

313

CHINA-PAK FTA
SERIES

PAKISTAN FISHERIES' ANALYSIS

Next in series: Leather Industry



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Employers' Perspective on China-Pakistan Free Trade Agreement (CPFTA) on 313 Tariff Lines' Relief

Seafood and the Fisheries' Industry

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ACRONYMS USED

EFPP	Employers' Federation of Pakistan
EFPP-EC	Economic Council of Employers' Federation of Pakistan
SAFE	South Asian Forum of Employers
IOE	International Organization of Employers
CAPE	Confederation of Asia Pacific Employers
CWEIC	Commonwealth Enterprise and Investment Council
CPFTA	China Pakistan Free Trade Agreement
KPK	Khyber Pakhtunkhwa
WBG	World Bank Group
FAO	Food and Agriculture Organization
NFDB	National Fisheries Development Board
EEZ	Exclusive Economic Zone
USDA	United States Department of Agriculture
FY	Fiscal Year
HS	Harmonized System of Preferences
SBP	State Bank of Pakistan
UAE	United Arab Emirates
EPA	Environmental Protection Agency
SPS	Sanitary and Phytosanitary
ICT	Information and Communications Technology
HACCP	Hazard Analysis and Critical Control Point

THE EMPLOYERS' FEDERATION OF PAKISTAN – THE APEX BODY OF MANUFACTURERS

ABOUT:

The Employers' Federation of Pakistan (EFP), is a well-reputed entity which has over the past many years led the charge in voicing concerns of all major industrial and chambers associations in Pakistan. The EFP is not only a member of South-Asian Forum of Employers (SAFE), International Organization of Employers (IOE), and Confederation of Asia-Pacific Employers (CAPE) but is also an important constituent of the International Labor Organization (ILO). Recently, in a bid to open new channels of investment and trade, the Economic Council of the EFP (EFP-EC) signed a strategic partnership with the Commonwealth Enterprise and Investment Council (CWEIC).

Today, the EFP boasts Pakistan's largest single-body representation of stakeholders comprising over 800 member corporations and 30 leading industrial and chamber associations. It is through these concerted strides and accolades that EFP has rightly earned the statutory mandate to lead all crucial matters governing the economic, legal and financial contours of Pakistan. EFP's core functionalities span across a range of operations from establishing B2B Councils with Pakistan's trading partners, organizing joint sessions with prominent businessmen and industrial stalwarts, as well as working closely with the government and social workers to facilitate the attainment of human development, universal education, health sector upgradation and poverty reduction targets of SDG. In essence, the EFP is the apex body of manufactures in Pakistan and firmly believes that to achieve inclusive growth and to curb the rising unemployment levels and upgrade standard of living, rapid industrialization on war-footing is the way forward. This can only be actualized if business climate is backed by strong austerity and institutional reforms.

The Economic Council of EFP, which was launched in 2018, is working to put 'Pakistan First' in the region and around the world. It primarily serves as a think tank with prime focus hooked on paving way for the upheaval of country's once thriving industrial base. The 'Economic Vision 2030', 'Trade and Investment Policy Recommendations' and 'Federal Budgetary Proposals' its first published documents, serve as testament to the high level of dedication by the many economists, researchers, industrialists, entrepreneurs, and international trade experts that make up the council.

PREFACE

The second phase of China-Pakistan Free Trade Agreement (CPFTA) was signed between the Honorable Prime Minister of Pakistan, Mr. Imran Khan and Chinese Premier, Honorable Mr. Li Qiang on April 28, 2019. Under the agreement, China and Pakistan have decided to lift tariffs on 313 product lines. The CPFTA comes at the right time as the incumbent Government of Pakistan readies to throttle-transition the country from a consumption-oriented economy to an export-driven one.

The success of this vision of government shall be measured by any increase in exports, which in turn is largely dependent on the dynamism of domestic production. The purpose of this project by Economic Council - Employers Federation of Pakistan, is to ascertain how the CPFTA will impact the various industries. As the sole Voice of Manufacturers in Pakistan, the EFP, has compiled a comprehensive report for to be presented to the highest authorities in Pakistan. EFP believes that a two-way communication between employers and the government that is mediated by researched findings and well-documented opinions is critical in shaping correct policies needed to build a thriving economy.

NUMBER OF HS CODES COVERED: 13

S. No	HS CODE	DESCRIPTION
01	0302 - 8910	<i>Fresh or chilled scabbard fish (Trichuris)</i>
02	0303 – 3900	<i>Frozen flat fish (excluding halibut, plaice and sole)</i>
03	0303 – 5300	<i>Frozen sardines, bristling or sprats</i>
04	0303 – 5400	<i>Other fish meat, frozen</i>
05	0303 – 8910	<i>Frozen scabber fish (trichurius)</i>
06	0303 – 8920	<i>Frozen yellow croaker (psedudosiceana)</i>
07	0303 – 8930	<i>Frozen tilapia</i>
08	0303 – 8990	<i>Frozen fish, not elsewhere found</i>
09	0304 – 9900	<i>Other fish meat, frozen</i>
10	0306 – 1990	<i>Frozen crustaceans, NES including flours, meals, pellets for human consumption</i>
11	0306 - 2190	<i>Not frozen rock lobster and other sea crawfish, not elsewhere found</i>
12	0306 - 2499	<i>Unfrozen crabs, not elsewhere found</i>
13	0306 - 2492	<i>Unfrozen swimming crabs</i>

EXECUTIVE SUMMARY

Fishing in Pakistan accounts for less than one percent of the GDP, but it still plays a crucial role in developing the economy of Pakistan by providing employment to a significant number of people residing in impoverished societies and backward regions of Balochistan and Sindh. In current year of 2019, China bagged the top spot as Pakistan's largest fish market, stocking up 22 percent of its total fish export. It has therefore become absolutely crucial that the phase II of China-Pak Free Trade Agreement (CPFTA) be executed well.

In Pakistan, fish is largely caught from marine and inland sources along the costal belts of Sindh and Balochistan but recently, aquaculture farming seems to have gained tremendous popularity among local investors of Punjab and Khyber Pakhtunkhwa (KPK). The highly valued Tilapia fish, which is considered a cash cow for the aquaculture fisheries sector, requires latest technology which is readily available with the Chinese. As a matter of fact, the fish products included in phase II of CPFTA are also a major part of the Chinese import from US and the on-going US-China trade war presents a great opportunity for Pakistani exporters to increase their presence in Chinese markets.

Although, exports to China have maintained an upward trend since fiscal year 2015, especially with respect to the HS303 line, the overall fish production has fallen significantly from 235 million in 2018 to 221 million tons in 2019. On a regional basis, the country severely lags behind prominent South-Asian competitors like India and Bangladesh in terms of value of fish exported. Several key factors have been identified which help explain this mire state. These include, persistent use of conventional fishing methods, unmonitored overfishing by large industrial trawlers, dilapidated fish storage and processing infrastructure at harbors and failed coordination between federal and provincial fisheries authorities in the past. The decision-makers are deprived of updated fisheries database, and local farmers lack access to credit and capital investment which often makes them subservient to affluent fish farmers who impose stringent conditionalities on permission to fish in their acquired areas. The workforce is unskilled due to presence of very few vocational training centers for fishermen and on the international front, poor compliance with international health and safety measures, has rendered Pakistan's fish exports uncompetitive both in terms of price and quality.

