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The Mediterranean fisheries sector: A review of facts and figures

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SUMMARY – The present manuscript is an updated edition of previous reports about Mediterranean Fisheries included in the CIHEAM Annual Reports about Development and Agri-food Policies in the Mediterranean region. Based on available statistics (FAO, Eurostat, OCDE) and other information sources (e.g. GFCM reports), the report is a concise aggregated analysis of the sector on various aspects, i.e.: fishing fleets, employment, production (capture and aquaculture) in volume and value, trade and seafood consumption. Regarding fishing effort (measured by fishing vessels and capacity of fishing fleets), following an expansion up until the beginning of 1990s, from the mid 1990s both dimensions started to decrease, this reduction being especially important in fleets operating in other seas, such in the case of France, Spain and Morocco. When analysing total production (capture plus aquaculture) statistics show a more or less stable trend, due to a growing aquaculture sector (about 26% of total production volume) that compensates decreases in capture productions. The situation for capture fisheries (both for catches in the Mediterranean Sea –around 23% of total production in volume terms– and for catches by the countries in other seas) is worrying. Regarding the Mediterranean, although the remarkable drop in catches experienced by EU countries in the Mediterranean in the last ten years (28%) has been partially compensated by North African countries, total Mediterranean capture volumes in 2005 were 20% lower than in 1995. In a context with increasing population and a stagnant or reduced production, caused by the state of the resource, a future scenario of increased prices for fish products in the Mediterranean basin is likely. This involves positive (more added value for producers in the area), but also negative aspects (inflation pressure, pressure on the resources which become more valuable).

Keywords: Mediterranean, fisheries sector, statistics, aquaculture.

RESUME – *"Le secteur des pêches en Méditerranée : Révision de faits et chiffres". Le présent article est une édition actualisée d'antérieurs rapports sur les Pêcheries Méditerranéennes faisant partie des Rapports Annuels du CIHEAM concernant le Développement et les Politiques Agroalimentaires dans la Région Méditerranéenne. Basé sur les statistiques disponibles (FAO, Eurostat, OCDE) et sur d'autres sources d'information (p.e. rapports de la CGPM), le rapport est une brève analyse du secteur récapitulant plusieurs aspects, tels que : les flottilles de pêche, l'emploi, la production (capture et aquaculture) en volume et en valeur, le commerce et la consommation de produits de la mer. Concernant l'effort de pêche (mesuré en bateaux de pêche et en capacité des flottilles de pêche), suite à l'expansion qui a duré jusqu'au début des années 1990, à partir de la moitié des années 1990 ces deux dimensions ont décliné, cette réduction étant particulièrement importante pour les flottilles intervenant dans d'autres mers, comme dans le cas de la France, de l'Espagne et du Maroc. Lorsque l'on analyse la production totale (capture plus aquaculture) les statistiques montrent une tendance plus ou moins stable, en raison de l'expansion du secteur aquacole (environ 26% de la production totale en volume) qui compense la baisse des productions de capture. La situation pour les pêcheries de capture (à la fois pour les prises dans la Méditerranée – environ 23% de la production totale en termes de volume – et pour les prises réalisées par les pays dans d'autres mers) est inquiétante. Concernant la Méditerranée, bien que la chute notable des prises subie par les pays de l'UE en Méditerranée sur les dix dernières années (28%) soit partiellement compensée par les pays d'Afrique du Nord, les volumes totaux de capture en Méditerranée en 2005 ont été de 20% plus faibles qu'en 1995. Dans un contexte d'accroissement de la population et de production stagnante ou en baisse, causé par l'état de la ressource, il est probable qu'il y aura un scénario futur de prix à la hausse pour les produits de la pêche dans le bassin méditerranéen. Ceci implique des aspects positifs (plus de valeur ajoutée pour les producteurs de cette région), mais également des aspects négatifs (pression de l'inflation, pression sur les ressources qui seront plus appréciées).*

Mots-clés : *Méditerranée, secteur des pêches, statistiques, aquaculture.*

Introduction and methodology

The aim of this report is to present a short quantitative study of Mediterranean fisheries devoted to the analysis of trends in the fishery sector in the Mediterranean countries focusing mainly on Mediterranean production. The present manuscript is an updated report of previous CIHEAM reports, published in 2004 and 2005, included in the CIHEAM Annual Reports about Development and Agri-food Policies in the Mediterranean Region. This work is not a state of the art on Mediterranean fisheries sector, as that was provided in the precedent CIHEAM Report of 2002.

