**Contribution of Fish Production and Trade to the Economy of Pakistan**

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International Journal of Marine Science, 2015, Vol.5, No.18  doi: 10.5376/ijms.2015.05.0018

Accepted: 20 Jan., 2015
Published: 19 Mar., 2015

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Preferred citation for this article:
Mohsin et al., 2015, Contribution of Fish Production and Trade to the Economy of Pakistan, International Journal of Marine Science, Vol.5, No.18 1–7 (doi: 10.5376/ijms.2015.05.0018)

**Abstract**

Pakistani waters are rich in a variety of aquatic organisms. Of those organisms, fish has earned its importance due to its immense export and revenue potential. In fact, exports and imports of a country serve as an indicator of its economic standing. There are two schools of thoughts for boosting a country’s economy. One is export led growth (ELG) and the other import led growth (ILG). The objective of this study was to investigate trend of fish production, export and import of Pakistan during the last two decades. Extensive review of literature was done; numerical data was obtained from FAO Fisheries and Aquaculture Department. Minitab 17 Software was used to make graphs for meaningful data representation. The results show that fish production has increased in Pakistan during the last two decades starting from 22,255 tons in 1991 and reaching up to 82,448 tons in 2010. During this period highest production, 93,820 tons, was observed in 1994. Both the fish commodities, dried, salted or smoked and frozen excluding fillets and meat, also have increased in their production; however the production of latter commodity surpassed during the last five years of our study. Export in terms of quantity and value of the former fish commodity declined while the latter commodity increased during the same period. Import figures have shown that there is an increasing trend in the import of the latter fish commodity reflecting its potential demand in Pakistan. This study has highlighted the contribution of fisheries production and trade to Pakistan’s economy. By paying more attention to fisheries sector, the country’s production and export of fish and fishery products can be increased, and the country’s economy as a whole can be boosted.

**Keywords**

Fish commodity; Economy; Import; Export; Trade flow; Pakistan

**Introduction**

In contrast to the past, agriculture has become an integral part of any country’s policy for economic development (Bruinsma, 2003). Among various agricultural products fish is the most valuable commodity. There is an increasing trend in its international trade. It is very interesting that, annual sales of this commodity are around 80 billion USD and this value is increasing each year (FAO, 2006a). In developing countries, fish exports are an important source of foreign revenue. Not only fisheries contribute to national income but also help to eliminate poverty by offering more employment opportunities (FAO, 2006b).

It has been observed that there is rapid growth in fisheries sector employment particularly in Asia where majority, more than 80 percent, of the world’s fisher folk live (FAO, 1998). This trend is obviously due to the fact that fish including its products serve as food and also over a billion humans thrive on it to get their animal protein.

Fisheries play an important role in the economy of Pakistan by employing 400,000 people directly and another 600,000 in the ancillary industries (Ebrahim, 2014). With a coast line of 1046 km (Pernetta, 1993) Pakistani marine as well as inland waters hold a large variety of aquatic animals. This aquatic diversity includes various species of fish, crustacea and molluscs. It is noted that a number of different types of aquatic animals are found along side of Makran coast (Gondal et al., 2012). Marine fisheries sector in Pakistan fisheries plays a vital role in national economy by adding value to the agricultural sector. The GDP contribution of agricultural sector of Pakistan was 17300 million USD in 2006 and while fisheries GDP contribution was 232.5 million USD. Among marine and inland sectors, the former is the main sector contributing nearly 60 % of the total fish production. Deep water fish capture in Pakistan from exclusive economic zone (EEZ) contributed 1.3 % to total marine capture (FAO, 2009).
The inland production is low despite having immense potential. This decreased production is a result of insufficient knowledge, lack of fishing gears and lack of skillful and motivated manpower (Nazir et al., 2014). Indus River, along its tributaries, is the main capture point of freshwater fish. Inland fish capture is mainly from rivers and reservoirs. It contributes more than 80% of the fish from fresh water inland environment. To promote fisheries sector, six large reservoirs have been created, spanning in an area of 250,000 ha. Definitely all of these efforts are for the improvement in fisheries sector thus strengthening agriculture (FAO, 2009).

It has become the fact that countries neglecting expansion in agriculture cannot boost their economy. There exists a close connection between agriculture growth and economic upliftment. High agricultural growth ensures high economic development and vice versa (Timmer, 2002). In fact when agriculture sector improves, automatically export increases, thus revenue start to climb. A study has shown that countries with high growth showed rapid increase in their exports which ultimately depend upon production. Export oriented strategy is better than import substitution strategy. Thus import and export are valuable indicators of a country’s economic status particularly in specific sector, they portrait overall picture that depict economic standing (http://www.investopedia.com).

