

PAPER DETAILS

TITLE: Türkiye Ekonomisinde Su Ürünleri Sektörü ve Su Ürünlerinin Pazarlanması

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PAGES: 265-272

ORIGINAL PDF URL: <https://dergipark.org.tr/tr/download/article-file/18086>

FISHERIES SECTOR IN TURKISH ECONOMY AND MARKETING OF FISHERY PRODUCTS

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Accepted 30 December 2008

Abstract

Turkey with aspect of its seas and fresh water resources is one of the advantageous countries on the world in terms of fishery production. Fishery production makes substantial contribution to employment and GNP; therefore, it has the significant importance in Turkish economy due to its role in domestic and foreign markets. However, despite the fact that Turkey has extremely appropriate conditions especially in culture fisheries, its share in Turkish economy due to mainly caused problems related to marketing is lower than it would be. It is hard to say that fishery production can get the desired share from the national income due to the problems caused by marketing. In fact, while marketing circumstances, which are one of the most important problems in marketing, causing issues like in hunting, stock farming, processing and quality control, it also has trouble its train in marketing phases like warehousing and transportation. Especially solving the marketing problems of fishery production in Turkey will enable to increase in contribution to employment, export opportunities as well adequate consumption of fishery products. In this study, the place and importance of fishery products in Turkish Economy have been analysed. Moreover, the positive and negative impacts of current distribution channels in domestic and foreign trade were examined. Based on the finding of the study, it was concluded that establishing modern marketing system is essential at the distributional channel especially producers, manufacturers, workers and consumers levels. Another finding of the study is that while the results of implementation of legal arrangements have been ascertained there has not been any important progress in sectors integration of acquits communitarian into future member's state of EU.

Keywords: Marketing, Fishery Products, Adaptation Process to EU

Türkiye Ekonomisinde Su Ürünleri Sektörü ve Su Ürünlerinin Pazarlanması

Özet

Türkiye, deniz ve tatlı su kaynakları yönüyle su ürünleri üretimi açısından Dünyadaki avantajlı ülkelerden biridir. Gerek iç tüketimde gerekse dışsatımda büyük önem taşıyan balıkçılığın ulusal gelire ve istihdama olan katkısı ise tartışılmazdır. Ancak, özellikle kültür balıkçılığında son derece uygun koşullara sahip olmasına karşın, Türkiye su ürünleri üreticilerinin pazarlamadan kaynaklanan sorunlar nedeniyle, ulusal gelirden istenilen payı alabildiğini söylemek zordur. Nitekim pazarlamadaki en önemli sorunlardan birisi olan dağıtım pazarlama şartları, avcılık, yetiştiricilik, işleme ve kalite kontrolde çeşitli sorunlar yarattığı gibi pazarlamanın depolama, nakliye gibi aşamalarında da bazı olumsuzlukları beraberinde getirmektedir. Oysa Türkiye'deki su ürünleri üretim potansiyeline bağlı olarak üretim miktarının artırılması ile ülkemiz ekonomisine üretim, istihdam ve yüksek ihracat olanaklarıyla katkı sağlanması yanı sıra, bireylerin sağlıklı beslenme düzeyi de artırılabilir. Bu araştırmada su ürünleri sektörünün Türk Ekonomisindeki yeri ve önemi incelenmiş, mevcut dağıtım kanallarının su ürünleri iç ve dış ticaretine ve işleyişe getirdiği olumlu ve olumsuz yanlar ortaya konulmaya çalışılmıştır. Araştırmada, su ürünleri pazarlamasında üreticiler, tüketiciler ve sektörde çalışanlar açısından modern bir pazarlama sisteminin oluşturulması gerektiği ortaya çıkmıştır. Yasal düzenlemelerin uygulama sonuçları tespit edilip, aksayan yönleri tartışılırken sektörün AB müktesebatına uyumda henüz önemli bir ilerleme kaydedemediği saptanmıştır.

Anahtar Kelimeler: Pazarlama, Su Ürünleri, AB Uyum Süreci

1. Introduction

Increasing world population, reached to above 6 billion in twenties, has causing alimentionation problems together. Therefore,

marketing of aquatic food and quality protection has become worldwide important subject recently.

