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BASIC CHARACTERISTICS OF FISHING IN THE EUROPEAN UNION

OSNOVNA OBILJEŽJA RIBARSTVA U EUROPSKOJ UNIJI

SUMMARY

Working in fisheries, which are one of the most profitable agricultural sectors, consist of fishing and aquaculture. There are three kinds of fishing: commercial, recreational and sport fishing. Aquaculture involves breeding of aquatic organisms, mollusks, crustaceans and aquatic plants. This paper analyzes the situation in the European Union (EU) fisheries, with a special emphasis on production, the common fishery policy, fishing fleets, fishing areas, employment in aquaculture, the income in the agricultural branches etc. Common Fisheries Policy (CFP) is the key figure in the management of fishing in the EU. The main objective of the reform of the EU fisheries sector is to ensure the preservation of fish stocks. The aim of this paper would be to give both theoretical and practical contribution and guidelines when it comes to solving problems and adopting appropriate actions in order to improve production and consumption of fish and fish-based products in the countries of the EU and in those in a process of transition.

Key words: fishing, aquaculture, processing, trends, EU

SAŽETAK

Ribarstvo kao jednu od najprofitabilnijih poljoprivrednih grana čine ribolov i akvakultura. Ribolov može biti gospodarski, sportski i rekreativni. Akvakultura obuhvaća uzgoj vodenih organizama, mekušaca, rakova i vodenih biljaka. Autorice u radu analiziraju stanje u ribarstvu EU-a, s posebnim osvrtom na proizvodnju, politiku u ribarstvu, ribarsku flotu, ribolovne oblasti, zaposlenost u akvakulturi, ostvarene prihode u ovoj poljoprivrednoj grani i dr. Common Fisheries Policy/ CFP je osnova za upravljanje ribarstvom u EU. Temeljni cilj reforme u sektoru ribarstva EU-a je osigurati očuvanje zaliha ribe. Ovim radom se želi dati teorijski/praktični doprinos i smjernice odgovornima u rješavanju problema i poduzimanja odgovarajućih mjera za unapređenje proizvodnje i potrošnje ribe u europskim zemljama, kao i u zemljama u razvoju.

Ključne riječi: ribarstvo, akvakultura, prerada, trendovi, Europska unija

1. INTRODUCTION

Fishing is a very important activity when it comes to development and economy of many communities in the countries of the EU, particularly the smaller ones. Approximately 270,000 people in the EU are employed as professional or semi-professional fishermen and with those who work in the fish processing industry, they make the total number of about 400,000 employees. "Breeding fish is one of the most profitable branches of agriculture, which makes the investments in aquaculture more cost-effective because the production of fish meat is several times cheaper than that of beef." (Filipović P. et al., 2007, pp 46-55)

The main problem with the fishing in the EU was that in the process of catching fish stock, not enough adult fish capable of reproduction and renewal of supplies survived, which have adversely affected the economy of the European fishing fleet and fishing, the balance of marine ecosystems, and fish supply in the EU market. The additional problem is the enlargement of the EU, globalization of the economy and the emergence of new interest groups associated with the fishing sector.

"Fish is one of the most valuable products of animal origin in human nutrition. Global commercial fishing has reached its maximum in the later decades of the last century. However, the market is growing in demand for fish meat and fish production in aquaculture". (Baltić M. et al., 2009, pp. 166-176) The author further suggests that more than 50% of the total fish is fresh, and less than one fourth is frozen and about the same amount of fish (about 11%) in traffic is canned or smoked.

In the period 2007-2013, the EU has provided an est. € 3.85 billion so that each of the member states can decide for themselves which fields will be prioritized when it comes to money distribution: fisheries, aquaculture, processing, marketing etc.