In light of all above, it has become a need of the hour for government to redesign its existing national fishing policy to guarantee the safeguarding of fishermen from exploitation and one that quarantines all forms of illegal activities such as overfishing of juvenile catch. Any success of this policy lies contingent on full throttle participation from private sector and it must provide incentives to local buyers to expand their horizons in the international arena. This is important to encapsulate correct consumer preference, as well as in attracting genuine calls for Pakistani fishermen, farmers and entrepreneurs to develop their human capital through rigorous and on-field training.

An aerial photograph of Astola Island, Balochistan, Pakistan. The image shows a small, crescent-shaped beach on the left side of the island, bordered by dark, steep cliffs. The water is a vibrant turquoise color, transitioning to a deeper blue further out. A large, prominent rock formation, known as the Island of the Seven Hills, is visible in the distance. The sky is clear and light blue.

ANALYSIS OF FISHERIES SECTORS

Astola Island, Balochistan — Island of the Seven Hills, 39 km southeast of Pasni Port.

1.1 STATE OF FISH TRADE IN PAKISTAN

With a brewing population of 220 million people, Pakistan faces an enormous challenge of fulfilling the rising demand for food. While being the sixth most populous country in the world, and having per capita of only US\$ 1, 541, the challenges to meet poverty and hunger goals of the United Nations in face of looming threat of climate change and a dilapidated industrial structure stand as key hurdles for the current governments. The Global Competitiveness 4.0 report (World Bank, 2019), has identified inadequate provision of basic amenities like education and health as imperative for human capital development, and these serve as prime impediments toward economic prosperity for Pakistan.

The Fishing industry employs roughly 130,000 full-timers and 75,000 part-timers in 4 major fishing harbors with 90 percent of the catch emanating from Karachi Fish Harbor (FAO, The State of World Fisheries and Aquaculture, 2018). There are 29 functional fish processing units, out of which 25 alone are located in Karachi.

List 1: Key Fishery Harbors of Pakistan

FISH HARBORS	AUTHORITY
Karachi Fisheries	Provincial Government of Sindh
Korangi Fish	Federal Ministry of Food, Agriculture and Livestock
Pasni Fish	Provincial Government of Balochistan
Gawadar Fish	Federal Ministry of Communication

Source: (Pakistan, 2019)

The 1,100 km coastline of Pakistan from India to Iran, harbors an Exclusive Economic Zone (EEZ) of 240,000 km² (IPS, 2019) alongside an ecosystem of numerous estuaries, mangroves, sandy beaches and sea grasses. The continental shelf area is about 50,270 km² and is rich in fisheries.

A regional comparison as displayed in List 2 shows China on top, producing the largest amount of fish in the world in 2018 (USDA, 2018). Its fisheries industry is mainly driven by aquaculture. However, the fisheries sector of Pakistan fared the lowest, in terms of production and contributes hardly 0.5 percent toward the national GDP which is much less than that

of India's (National Fisheries Development Board, 2018). On the other hand, Bangladesh realized its self-sufficiency in fish production in 2018 (Dhaka Tribune, 2019) and was only behind India by 3 million tons (FAO, The State of World Fisheries and Aquaculture, 2018). However, despite its minute share in GDP, the fisheries industry of Pakistan continues to play a pivotal role in the earning important export revenue.

Since this report chiefly concerns China-Pakistan trade on 313 tariff lines, it must be noted that fish exports to China have actually posted an increase of US\$ 28.4 million in FY19 compared to FY18 as shown in List 2 which should continue with 313 CPFTA in effect.

List 2: Regional Comparison of Pakistan's Fish Exports

(000' of tons)	2018	2017	2016	2015
China	72,980	69,960	63,795	61,829
Pakistan	482	520	510	499
India	12,600	10,800	10,790	10,100
Bangladesh	4,277	4,134	6,420	6,208

Source: (FAO, 2019), (China, 2018)

List 3: World Comparison of Pakistan's Fish Exports to China

(000' US\$)	FY19	FY18	FY17	FY16	FY15
World	456,655	483,398	384,508	319,577	351,991
China	98,480	70,017	50,580	44,445	61,215
% China	22.1	18.2	7.60	7.19	5.75

Source: (SBP Exports Receipts, 2019)

1.2 SNAPSHOT OF FISHERIES INDUSTRY AND PAK-CHINA FISH TRADE

The fishing industry is characterized by three main methods of capture and production: marine, inland and aquaculture. Among these, the majority of catch is derived from marine and inland fisheries which are conducted along the coasts of Sindh and Baluchistan and in parts of Punjab along the 3,180 km Indus River.

A regional comparison as illustrated in List 2, shows that fisheries of Pakistan are lagging behind other

countries in South Asia in terms of production which depicts severe backwardness of fisheries of Pakistan:

List 4: Sector wise regional comparison of fish production

Fishery Sector	Pakistan	Bangladesh	India
Inland	276,501	2,821,266	6,181,000
Marine	346,841	588,988	3,414,821
Aquaculture	148,266	1,859,808	4,881,000
Total	771,608	5,270,062	14,476,821

Source: (FAO, 2019)

List 5: Export by HS Codes in 000' of tons

HS Codes	Description	FY19	FY18
302 - 8910	Fresh or chilled scabbard fish (<i>Trichuris</i>)	589	775
303 - 3900, 5300, 5400, 8910, 8990, 8930	Frozen sardines, brisling or sprats, mackerel, scabbard fish (<i>Trichuris</i>) and tilapia	70,787	45,864
304 - 9900	Other fish meat, frozen	3,474	2,164
306 - 1990, 2190, 2499, 2492	Frozen crustaceans, NES including flours, meals, pellets for human consumption	18,539	21,247

Source: (SBP, Export in Publications, 2019)

The HS Codes enlisted in table above (List 5) form part of the 205 demersal and 85 pelagic fish species found in the aquatic shores of Pakistan. It can be seen that among the most consumed Pakistani fish item in China belong to tariff line HS303 which chiefly feature marine catch such as snappers, groupers,

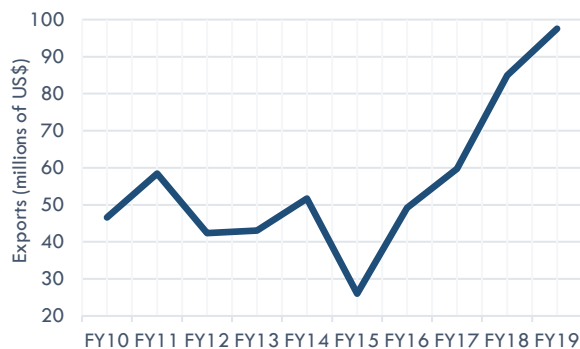


Figure 1: 313 Fish Exports FY10-19, Source: (SBP, Export in Publications, 2019)

¹World Bank (World Bank Group, 2018) has attributed this drop to excessive fishing by large trawlers and unmonitored dumping of industrial waste, their overall production in the sea has declined. The illegal fishing is commonplace in Pakistan, where large trawlers often sweep juvenile fish off the sea-floor which has perturbed the ecological environment and

grunters, croakers, tilapia and Indian Mackerels. In FY19, this line recorded an increase of 24.9 million ton from FY18.

