

## FISH PRODUCTION WORLDWIDE

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### **Abstract**

*Fishing is one of the oldest occupations, which over the years has gone through several stages. In the economic terms the increase in intensive industrial system of the fish is advantageous because the specific energy consumption is low, given that they not need to maintain body temperature at high temperatures. Having regard to demographic trends in continue increasing, and the tendency of decrease fisheries leads to increased the production of aquaculture fish by order to ensure enough quantity and quality. The purpose of this paper is to highlight the evolution of fish production worldwide and in particular to show the evolution of production of fish from fisheries and aquaculture. To highlight the evolution global fish production given two ways to get fish respectively from aquaculture and fisheries, that have used data from FAOSTAT for 2007-2012. Also we can see that approximately 90% of the fish production is fished in the sea and only 10% in the territorial waters. The fish production in Africa had an ascending trend in the period under review. Analyzing fish production the share of total world continents is noted that Asia has a share of 68% in 2007 and increase to 73% in 2012.*

**Key words:** Europe, fish, world

### **INTRODUCTION**

Fish is an important source of protein, feed raw material for the manufacture and production of medicinal products.

Fishing is one of the oldest occupations, which over the years has gone through several stages. He started fishing with his hand, and afterwards are used baskets, traps of all kinds, harpoons and nets.

In the Middle Ages, with the development of better preservation techniques like: drying, smoking, and salting and improved transportation, commercial fishing began shifting from local, small-scale activities to commercial, large-scale enterprises. [3]

Origin of fish farming in Europe dates back to Roman times and is closely related to the spread of Christianity, such the monastic communities have an important role in the development of fish farming.

A major role in the development of fish farming has had SL Jacobi, who in 1763 first discovered and he applied artificial insemination to trout and VP Vraskij which in 1860 put into operation first station of

incubation the spawns of salmonids in Russia. [2]

From a nutritional perspective, fish is a food easily digestible, nutritious and superior digestive qualities, given the high content of amino acids, vitamin A and D, and low content of extractive substances [5].

In the economic terms the increase in intensive industrial system of the fish is advantageous because the specific energy consumption is low, given that they not need to maintain body temperature at high temperatures. The specific consumption of feed is low, and the rate of reproduction is high.

Given the rapid growth of the world population that began in 1950 by reducing mortality in less developed regions and continued at a fast pace, reaching in 2011 the global 7 billion people [7] and that will not stop here, the studies say that by 2050 the population will increase by 2.3 billion respectively with 33%, which will double the requirements for food. [1]

Having regard to demographic trends in continue increasing, and the tendency of

decrease fisheries leads to increased the production of aquaculture fish by order to ensure enough quantity and quality.

Although fishing in the natural waters can not meet the needs of the economy, because has a small yield per hectare [4], practicing aquaculture contribute both to increase production and to sustainable development. Aquaculture has the potential to become a sustainable practice that can supplement capture fisheries and significantly contribute to feeding the world's growing population.[6] Fisheries and aquaculture contribute to the complex development of agriculture by increasing meat additional resources.

Given the importance of fish purpose of this paper is to highlight the evolution of global fish production, production from fisheries and aquaculture.

### MATERIALS AND METHODS

To highlight the evolution of global fish production given two ways to get it, aquaculture and fisheries that have used data from the Food and Agriculture Organization of the United Nations for 2007-2012. Research methods applied were the comparison method and calculation time share. Share a resource is the percentage that represents the value of the resource in the total resources of the same type.

### RESULTS AND DISCUSSIONS

Marine waters in which is practiced fishing world are the Indian Ocean, Pacific Ocean, Atlantic Ocean, Antarctica, the Atlantic Ocean which ensures an area of 360,900,000 km<sup>2</sup> and adjacent seas that Arctic Sea, Mediterranean and Black Sea.[8]

Internal waters in which is practiced fishing world are the internal waters of Africa, North America, South America, Asia, Europe, Oceania and Antarctica.

It can be noted as Figure 1 that the largest share is held by the Pacific Ocean with 47%, followed by 27% Atlantic Ocean, Indian Ocean with 17% and Antarctic Ocean with

9%. So Pacific Ocean provides the largest area for fishing.

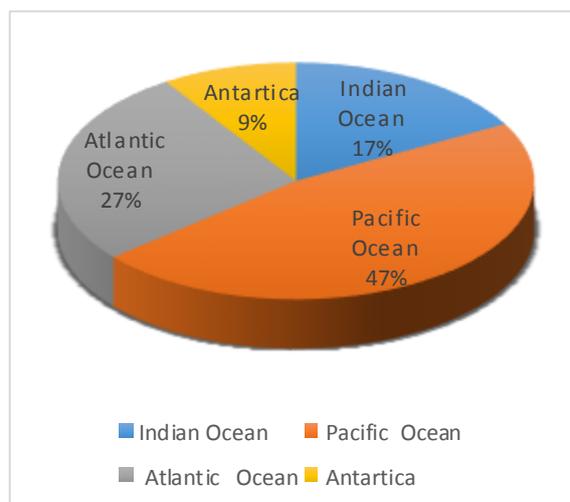


Fig.1.The share of surface ocean

Table 1. Fish production fisheries and aquaculture worldwide (million tonnes)