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Fish culture and capture were included to aquaculture industry (Saygı et al., 2006). Fish consumption is an undoubted concern in human alimentation and health care. In developing countries, including Turkey, encouragements on aquatic production to prevent from malnutrition is still inefficient. Indeed while per-capita fish consumption is 16 kg and 23 kg in the world and Europe this value in Turkey is about only 8.9 kg (TFS, 2006).

In order to provide healthy human living, the food and resource environment should also be suitable. In order to healthy living, it is crucial that foods should not contain residues and free from diseases. Moreover, environmental conditions should be appropriate for healthy living. (Savas, 2002). In recent years, several studies regarding to reliable aquatic food supply was realized. These studies resulted in sanctions comprising all countries in the world. Otherwise, as it happened in 1998 with EU, some limitations could be promulgating in aquatic products commerce. In that case, Turkey as an exporter country could be affected negatively from such situation (Turkyilmaz and Hasaltuntas, 2003).

On the other hand, the law of aquaculture, number 1380, has serious precautions on fish health exist in Turkey. The mentioned act includes quarantine, health certificates, hygiene control of markets and some prohibitions on marketing of infected aquatic products. It is substantially important to know the period of purification for infected fish manipulated with antibiotics before it is supplied to the markets.

Aquatic products are important not only in terms of alimentation but also in terms of financial incomes for developing countries. Export quantities and value of aquatic products in Turkey for the year 2006 was realized as about 48.5 million tones and 280 million \$, respectively (TFS, 2006). This industry has also a great concern of its relations with food industry and tourism sectors. Although the appropriate surface area for aquaculture production is above 26 million hectares this industry is still far off the production targets (Celikkale et al.,

1999; Yenigun et al., 2001; Dogan, 2003a; Aydın et al., 2005).

2. Material and Method

In this study, it was aimed to analyze the production, marketing, international trade, food safety and related problems of fishery sector in Turkey. The leading material of the study was collected from numerous public and governmental sources such as Ministry of Agriculture and Rural Affairs, Food and Agriculture Organization (FAO), EUROSTAT, TFS, FTS. Moreover, several reports, published and unpublished articles were used.

3. Results and Discussion

3.1. Aquaculture industry and its importance in Turkish Economy

Aquatic products have a great importance in Turkish economy because of its contribution to human alimentation, materials supplying to other industries, providing employment opportunities and significant export income. Moreover it is one of the most important four basic components of agriculture industry. Even the share of agricultural sector in GNP has been declining it has significant importance in Turkish economy. For instance, while the share of agricultural export was 15.6% in 1995 it was declined to 4.7% in 2006. On the other hand, about 10 % of GDP and about 29 % of total employment are created in agricultural sector (World Bank Group, Gender Stats, 2008). Agricultural sector in Turkey as well as many countries keeps its characteristic of being economical and social sector. It concerns whole country's community in terms of forming and protection of the healthy environment, setting and sustainability of the balance in addition to its direct concern of nutrition, high rate in active population and employment, providing raw material and capital to mainly manufacturing sector.

On the other hand Turkey with its seas and suitable climate conditions has the

best opportunity to improve aquaculture industry. In spite of this potential and the developments realized recently targeted benefits from this industry have not been reached yet. The proportion of aquatic products in GNP also increased due to increase in production by aquaculture and fisheries. Therefore, the added values also showed an increase but not in sufficient levels (Dogan, 2003b).

As of 2004, the aquatic production in the world was about 140 million tones and only 0.4 % (551000 tones) of this was from Turkey. China, EU, and Peru are major aquatic producer countries in the world. Turkey ranked at the 32nd place in fisheries and 26th in aquaculture in terms of the production in the world.

In Turkey, there are 98787 fisheries companies and 92 % of these companies engaged in aquatic production in the sea while 8 % of these in inland waters (The Ministry of Agriculture and Rural Affairs, 2007).

Fisheries and aquaculture have great importance in economic activities and aquaculture sector has been growing rapidly. Since 1980 aquaculture industry and fisheries have grown at 8.8 % and 1.2 %, respectively. While the share of aquaculture production in total production in 1980 was 3.9 % it showed a tremendous increase and reached to 32.4 % in 2004 (FAO, 2006).