HS 306 which comprise of crustaceans (shrimp, mud crabs, lobsters, crawfish, etc.) are second most demanded fish species but their demand has also significantly dropped in FY19 by roughly 300,000 tons.¹

The trend of aggregate export as displayed in Fig. 1, shows that in Pakistan's export of the 313 fishery's commodities to China experienced a sudden decline in FY14-15 which could be a result of flood disasters and illicit grazing of key fish farms in inland areas of Punjab. Since then, the data shows that Pakistani seafood has continued an upward momentum showing a massive gain in popularity in China. The export figure rose by 109.5 percent from FY18, reaching an unprecedented record US\$ 97 million in FY19.

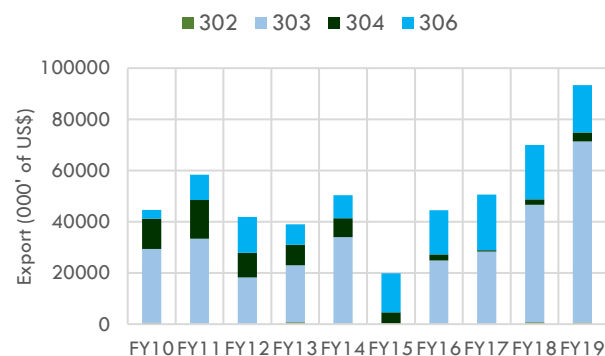


Figure 2: Export by HS Codes in Last Decade, Source: (SBP, Export in Publications, 2019)

The high priority items in the 313 list of fisheries products add greatly to the imports of China. These are the same products that China largely imports from US as well, therefore, in the on-going China-US trade war a glorious opportunity has come up for Pakistani exporters to increase their presence in Chinese markets.

From the bar chart illustrated in Fig. 2, we draw that over the last decade total export of the 4 categories rose by an estimated 110 percent (FY10-19). The

led to commercially low-valued catch with fast evolving predator fish such as threadfin, breamand, lizardfish severely hampering breeding. Another problem is with the presence of large fish, such as squids and cuttlefish of the cephalopods family. These predators do not let juvenile fish to grow to full size which affects quantity captured.

demand for fish in HS303 line has always been the highest in China, and on average it gains an annual revenue worth US\$ 30,612,000 of goods exported. However, from FY17, it can also be seen that while the HS303 rose to popularity on one hand, export of HS304 and HS306 continued to falter. While the frozen fish fillets of the HS303 and HS304 line make up 58 percent of the export value, shrimp of the crustaceans' family makes up 23 percent of fish exports. These two product lines took lion's share of fish exports to China in FY19.² HS302 remained a dismal performer.

1.2.1 HS302:

These fresh or chilled fish of the Trichiuridae (or Trichiurus Lepturus) family, include first anal fin spine specimen, are 70-100 cm long specimen and have small canine teeth on upper jaw. They are found in coastal waters, creeks and mangrove areas and often submerge during night. Their main form of export is frozen and in small quantities.

The most important pelagic marine species of this category is Ribbonfish (A.A, et al., 2017). As of late, the Ribbonfish has gained tremendous value as a key commercial fish caught primarily along the Makran coast. It is exported to 30 countries by Pakistan but is also one of the most abused fish which are often scooped out in juvenile form.

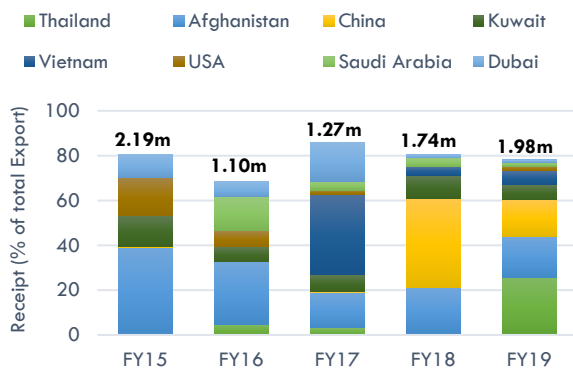


Figure 3: HS302 Fish Export Destinations as Percentage of Total Fish Exports of Pakistan; Export in millions (m) of US\$; Source: (SBP, Export in Publications, 2019)

Fig.3 shows that in FY19, Thailand, China and Afghanistan were the largest export destinations for HS302 taking up 25.8, 18.2 and 16.2 percent of the total export worth US\$1.98m. However, in comparison to FY18, the share of China in FY19 fell considerably by over 23.6 percent as data reveals but it since export to Thailand in contrast increased sharply it could be the case that the HS302 actually got diverted toward Thailand. It is also pertinent to note that export for HS302 in FY19 were highest in last 5 years, with Kuwait retaining prominent consumer spot throughout.

1.2.2 HS303:

These frozen fillets and whole fish which include sardines, mackerels, flat fish (mostly Flounder) and scabbard except Indian Halibot, Plaice and Sole, belong to the Psettodidae family (FAO, Important Coastal Fishery Species of Pakistan, 2014) stretching between 20-60 cm. They are identified as having both eyes on one side and no soft rays or strong canine teeth in jaws.

The HS303 line fetches the highest revenue for Pakistan and this catch largely emanates from the marine fisheries. However, the Tilapia fish which is also a part of this line, is perceived as a high valued export and if government religiously pursues its plan of aggressively cultivating this fish then it can greatly boost the value of fish export.

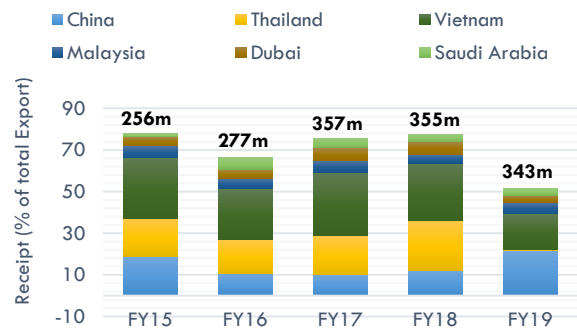


Figure 4: HS303 Fish Export Destinations as Percentage of Total Fish Exports of Pakistan; Export in millions (m) of US\$; Source: (SBP, Export in Publications, 2019)

² Through CPEC, joint efforts are underway to make production, storage, handling and transportation cost effective and efficient to introduce international standard methods of coastal fishing.