The following aspects were analysed as means of production: fishing fleets (number of vessels and their main characteristics), employment (number of fishermen), production (catches/landings and aquaculture production in volume and value), trade (import-export) of fishery products, food supply and food consumption. This report performs an aggregated analysis with the most recent, available data and endeavours to establish a way to analyse Mediterranean fisheries and aquaculture on an annual basis.

The General Fisheries Council of the Mediterranean (GFCM) has begun a new period, in which the needs of a cooperative management of the Mediterranean fisheries is underlined. When different institutions remark the importance of the social and environmental conditions in order to assure the sustainability of our global society, this kind of analysis becomes a necessary exercise.

As has been indicated in previous reports, it must be borne in mind that an important constraint and a major difficulty in carrying out this kind of analysis is the lack of availability of regular and feasible information and data on which to base it. There is currently a lack of regularly updated fishery databases offering adequate coverage and reliability, in particular in items related with socio-economic aspects and on technical characteristics of the fleets and fishing effort.

A limited number of sources of authorised information on fisheries covering the whole region and updated annually are available, providing some useful background data for conducting an overall preliminary analysis. These databases have been used for the present analysis, as in the previous reports; they are FAO FishStat, FAOSTAT and EUROSTAT[1].

The most useful and main sources of information that are available and updated on an annual basis are the statistical databases provided by FAO: FAOSTAT and in particular FAO-FishStat with their components: GFCM capture production, aquaculture production and value, capture production and commodities, production and trade, and FAOSTAT for consumption of fishery products.

The other database that has been used is EUROSTAT, mainly for data on fleets and their main characteristics and also to obtain employment information, but since this database focuses on the EU countries, it does not provide a great deal of information on third countries, at least for the moment. In fact the main difficulty is the gathering of information on fleets and, even more so, on the value of landings, because this kind of information is not provided by FAO. And in fact EUROSTAT only provides a limited amount of information on the number of vessels, the Gross Register Ton (GRT) and horse power of EU fleets, employment and value of landings.

Countries included in this study

The countries included in this study are: Albania, Algeria, Bulgaria, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libya, Malta, Morocco, Palestine, Portugal, Romania, Serbia y Montenegro, Slovenia, Spain, Syria, Tunisia, Turkey.

The countries analysed are divided in 3 groups: (i) European Union Member countries; (ii) North African countries; and (iii) Others (remaining Mediterranean countries). The countries included in each group are:

(i) European Union Member Countries: Bulgaria, Cyprus, France, Greece, Italy, Malta, Portugal, Romania, Slovenia, Spain.

[1] Database consulted: FAO-FishStat (http://www.fao.org/fi); FAO-TradeSTAT (http://faostat.fao.org); EuroSTAT (http://epp.eurostat.ec.europa.eu).

(ii) North African countries: Algeria, Egypt, Libya, Morocco and Tunisia.

(iii) Others (remaining Mediterranean countries): Albania, Croatia, Israel, Lebanon, Palestine, Serbia and Montenegro, Syria and Turkey.

All these countries are GFCM members, except Palestine and Portugal. Portugal has been included, although the capture level is very low in the Mediterranean, since it is a CIHEAM member country and because of the characteristics of its sector (fishing fleets, aquaculture, etc.), which are very similar to other Mediterranean countries. Palestine is included since its catches in the Mediterranean are similar to those of other countries, such as Cyprus, Malta, Slovenia or Israel.

Japan and Monaco, although they are GFCM member countries, have not been included. Japan is not included since most of its production (catches and aquaculture) is realized outside the Mediterranean. However, in the case of tunid catches in the Mediterranean and the Black Sea, Japan, as well as other third countries such as Taiwan and Korea are included.

Monaco is not included because of the very low level of catches and in order to save space in the presentation of figures and tables. FAO statistics of 2005 for Monaco only indicate 2 tonnes of catches of "Marine fishes nei".

