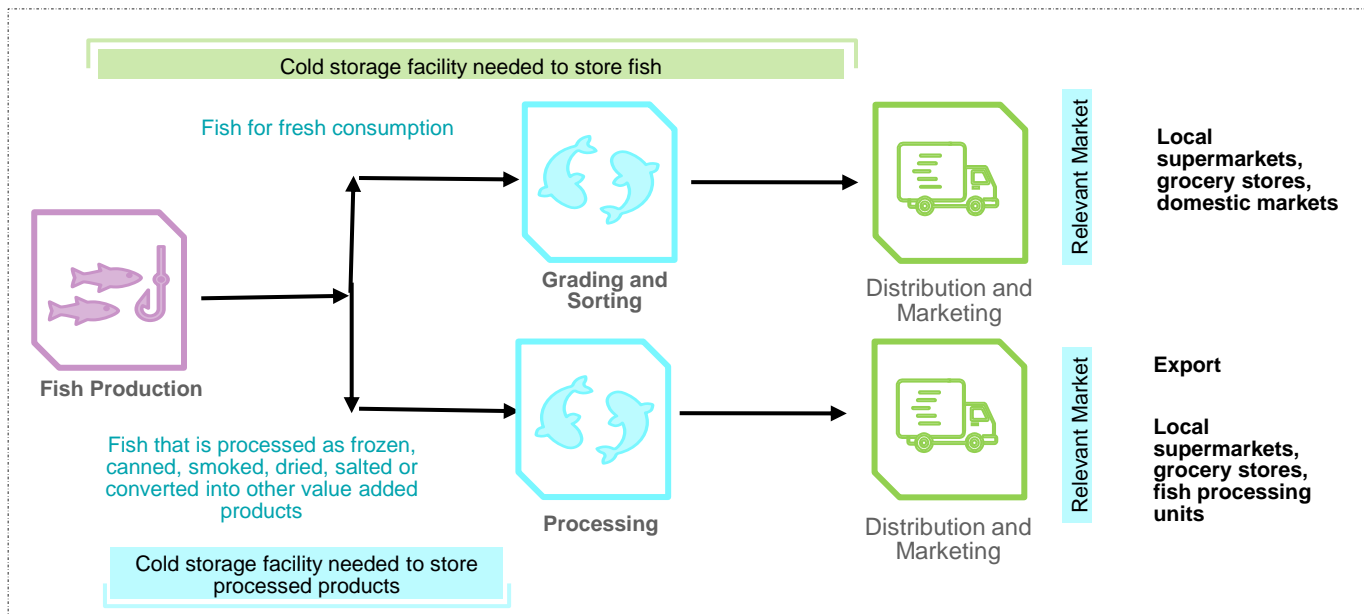
## Per Capita Consumption of Fish (Kgs) – Pakistan <sup>8</sup>



The per capita consumption of fish has been rising steadily in all parts of the country over the years. Accompanied with the fact of growing population, the fisheries sector is anticipated to post a significant growth in coming years.

# Fisheries Sector Value Chain

## Capture-to-Market Value Chain of Fish Industry



## Fish Value Chain in Balochistan Context

### Fish Production

Fish production is broadly classified into two types that are capture fisheries including marine capture & inland water capture and aquaculture fisheries.

**Capture** fisheries refers to all kinds of harvesting of naturally occurring living resources in marine and freshwater environments such as reservoirs, rivers, lakes and canals. Globally, about 90 percent of fish is sourced from marine waters. Likewise, Pakistan predominantly acquires fish resources from marine as well.<sup>9</sup> Globally China, Peru, Chile, Japan, the United States, the Russian Federation, and Indonesia are the top producer, forming about half of world capture fisheries in terms of tonnage.<sup>7</sup> In 2019, Pakistan has produced 488,500 tonnes fish through capture fisheries.<sup>8</sup> Aquaculture is the controlled process for breeding, rearing and harvesting of fish under the controlled or semi natural conditions. Aquaculture is broadly classified into two types that are coastal aquaculture and freshwater aquaculture. Coastal aquaculture refers to culturing of aquatic life, under controlled conditions in ponds, pens, enclosures or otherwise, in coastal areas except freshwaters. Freshwater aquaculture refers to culturing of aquatic life, under controlled conditions in fresh water available through lakes, rivers, brooks, streams, ponds, inland canals, dams, and other land-locked areas. In 2019, Pakistan has produced 160,700 tonnes through aquaculture production.<sup>8</sup>

In Balochistan, all the fish comes from marine capture due to availability of vast coastline stretching over 770 km.<sup>7</sup> In 2018, with more than 153,000 tonnes of fish caught by an estimated 64,000 fishermen operating through 9,499 boats, Balochistan fish capture contribute one third of the total fish catch of Pakistan.