VALUE OF KEY MARINE SPECIES INCLUDED IN 313 TARIFF LINES



Blue Swimmer Crabs (HS306).
USD/kg: 3.20 (PAK), 3.10 (IND),
2.01 (BAN) & 14 (THA)



SkipJack Tuna Fish, (HS303). USD/kg 1.75
(PAK), 1.43 (IND), 1.90 (BAN) & 2.10 (THA)



Fresh or Chilled Ribbonfish (HS302).
USD/kg: 2.37 (PAK), 2.29 (IND), 2.45
(BAN) & 2.10 (THA)



Yellow Croaker (HS303).
USD/kg: 1.73 (PAK), 1.62 (IND),
3.75 (BAN) & 0.77



Rock Lobster, Crustaceans (HS306). USD/piece:
30 (PAK), 19 (IND), 2 (BAN) & 14 (THA)



Frozen Mackerels/Sardines (HS303).
USD/kg: 2.80 (PAK), 1.30 (IND), 2.45
(BAN) & 0.6 (THA)



Baby Octopus, Other Fish Meat,
NES (HS304). USD/kg: 2.35
(PAK), 3.4 (IND), 6.0 (BAN) &
9.5 (THA)



Shrimps/Tiger Prawns, Crustaceans (HS306).
USD/kg: 7.5 (PAK), 9.6 (IND), 5.5 (BAN) & 5.0
(THA)



Tilapia Fish (HS303). USD/kg: 1.25 (PAK),
1.25 (IND), 3.75 (BAN) & 2.50 (THA)

The data presented in Fig.3 shows that up until FY18, Vietnam, China and Thailand were the top export destinations for HS303. However, for Thailand, in FY19 its demand almost zeroed for unknown reason. Overall, the total export for this highest revenue earning category fell from US\$ 355 million in FY18 to US\$ 343 million in FY19 but for China, it almost doubled. This drop in total export revenue has continued since FY17 when it was highest at \$357 million. Meanwhile, Malaysia, Dubai and Saudi Arabia remained prominent consumers throughout the time period.

1.2.3 HS304:

This line includes frozen fillet and flesh of various species such as Pomfret, Snappers, Croakers, Ribbonfish, Mackerels, etc.

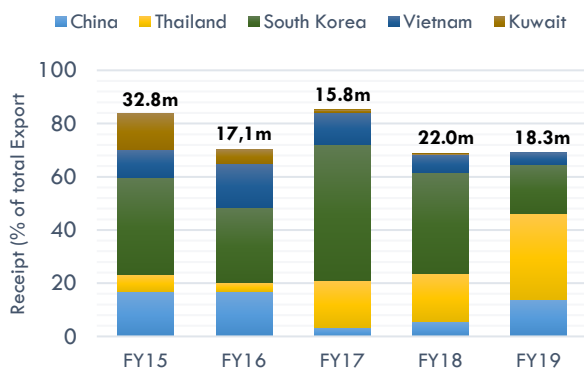


Figure 5: HS304 Fish Export Destinations as Percentage of Total Fish Exports of Pakistan; Export in millions (m) of US\$; Source: (SBP, Export in Publications, 2019)

Fig. 4 above shows that the line of fish species in this category was majorly exported to South Korea, which dominated the percentage share in total quantity sold, up until FY19. In FY19, a large part of this share was taken up by China which captured 14.0 percent of the total fish exported. Meanwhile, Thailand, South Korea and China remain hot destinations for this category till date. Overall, total export receipts have fell by roughly 3 million dollars in FY19 from FY18.

1.2.4 HS306:

Crustaceans, such as shrimp, lobsters and blue swimmer crabs make up this line. These form a large part of the Marine coastal catch but recently, fish

farms in Punjab and Sindh have also started production for some of the species such as shrimps.

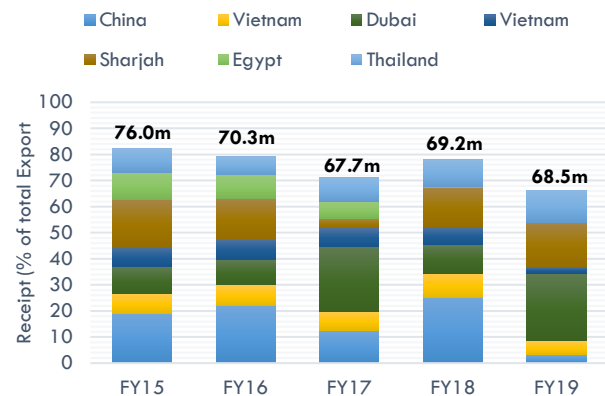


Figure 6: HS306 Fish Export Destinations as Percentage of Total Fish Exports of Pakistan; Export in millions (m) of US\$; Source: (SBP, Export in Publications, 2019)

In light of the big dip from 25.1 percent to 3.35 percent in the share of total export to China (which is country's largest export market for seafood), the 313 Tariff Relief seems like a good opportunity. The reason could be the failed imposition of government's deep-sea fishing policy which prohibits fishermen to sail beyond the 12 nautical miles radius where important crustaceans are usually found (Usmani, 2019).

On the other hand, demand in UAE (Dubai and Sharjah) and Thailand for Pakistani shrimps, lobsters and crabs inflated significantly. Overall, in comparison to FY18, FY19 fetched the second lowest earnings for the HS306 line as it recorded a mere 68.5 million dollars in revenue which was also lesser than in FY18. This same figure is also the lowest in past 5 years (US\$ 10.8 million drop since FY15).

Box A. Yu-Fei Marine Technology

Since 2017, China's largest fish exporting company in Gawadar Port has exported over 1000 tons of seafood to mainland China with an impressive capability of shipping on average rate of 34 hours from port to Xinjiang via air transport. It took an initial investment of US\$ 73 million but given the inflating domestic fish demand in China, the 313 CPFTA may as well come as a blessing for the country to pursue more such joint ventures.

1.3 MARINE FISHERIES

During the first 3 quarters of FY19, a total of 390,000 tons of marine catch was recorded. Among the many fishing gear types used by fishers, ‘encircling nets’ remains the most common which paints a dismal picture of the fishing industry in terms of level of sophistication in method of capture and resources available to fishermen.

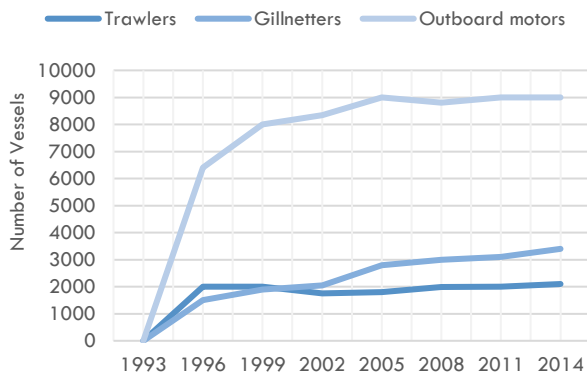


Figure 7: Number of Fishing Vessels Purchased, Source: (Directorate, Balochistan Fisheries)

According to World Bank (World Bank Group, 2018), frequency of fishing has increased by 5 percent due to rise in number of powerful sea vessels as shown in Fig. 8 but this has also resulted in ‘over-fishing’ as per a maiden report on fish stock assessment in Exclusive Economic Zones (EEZ) by Fisheries Resource Appraisal in Pakistan Project (FRAPP).

List 6: Fish Production by Gear Type

Gear type	Sindh	Balochistan
Industrial trawlers	3,612	-
Gillnetters	3,458	2,103
Handlines	7,395	74
Encircling nets	5,268	7,197
Total	19,733 (88%)	9,374 (42%)

Source: Food and Agricultural Organization, United Nations

³ Balochistan’s 75 percent coastline contributes to only 2 out of every 10 catches. The main reason is harboring of illegal vessels and industrial trawlers emanating from Sindh, which spitefully sweep juvenile fish and sea corals off the sea floor and destroy fishing nets of local fishermen. This has translated into great misfortune for local fishermen who are left deprived and unattended to.

The bar chart in Fig. 8, shows that despite the 11 percent increase in budget for Balochistan fisheries sector by Government of Pakistan, from FY14 to FY17, annual fish stocks have not remained somewhat stagnant.