"Despite evidence of a broadening of the science base for European fisheries policy with the incorporation of an ecosystem approach and increasing use of economic modelling, the contribution of the social sciences to policy related research remains less conspicuous." (Siemens D. and Hoefnagel E., 2010, pp. 268-275)

In 2003 the EU formulated a new fishery which consists of the following basic elements:

- a long-term approach;
- a new policy for the fishing fleet;
- better implementation of rules;
- greater involvement from stakeholders.

2. MATERIALS AND METHODS

The aim of this research paper is to review the main characteristics of fisheries in the EU.

The published data used for the realization of the paper objectives is found in the publications of the European Commission/Directorate General Fisheries, FAO/Fisheries and Aquaculture Department Globefish, IntraFish and European Aquaculture Society.

The last published data (July 2009) for the FAO Fisheries Commodities Production and Trade are for 2007. In order to consider the changes in the fishery, a comparative analysis of the periodical is made.

The collected data were processed using standard mathematical and statistical methods. Since the research is based on the available data it caused the occurrence of the "desk research" problem.

3. RESULTS AND DISCUSSION

China is the world's largest producer of fish with the participation of 35% of the total fish production in the world (49 million tons in 2008). In the period 2004-2008, China increased the average annual fish production by 4%. Aquaculture makes 70% of the total production with an average annual growth rate of 6%. Peru is the second world producer of fish with the participation of 5% of the total world production. Fish in this country is mainly used in the fish meal industry. The other major producers of fish are: Indonesia, India, Japan and the U.S.A.

The total annual fish production in the EU amounted to 6.5 million tons (2008), which is 4.6% of the world production where actual fishing makes 80% of the total production, while aquaculture consists of 20% (2007). In the period 2002-2007, the production volume in the EU was decreased by 14%. In the future, a further reduction is expected. The EU's fishing fleet is gradually decreasing as well. In the year

2000, the number of vessels amounted up to 95,000, but in 2008 it amounted up to 86,000, when a drop of 9.5% was noted. The total gross tonnage was reduced by 8%, that is, from 2,026 tons to 1,865. Despite the decrease of the fishing fleets, there is still a great number of ships that catch smaller amounts of fish. The joint capacity of Greece, Spain and Italy makes up about half of the EU fishing fleet. Fishing in the EU in 2007 amounted to 5.1 million tons, which is a decrease of 17% in comparison to 2002. This fish is mostly used for human consumption. Spain recorded the biggest fish production in the EU (16%) in 2007. Denmark holds the second place when it comes to the fish production analysis, taking into account that a large part of the fish caught is used in the industry and fish-based meals production. „On the eve of a long-awaited debate on reform of CFP, Making Fisheries Management Work offers a new perspective on why some systems succeed and others do not.” (Siemens D., 2009, pp. 99-102)

The most significant fishing zone is in the northeast Atlantic Ocean (71%). However, fishing in this area decreases due to the limitations set by the Common Fisheries Policy (CFP). CFP sets quotas for member states which set limit to the amount of fish that each country can catch. This has been done to ensure sustainable use of living aquatic resources. In the period 2002-2007 there was 19% less fish caught in this part of the ocean. Other notable fishing areas are the Mediterranean and the Black Sea (10% of fish caught in 2007), eastern central Atlantic Ocean (6.3%) and the Western Indian Ocean (3.9%), followed by the south-eastern Pacific Ocean (1.6%).

The main types of fish that are caught are mackerel (15% of the total fish caught in 2007), herring (13%), tuna (6.7%) and sardine (6.3%). In the period 2002-2007, there was a decline in catching eels (73%), tuna (26%) and sardines (25%). There is a growing popularity of cheaper fish with neutral taste due to the increased use in the manufacturing industry (for example, fish sticks).

By taking a closer look at the growth of aquaculture in the world, one comes to a conclusion that it now makes nearly 50% of the total fish production. The EU's method of production fluctuated during the period 2002-2007. In 2007 aquacultural production amounted to 1.3 million tons, an increase of 2.3% from 2002.

