

The Fishery Potential And Sustainable Aquaculture In Portugal

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Abstract

In this research, the history of fishery sector and the current situation of fishery sector in Portugal have been investigated, capture and development and potential of aquaculture sector have been studied. Portugal is located in southwestern Europe and it is on the Iberian Peninsula. Portugal has an important place with its total fishery production in Europe. In 1964, total fishery production which was 601.929 tonnes fell down to 207.058 tonnes in 2009. The main reasons of this decrease in total production are sustainable production that cannot be maintained consistently, misuse of resources and difficult duration of adaptation and adjustments to European Union Regulations. Nearly 97% of total fishery production is from catching, whereas 3% is from farming. In this case it is clear that capture production is more developed than aquaculture production. In 2009, capture production was 200.365 tonnes and the most captured species are sardine, chub mackerel, Atlantic redfishes nei, Atlantic horse mackerel.

Fish farming in Portugal, which started with rainbow trout production in 1965, has developed rapidly by gilthead seabream and european seabass production and reached to 6.693 tonnes per year according to 2009 data. According to 2008 data Portugal has 1392 fish farms and they covered 1587 hectares. The main farmed species are grooved carpet shell, gilthead seabream, turbot, pacific cupped oyster, european seabass and rainbow trout. Import and export amounts of Portugal on fisheries are very high compared to Turkey. Portugal has great potential about capture and especially aquaculture production. Thus Portugal has to improve its aquaculture sector within sustainable productions and there must be proper management by fish farms and government to spread sustainability all over sector. In the future aquaculture of Portugal will start to increase rapidly. Therefore Turkey has to improve the relations with Portugal and they should collaborate closely.

Keywords: Portugal, Fishery, Aquaculture, Sustainability, Development

1.INTRODUCTION

Portugal is a country situated in southwestern Europe on the Iberian Peninsula. Portugal is bordered by the Atlantic Ocean to the West and South and by Spain to the North and East. The Atlantic archipelagos of the Azores and Madeira are part of Portugal. Portugal is defined with Mediterranean climate (Csa in the south, interior, and Douro region; Csb in the north, centre and coastal Alentejo; and also Semi-arid climate or Steppe climate, and is one of the warmest European countries: According to Agencia Estatal de Meteorología-AEMET data the annual average temperature in mainland Portugal varies from 12 °C (53.6 °F) in the

mountainous interior north to over 18 °C (64.4 °F) in the South. The sea surface temperature on the west coast of mainland Portugal varies from 13 °C (55.4 °F)-15 °C (59.0 °F) in winter to 18 °C (64.4 °F)-20 °C (68.0 °F) in the summer while on the south coast it ranges from 15 °C (59.0 °F) in Winter and rises in the summer to about 23 °C (73.4 °F) occasionally reaching 26 °C (78.8 °F).

2.HISTORICAL DEVELOPMENT AND PRESENT SITUATION OF PORTUGAL FISHERIES SECTOR

Portugal with regard to its geographic location, climate and other characteristics is quite suitable for fisheries and aquaculture activities. The total fish production was around 300.000 tonnes before 1950. With controlled fishing since 1950, fishery production reached a value as high as 601.929 tonnes in 1961 and, with the ups and downs in production period until the 1980's, the total production in 1982 declined to 259.938 tonnes, rose again to 413.184 tonnes until 1986 with increasing momentum. During the 2000's showed that the decline in production compared to previous years (FAO, 2009) .

Portugal shows a complex structure in total fishery production. Possible reasons of decline in production are the wrong government policies, the unbalanced use of resources, unsustainability of establishments, lack of qualified labor force, difficulty of obtaining permission from the governmental institutions, the problems in the EU harmonization process and some economic problems of the country. In addition to those problems the manufacturers are also not supported financially.

Nearly 97% of total fishery production is from catching, whereas 3% is from farming. It is clear that capture production is more developed than aquaculture production. In 2009, the total aquatic production in Europe was 15.871.701 tonnes. Portugal is ranked 13th among the European countries in terms of production quantity ranks. While the total production was 601.929 tonnes in Portugal in 1964, Turkey's total production was 121.150 tonnes. Increase in production in the 1980s, continued to raise and in 2009 the production reached 622.962 tonnes in Turkey, while the production in Portugal reached a value of 207.058 tonnes (FAO, 2009).

Considering the number of personnel in the sector, according to the years, remained almost the same as the aquaculture sector workers. Number of employees in the fishing and processing sectors were greatly decreased. As the data indicates this decrease has been parallel with the decline in production.

Portugal is ranked first in Europe in respect to annual per capita fish consumption. In 2005, annual fish consumption per capita was 55,6 kg, while the consumption per person was 7,0 kg in Turkey (European Commission, 2010).