The total production of aquaculture (2.5 % of the world total production) in EU countries comes from Spain, France, Italy and Greece. Spain is ranked at the first place among the EU countries, followed by Denmark, France and UK (EUROSTAT, 2006). The EU countries are situated at the

first place in rainbow trout, sea bream, sea bass, European eel, turbot and mussel production while Turkey has the fifth place in production of sea bass and sea bream culture.

Although the contribution of fishery sector to GNP in the developed countries is highly significant it is less than 1 % in EU. It is still critically important in terms of employment source to the regions where alternatives are limited. Fisheries aquaculture production of EU comes after China with 6.2 million tones in the world.

In Turkey, the total production for the year 2006 was realized as 662000 tones which 81 % of this (533000 tones) comes from fisheries and 19 % (129000 tones) from aquaculture. The 62 % of the total production obtained from fisheries comes from marine fish, 12 % from other marine organisms and 7 % from inland waters (Table 1).

In 2006, marine production of Turkey showed an increase about 28.5 % compared to previous year and reached to 489000 tones.

In 2006, marine and inland production showed an increase about 28.5 % and 4.4%, respectively, compared to previous year and reached to 489000 and 44000 tones.

Among high prize marine fish mackerel, bluefish sardine and horse mackerel follows anchovy that has a 270000 tones production.

Both marine and inland aquaculture production in 2006 showed a 9 % increase compared to the previous year and reached to 129000 tones. The 44 % of the production from aquaculture was realized in inland waters while 56 % of this in marine waters.

Table 1. Trends of Aquatic Products in Turkey (Tones, %).

| Years | Fish | | Freshwater | | Culture | | Others | | Total | |
|-------|----------|------|------------|-----|----------|------|----------|------|----------|-------|
| | Quantity | % | Quantity | % | Quantity | % | Quantity | % | Quantity | % |
| 2000 | 510000 | 80.2 | 50190 | 7.8 | 63000 | 9.9 | 13634 | 2.1 | 636824 | 100.0 |
| 2001 | 441690 | 76.0 | 42824 | 7.3 | 79031 | 13.6 | 18831 | 3.1 | 582376 | 100.0 |
| 2002 | 465180 | 78.3 | 43323 | 7.2 | 67244 | 11.3 | 19230 | 3.2 | 594977 | 100.0 |
| 2003 | 493446 | 79.0 | 43938 | 6.8 | 61165 | 9.7 | 29298 | 4.5 | 627847 | 100.0 |
| 2004 | 416126 | 70.9 | 44698 | 7.7 | 79943 | 13.6 | 46948 | 7.8 | 587715 | 100.0 |
| 2005 | 456752 | 70.8 | 45585 | 7.0 | 94010 | 14.7 | 48145 | 7.5 | 644492 | 100.0 |
| 2006 | 409778 | 61.9 | 44354 | 6.7 | 129100 | 19.5 | 78778 | 11.9 | 662010 | 100.0 |

Reference: TFS, 2008.

During the same year, aquaculture production in marine and inland showed 16.6 % and 3.7 % increases, respectively. Turkey with 1159 inland and 311 marine fish farms has an annually 148760 tones production capacity. Although cultured species differ depend on market conditions and demands rainbow trout cultured 43.5 % in inland waters sea bass and sea bream cultured 29.8 % and 22.1 % in marine waters, respectively (TFS, 2008).

Black Sea is ranked at the first place in contributing to total production of Turkey because of the anchovy captured and followed by Marmara, Aegean and Mediterranean regions (Table 2).

Aquaculture industry contributes to economy not only with increasing production capacity but also with high export opportunities. Export and import of agricultural and fisheries sectors were presented in Table 3 during the period of 2000-2007.

3.2. Marketing of aquatic products

Marketing is directly related to production and is a very important tool for

contribution of production for national economy. However, the product to be marketed should be observed from the production stage to marketing stage in order to prevent losses and protect the quality. Due to easily perishable characteristics of aquatic products, distribution channels should be organized appropriately in order to preserve the product quality.

