



CHIEF MINISTER'S OFFICE  
**BOARD OF INVESTMENT & TRADE**  
GOVERNMENT OF BALOCHISTAN



## FISH FARMING

## Table of Contents

<b><u>MARKET OVERVIEW</u></b> .....	ERROR! BOOKMARK NOT DEFINED.
<b><u>EXISTING FISHING PRACTICE IN BALOCHISTAN</u></b> .....	<b>3</b>
<input type="checkbox"/> <u>COMMERCIAL FISHING:</u> .....	3
<input type="checkbox"/> <u>FISH MARKETING</u> .....	3
<b><u>FISH HARBOURS</u></b> .....	<b>4</b>
<input type="checkbox"/> <u>PASNI FISH HARBOUR:</u> .....	ERROR! BOOKMARK NOT DEFINED.
<input type="checkbox"/> <u>GWADAR FISH HARBOR AND MINIPORT</u> .....	ERROR! BOOKMARK NOT DEFINED.
<input type="checkbox"/> <u>FISH LANDING JETTIES</u> .....	ERROR! BOOKMARK NOT DEFINED.
<b><u>POTENTIAL INVESTMENT IN COMMERCIAL FISH FARMING</u></b> .....	<b>5</b>
<b><u>ADVANTAGES OF FISH FARMING</u></b> .....	<b>5</b>
<b><u>EQUIPMENT FOR COMMERCIAL FISH FARMING:</u></b> .....	<b>6</b>
<input type="checkbox"/> <u>FEED AND FEEDERS:</u> .....	6
<input type="checkbox"/> <u>WALTER FILTRATION SYSTEM</u> .....	6
<input type="checkbox"/> <u>HATCHERY SUPPLIES</u> .....	6
<input type="checkbox"/> <u>PREDATOR CONTROL</u> .....	6

## 1 MARKET OVERVIEW

Pakistan is a country with a coastline of about 990 km and 7175 km of rivers network that have numerous types of fish in its deep-sea and rivers. During 2019-20, total marine and inland fish production was estimated at 701,726 metric tonnes out of which 474,025 metric tonnes were from marine waters and the remaining catch from inland waters.



During the year 2019-20 (July-March), a total quantity of 133,226 metric tonnes of fish and fishery products valued at 317.307 million USD (Rs 49,528 million) were exported. Major buyers of Pakistan's fish products are China, Thailand, Malaysia, Middle East, Sri Lanka, and Japan. The main fish types found in Pakistan are Labeo Rohita, Catla, Mrigal, Silver carp, Grass carp, Rainbow Trout, and Aristichthys Nobilis.

Balochistan is the largest landholding province of the country which contains a 720 km Makran coastal belt that has eight major landing sites and over 25 fisher settlements and has engaged nearly 40,000 fishermen who earn their livelihoods by working along this coast. nevertheless, the fishing catch from this coast is 1.2 million tons per annum.

In Balochistan the commercial marine fish fauna consists of 250 demurral fish species, 15 different types of shrimp, 20 large, 15 medium, and 50 small pelagic fish species, 5 lobsters, and 12 cuttlefish/squid/octopus species. As fish are nutrient products and wildly consumed around the world in verities of food items. The raising and selling of fish on a commercial basis have proven to be economically successful throughout the world.

Balochistan's coastline is very rich in marine resources as its vast creek system of the River Indus and shallow sub-tidal areas provide ideal conditions for the growth of fisheries resources. Fishing is an important economic activity along the coast of Balochistan as about 80 % of the coastal population is engaged in fisheries-related activities. Balochistan has rich fishing grounds all along the coastline. Major fishing grounds along the coastline are located at Sonmiani, Ormara, Pasni, Gwader, and Jiwani along the Balochistan coast.

There are three categories of fishing being done in Balochistan including small pelagic fish (these include fishes that are found in the water column in the coastal waters, including sardines), large pelagic (large fishes found in the offshore waters, including tuna and marlins) and demersal fish (bottom-dwelling fishes such as shrimp, snappers, and pomfrets). Fishing grounds for small pelagic species, especially sardines, are located in the shallow coastal waters and creek areas of the River Indus. Tuna, marlins, and other large pelagic species are caught in the offshore waters, at times about 300 to 500 nautical miles from the coastline. Demersal fish, such as shrimp, snapper, crabs, lobster, croakers, and catfish, are caught all along the coastline up to a depth of about 50 m.

## **2 EXISTING FISHING PRACTICE IN BALOCHISTAN**

**Commercial Fishing:** A large part of the fishing fleet based in Karachi and other coastal towns, including Gaddani, Ormara, Pasni, Gwader, and Jiwani, is engaged in commercial fishing. These vessels operate in coastal and offshore waters and catch large quantities of fish, shrimp, and other shellfish. The fish is marketed and processed in fish factories located mainly in Karachi and Gwadar Districts. A major portion of the fish caught by commercial fishing boats is exported to other countries.