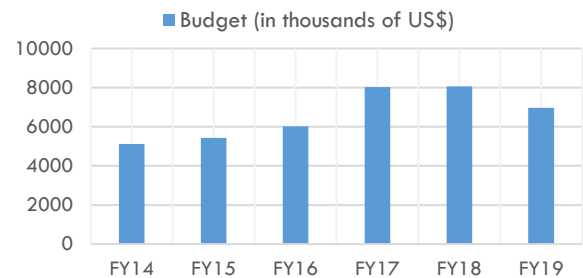


Figure 8: Federal Budget for Balochistan, Source: (Directorate, Balochistan Fisheries)

The Environmental Protection Act (EPA) has confined fishing to within 12 nautical miles of the marine coast of Balochistan as part of the deep fishing policy which could be the reason for the depleting stocks but then budget also fell for FY19. The data retrieved from Balochistan Fisheries Department also shows that 100 percent of all industrial trawlers belong to Sindh and these often violate EPA jurisdictional law.³

The persistent use of conventional fishing methods as pointed out earlier continues to hurt the sector but a large presence of ghost employees, as much as 80 percent, (Suleman, 2018) is also worrisome and may as well be the reason for low budget allocation to this province.⁴

1.4 INLAND FISHERIES

Inland fishing refers to commercial fishing that take place in fresh water in rivers, farms, irrigation canals, reservoirs, ponds and lakes where fish are raised naturally. The bodies that manage these fisheries include:

⁴ The Balochistan Government is working to launch a Green Boat Engine Scheme to bring international standard fishing practices to the table of fishermen but data reflects the absence of regulation on protection of marine environment, use of wrong fishing nets, safety of life and any no visible effort by Maritime Authorities to preserve the natural rights of fishermen.

List 7: Inland Fisheries' Authorities

PUNJAB FISHERIES	Rivers, lakes and selected reservoirs within Punjab
SINDH FISHERIES	Inland lakes, ponds, depressions and Indus River in Sindh

Source: (Usmani, 2019)

In List 8 above, the Punjab Fisheries Department is responsible for managing, conserving and developing natural resources of fishing. It does so through various steps such as promoting practices of aquaculture in private sector to plug the deficiency of staples for the underprivileged and providing subsidized white meat to boost health of common man.⁵

However, Inland Farming from Punjab adds only 30 species to commerce and trade, with trout and tilapia (HS303) being the most popular ones. As List 9 shows, Punjab relies heavily on resource-rich Indus Basin which has its water systems spread out over several thousand acres (contributing 80 percent of inland catch). From the same list it is evident that Sindh has the largest number of fish farms:

List 8: Province wise Distribution of Fish Farms

Sindh	Punjab	Balochistan	KPK	Total
491000	10400	100	560	60000

Source: (SBP, Publication, Fisheries Value Chain, 2014)

According to the chart presented in Figure 8, the total production and catch of fish has significantly dropped in Inland and Marine, respectively. However, the first year of the new government looks promising, as an upward trend can be seen which shows that the fishery industry is getting attention as during FY18 to FY19, Marine and Inland posted 15.4 and 28.4 percent growth, respectively.

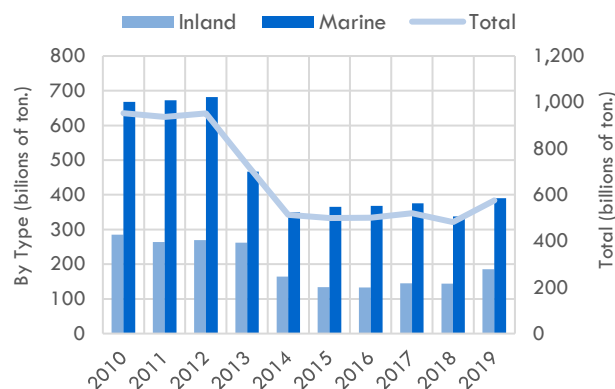


Figure 9: Production Capacity of Fisheries, Source: (Pakistan Economic Survey, 2018-19, 2019)

1.5 AQUACULTURE FISHERIES

This type of fishing practice refers to freshwater farming where fish is considered to be a crop, like sugarcane or maize. Aquaculture is slowly gaining momentum in Pakistan with hatcheries of different species of crustaceans (mostly shrimps) opening up in Karachi. The province of KP has immense potential for trout cultivation where government has provided genuine support toward its cultivation but these are not for export purposes.

The table below shows total area covered by fishponds:

List 9: Province wise distribution of fish ponds

Sindh	Punjab	Balochistan	KPK	Total
60,500	49,179	249	560	110,488

Source: (Directorate, Balochistan Fisheries)

Aquaculture contributes to an average, 150,000 tons of fish annually (Source: (World Bank Group, 2018)). A little history tells us that back in 1960s, during the Green Revolution of Ayub Khan's industrialization era, this type of fishing was initiated in earthen ponds and reservoirs and then from 1980s onward, almost all four provinces widely adopted polyculture practice of Indian and Chinese carps. This carp farming produces 120,000 tons annually but despite the economically efficient systems involving floating

⁵ In Pakistan, an estimated 186,000 people take part in this fishery sector out of which 60 percent are stranded below the poverty line (WWF, 2015 report).

pellets and supplementary feed put in place, semi-intensive polyculture is still the main form of practice.

The sector has gained quite a bit of popularity in Pakistan but if compared to countries in the region like India and Bangladesh as done in Fig. 10, Pakistan's fisheries industry is still in its infancy. A clear comparison with Bangladesh, shows that their aquaculture sector produces similar fish fauna but is capable of producing 10 times more quantity through same freshwater inland sources.

The ratio of Pakistan to Bangladesh formulated in terms of kg per hectare per year stands at 1:2 or 2400-3000 kg and 4600 kg, in absolute terms.

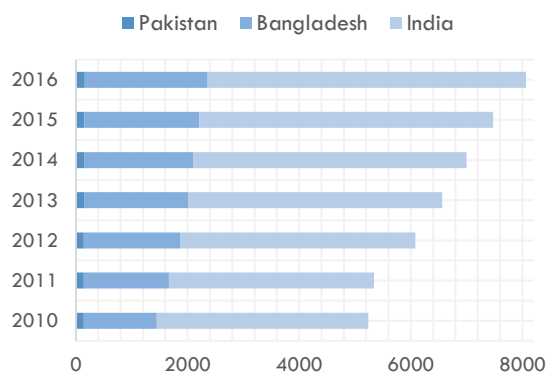


Figure 2: Regional comparison of aquaculture production, Source: (FAO, 2016)

A very important specie of the HS303 line is tilapia fish (*Oreochromis Niloticus*). It carries huge potential to revolutionize fish farming in Pakistan and normally bred in aquaculture fisheries sector in genetically modified version and currently adds on average 3000 tons annually. According to the Agricultural Credit and Microfinance Department of the State Bank, industry for tilapia is relatively small and mostly bred in parts of Sindh which experience longer growing seasons, as compared to in Punjab (Usmani, 2019). As a result, in Asian markets the tilapia from Pakistan, versus China, is priced at a lower value and hence the lower demand from Pakistan.