3.FISHERY SECTOR

Portugal, with a 940 km coastline, and a 1.727.408 km² area is the 3rd largest country in the EU and 11th in the World with respect to an exclusive economic zone (European Commission, 2010).

The Fisheries sector in Portugal constitutes a large portion of total production is highly developed. The amount of fishing in Portugal was 200.365 tonnes in 2009. With this amount of production Portugal is ranked 12th among the European countries (excluding Turkey).

Fishing vessels registered in the country according to 2008 data are 8666 pieces. These fishing vessels have 380.730 kW power and 106.624 gross tons (FAO, 2009).

In 2009, capture production is 200.365 tonnes and the most captured species are sardine (*Sardina pilchardus*-60.927 tonnes), chub mackerel (*Scomber japonicus*-14.961 tonnes), Atlantic redfishes (*Sebastes* spp.-10.452 tonnes) and Atlantic horse mackerel (*Trachurus trachurus*-11.841 tonnes) (FAO, 2009).

4.AQUACULTURE

In Portugal, the first fish breeding efforts began in 1965 with rainbow trout. In the 1980s, the farming of trout and even the shellfish has continued to be growing. In the first half of 1990, attention is given to marine fish farming, and marine fish production increased and widely used since that date (Dinis, 1999).

The amount of aquaculture production in Turkey has increased rapidly during last 20 years with respect to Portugal. In the last 20 years it has increased 8-9 times. By 2009 annual production reached 165.455 tonnes. However, in Portugal, production was observed to be in a decrease. By the year 2009, 6.693 tonnes of aquaculture production did not meet the production expectations (FAO, 2009).

There are 1392 licensed fish farms in the country. Fish farms were located along the coastline of the country in general, covering 1587 hectares. 1226 licensed farms are extensive fish farms in the country, 97 are semi-intensive, while 69 of them operate as intensive. 28% of them has a production capacity of 100-500 tonnes. Aquaculture in the lagoons is very important because they cover a large area in the country. 85% of total aquaculture production comes from the lagoons, 7% in from cages and 8% from tanks (Salz, 2006).

In order to establish a fishery company in Portugal a permission from the Directorate General of Fisheries-Aquaculture and Hunting (GDPA) should be obtained. As a result of pre-examination conducted after obtaining permission from GDPA, the Fisheries Research Institute (IPIMAR) should be consulted. Deemed appropriate by the regulatory approvals required for feasibility studies and, respectively, the local Port Management, Veterinary Directorate (DGV), Nature Reserves Conservation Institute (ICN), Environment Directorate (DRA), the Regional Public Health Administration (ARS), and finally the Local Council are to be consulted. After all these transactions, and the application is deemed appropriate in the circumstances, businesses are given approval to start operating (Vaz, 2008).

Fish farming of Portugal, which started with rainbow trout production in 1965, has developed rapidly by gilthead seabream and european seabass production and reached to 6.693 tonnes per year according to 2009 data. The main farmed species are grooved carpet Shell (*Ruditapes decussatus*- 2.340 tonnes), gilthead seabream (*Sparus aurata*-1.345 tonnes), turbot (*Sparus aurata*-1.345 tonnes), pacific cupped oyster (*Crassostrea gigas*-461 tonnes), european seabass (*Dicentrarchus labrax*-420 tonnes) and rainbow trout *Oncorhynchus mykiss*-246 tonnes) (FAO, 2009).

Examining the data of the last 10 years aquaculture farming fluctuating sea bream and sea bass were monitored. In the southern regions of Portugal, the temperature is not very suitable for trout farming and production, for this reason trout culture takes place in northern region at the suitable temperatures. Very intensive production is in question, although not observed gradual decrease of production due to various reasons. Turbot hatcheries have shown a rapid increase in recent years.

5.IMPORT AND EXPORT OF FISHERY PRODUCTS

The total value of import and export of fishery products in Portugal is €1.755.363.000 in 2008. Export amount is 131.531 tonnes and value is € 484.760.000. Import amount is 376.293 tonnes and value is €1.273.613.000 in same year. The total value of import and export of fishery products in Turkey is €415.329.000. Export amount is 60.054 tonnes and value is €288.713.000. Import amount is 120.242 tonnes and value is €126.616.000 (European Commission, 2010).

6.CONCLUSIONS AND RECOMMENDATIONS

Portugal has a great potential about capture and especially aquaculture production. Fishery production in Portugal has an important position in the European Union. Portugal aquaculture with the support of EU in the coming years is expected to rise rapidly. Thus, Portugal has to improve its aquaculture sector within sustainable productions and there must be proper management by fish farms and government to spread sustainability all over the sector. In the future, aquaculture of Portugal will start to increase rapidly. Therefore, Turkey has to improve the relations with Portugal and they should be in close collaboration.

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