Aquaculture has achieved a turnover of around 3.5 billion €. This sector employs about 65 thousandth people. Aquaculture in the EU is mainly based on the production of mussels (37% of the total aquaculture production in 2007), followed by rainbow trout (16%) and salmon (11%). In the period 2002-2007 the shellfish production has remained at the same level, while the production of salmon and trout decreased (16% and 7% respectively). Spain is the largest producer (22% of the total aquaculture production in the EU) and it mainly produces mussels. The second largest producer is France with 18% which produces mainly mussels and trout. Next up is Italy (14%), the United Kingdom (13%) and Greece (9%). „With the management systems in EU fisheries differing among countries, comparative advantages in fisheries exist in member states with the best management practices.” (Andersen J. et al., 2009., pp. 497-503)

A Dutch company in 2009 introduced a new type of fish (classe), which was created by crossing two species of fish from the sticks family. It was intended as a viable replacement for the white fish species.

Fish processing sector makes up only 2% of the total fish production in the EU (2007), but is an important sector of the industry given that in certain regions it makes a significant source of income to some € 18 billion per year. The production continued to grow in recent years.

However, employment in this sector is declining, mainly due to the reduced fish processing. The main reason is that companies can quickly adapt to new standards for food safety and innovation in technology. Often, the companies get closed to or merge with larger companies.

According to FAO, world production of fisheries till 2015 will amount to 179 million tons. Production growth is expected in aquaculture, particularly in Asian and African countries. Fluctuations are expected in the production. Noticeable actions have been made for the preservation of certain species of fish around the world. The most endangered species of fish are hake, sole, tuna and others.

The EU policy aims at implementing reforms that will ensure sustainability and will secure future water resources. Therefore, there are certain quotas for certain types of fish that must

not be caught (especially in recreational and sport fishing) in order to preserve fish stocks. If the established rules and laws are followed, it is realistic to expect that there will be an increase of fish stock levels that will be cleared for fishing in the future.

The processing industry is facing a continually growing shortage of fish as raw material. The fish processing industry is looking for alternative solutions such as the import of traditional fish species or the introduction of new species of fish that are a substitute for the traditional kind. Alternatively, the supply will be implemented by importing fish from countries that are not members of the EU. One of the ways that the EU regulates supplying the market with the fish in demand is by making the so called bilateral agreements with developing countries concerning the usage of their fishing areas. The disadvantage for developing countries is the reduced availability of fish for the local fishing sector. On the other hand, the EU often invests in the development of local fishing sectors. Long-term effects of these agreements and actions for the sustainable development and the environment have not been identified and defined so far.

One of the limiting factor in the EU has been the price of fuel which has, since 2002, increased by 240%. This led to the economic crisis which also hit fishing fleets, given that a significant percentage of fuel costs affect the structure of income. The EU tries to adopt urgent measures to mitigate this crisis.

There is a significant increase in demand in the EU for products from aquaculture. Despite the fact that the EU aquaculture has a highly qualified workforce, it has an advanced research in technology and innovative solutions, but it did not fully participate in the global expansion of this sector due to strong competition in other regions, the strict European regulations on environmental protection, animal health, product safety, as well as the price of imported products in the developing countries. The European Commission has launched several measures in order to improve the sector: the contribution of research and development, promotion of EU products, the rules for establishing new production and others.

The EU also has a strong competition from Chile and Norway who are the world leaders in

the production of salmon. Providing fish food makes one of the biggest costs in aquaculture, which makes it one of the limiting factors for the start of production. Although there are many wild species of fish produced in aquaculture, this kind of production is commercially viable for some producers, as production costs are high.

If the established rules and laws are to be followed, it is realistic to expect that there will be an increase in the levels of fish stocks in the future that will be allowed for fishing. Long-term sustainability of the policy meets several criteria of short-term solutions, which primarily include the following: improvement of marketing activities, simplified legislation, streamlining procedures for licensing, support to young people in work/intergenerational change and others. The basic principles when making proposals are:

- environmental sustainability;
- quotas which provide long-term implementation plans;
- compliance with international obligations;
- restoration supplies;
- use of scientific data.