### Processing and Storage

This stage consists of multi-layer activities comprising of sorting and grading, preservation, processing, packaging and storage. In Balochistan, once the fish is caught, these are transported to processing unit on pickup, motor cart or donkey cart without proper storage to preserve freshness resulting into post harvest losses.<sup>11</sup>

**Grading, sorting:** Primarily it involves cleaning, sorting and grading of fish as the catch received from the landing sites exhibit different size, weight and skin condition. In Balochistan, a quality check is

## Processing and Storage (Cont'd)

being carried out after the fish catch is received at the processing plant. These are sorted and graded on the criteria of size, weight, skin damage, etc, by low-skilled labor. Consequently, the product which leaves the factory is not of a high quality.<sup>13</sup>

**Preservation and storage:** Fish is a perishable item hence it needs immediate preservation, from the time it is caught to the time it reaches the consumer. The sorted and graded catch is stored in the ice boxes that helps to reduce the temperature and essential to preserve the freshness before storing into the freezer. There are two freezing methods are being used in Pakistan that include individual quick freezing and blast freezing. There are eight fishing sites and several fish receiving stations at Balochistan but mostly unequipped with temperature-controlled storage facilities. Usually, the fish catch and fishery products, covered under the contaminated raw ice, are transported to processing facilities mostly located in Karachi.<sup>13</sup>

**Processing:** Processing involves conversion of fish and seafood into value added products or ready to eat meals. Processing units produce a variety of different products such as canned, frozen, smoked, dried, minced, surimi and other fish products such as fish fillet, fish balls, fish fingers, fish cutlets etc.<sup>14</sup> Investors can target the establishment of processing units in Balochistan to process the fish near the sources to capture best nutritious value. Currently, 90% fish travelled to Karachi for processing.<sup>3</sup>

Moreover, Fish processing facilities generate a significant amount of fish by-products (co-products) that could be an important source of other value-added products.<sup>15</sup> At present, there is only one fish waste management plant in Balochistan located at Pasni.<sup>3</sup>

**Packaging:** Packing is an important factor in preserving fish quality. Products have to be packed in food grading, convenient, attractive, cost-effective and market-oriented packs. There is scope to enhance the export of the produce through better storage and quality packaging as required by the international market standards.

## Distribution and Marketing

The target markets can be domestic fish markets, international markets, superstores or high-end markets and fish processing units.

Domestic fish markets are classified into secondary or terminal markets. Secondary markets are located in districts or regional cities and take bulk of their produce from local producers. Transactions are small-scale and usually take place between producers and traders. Terminal markets are located in major cities, where fish and fish products are channeled to consumers, restaurants and hotels through trade between wholesalers and retailers.<sup>16</sup>

To reach international markets, investors can take advantage of CPEC routes and Geo-strategic position of Balochistan which make it most attractive location for investment as its location provides access to different global markets. Balochistan is located along the long coastal belt from the Middle East towards the Indian-sub-Continent. Balochistan shares borders with two countries (Iran, Afghanistan) and rest of the three provinces (KPK, Punjab and Sindh). Pak-Iran (Taftan) border provides connectivity to the Middle-East and Europe, and Pak - Afghanistan connects Pakistan to Central Asian States of Uzbekistan, Turkmenistan, Tajikistan and Kyrgyzstan. Access to Chinese market has also improved given the land trading route from Gwadar to Guandong.