There are many studies which highlight fisheries sector (Akhter, 1995; Sarfraz, 2009; Shahid, 2012) but don’t portrait their economic importance and contribution. This is the pivotal study which links fisheries sector production to its economic importance. The project objectives were to collect information regarding contribution of fisheries sector in agriculture and import and export values for economic analysis and to draw meaningful conclusion.

1 Material and Methods

An extensive review of literature related to fisheries sector as well as import and export impact on the economy of Pakistan was explored to gain full insight into the project objectives. To encounter limited data situation all possible options were employed. Online available websites displaying reports, research papers, data papers or short communications were thoroughly studied. The principal data was collected from FAO Fisheries and Aquaculture Department website (http://www.fao.org). The Country’s Govt. fisheries reports and publications or journals were also used for data mining. Related information was also collected from concerned departments such as Ministry of Food, Agriculture and Livestock (MinFAL) and Marine Fisheries Department (MFD). For meaningful representation of the data Minitab 17 was used to construct graphs.

2 Results

This study found that overall production of fish and its products have increased many times during the last two decades in Pakistan. During the first three years of this study, 1991 to 1993, the production of fish and its products increased very much. In 1991 there was a production of 22,255 tons while it reached up to 76,910 tons in 1993. However rapid increase in this sector could not continue and for the next two years, 1994 and 1995, the production decreased. There remained a general trend of increased production from 1996 to 2004 with a production value of 67,479 tons in the former year and 93,820 tons in the latter year. The production quantity in 2004 was the largest among all the years studied however in the next year, 2005, it again declined with a production value of 74,419 tons. The last five years showed gradual increase in production with a value of 82,448 tons in 2010 (Figure 1).

In Pakistan among various types of fish, the two most produced commodities are dried, salted or smoked fish and frozen fish excluding fillets and meat. Both of these types have increased in their production during the last two decades. It is very vivid that in 1991, the production quantity of the former commodity was 13,077 tons which increased and reached up to 40,941 tons in 1993. After declining to 31,585 tons in 1995 it again started to boom and reached at its peak in 2004 with a production quantity of 55,737 tons. During this period there remained a slump in dried, salted or smoked fish production in 2001 with a production quantity of 43,783 tons. Major fall in the production occurred in 2005 (32,278 tons) but next years showed gradual increase in the production up to 2010 (36,868 tons). Frozen fish production almost followed the same pattern as described for former commodity. However its production showed rapid decline during 1994 (16,187 tons) then again it rose up during 1996-97. From 1998 (25,461 tons), there was an increasing trend in the production up to 2010 (45,580 tons) (Figure 2).
Figure 1: Total Fish Production (including products) during last Two decades in Pakistan
Note: Source: FAO Fisheries and Aquaculture Department

Figure 2: Production of different types of Fish during last Two Decades in Pakistan
Note: Source: FAO Fisheries and Aquaculture Department

Export quantity and revenue generated by fish (dried, salted or smoked) both have shown declining trend during the last two decades. With an export quantity of 19,964 tons, this commodity contributed 18.194 million USD to our national income. There existed an increased trend in export as well as in national earnings up to 1993. In this year export value climbed up to 26,247 tons, adding 21.436 million USD to revenue. Next two years showed decreased export reaching at 19,511 tons (21.346 million USD) in 1995, however there remained increase in export in next two years but again it suddenly dropped down to 16,915 tons (14.677 million USD) in 1998. Period from 1999 to 2002...
proved to be very good for export and brought a lot of revenue. During the next two years export dropped up to 12,500 tons (6.472 million USD) in 2004. Again it rose up and reached at 17,359 tons (13.579 million USD) in 2008. In 2009 and 2010, the exports remained very low i.e. 9,910 tons (10.998 million USD) and 12,377 tons (17.857 million USD) correspondingly (Figure 3).

Figure 3: Export Quantity and Value of Fish (Dried, Salted or Smoked) during last Two decades in Pakistan
Note: Source: FAO Fisheries and Aquaculture Department

Import of fish (dried, salted or smoked) has been negligible during the past two decades. However, during 2003 and 2004 the import quantity remained 80 tons (0.037 million USD) and 222 tons (0.082 million USD) respectively. The coming years up to 2010 did not showed any significant trend in import. It is worthwhile to note that during the same years (2003 and 2004) when export decreased there was an increase in import of this fish commodity (Figure 4).