Processing is defined as any activity that adds a value to raw material products (e.g. filleting, cooking, packaging, smoking, etc.). The most processed fish products are fillets, fried fish, boiled fish, already prepared for use (increasing the demand for products that are easy to prepare). The EU fishing industry is the third largest in the world. It provides about 6.9 million tons of fish each year. Manufacturers in the EU are often caught importing, packing and selling fish from non-EU to the EU market. These products generally require additional preparation. Due to the growing demand for food products that are suitable for preparation, the processing industry is gaining importance. Companies in the fish processing sector are very vulnerable to changes made in the offer. To ensure regular supply of fish products in the EU, companies need to rely on imports. Because of the low cost of labor forces, the manufacturing industry is moving to developing countries with an indication of the origin where the fish was caught. For example, the crabs that are caught in EU waters are transported to Morocco and Poland for processing (such as cleaning and peeling, which is usually not done on a running machine, but requires human labor, i.e. manually performed) and then the same products are intended to be traded in the EU market. For example, cod fish is being transported to developing countries for processing, just like tuna from Spain, whose process-

ing takes place in the countries of Latin America due to significantly lower costs of production.

4. CONCLUSION

Based on the research results and analysis that are mentioned, the following conclusions are:

- Due to the reduced stocks of many fish species, and thereby an insufficiently supplied market, the EU has established a quota limit for catching most endangered species of fish.
- There is an inefficient production in aquaculture, mainly due to high production costs, technical problems and growing competition from producers who are not EU member states.
- Rising demand for alternative kinds of fish that are used in the food industry. Also, increasing competition with the manufacturers of fish in aquaculture for the species that are used in the production of fish meal, and for human consumption.
- New trends in fish consumption, and imposing new forms of processing/preparation fish filleting, cutting, boiling, smoking and others.
- The EU made bilateral agreements with developing countries on the matter of the exploitation of fishing areas, which reduce export opportunities for local businesses and the local market supply. However, the EU is taking actions in order to protect the local production of fish.
- New developments in aquaculture can lead to more cost-effective production of traditional and other/"new" species of fish. This is an example of how to overcome difficulties in aquaculture production of sea fish in coastal waters.
- New EU measures which are to improve the competitiveness of this sector are: investment and contribution to the research and development, promotion of EU products, establishment of new farms for the production of fish and others.

REFERENCES

- [1] Andersen, J., M. Nilsen, E. Lindebo, Economic gains for the liberalization of access to fishing quotas in the European Union, *Marine Policy*, 33 (2009), 3, str. 497-503.
- [2] Baltić, M., N. Kilibarda, M. Dimitrijević, Factors of importance for the sustainability of selected fish and fish products in trade, *Meat Technology*, 50 (2009), 1-2, str. 166-176.
- [3] Filipović, P., et al., Problems and prospects of aquaculture in the country and the world, *Agricultural News*, (2007), 3-4, str. 46-55.
- [4] Siemens, D., The reform of the common fisheries policy of the European Union, *Fisheries Management Research*, 100 (2009), 2, str. 99-102.
- [5] Siemens, D., E. Hoefnagel, Fisheries policy, research and social science in Europe: challenges for the 21st century, *Marine Policy*, 34 (2010), 2, str. 268-275.
- [6] www.ec.europa.eu/fisheries - European Commission, Directorate General Fisheries
- [7] www.fao.org/fishery - FAO Fisheries and Aquaculture Department
- [8] www.globefish.org - Globefish, FAO unit responsible for information on international fish trade
- [9] www.fish.com - Fish Information & Services, information on international trade in fishery products
- [10] www.intrafish.com - IntraFish, information on international trade in fishery products
- [11] www.easonline.org - European Aquaculture Society
- [12] www.eurofish.dk - Eurofish Magazine