Assessment of aquatic products in domestic consumption causes losses at the processing and exportation stages. In this sense products must be possessed according to standards, variety, quality and quantities determined by domestic and foreign markets. Production must be integrated according to modern country norms. Aquatic products are presented to consumption by markets and processing facilities. Still in Black Sea region 56, in Marmara 49, in Aegean 44 and Mediterranean 16 boarding-houses are exist. In addition to these, 163 processing facilities and 10 municipal markets are existed in Turkey (The Ministry of Agriculture and Rural Affairs, 2007). As it could be seen from Table 4, all of the other companies, except 28 of these facilities, export products to EU countries.

Table 2. Regional Distribution of Marine Production in Turkey (%).

| Years | Black Sea | | | Marmara | Aegean | Mediterranean | Total |
|-------|-----------|------|-------|---------|--------|---------------|-------|
| | East | West | Total | | | | |
| 2000 | 56.0 | 22.0 | 78.0 | 10.0 | 9.0 | 3.0 | 100.0 |
| 2001 | 46.5 | 26.5 | 73.0 | 15.0 | 9.0 | 3.0 | 100.0 |
| 2002 | 51.0 | 26.4 | 77.4 | 13.8 | 6.6 | 2.2 | 100.0 |
| 2003 | 49.2 | 25.7 | 74.9 | 14.7 | 7.6 | 2.8 | 100.0 |
| 2004 | 51.0 | 25.8 | 76.8 | 13.3 | 7.4 | 2.5 | 100.0 |
| 2005 | 51.1 | 18.8 | 69.9 | 13.4 | 11.6 | 5.1 | 100.0 |

Reference: TFS, 2008.

Table 3. Export and Import Values of Turkish Fishery Sector (Million \$) (Usss, 3. Rev.).

| Years | Export | | | Import | | |
|-------|--------------------------|-----------|-----------------------------|--------------------------|-----------|-----------------------------|
| | Agriculture and forestry | Fisheries | Percentage of Fisheries (%) | Agriculture and forestry | Fisheries | Percentage of Fisheries (%) |
| 2000 | 1659 | 25 | 1.5 | 2123 | 2 | 0.09 |
| 2001 | 1976 | 30 | 1.6 | 1409 | 1 | 0.07 |
| 2002 | 1754 | 51 | 2.9 | 1703 | 1 | 0.06 |
| 2003 | 2121 | 81 | 3.8 | 2535 | 2 | 0.07 |
| 2004 | 2542 | 103 | 4.1 | 2757 | 8 | 0.29 |
| 2005 | 3329 | 140 | 4.2 | 2801 | 24 | 0.86 |
| 2006 | 3481 | 131 | 3.8 | 2902 | 33 | 1.14 |
| 2007 | 3724 | 158 | 4.3 | 4641 | 31 | 1.89 |

Reference: FTS, 2008.

Table 4. Distribution of Aquatic Products by Processing and Evaluation Facilities (%)

| Aquatic products processing facilities | Percentage |
|---|------------|
| Certified Fisheries products facilities | 61.9 |
| Certified Bivalve facilities with approval number | 5.5 |
| Processed frog and snail facilities | 7.9 |
| Fresh frog and snail facilities | 7.4 |
| Facilities with exportation permission to countries other than EU | 17.3 |
| Total | 100.0 |

Reference: The Ministry of Agriculture and Rural Affairs, 2007.

Still aquatic products marketing in municipal markets is organized and controlled by the act number 1580 under the municipal law. Moreover, aquatic products law number 1380 is also used to control movements of products to the mentioned markets. On the other hand, there is a regulation made from The Ministry of Agriculture and Rural Affairs about transferring captured products from ships to processing facilities. Beside these, aquatic products are marketed in small commerce points. Regional distribution of small commerce points in Turkey is presented in Table 5. As can be seen from this table, most of these points are located in the Marmara region and the rest are mainly in the Black Sea, Aegean, Mediterranean and Central Anatolian regions.

Istanbul has the biggest wholesale market in Turkey. Istanbul Metropolitan Municipality Fishery Market has annually 4500 tones capacity and it is significantly effective in domestic market and international trade. Istanbul is followed by Samsun Metropolitan Municipality Fishery Market Hall and Bandırma Municipality Fishery Market Hall (Table 6).