Figure 4: Import Quantity and Value of Fish (Dried, Salted or Smoked) during last Two Decades in Pakistan
Note: Source: FAO Fisheries and Aquaculture Department
It has been found that there is an increasing trend in the export of fish (frozen, excluding fillets and meat) during the last two decades in Pakistan. In 1991 export remained 8,021 tons (11.549 million USD) and it increased in coming years reaching at 36,034 (76.207 million USD) in 1993. During the following years, export of this commodity dropped to 18,065 tons (25.655 million USD) in 1995. Beginning from 1996 to 2006 almost gradual increase in export was observed shifting export from 19,193 tons (22.738 million USD) to 86,417 tons (111.588 million USD) correspondingly. Export again dropped (70,439 tons, 84.972 million USD) in the next year. Coming years showed fluctuated export quantity (Figure 5).

![Figure 5: Export Quantity and Value of Fish (Frozen excluding Fillets and Meat) during last Two Decades in Pakistan](image)

Note: Source: FAO Fisheries and Aquaculture Department

Data analyzed showed that in the second decade there started a trend in the import of fish (frozen, excluding fillets and meat) commodity. Years from 1998 to 2007 showed rapid increase in import. The import quantity during the year 2004 was 42 tons (0.099 million USD) and it reached at 2,069 tons (1.747 million USD) in 2007. Coming years showed declining trend with an import quantity of 535 tons (1.022 million USD) in 2010 (Figure 6).

![Figure 6: Import Quantity and Value of Fish (Frozen including Fillets and Meat) during last Two decades in Pakistan](image)

Note: Source: FAO Fisheries and Aquaculture Department
3 Discussion
Debate over a true affiliation between trade and economy of a country has always been a hot topic for economists. This quest started in late 70’s (Michaely, 1977). Various views, opinions and conclusions have been drawn to fully portray link between them. It is a proven fact that there exists close relationship between exports, imports and the economy of country. Many purpose oriented studies to evaluate this association ended with a conclusion that countries having a large volume of exports grow faster than those with smaller export volume (Marin, 1992; Thornton, 1996). One model concluded that increased international trade increases the number of inputs and hence boost up the growth (Romer, 1990). Generally growth in export is considered to be the main factor indicating production and employment growth in a country. This assumption is called export-led growth (ELG). Explaining ELG we say that if there is increased foreign trade then there is an expansion in the production and employment. Increased trade means increased foreign exchange that obviously allows importing capital goods leading to enhance the production potential. When production increases it accelerates technical progress in production, so concluding a relation between exports and production growth (Edwards, 1998).

There is another alternative, instead of ELG, for boosting up the economy called import-led growth (ILG). As the name implies, it is the increase in economy growth by enhancing imports. However, most studies give preference to ELG over ILG. There are some who think positively about ILG. Their view is that imports have long term impact on the economy of a country. By imports not only the technology is transferred from other countries but also growth promoting foreign R & D is accessed (Coe and Helpman, 1995; Mazumdar, 2000).

In Pakistan there has been an increased trend in the awareness about the trade and its potential impacts on economy. That is why various governmental and private organizations are striving for better economy by improving trade. During the last two decades there has been decline in export quantity of fish (dried, salted or smoked) lowering the revenue generated by this commodity. However increase in the export quantity of fish (frozen, excluding fillets and meat) has been observed. For both of the fish commodities there was a decline in the export quantity during the period between 2003 and 2010. The main reason for this diminished export was ban on the purchase of seafood imposed by EU market. The world economic downfall from the start of the 2000 caused severe effects on the trade of Pakistan. There has been an increased trend in the import of fish (dried and frozen) during this period. The decrease in export of fish (dried) and increase in export is due to multiple factor in addition to the world economy slump (MinFAL). The hunt of increased profit and earning profits on import are two main factors responsible for this. By exporting fish commodity companies earn a lot of money and by importing and selling at higher price in their own country bring additional profit.

Furthermore this vicious trend is also due to the fact that our water (particularly marine) has been exploited extensively for fisheries capture to earn more and more money. Every year capture of fishes exceeding the MYS value have resulted in the less genetic diversity of fish populations as well as low catch per effort ratio (MFD). The correct recording of data representing original catch and status of fish is also questionable in Pakistan. Combating these shortcomings and removing such deficiencies shall definitely a promising step towards a prosperous Pakistan.

4 Conclusion
This study highlighted fisheries production and its trade trend over the last two decades. This agricultural commodity can be proved very good for boosting our economy. Despite of various efforts there is much to be improved in this agricultural sector. Many groups including MinFAL, FAO, MFD, SMEDA and various NGO’s are working for a common goal. However there are many problems to which government should find a solution. By increasing export and promoting this sector we can enhance our economy.

Acknowledgement
The first author is thankful to Chinese Scholarship Council (CSC) for funding his PhD Degree. This work was supported by the earmarked fund for Modern Agro-industry Technology Research System of China and special research fund of Ocean University of China. Authors are also thankful to FAO and MFD for data procurement.
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