The indicators used

In this Section we are going to use a series of indicators following a specific criterion, because of restricted information available about the countries in relation with the areas of catches and the distribution of the fishing effort.

(i) *Total national capture* refers to catches of the countries included in this study in all areas, so it includes catches both in the Mediterranean as well as in other seas. In this text the term "capture" is used as synonym of catches and landings, that is, of those captures effectively landed and not of what can be returned to the sea.

(ii) *Mediterranean and Black Sea Capture refers* to captures of the countries included in this study in this area. These results differ from those of FAO-FISHSTAT, since they also include captures of other countries which are not included in this study. The countries that have been excluded are: Georgia, Gibraltar, Japan, Korea, Russia, Taiwan and Ukraine. The statistics of 2005 show for these countries a total production of 114.208 tonnes, most of them being captures of the families Clupeidae (69,013 t) and Engraulidae (16,236 t) of Ukraine and Russia in the Black Sea.

(iii) *Aquaculture national production* refers to aquaculture productions from the countries included in this study in all areas. Therefore, it includes both the Mediterranean as well as those countries with coasts at other seas such as: Africa, Asia and Europe Inland waters; Atlantic, Eastern Central and Northeast; and Mediterranean and Black Sea; as well as in all environments (brackish water culture, freshwater culture and mariculture).

(iv) *Total national production,* total production (total captures plus national aquaculture production).

(v) *Value of Production.* For this study the Euro is used as a currency unit, not only because an increasing number of countries are using this currency but also because trade in the region is performed mainly with prices set in this currency. Thus, although FAO data are provided in US Dollars, it has been decided to convert value data into euros and thus avoid possible misunderstandings due to dollar/euro fluctuations. For the conversion, the following table has been used (for each dollar, resulting Euros; before 1999 in ECU equivalents):

Year	1975	1980	1985	1990	1995	2000	2005
1 USD = x €	0.692723	0.719854	1.315073	0.786027	0.773621	1.085401	0.803682

Production means

The basic resources used for fishing are the vessels. However basic this piece of information is, data are quite difficult to obtain. Table 1 shows information available now regarding the fishing fleet of the countries studied.

The EU enlargement and the systematisation of information developed from *Eurostat* aiming at guaranteeing a common fishery planning within the framework of the Common Fishery Policy, have enabled EU member countries to obtain a certain level of information and a high degree of homogeneity. However, this source does not disaggregate the fleets by seas. Thus, in the case of France or Spain their great Atlantic fleet is included.

Table 1 illustrates the important drop in the number of boats in the European Union. Unfortunately, for the rest of the countries, except Turkey where they have increased significatively, there are no data available that can help to identify the general trend of the Mediterranean.

Table 1. Fishing vessels

Countries	1995	2000	2005
Spain	18,385	16,678	13,700
France	6,598	8,181	7,857
Greece	20,718	19,962	18,269
Italy	19,359	17,369	14,401
Portugal	11,746	10,692	9,155
Cyprus	*16*	**800**	883
Malta	*990*	**1,300**	1,424
Slovenia	*11*	**160**	171
Romania	*33*	880	
Bulgaria	*30*	62	
Total EU	77,886	76,084	65,860
Morocco†	*3,052*		2,174
Algeria	*2,184*	2,661	
Tunis	*14,242*		
Libya	*3,561*		
Egypt	*4,052*	3,954	
Total North Africa	18,408		
Palestine	**723**		
Israel	*456*		
Lebanon	*1,000*		
Syria	*1,490*		
Turkey	*9,710*	17,319	18,836
Albania	*110*		158
Serbia & Montenegro	*5*		
Croatia	*6,043*		
Total Others	117,240		
Grand TOTAL	169,024		

Sources used to produce this table: EU countries: EUROSTAT, Fishing fleet, date of extraction: 27 Sep 07; Italics: FAO FIGIS Fleet data and Country profiles; Bold: Estimation; Grey: OECD/OCDE Review of Fisheries 2001.
†Excluded 18,000 artisanal vessels.