**Fish Marketing:** Fish is marketed through traditional channels in coastal areas. It is auctioned at the landing centers through dedicated auctioneers or middlemen who charge a commission. The auctioneers and middlemen provide loans to the fishermen for the fishing operations which are paid back by the fisherman in installments from the value of their catch. Fish from the landing centers is transported to mainly Karachi through a series of middlemen. A major portion of fish is procured by fish processing plants; whereas that for domestic consumption is routed through middlemen to fishmongers or fish shop owners. Although marketing channels are adequately organized, the fish quality is not properly maintained. Usually, fish is not transported in insulated containers and fish boxes, and icing or chilling is not adequately done, therefore, fish gets rotten during transportation.



### 3 FISH HARBOURS:

There are only 2 operational fish harbors in Balochistan.

**Pasni Fish Harbour:** It is located along the Balochistan coast. Because of excessive siltation and inadequate dredging, the entrance is now partially blocked. The harbor is being used by the small artisanal boats and large gillnetters. Adequate onshore facilities are not available in this harbor.

**Gwadar Fish Harbour and Miniport:** It is used by large fishing boats especially gillnetters. For small artisanal boats, a floating pontoon has been constructed along the harbor which is connected with the main platform through bridges.

**Fish Landing Jetties:** There are five major landing jetties along the Balochistan coast located at Gaddani, Jiwani, Sur, and Pishukan respectively. Ibrahim Hayderi Landing Jetty is the second largest fish landing center in Pakistan. Though this jetty is not properly designed and lacks basic amenities, a large number of artisanal fishing boats still use this landing center. This landing center is the main base of fishing boats that are engaged in one-day fishing trips for shrimp using bottom set gillnetting (locally known as “thukri”). There are about 15 private jetties in the area where fishing boats are berthed, after landing their catch at Ibrahim Hayderi.



### **3.1 Supply of the seafood from Gwadar can be categorized into three major markets.**

- International supply Packed and processed frozen seafood to the international market via Karachi port.
- International supply directly from Gwadar to Iran, Oman, and Masqat through local launches.
- Supply directly from Gwadar to Karachi, Quetta, Turbat, and its affiliated towns and regions.

After the construction of the Makran coastal highway which is 600km long provided a major link of Gwadar to Karachi and Quetta, therefore Seafood is transported to the above areas by Road, employing refrigerated containers or Local trucks by dumping ice and the seafood. The fisheries sector of Gwadar is also supplying a considerable amount of fisheries wastes which has a significant demand for drug companies, and poultry meal producers.

## **4 POTENTIAL INVESTMENT IN COMMERCIAL FISH FARMING**

Fish farms or fish farming is a form of aquaculture. The act of fish farming is about raising fish commercially in tanks or enclosures for human consumption. There are different types of fish farms that utilize different aquaculture methods. The first method is the cage system which uses cages that are placed in lakes, ponds, and oceans that contain the fish. This method is also widely referred to as off-shore cultivation. Fish are kept in cage-like structures and are “artificially fed” and harvested. The fish farming cage method has made numerous technological advances over the years, especially with reducing diseases and environmental concerns.

## **5 ADVANTAGES OF FISH FARMING**

There are many advantages of starting a commercial fish farming business and below given are some of the main benefits.

1. As per the demand, the commercial fish farming business allows for large supplies of fish. Catching fish from the wild cannot always fulfill the demand of consumers hence in such cases commercial fish farming can meet up this demand.
2. You can easily raise the fishes in tanks until they are ready for selling or marketing and they don't need the wide capture of wild fish. Therefore, commercial fish farming helps in preserving natural ecosystems.
3. If compared to the wild fishes, some of the farm-raised fish species are healthier and more delicious. Fishes are generally fed a wide variety of nutrient and protein-enriched

foods or pellets on commercial fish farms. So, farm fish become healthier than wild fish.

4. There are indeed various types of fish species all over the world. So, you can select your desired species for your fish farming business.
5. We also know that fish is very popular as food all around the world thus there is already an established fish market available for you. And you don't really have to worry about where to sell them.

## **6 EQUIPMENT FOR COMMERCIAL FISH FARMING:**

Equipment required for commercial fish farming business is fish feeds and fish feeders, filtering systems, air pumps, heating, and cooling systems, lighting equipment, hydroponics equipment, predator control fences, tanks, and water treatment products.

**Feed and feeders:** Feed quality is important in fish farming and is vital to fish health. Depending on the feed that is given, it can help with desirable color, growth, and overall health and well-being. There are a wide variety of different feeds that are suited to different types of aqua-farming methods and species.

**Water Filtration Systems:** Water filtration systems are important when attempting to mitigate environmental impacts. Filtration involves the removal of waste products from the water. There are a number of different types of filtering systems that can be used, but it often depends on the state of the filtration process. It is important to have a staging filtration system that will ensure the most optimal results.

**Hatchery supplies:** Hatchery supplies include anything from fish graders, shipping supplies to spawning and handling containers.

**Predator control:** Predator control tools are used in the fish's habitat, which often includes the use of physical deterrents which may include visual and audio deterrents.