On the other hand, HS306 which comprise of crustaceans (shrimps, sea-brass, etc.) have little or no commercial production available in this sector (Hassan, 2019) due to very high costs. However, in 2019, several favorable joint venture of Fisheries Development Board (FDB) (which is responsible for

collecting data on landings by location and of species then forwarding to the individual provinces) evolved with private sector (both local and Chinese) promising high quality imported seed which will most certainly help exploit the high-value added potential this category.

Province-wise, the crustaceans (HS306), and tilapia (HS303) are only found in Punjab and Sindh. In Punjab, the average size of fish farms is 10 ha. Fish production in Punjab is relatively more skewed toward Carps, because Tilapia is only cultivated by a limited number of affluent farmers. Farmers usually bring their produce during midday and auction them off to regional traders and larger fish markets in Lahore, Gujranwala and Peshawar from where it is exported in frozen form to Afghanistan, Middle East and Africa.

In Sindh, the produce from farms goes directly to regional markets in Thatta, Hyderabad and Karachi (depending on volume or truckload) with mainly carp species comprising Rahu, Thala and Mori, as well as few exotic ones. The fish buyers at retail level, clean, slice and pack after seasoning of spices and frying in flour. Then, from these regional markets the produce is sold to fish shops, restaurants and for processing in export hubs. At export level, the fish is either packed with ice layers (frozen) or simply put in box (fresh or chilled).

As far as regional markets in northern areas are concerned, demand for trout has risen massively due to increase in real income and health consciousness among the general public.

List 10: Location of HS Enlisted Fish, WBG

	Area	Species
Sindh	Thatta, Badin and Dadu Districts	Tilapia (HS303), Crustaceans (HS306)
Punjab	Sheikhpura, Gujranwala, Attock and Muzarfagarh Districts	Tilapia, Macrobrachiu and Catfish (HS303)
Balochistan	Nasirbad, Jhal Magsi, Jafferbad and Sohbatpur Districts	Carp (Non HS303)
KPK	Dir, Kohat, Mardan, Swabi and Abbottabad Districts	Trout and Carp (Non HS303)

Source: (World Bank Group, 2018)

The Aquaculture fisheries sector contributes 23 percent of the total production in Pakistan, as evident from the bar chart exhibited in Figure 13. Primary reason for this low addition to the net is expensive fishmeal ingredients which these cultured fish require. The Indian carps, for example, are raised in fertilized ponds with supplementary feed consisting of nutrients such as insects, bacteria and local by-products which are deficient in proteins, lipids, energy, vitamins and minerals (Khan, 2019).

One of the ways Pakistan has tried to upscale production through non-fish cost-effective sources is through use of soybean (State Bank of Pakistan, 2018). However, global prices have shot up by as much as 10.3 percent for soya bean (Pakistan Economic Survey, 2018-19, 2019), which stood at US\$ 734/ton in April-19. This means, import-substitution through local plantation is need of the hour which can provide for the necessary boost to fish farming.

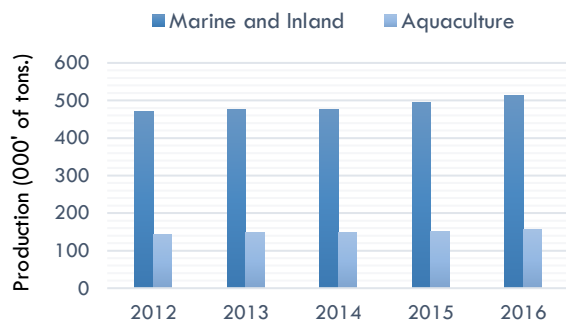


Figure 3: Total Capture and Production from 2012-16, Source: (FAO, 2016)



Shanghai Seafood Trade Exhibition, 2019

Box B. Aquaculture Potential of HS306

Shrimp is considered one of the favorite foods in China despite the HS line's fall in share of Chinese exports. Shrimp farming has bloated into a multi-billion dollar global trade business and created several thousands of jobs and earned much-needed foreign exchange. In the aquaculture industry, shrimp farming is most profitable with almost 50,000 farms and US\$6 billion trade worldwide. In Pakistan, Sindh and Balochistan coastal belts provide breeding opportunities where 15 different species of commercially important shrimps can be found, for example Jaira shrimp which is the most important.

It was in 1982, when Pakistan attempted its first culturing of shrimp farming through Fisheries Department. This took place in the Ricchal Creek of Gharo and the pilot aquaculture development project was financed by Asian Development Bank (ADB) with key private sector investors such as Lipton Farm, Baloch Farm and Mansour Sheriff Farm all putting in their chips. Many years later, in 2007 when the National Fishing Policy was introduced and emphasis special emphasis was laid on Aquaculture farming, several strategies were made but none were quite successful until 2019, when Imran Khan's Government realized the sector's importance. Despite the 70 percent share of coastal line, Balochistan severely lacks the infrastructural facilities to observe aquaculture and hence has to solely rely on catch from Mangroves using the same conventional fishing methods involving small ill-equipped vessels.

The National Institute of Oceanography (NIO) and Ministry of Science and Technology are both quite active and plans are underway to install dehydration plants in Balochistan but aggressive strategies for setting up environmental friendly farm-raised shrimp farms is imperative, in light of excellent marketing opportunities available in the region which can be tapped via Trade Development Authority of Pakistan (TDAP).



CHALLENGES AND SUPPLY CONSTRAINTS



Karachi Fisheries Harbor — 50 years ago, children used to swim and fish shrimps in clear blue water

Despite the opportunities presented by removal and reduction of trade barriers in several fishery categories, the ability of Pakistan to expand its exports to China truly depends on the domestic industry's existing productive capabilities.

To further understand the ground realities that make up fish production and trade, the Economic Council consulted several fish catchers, processors and exporters in Pakistan. The research also includes opinions from a regional fisheries association that operates in Karachi. The idea behind conversing with fish producers was to understand the hurdles that stand in the way of promoting fish trade with China under the new FTA.

The problems plaguing the fishing industry have been categorized into the following headings:

- Overfishing
- Deteriorating environment for fish breeding
- Low value output
- Poor handling of fish catches post-harvest
- Sub-optimal tariff structure
- Poor compliance with SPS measures and agreements
- Training and development of human capital
- Obsolete Database
- Limited capital and credit
- Unmonitored countrywide sprouting of fishmeal production plants
- Non-existent aquatic quarantine facilities
- Climate-change impact on fishing sector

2.1 OVERFISHING

One of the most common responses received by Economic Council was that of reduction in fish stock in the marine coastal belt along Sindh and Makran coasts. Despite the introduction of latest management measures of fostering a healthier environment (as evident from joint research collaboration of World Wildlife Fund (WWF) with the Indian Ocean Tuna Commission on reporting fish catching), the illegal practices are still prevalent in Sindh and several factors have led to this result over the last few decades:

- Increased reliance on the fishing industry to provide fodder for poultry and cattle farming in the form of fish meal. The source of fish meal is usually juvenile fish. This practice severely affects the stock level of adult fish which could have instead be bred as a higher valued export item.
- Marine fishing in Pakistan does not have adequate checks and controls which has rendered the sector of sustainable fishing practices. Issuance of fishing licenses coupled with a long-term strategy that could limit fleet capacity could be possible solutions to the problem of overfishing. Such measures beg joint cooperation between various stakeholders and the government.