Table 5: Regional Distribution of Small Commerce Points in Turkey

| Regions | Selling points (number) | Percentage |
|----------------------|-------------------------|------------|
| Marmara | 786 | 30.2 |
| Aegean | 478 | 18.3 |
| Mediterranean | 343 | 13.2 |
| Black Sea | 503 | 19.3 |
| Central Anatolian | 338 | 13.0 |
| East Anatolian | 103 | 3.9 |
| South East Anatolian | 54 | 2.1 |
| Total | 2605 | 100.0 |

Reference: The Ministry of Agriculture and Rural Affairs, 2007.

Consumption of aquatic products in commerce centres also is not enough due to insufficient demand and some sectoral problems. The most important of these problems is centres. This makes difficult the transportation of these products to the consumers. According to the tradesmen, the problem can be solved if the commerce centres are situated near the sea and close to consumption regions. Thus, illegal marketing could be prevented and transportation problems can be significantly decreased. Findings of recent studies indicated that half the production is

Table 6. Commerce centres of aquatic products in Turkey and their capacities

| Aquatic products commerce centres | Capacity (tones/year) | Percentage |
|---|-----------------------|------------|
| Istanbul Metropolitan Municipality Fish. Mar. Hall | 45000 | 31.9 |
| Ankara Metropolitan Municipality Fish. Mar. Hall | 10000 | 7.1 |
| Izmir Metropolitan Municipality Fish. Mar. Hall | 8000 | 5.7 |
| Samsun Metropolitan Municipality Fish. Mar. Hall | 20000 | 14.2 |
| Bursa Metropolitan Municipality Fish. Mar. Hall | 10000 | 7.1 |
| Kocaeli Met. Munic. Fish. Mar. H. Izmit Fish. Mar. Hall | 8000 | 5.7 |
| Canakkale Municipality Fish. Mar. H. | 5000 | 3.5 |
| Trabzon Municipality Fish. Mar. H. | 10000 | 7.1 |
| Ordu Municipality Fish. Mar. H. | 10000 | 7.1 |
| Bandırma Municipality Fish. Mar. H. | 15000 | 10.6 |

Reference: The Ministry of Agriculture and Rural Affairs, 2007.

marketed illegally in Turkey (Ugur, 2006; Akyol and Percin, 2005).

Other problems faced in commerce centres are related with healthiness and hygienic conditions. According to fisherman, more control is needed on these matters. Other than these,

- Lack of presentation and promotion organizations,
- Instability of prices,
- Uncontrolled of illegal captures,
- Preservation problems are existing.

As a solution to these problems:

- Reinforcement of organizations that served the industry,
- Employing educated technical staff,
- Organizing aquaculture expositions,
- Activities to provoke aquatic products consumption,
- Preparing documentary programs to advertise aquatic products,
- Installations of regional fish markets.

These cautionary activities must be frequently repeated by Ministry of Agriculture, aquatic production confederations and fishery faculties.

In order to solve the problems of fishery sector and provide efficiency, 26th article of Fishery products law was launched, hence, Fishery Products Wholesale and Retail Trade Place Regulations came into effect 19 June 2002. With this act, published on date 14 July 2004 in number 25522; sensitive subjects of fishery sector such as “Infrastructure, Physical, Technical and Hygienic Circumstances of Fishery Market Hall” and “Installation, Working Permits and Product Sales of Fishery Wholesale Center” were particularly determined. This act also important in terms of adjustment of Turkish fishery sector to EU fishery sector, which is the 13th headline of EU consultations (Anonymous, 2002; 2004; 2007).

However, arrangements on these acts usually are made considering marketing chains, their operating systems, technical and hygienic conditions not including any intervention elements.

According to the act, the product length standards must be agreeable with capture prohibition act length standards. Marketing of products with lengths smaller than the determined length by the law must be prohibited. Size standards are usually concordant to EU standards. On the other hand, when products supplied to the markets have limitations for consumption or in the case of intervention needed these products are sequestered according to the act 38 of the law 1380 (the law of aquatic products). In respect of the prepared report, these products are destroyed. Juridical procedure is applied for the responsible of these activities.