Regarding the distribution by type of vessel and the weight of the Mediterranean fleet in countries operating in several seas, we can inform that for Spain in 2003, out of a total of 14,000 vessels, 4300 fishing vessels were operating in the Mediterranean, distributed between 995 trawlers, 365 purse seiners, 220 long liners, and the rest artisanal. In France around 1750 vessels were operating in the Mediterranean. Finally, Morocco in 2003 had 3133 fishing vessels in the Mediterranean distributed between 285 trawlers or purse seiners and 248 long liners, and the rest artisanal.

With the aim of estimating trends of the totals, some missing data have been estimated for the year 2000, in the case of countries who have recently joined the EU (Cyprus, Malta and Slovenia). Probably the increases recorded in Cyprus and Slovenia may be due to the fact that a more accurate census has been realized and not to the fact that there has been a real increase of the fleet. In any case, once these countries are in the EU, like the other member countries, they will not be able to increase the fleet because of the CFP regulations.

Although these countries have recently joined the EU, there are no consolidated data for the years presented for Rumania and Bulgaria. Besides, data from 1995 do not include the small boats for artisanal fishing, so this figure underestimates the effective fleet of these two countries, which in turn operate inside the Danube basin.

We should also add that in all likelihood data from Morocco underestimate the real situation, after crosschecking with other sources that report five times more boats, since they include artisanal boats.

We can accept the existence of some 170,000 fishing vessels in Mediterranean countries. As it has been pointed out, not all of them operate in the Mediterranean Sea, since France, Spain and Morocco focus their activities in the Atlantic, whereas Bulgaria, Rumania and to some extent Turkey operate in the Black Sea.

Finally, we should stress that the distribution of fleets by number of vessels is far from expressing the real distribution of the fishing effort. European countries account for around the third part of the vessels, but these are of larger size, tonnage and power.

Thus, it seems evident that more efforts should be made immediately in quantifying fishing efforts if we want to plan the fishing activity in this Sea.

Quantitative information displayed in Table 1 can be complemented with the qualitative information presented in Table 2. In this table the information by country is presented by each year in which the information was given from many different sources.

Although the sources of information are monographic studies and reports which do not necessarily use the same methodology and data have to be taken with caution, this Table clearly shows that there is a strong concentration of more powerful vessels (Trawl and Seiner) in European countries. But this piece of information is more complex since, even if this is true, these data include –in the case of France and Spain– other Seas, whereas some countries from the north of Africa (Tunisia) only operate in the Mediterranean.

Again, although this information provides a first approximation, it also highlights the need to produce basic and homogeneous information about the basic parameters of the means of fishery production present in the Mediterranean.

Finally, from Eurostat data it is possible to conduct a first approximation to the evolution of Gross Tonnage, that is, the freight capacity of the fishing vessels for most EU countries. Thus, Table 3 shows how this capacity decreased drastically between 1995 and 2005 by 15%. The increase of operating costs, mainly fuel, of the efficiency of the capture methods and the limits to the availability of resources, as well as changes in the management policy may explain this behaviour.

There are some signs that indicate that this process is also taking place in other non-EU countries, but we do not have statistical evidence.

In previous CIHEAM reports, information about the power of vessels was included in Horse Power (HP). In this case this information is not included since the data reported, when published, are not

reliable. This is because the restrictions agreed upon within the GFCM framework (prohibition to construct vessels of more than 500 HP) have not been implemented and have resulted in a formal underestimation of the power. In any case, the power of engines is correlated with the vessels' gross tonnage, which is in fact presented and analysed in Table 3.

Table 2. Information on fishing fleets

Country	Year	Landing places (All/major harbours)	Fishing fleets (number of vessels)			
			Trawl	Purse-seine	Others	Small gears
Spain [1]	2000		1,700	900	750	11,000
France [2]	1996		1,000			6,000
Italy [3]	1993	802/100	1,678	170	2,590	10,000
Greece						
Portugal [4]	1997					
Cyprus	1998		14 [5]			450
Malta	2000	2	45 [6]			1,691
Slovenia [7]	1997					80
Romania	2002	19/2				
Bulgaria	2000	5				
Morocco	2000	150/22 [8]	428 [9]	397 [9]		18,000 [10]
Algeria	1996	25/4	285 [11]	602		1,090
Tunisia	2003	41/10	404 [12]	361 [13]		10,500 [14]
Libya	1996	129 [15]	85 [16]	130 [17]		3,477 [18]
Egypt [19]	1998	9/4	1,589 [20]	218 [21]		1,209 [22]
Palestine [23]	2004	4/1	17	66		640
Israel	1996		31 [24]	26 [25]		n.a.
Lebanon						
Syria						
Turkey	1995		359	509	140	8,702
Albania	2003	4				
Serbia and Montenegro						
Croatia						