2.2 DETERIORATING ENVIRONMENT FOR FISH BREEDING

A major factor responsible for the diminished fish stocks is the consistent and unmonitored dumping of municipal, agricultural and industrial waste from households and industrial units from Karachi, in particular, into the Arabian sea. This toxic waste and other heavy metal pollution are mostly spilled inside the 20 nautical miles zone where crustaceans of the HS306 line and other key fish of our prime HS303 line are breeding.

For inland cities, the same waste mostly ends up in the rivers and other water bodies. The excessive exploitation and mismanagement caused by pollution has degraded the ecosystem. Moreover, river and canals alterations along the Indus have badly impacted the marine habitat and as a result, caused significant decline in fish production.

2.3 LOW VALUE OUTPUT

Some of the fish listed in 313 for favored trading are sold in the local market in juvenile form as fish meal. 60 percent of the fish caught gets wasted in Pakistan because most are already dead (Usmani, 2019) and these are then sold as fish meal. These fish items include croakers, threadfin beams and smaller varieties of the pelagic fish which could have been saved for export purpose. The fish meal adds little to the GDP and the high domestic consumption of low valued catch means Pakistan loses a considerable amount of foreign exchange. According to UN

estimates, this loss from lower valued trade is currently valued at US\$60 million per year (World Bank Group, 2018).

2.4 POOR HANDLING OF FISH CATCH POST-HARVEST

Fish processors have strong reservations about the quality of fish that is caught. Despite having good quality fish in the sea, the inefficient ways of preservation in moving the stock to processing units is largely responsible for the sharp decline in its value.

Faced with faltering fish population, vessels have to stay out at sea for long durations, but because of poor storage facilities on board, the quality of catch gets compromised.

Many of the vessels still make use of the traditional method of preserving their catch, such as ice blocks. The problem with this method is that it uses ice made out of sweet water from inland sources to store the marine (salty water) catch which is not suitable.

2.5 SUB-OPTIMAL TARIFF STRUCTURE

Exporters and processors in the fishing industry feel that the tariff structure is not being used optimally to support domestic businesses. Protection in the form of tariffs and quotas could be used to cushion domestic production from cheap imports, at least for the time being it allows local producers to improve their efficiency levels to compete globally. This would also allow for more investment to take place in the industry. At the same time, tariffs that increase input costs must be reduced.

2.6 POOR COMPLIANCE WITH SPS MEASURES AND AGREEMENTS

Sanitary and phytosanitary (SPS) are important trade measures ratified by the WTO. According to processors operating in Pakistan, the country's exports cannot reap full benefits from any trade agreement unless they satisfy the health and safety concerns of the importing nations. Exports to EU and Middle East have taken a strong blow because of lack of compliance to SPS measures.

In this regard, domestic producers and exporters expect the government to come up with an authority

that could enforce standards, publish benchmarks, issue certifications and offer health and sanitation related trainings to various players in the fish value chain.

2.7 TRAINING AND DEVELOPMENT OF HUMAN CAPITAL

Often, one of the major reasons that hampers fish processing is the lack of skilled workforce needed to compete with global productivity levels. With the absence of modern skill development institutes and prevailing low sanitary standards the state of fisheries remains uncompetitive in the region.

2.8 OBSOLETE DATABASE

India has a publicly available and updated database website of National Fisheries' Development Board. The Chinese National Bureau of Statistics publishes yearbook which carries detailed information on almost all species of fish caught in China. Even Bangladesh, which has recently realized self-sufficiency in fishing, also has a sophisticated fisheries online fisheries' database. However, in Pakistan this quality of data collection and information banking is severely lacking. As a result, policy-makers end up making short-sighted and inefficient decisions which understates the existent economic condition of the marine environment.

2.9 LIMITED CAPITAL AND ACCESS TO CREDIT

Inland fishermen often have to bear the brunt of the affluent fishing companies who conveniently purchase bidding contracts and then make it a condition for impoverished fishermen to share a proportion of their hard-earned fish catch if they are to fish in their acquired areas. This often compels poor fishermen to undertake sub-contractual agreements to supplement their incomes through highly underpaid and strenuous manual labor.

2.10 NON-EXISTENT AQUATIC QUARANTINE FACILITIES

Although, Pakistan is currently considered immune from viral pathogens affecting shrimps, it has very limited aquatic surveillance or control program nor any quarantining facility to contain fish diseases and

given the current limitations in Pakistan's animal health system the probability of an outbreak of shrimp disease is quite high. Saudi Arabia, for example, has for this reason banned HS306 import from Pakistan. An effective mechanism to safeguard the fisheries industry from such challenges that inhibit its ability to compete in the regional markets must be put in place.

2.11 UNMONITORED COUNTRYWIDE SPROUTING OF FISHMEAL PRODUCTON PLANTS

Pakistan has reputation for being the only country in the world where trawlers are extensively used for scooping out demersal fish for purposes of making fishmeal. The number of fishmeal plants have increased two-fold over the years creating an unfavorably high demand for input materials that have resulted in overfishing by fishing vessels.

2.12 CLIMATE CHANGE IMPACT ON FISHING SECTOR

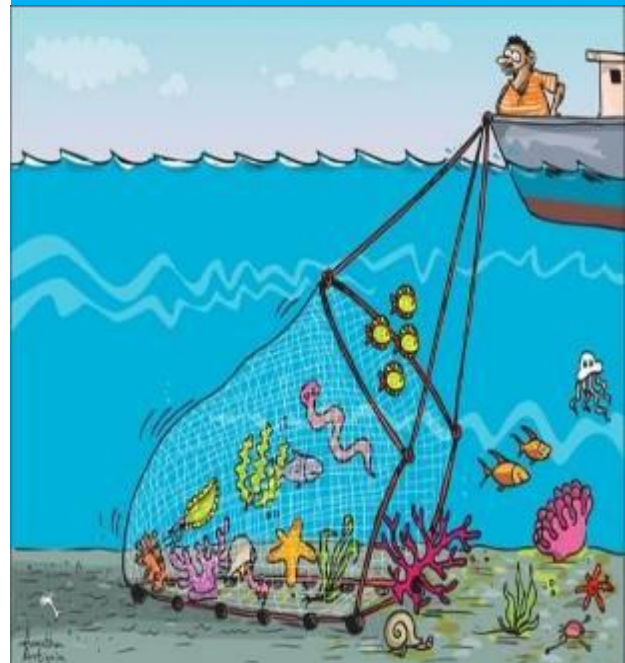
Pakistan is already placed as one of top 7 countries which will be severely affected by global warming. Floods of 2010, which displaced 18 million people and caused an estimated US\$18 billion damage is true attestation to this fact. The recent abnormal rainfalls in Karachi and rise in sea-level is poised to create problems for fishermen in deep waters.

The great variations in weather conditions also stand to threaten mangrove areas where precious species of HS306 cultivate – one of Pakistan's prime export fisheries. What this could mean is massive alterations in distribution as well as in abundance, diversity and quality of the marine catches. In 2012, Pakistan launched a failed attempt at charting national climate change policy to maintain the marine ecosystem and fish habitats but due to lack of finance and seriousness on part of government, the desired results could not be achieved.