Export of fish is expected to increase in coming years given establishment of Gwadar port and **Free trade zone (923 hectares, inaugurated in 2017)** including a designated space for fisheries processing as well. Additionally direct exports from Gwadar to the Gulf region (**fresh fish by air**) and to the rest of the world (**frozen by sea**) have a great potential.<sup>18</sup> Since resumption of exports to the European Union countries, several consignments of fish, cuttlefish and shrimps have been successfully exported by two companies to the EU.<sup>1</sup> The EU countries, Japan and the United States are the world's biggest fish export markets. However, only 3% of Pakistan's fish exports are destined to these locations.<sup>17</sup> Export to the international markets is dependent on the quality and safety assurance certifications. In order to get a share in the EU, US, and Japanese market, Hazard Analysis and Critical Control Point (HACCP) certification is the most important certificate for the seafood processing plant.<sup>18</sup>

# Why to invest in Fisheries Sector of Balochistan?

01

## Sector Growth Potential

The global fish processing market accounted for USD 285.94 billion in 2020 and is expected to reach USD 435.47 billion by 2028, growing at a CAGR of 5.5% from 2021 to 2028.<sup>19</sup> Domestic and global demand of fish is rising due to awareness about quality proteins found in fish accompanied with lifestyle changes. There are greater profit margins on processed products especially with economies of scales making it a strong and sustainable investment.

02

## Government Initiatives /Support

Government is supporting investors by streamlining its regulatory framework. To setup industry, four fish harbors are operating on the coast of Balochistan. To upgrade know how and skills related to fisheries, a number of specialized programs are offered at higher educational institutions. Details of government initiatives are provided in latter sections of the profile.

03

## Availability of Raw Material and Labor

Balochistan has an abundance of high quality fish species spread across exclusive economic zone. The province promises fish sector investors easy access to top quality raw material for their industry. The population on coastal belt offer abundance of labor which can be acquainted with the fish knowledge and skills through training, ensuring a dependable supply of workforce.

04

## Geo-strategic Location

Balochistan's geostrategic position provides it access to local and global markets in middle east through coastal belt, Central Asian States through border with Afghanistan and the Middle East and Europe through Pak-Iran border. Infrastructure: 3 major International Airports, 5000 km highway network, **1000 Km railway network.**

05

## Changing Lifestyles

Due to changing lifestyles, people are becoming more inclined towards consuming processed food, including fish as it offers convenience owing to longer shelf-life. The Covid19 pandemic has induced further attractiveness towards processed food as perpetual lockdowns have limited consumer access to everyday grocery outlets and processed food serve as a convenient choice.

## Areas to Invest

Balochistan is endowed with a rich mix of fish species making the province of significant importance for the country's overall fisheries sector. Fishing is an important economic activity along the coast of Balochistan and it employed around 70% of the labor force of the coastal districts. There are eight major fishing centres and thirty small fishing settlements along the coast of Balochistan.<sup>20</sup> Operationalization of Gwadar port and development of special economic zones will open the avenues for increase in domestic consumption and export of processed fish. Therefore, establishment of fish processing plants for the preservation, storage and fish products will ensure the good return.

Preservation  
and Storage

Fish  
Products

Top Areas to Invest



# Areas to Invest

## Fish Preservation and Storage



Fish preservation and storage section of the profile covers the basic processing of the fish with objective to preserve and store the fish in good condition for consumption at later stage by applying various techniques. Fish is highly perishable and it start to spoil as soon as it is landed due to various enzymes, bacteria and fat oxidation. Preservation techniques should be applied right after the catch and continue along the value chain.<sup>18,23</sup>

In Pakistan, fish preservation plants are not sufficient in terms of capacity as well as most of them do not comply with Hazard Analysis Critical Control Point (HACCP) quality standard which is an important requirement for export.<sup>18</sup>

Pakistan has 29 processing facilities, out of which 25 are located in Karachi, are mostly outdated and are undercapitalized. Further, non compliance with hygiene standards applicable, improper handling and non availability of proper cold storage facilities not only leads to loss of fish but also it is one of the leading causes of frequent export bans.<sup>17,18</sup>



**137,016 Metric Tonnes**  
Balochistan Fish Catch



**29 Fish Preservation Plants**  
in Pakistan<sup>17</sup>



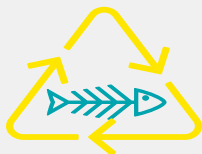
**Major consumers**

- Local market
- Processing units
- Exports

In Balochistan, the fish has to be transported to Karachi for preservation and value-addition, due to lack of post harvest handling and processing facilities in the province. It is estimated that around 90% of the fish catch from Balochistan is transported to Karachi for processing before it is exported to international destinations.<sup>3</sup> Further, no proper arrangement with regards to washing, handling and cold storage for the catch are available at landing sites which is the major contributor for decrease in value of the catch. It is estimated that there are 25% post harvest losses due to lack of these facilities for post harvest handling.<sup>24</sup>