Although a marketing information collecting system exists in Turkey this system is not compatible to EU system. The mentioned system stipulates giving information to authorities about the products before supplying to market at the continental delivery points. Nevertheless, marketing information is collected from fish markets and commerce points in Turkey. Although, the Ministry of Agriculture and Rural Affairs rules that the new started Journal System ensure recordings at the arrival to the continental delivery points when fishing boats larger than 12 m, a central price reference regime is still incomplete in Turkey.

A positive activity for industry development is the start of a Project on EU Conformity act by The Ministry of Agriculture and Rural Affairs. The Project has been carried out by the Directorship of Protection and Control beginning from the end of the year 2006, aiming the ultra structural and legislative concordance of fisheries industry to the EU. The project supported by the EU with 6.2 million Euro budget and started at 10/01/2005 and at the first step, it stipulates the legislative concordance.

In this scope, 4 fisheries and aquaculture related units already under the Ministry of Agriculture and Rural Affairs will be conjoined to new units to reform the “Directorship of Aquaculture”. Therefore the act of aquaculture will also be renewed. The act gives authority to put quotas on

captured quantities, documentation the captured products arrive to the continental points and classification of these points.

The scope of this project includes the enforcement of the fisheries organizations as well as amelioration of the wholesalers. With all these activities, a significant contribution to increase production and in providing employment opportunities are expected. In this sense, the municipal authorities and governorships are recommended to give all the needed support.

However, still a visible improvement in adapting the act to the Acquits is not achieved and started to practice the acquits on resource and shipping management, control, structural activities, price support regimes and governmental supports. Problems originated from the dispersed structure of the managerial structure and fisheries authorities among several ministries are still not solved.

New aquaculture frame law depending on this many acts is needed to be legislated in order to increase aquaculture potential and evoke the industry. The managerial capacity of The Ministry of Agriculture and Rural Affairs and the Coastal Guard authorities should be enforced especially in terms of controlling shipment records and ship observation systems must be combined and natural fish stock determination works must be conducted. The most important, aquaculture directories with functional and qualified staff must be established. The governor mechanism should follow stable and powerful supportive strategies. Moreover, records of fisheries and aquaculture activities should be ameliorated. In marketing strategies area, the government has limited intervention on demand; price and withdrawal products form the market.

Turkey should improve the general marketing system related to fish and fisheries products. A system in wholesaler markets to betray the captured and marketed fish have not developed yet. Managerial savings and investments have also not reached their purposes because of unreliable data.

4. Conclusion

Although Turkey has appropriate conditions for fish culture because of its substantial natural resources, the lack of interest on the industry and major problems are still exist in this sector.

One of these problems, the dispersed marketing conditions creates problems in fisheries, aquaculture, processing and quality control areas of this industry and also storage and transportation stages of the marketing.

In the concordance period to EU, as it is in many other areas, reorganization and enforcement of organizations and amelioration of wholesaler markets in aquaculture are also current issues. Thus, stock protection, increments in life standards of fisherman and fish farmers and easy and continuous supply of products for consumers as well as processors is expected.

The common fishery policies of EU aim the fisheries control and sustainable use of resources, therefore, when the mentioned policies practiced in the Turkish fishery sector it would be controlled better and the aquatic stocks could be used more accurately. The fisheries data and shipping observations could be recorded as it should be. However, the marketing strategies of cultivated fish in Turkey are not organized in domestic levels, hence, there are significant losses occurred in the market. Therefore, fish stock markets, currently existed in developed countries, causing fair competition and enabling the standard price opportunities needs to be established in Turkey.

It could be stated that fishery sector should not be omitted in Turkey as a country surrounded by seas on three sides due to mainly contribution of fishery sector to Turkish economy in terms of employment and export opportunities as well alimentation as. Therefore, precautions that will be taken in the scope of the concordance to EU should be evaluated as opportunities in order to give weight to fishery sector. Turkish fishery sector should also be supported technically and financially by EU while Turkey tries to adopt its fishery sector to EU.

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