Box C. Hazards of Bottom Trawling

Bottom trawling is commonly practiced in Pakistan, despite the clear-cut ban placed by Fisheries Development Board and Ministry of Maritime Affairs. What happens is that these large industrial trawlers are equipped with huge nets attached to heavy ballasts like anchors that drag along the sea beds, gathering and destroying everything in its way from aquatic plants and juvenile fish. Several precious fish species get caught in its way and return dead onto the shore, from where they are picked up and sold to fishmeal plants. This is equivalent to 70 percent in case of Pakistan.

Another important factor which is often overlooked is that this method sometime disturbs the sediment patched onto the sea beds. This creates a muddy water that is sometimes poisonous to the marine. life residing in that zone. It is specifically this area, where water bodies go down to relax and breed which naturally helps in multiplying the biodiversity into hundreds of thousands of creatures.





CALL FOR ACTION - POLICY RECOMMENDATIONS

Aquaculture Fish Farming in Sea – Self-sufficient energy systems where fish breeding in arenas depends on food from sea instead of on fishmeal.

In order to fully utilize the potential benefits Pakistan's economy could gain from free trade agreements such as the one signed with China, the government would have to address the various hurdles and problems faced by firms operating in the fishing industry.

After interviewing the various businesses that catch, produce, process and export fish in Pakistan, the Economic Council recommends a broad long-term vision for the fishing industry in the shape of a comprehensive and coherent policy framework:

1. Financing Fish Export Development Schemes

- Provide targeted finance to enable sustainable growth in the export sector.
- Enable space for low-taxed investments in the industry.
- A scheme to finance development of local and cost-effective cultivation of soybean will serve as ideal replacement for fishmeal.

2. Building Capacity of Educational Institutes to Improve Skills of Workforce

- Establishment of vocational training centers close to important production and processing sites. Currently, Sindh has few centers in Chilya and Sukkarin and Punjab has a dedicated Fisheries Research and Training Centre at Manawan. However, the Marine Fisheries Centre constructed in Gawadar has yet to be commissioned.
- Well-researched curricula that connects content with the strategic needs of the industry.
- Focused trainings on aquaculture, value-added processing, and quality control.
- Field-based training programs that offer fish catching simulations will stir up innovation provided government offers grants with the help of private sector

3. Sanitary Measures

- Improvement of sanitary controls in the fishing value chain. Effective mechanism should be placed to ensure clean or chlorinated water is used to wash equipment after processing is completed.
- Setting up of high-quality laboratories that issue internationally recognized accreditation.

4. Sustainable catching practices

- Restrict fishing in breeding seasons and areas with high population of juvenile fish. Governments should impose temporary sanctions and controls on fishing depleted fish stocks like those of HS303 and HS306.
- Harmful types of fishing gear must be barred to ensure that livelihoods of communities living along the coastal belt are protected.
- Limit growth of vessels through by putting in place a well-articulated licensing plan as this will systematically reduce overcapacity of juvenile fish caught. Alternatively, a system for real-time tracking of fishing activities should be designed by federal agencies in coordination with their provincial counterparts.

5. National Action Plan to Regulate Fishing

- Clear set of rules to filter off all illegal and unregulated fishing activities which has paved way for unwanted predator fish to grow in numbers, affecting breeding stock of commercially important fish.
- Formation of vigilance team in Sindh comprising of local dwellers and police patrol vessels for systematic monitoring of the coastal line within the 12 nautical miles radius
- Pakistan Maritime Security Authority (PMSA) is well-renowned for enforcing and protecting the federal waters and provincial fisheries. The PMSA should align with the authorities to boost capacity handling of coastal waters

6. Structuring Database and Aligning Research to Meet Consumer Demand

- Season-wise detailed information on all types of fish species caught at marine coastal belt and inland sources as well through production in aquaculture farms (not just annual production totals)
- Timely update of stock status and existing fishing gear types.
- Establishing of research think-tanks to gauge the effectiveness and fairness of budget allocation to fisheries in all four provinces. The same should explore best international practices on fisheries management and fishing

methods as adopted by regional competitors like India, Bangladesh and Vietnam.

- The policies of the National Science, Technology and Innovation Policy is unaligned with goals of the FDB which observes independent plans and development without coordination with provincial or territorial fisheries departments will improve research and help in better decision making.

7. Upgrading Post-Harvest Facilities and Infrastructure

- Landing sites and chilling units need a thorough reviewal by the fisheries authorities and provincial governments.
- A culture of stakeholder participation in decision-making on resource management needs to be created. These stakeholders are intrinsically connected with communities and so by involving stakeholders, could mean that various local opportunities which otherwise remain hidden shall surface.
- Korangi Harbor of Karachi remains underutilized and as a result not serving its construction purpose. The substandard landing facilities such as poor electricity, handling and water available there is prime reason why Karachi Fishing Harbor remains heavily congested today. The processors need to adopt modern management methods such as Hazard Analysis and Critical Control Point (HACCP), which is a food safety management system. This will ensure that not only marginal costs are covered but fisheries make profits by forwarding quality processed fish export market.

8. Ease Licensing for Export Quality Tuna (HS303) Processing in Pakistan

- The tuna which is caught in the Exclusive Economic Zones beyond the 12 nautical miles radius has Iran Ports near it but it is difficult to land products at Iranian ports. Alternatively, if licensing is eased, then vessel operators can divert all the tuna processing to Pakistani fish

processing units to ready it for export to EU markets.

9. Creating Stronger International Coordination Between Fisheries Authorities and Getting Ahead in Competition

- A survey of the Commonwealth domain reveals that a well-established coordinated seafood supply alliance between domestic buyers and those existing in EU is weak. This is imperative in correctly identifying consumer preference and matching with Pakistan's resource-rich waters, so that exports could be increased in that direction. The National Fisheries Development Board must play a domineering role if this plan is to succeed.
- A well-established liaison with foreign fisheries could attract FDI which in turn could help improve the 127th Information and Communication Technology (ICT) ranking of Pakistan (World Bank, 2019). Once technological readiness lifts off, it will positively affect fishing technology and government can facilitate the private sector in capturing this capital for investment by consolidating links with international markets.

10. Strategic Environmental Assessment to Spur Aquaculture

- The National Fisheries Development Board, and Provincial Fisheries should engage with key stakeholders such as farmers, corporations and environmental protection agencies in a high-level national meeting to lay out a plan of creating zoning options. Correct sites for aquaculture should be identified with the help of existing data collection technology. In this regard, international donation and technical assistance from China would greatly help.
- To ensure the success of this zoning and licensing plan, at minimal cost to the business community, roles should be clearly laid down for all levels of involvement across federal and provincial organizations. Care must be taken that social conflicts and environmental externalities are also minimized through such efforts then only can a

globally competitiveness aquaculture sector spring up.

11. Technology Upgradation through Blue Revolution

- As the Govt. of Pakistan aspires to accelerate plans for blue revolution, it could seek help of the Chinese in meeting the following objectives which must be made an intrinsic part of the policy: establishment of seed hatcheries after correct identification of location; agro-pods or fish cages could be built in the Arabian sea off Gawadar Port; mills for processing quality fish feed with a larger share of soybeans and lesser of fishmeal (which is made of wasted dead fish collected from shores); new fish ponds can be created in unused land where there is salt or silt ■

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