Specification		2007	2008	2009	2010	2011	2012
fishing	in internal waters	10,1	10,3	10,5	11,3	11,1	11,6
	maritime	80,7	79,9	79,6	77,8	82,6	79,7
	Total	90,8	90,1	90,1	89,1	93,7	91,3
aquaculture	freshwater	29,9	32,4	34,3	36,8	38,7	41,9
	maritime	20	20,5	21,4	22,3	23,3	24,7
	Total	49,9	52,9	55,7	59,0	62,0	66,6

Source: The State of World Fisheries and Aquaculture, Opportunities and challenges

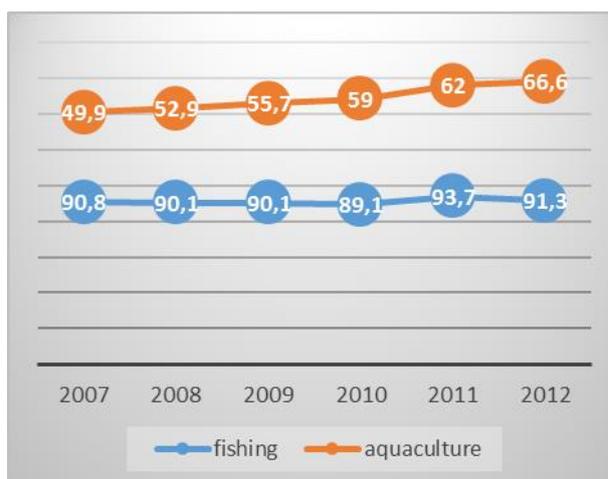


Fig. 2. The evolution of global fish production fisheries and aquaculture

Analyzing the evolution of production of fish from fishing it is found a descendant trend in the period 2007-2010, followed by an increase of 5.1% in 2011 compared to 2010 and 2012

compared with 2011 is a decrease of 2.6%. Also we can see that approximately 90% of the fish production is fished in the sea and only 10% in the territorial waters, according to Table 1 and Fig. 2.

It can be observed that the production of fish from aquaculture represents half compared to fisheries production. But it observed that from freshwater aquaculture production is higher than the from sea, according to Table 1.

Though the production of fish from inland fisheries increased, they are still low, given that inland waters are used for navigation, irrigation, municipal use, hydroelectric power generation.

In addition to fish production, inland aquatic ecosystems provide other ecosystem services such as hydrological cycle regulation, by building flood control dams, supporting coastal communities, and recreational services.

Owing to these multiple uses of inland waters, is considered to represent important sources for those uses and national development programs are given less importance.

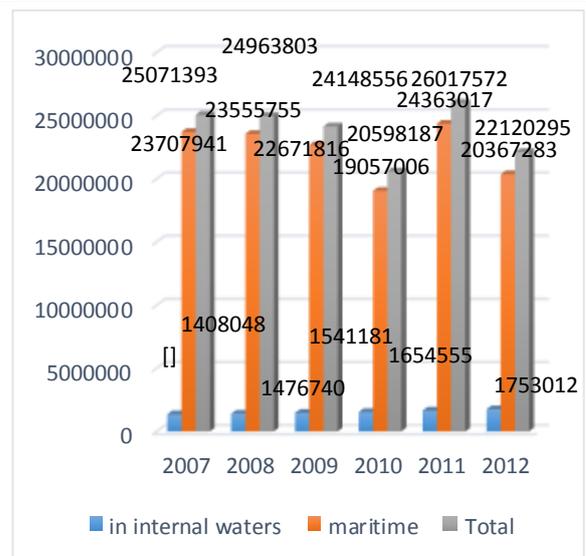


Fig. 4. The fishing fish production in America

The total production of fish in America has a downtrend during 2007-2010, followed by an increase in 2011 and a further drop in 2012. Also it can be seen that the production of fish in inland waters is very low compared to marine fish production waters, as show in Fig. 4.

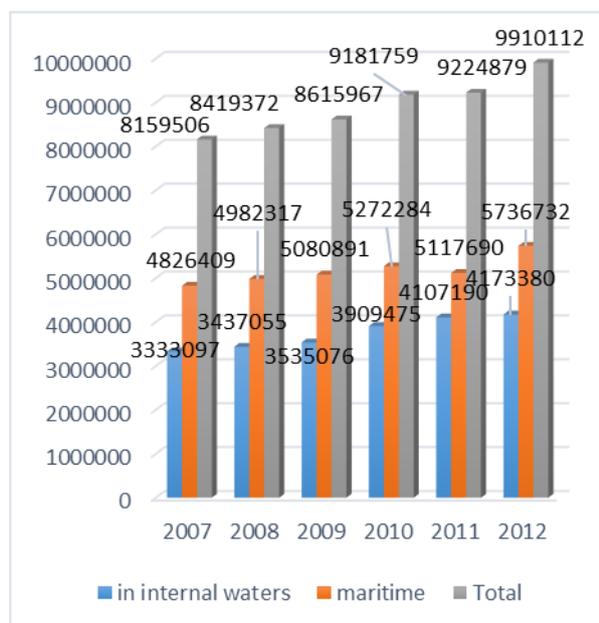


Fig.3. The fishing fish production in Africa

It can be observed in Fig.3 that fish production in Africa had an ascending trend in the period under review, and inland fish production is lower compared to that from marine waters.