Well-known fish preservation techniques include freezing, curing and canning. The preserved segment is expected to grow at the fastest CAGR of 4.2 percent during 2020-2028.<sup>22</sup> In case of Balochistan, current preservation practices include curing with low quality salt or chilling using contaminated water ice which is big red flag in relation to exports.<sup>18,24</sup>

Investment in up-to date industrial fish preservation and storage units is required firstly, to curtail the loss in value of fish catch and secondly, to avert traffic from Karachi to new areas. Moreover, improvements in handling and storage techniques are also needed especially with regard to maintenance of quality and hygiene standards so that Pakistan based exported fish can compete in international market in terms of quality as well as value.



**25% Fish wasted**  
due to improper post-harvest handling and storage<sup>24</sup>



Fish Preservation<sup>22</sup>  
CAGR 4.2%

Technologies to Invest	Freezing
	Curing
	Canning

**Global Consumption Trends<sup>21</sup>**



Fresh Fish is considered to be most desirable which makes up to 53% of production globally. Followed by frozen fish, making up to 26%, the canned and cured fish with each contributing 11% and 10% respectively.<sup>21</sup>

# Areas to Invest

## Fish Preservation and Storage



### Freezing<sup>18</sup>

Washing, gutting, cleaning, cutting



Pre-treating with ascorbic acid or brine



Packaging & Freezing

Freezing is the most commonly used method for long term preservation of the fish and its products. It reduces the spoilage activity and extends the shelf life of the fish. Frozen fish accounted for 26% of the global fish production.<sup>21</sup> Frozen fish occupies the highest share in Pakistan's export of fish and still there is an immense potential for increase as Pakistan occupies the 0.75% share in global exports of frozen fish.<sup>27</sup> There are two commonly used technologies of freezing:

### Individual Quick Freezing (IQF)

IQF is very cost effective and widely used method of freezing worldwide. Not only it ensures that the product is frozen but also it does not produce ice crystal inside the product thus preventing the cells within product getting damaged. IQF also preserves the freshness, taste and nutritional characteristics of food in better way as compared to other freezing process.<sup>26</sup>

IQF is the most recommended form of freezing and several countries, including countries in the EU, are now planning to make IQF a prerequisite for imports. There is a limited use of IQF technology in fisheries sector in Pakistan as most of the IQF facilities operating in Pakistan are used for the fruits and vegetables.<sup>25,26</sup>

In order to compete in international market it is pertinent to use IQF technology for freezing. Therefore, investment in IQF technology can be made to grab the fair share from the growing demand of IQF frozen fish.<sup>18,25</sup>

### Blast Freezing

It is a basic form of freezing and most commonly used especially in developing countries, including Pakistan.

Blast freezing takes about 8 to 10 hours to freeze the product and costs less as compared to IQF. The customers of blast frozen fish are often local processors, who after some value addition finally pass the fish or products to the IQF process, adding more value and then selling it in their own country or abroad for a higher profits. Processing units in Balochistan uses plastic tray except one unit that uses aluminum tray and preserves the fish with better quality.<sup>18</sup>

Investment in a blast freezing facility is not only cost efficient but can assist the businesses with access to better quality fish for further processing in the form of fish products.<sup>18</sup>

Export of Frozen Fish by Pakistan FY 2016 – 2019 in 'million USD'<sup>27</sup>



FY	2016	2017	2018	2019
Million USD	199	268	288	336

### Top Five Destinations of Frozen Fish Exported by Pakistan<sup>27</sup>



# Areas to Invest

## Fish Preservation and Storage



BBolt



GOVERNANCE & POLICY PROJECT

### Curing<sup>28</sup>

Curing is the preservation through salting, drying or smoking. It is one of the oldest method to preserve the fish. In Salting, the fish is cut, cleaned and then salted which prevents or drastically reduces the bacterial action. There are two types of salting i.e dry salting and wet salting. In drying, water is removed from the fish which helps in retardation of microbial and autolytic activity helping to preserve the fish. There are two commonly used methods of drying that are sun drying by utilizing the atmospheric conditions and artificial/ mechanical drying under controlled conditions irrespective of weather conditions.<sup>28,30</sup> In smoking, smoke is generated by incomplete combustion of wood and fish is placed over it.<sup>29</sup> There are three methods of smoking that are cold smoking: performed under 30 degree centigrade to prevent undesired changes in the texture, hot smoking: is used for immediate consumption or to preserve for maximum 48 hours and long smoking: is used to preserve the fish for two to three months and performed by making a shed to hang the fish over smoke.<sup>28</sup>

In 2020, the global imports value of salted, dried & smoked fish was around USD 5,907 million and top importing countries are Germany, Italy, Portugal, Hong Kong, Sweden and USA. Pakistan's exports of salted, dried and smoked fish in the year 2020 were USD 3.8 million with major exports to Sri Lanka and China and occupies a very little share in these respective markets.<sup>27</sup> Investment in the right technology for curing to deliver quality may help the Pakistan not only to increase its share in existing markets of Pakistan based cured fish but also explore the other big markets such as USA and Russian Federation.



Salting



Drying



Smoking



### Canning<sup>29</sup>

Canning is a mean to achieve long term microbiological stability for non dried fish without freezing. It keeps the fish suitable for consumption at ambient temperatures over a longer period of time.<sup>29</sup> The steps in canning include washing, de-heading, gutting, removing fins, cutting, blanching, precooking, filling into containers, heating, cooling and labeling. Canned fish is conveniently stored and transported. Canned seafood market is expected to post CAGR 4.5% during 2020 to 2026.<sup>31</sup> The biggest share in the canned seafood market is occupied by Tuna fish segment due to its high lean protein and Omega3 fatty acids. The canned Tuna fish market size was USD 5071.5 million in 2020 and it is expected to post CAGR 6.2% during the 2021 to 2027.<sup>32</sup>

In Balochistan, 5672.5 metric tonnes of Tuna were caught in 2020. Investment in units for industrial canning of fish would be profitable considering the expected growth in canned seafood particularly canned Tuna, Sardine and Shrimps.



Canned Seafood

CAGR 4.5%<sup>31</sup>

**Top Markets**

Europe, Russia, the United States<sup>31</sup>

Cooking

Cooling

Oiling or Flavoring with Sauce

Canning

# Areas to Invest

## Fish Products

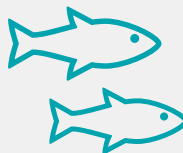


BBolt

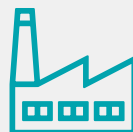


GOVERNANCE & POLICY PROJECT

Fish products section of the profile covers processing of the fish with the objective to make other value added or ready to eat products from fish. Fisheries plays a significant role in providing food, nutrition and employment.<sup>14</sup> Globally, there is a rise in total food fish consumption from 1990 to 2018 of 122% supplemented with the shift towards consuming ready-to-eat or processed meals make the fish products an important food category.<sup>7</sup> Over 90% of the quantity of trade of fish and fish products is occupied by processed products with highest share of frozen products.<sup>14</sup> Processing of fish into various products may also help to decrease the post harvest losses by converting the fish into various products. Most common fish products are fish fillet frozen, fish mince, surimi, coated fish products such as fish finger, fish cutlets, fish balls, coated fish filets and by products such as fish meal and fish oil. In the FY 2019, Pakistan exported frozen fish fillet of value USD 25.3 million occupying a very minute share in global market with total exports of value USD 24,676 million.<sup>33</sup>



**10,000 Tonnes**  
Surimi production<sup>39</sup>



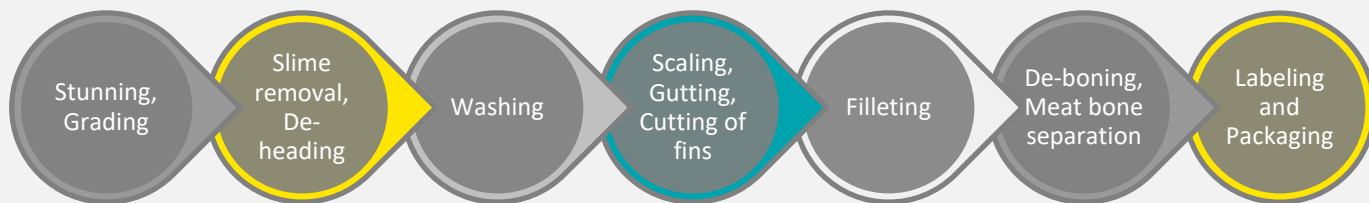
**Three**  
Surimi production plants<sup>39</sup>