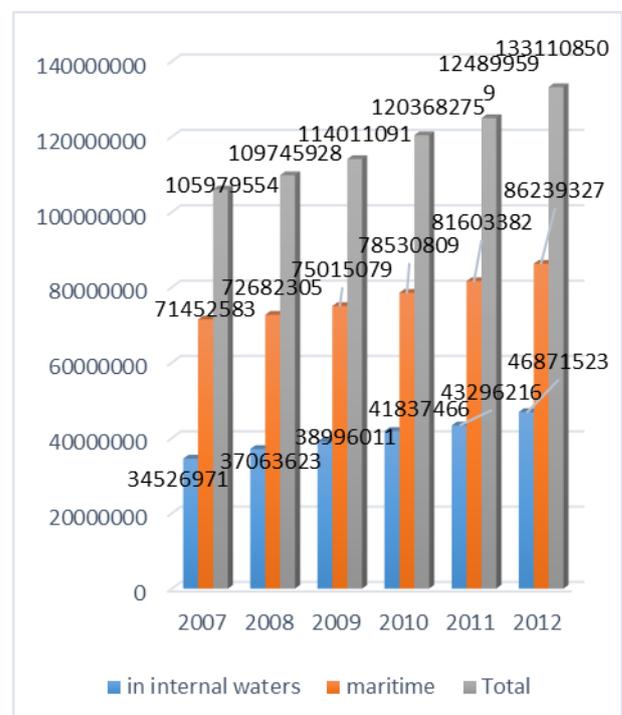


Fig.5. The fishing fish production in Asia

It can be observed in Fig.5, that in Asia the total fish production has registered an ascending trend during the period analyzed

and inland waters fish production is lower compared to that from marine waters.

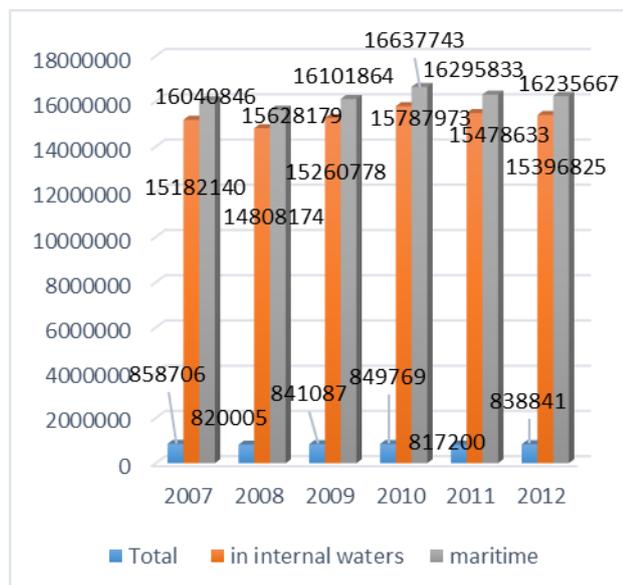


Fig. 6. The fishing fish production in Europe

In Europe the total fish production has registered an ascending trend in the period analyzed, and inland waters fish production is much lower compared to that from marine waters, as show in table 6.

So world production of fish from fishing continuously increased during the analyzed period 2007-2012.

Table 2. The share of fish production fisheries continents of the world total

Specification	2007	2008	2009	2010	2011	2012
Africa	5,20	5,26	5,24	5,46	5,19	5,42
America	15,9	15,5	14,7	12,2	14,6	12,1
Asia	67,5	68,5	69,4	71,5	70,2	72,8
Europe	10,2	9,76	9,80	9,89	9,16	8,8
Oceania	1,00	0,9	0,8	0,8	0,8	0,8

Source: own calculations based on data <http://www.fao.org/fishery/statistics/global-production/en>

Analyzing fish production the share of total world continents is noted that Asia has a share of 68% in 2007 and increase to 73% in 2012. In second place it is America with a share which decreased from 16% in 2007 to 12% in 2012. Europe follows with a share which is

down from 10% in 2007 to 9% in 2012, according to Table 2.

## CONCLUSIONS

Worldwide fishing fish production in aquaculture production is far superior. And production fished in seas and oceans is about 90% compared to inland waters. Due to the multiple uses of inland waters, is considered to represent important sources for those uses and national development programs are given less importance.

Global fish production in Asia is the most significant, with a total a share of about 67%.

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