**Major consumers**

- Food processors
- Domestic consumers
- Exports

### Frozen Fish Fillets<sup>33</sup>



Frozen fish fillets are the most common product developed by processing of fish. Skinless and skin-on fillets from lean/ medium fat white meat fish have enormous market potential.<sup>14</sup> Many varieties of deep sea fish such as grouper, red snapper, reef-cod, breams and jewfish are suitable for making fillets both for domestic market and for export to developed countries in block frozen and IQF forms. In the importing countries, these fillets are mainly used for conversion into coated products.<sup>34</sup> Fish fillets can also be used for the production of ready-to-serve value added products such as fish in sauce and fish salads. During the FY 2019, Pakistan exported frozen fish fillet value USD 25.3 million with top export destinations are Thailand, China, Republic of Korea and Japan. Japan is one of the biggest importer of this category of products however Pakistan's share in total imports of Japan is negligible indicating the huge untapped potential for Pakistan to increase its exports.<sup>33</sup> Investment in filleting technology at close proximity to the fish harbors in Balochistan may ensure the good returns for investors.



**USD 25.3 million**

Pakistan's Frozen Fish Fillet Export in FY 2019<sup>33</sup>

In 2019, Pakistan exported \$25.3M in fish fillets. The main destination of fish fillets exported from Pakistan are: Thailand (\$8.99M), South Korea (\$4.8M), Japan (\$3.74M), China (\$2.95M), and Malaysia (\$1.21M). The fastest growing export markets for Fish Fillets of Pakistan between 2018 and 2019 were China, Singapore and Thailand.



**USD 11.8 million**

Pakistan's Frozen Fish Fillet Import in FY 2019<sup>33</sup>

In 2019, Pakistan imported \$11.8M in fish fillets, Pakistan imports fish fillets primarily from: Vietnam (\$11.5M), United States (\$209k), United Arab Emirates (\$32.5k), Norway (\$3.52k), and Guyana (\$230).



# Areas to Invest

## Fish Products



- Forming, pre-dusting
- Battering, breading
- Pre-frying, freezing
- Packaging, storage

### Coated Fish Products<sup>34</sup>

The most prominent among the group of value added products is the battered and breaded products processed out of a variety of fish. Battered and breaded products offer a 'convenience' food, valued widely by the consumer. The production of battered and breaded products involves several stages that include portioning/ forming, pre-dusting, battering, breading, pre-frying/ flash frying, freezing and packaging/ storage. A variety of battered and breaded products can be prepared from shrimps, squid, clams, fish fillets, minced meat from low cost fish and range of products include coated fish fillet, fish fingers from fillet or mince, fish cutlet and fish balls. With the increasing trend of ready to eat products, investors can target coated fish products segment to better utilize the abundance of raw material in Balochistan along with better excess offered by the geostrategic location.

### Surimi<sup>31</sup>

Surimi is prepared by repeated washing of minced fish flesh, followed by heating, resulted in a natural gelling of the flesh. Some of the products made by surimi are fish ball, fish sausages and fish ham. South East Asian countries produced 630,000 tonnes surimi in 2019 with Pakistan's share is mere 10,000 tonnes.<sup>39</sup> The most commonly used species in surimi are threadfin breams, croakers, lizardfishes, bigeye snappers, goatfishes, sardine and flying fishes. Despite the overfishing, Pakistan still has access to quality raw material for preparation of surimi. Currently, there are three surimi production factories are operating in Pakistan located at Karachi.<sup>39</sup> In order to utilize abundance of raw material available at Gwadar and Pasni, investor may target to develop the surimi production units in Balochistan to increase the Pakistan's share in global market and grab the higher returns through value addition.

- Dressing, Meat Separation
- Water washing, Straining
- Dehydration, Panning
- Freezing, Storage

### Mined Fish Products



- Nuggets
- Sausages
- Petties
- Fish fingers

### Minced Fish<sup>28</sup>

Minced fish is the flesh in the form tiny particles separated from skin, bones, scales and fins. Mince is usually used as an intermediate product to made other value added products. Minced fish also serve as starting material for production of surimi. Minced based products include fish wafers, fish fingers, fish cutlets, fish cakes, fish balls, fish sausages, fish nuggets and fish petties. Mince is preserved and marketed in the form of frozen blocks.

### Fish Meal and Oil<sup>35</sup>

Fishmeal is produced by cooking, pressing, drying and milling of wild-caught, small pelagic fish such as anchovies and menhaden. Fish oil is usually a by-product of the reduction process by which fishmeal is produced. Fish meals are the most important industrial feedstock.<sup>15</sup> Global fish oil market is anticipated to post growth with CAGR 7.1% during the forecast period 2020 to 2025.<sup>35</sup> Health experts across the world have substantially increased the recommended daily dietary intake of omega-3 fatty acids, as a result of which, the fish oil consumption has increased consequentially. Considering the growth potential of fish meal and fish oil, investment in the right technology for fish meal production in Balochistan may ensure good returns on investment.<sup>35</sup>



# Government Initiatives

## Strengthened 'Marine Fisheries Department'<sup>17</sup>

- ▶ Responsible for licensing fishing vessels and regulating fisheries withing 12 nautical miles from the coast.
- ▶ Own and operate fisheries training centers.
- ▶ Monitoring, control and surveillance of marine waters

## Dedicated "Fisheries Development Board"<sup>17</sup>

- ▶ The board works in partnership with the private sector to support the development and expansion of aquaculture.
- ▶ It is also working to increase private sector production of fish seed and fish feeds.

## Balochistan Coastal Development Authority<sup>17</sup>

- ▶ BCDA coordinates development in the coastal zone (from the coast to 30 km inland), including projects related to fisheries and aquaculture.

## Deep Sea Fishing Policy 2018<sup>36</sup>

- ▶ It guides access to the 20-200 nautical mile zone.
- ▶ Only a limited number of foreign joint ventures will be permitted for tuna, squid, and mesopelagic fishing.
- ▶ The Environmental Protection Act (EPA) has restricted fishing of up to 12 nautical miles of the marine coast of Balochistan.

## Four 'Fish Harbors' in the province

Fish harbor is the landing place for landing and berthing of fishing vessels and boats when they are not in the sea. It also offers adjoining areas for repairing yard, ice supply installations, auction hall, etc. There are four fish harbors in Balochistan at Gwadar, Pasni, Gaddani and Damb.

## Credit Disbursements<sup>1</sup>

During FY21 (July to March), credit disbursements to fisheries increased by 30.1 percent and stood at 5.3 billion rupees.

## Educational Institutions<sup>37</sup>

Lasbela University of Agriculture, Water and Marine Sciences offers undergraduate degree "BS Marine Science" and various graduate degrees in Marine Science including MS Marine Biology and MS Marine Fisheries.

Infrastructural projects and trade routes developed under CPEC will significantly benefit the fishery sector



Improved trade with China

1

Prior to Corridor, Pakistani seafood was usually exported through sea routes which took about 40 days but now it would be transported via land in 3 days via Northwest China's Xinjiang Uyghur Autonomous Region.<sup>38</sup>

Promoted through free trade agreement, 22% of Pakistan's fish export is destined to China.<sup>4</sup>

Significantly slashed transportation cost and secure supply chain would facilitate and encourage increased trade between the two countries.

Increased domestic demand for fish

2

Various infrastructural projects being developed under the banner of CPEC will attract the population in the province as a result of industrialization that will likely to have following impact:

- Increased demand for fish and fish products domestically for consumption as the result of increased commercial activities due to establishment of new businesses.
- The businesses will have access to a much larger segment of consumers.

Infrastructural projects as facilitators for the sector

3

Current and planned CPEC investments will improve connectivity throughout the Balochistan that will allow the improved delivery of inputs with increased access to currently important provincial and national markets, as well as the future potential international markets (China and the Middle-East).



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