Data from FAO Country profiles, (1) total fleet around 15,000 vessels included Atlantic and distant waters; (2) 7021 vessels, 73% less than 12 m and 14% are trawlers of 16-25 m. 10 deep-sea freezer trawlers and 34 tuna vessels operating in tropical waters. Since 1988 fishing capacity has fallen very sharply; (3) The fleet is under reduction since 1999; 16,788 motorized vessels, 10% trawlers and 415 of more than 100 GRT, 53 are fishing outside of the Mediterranean; (4) 11,189 vessels 85% less than 5 GRT decreasing since 1989; (5) 20-30 m; (6) Powered vessels: 30-800 HP; Production: 24% sea, 61% inland and 15% aquaculture; (7) 14 industrial vessels of 24-30 m, 5 pelagic trawls, 15 vessels 10-16 m bottom trawl and seines; (8) 16 in the Atlantic and 6 in the Mediterranean, in the Mediterranean there are 73 landing sites; (9) Other 690 polyvalent and 454 vessels of distant fleets (357 in 1998); (10) 2 GT/8-25 HP; (11) 60-400 HP, 11-22 m; (12) 420 in 2000, 400 HP; (13) 373 in 2000, 45-320 HP/11-17 m; (14) of them 7585 without motor; (15) 79 permanent; (16) 13-33 m, 160-950 HP; (17) 18 m; (18) (1993) 1014 more than 10 m and 2/3 motorized; (19) more than 15 m; (20) 1355 Med. Sea, 300-800 HP; (21) 135 Med. Sea, 20-30 crew members; (22) 930 Med. Sea; (23) Pepijn Koster, The Gaza Fishermen, Fisheries, Law and Legislation; (24) max. 25 m; (25) 10-12 m.

Table 4 examines the evolution of the fishing effort –in a less accurate and updated manner– using data from FAO, which unfortunately ends in 1995.

It should be noted that FIGIS-FAO data do not coincide with the data on fleets previously presented, and this is so because of the concept used for defining fishing vessels, which cannot take into account the smaller artisanal boats. However, it is possible that in the period from 1970 to 1995 FIGIS used the same criteria, which although it may not be accurate regarding absolute data, it does enable the tendency to be appreciated.

Table 3. Capacity in Gross Tonnage (GT) of National Fishing fleets

Gross tonnage	1995	2000	2005
Spain	607,493	521,838	487,556
France	179,207	224,077	215,052
Greece	110,224	107,407	93,515
Italy	258,540	232,467	212,929
Portugal	127,880	117,313	107,566
Cyprus			9,044
Malta			15,321
Slovenia			1,065
Romania			
Bulgaria		10,000	
EU Total	1,339,179	1,221,747	1,142,048
Morocco			
Algeria			
Tunisia			
Libya			
Egypt			
N. Africa Total			
Palestine			
Israel			
Lebanon			
Syria			
Turkey			195,165
Albania			
Serbia and Montenegro			
Croatia			
Total others			
Grand TOTAL			

Source: EUROSTAT. Except for Turkey: OECD/OCDE, Review of Fisheries.

Table 4. Evolution in Mediterranean Countries 1970-1995

Year	Number of Vessels	Total Tonnage MT
1970	56,936	1,538,195
1975	61,970	1,860,553
1980	68,515	2,084,836
1985	72,976	2,101,905
1990	86,272	2,613,136
1995	82,004	1,812,318

Source: FAO-FIGIS[2] Fleet data and Country profiles.

Of the data processed this way, it can be concluded that until the beginning of the 1990s an expansion of the effort took place regarding vessels, and the capacity of fishing fleets of the countries analysed. From the mid 1990s both dimensions started to decrease although this reduction is especially important in fleets operating in other seas, such in the case of France, Spain and Morocco.

[2] FIGIS: Fisheries Global Information System (http://www.fao.org/fi/website/FIRetrieveAction.do?dom=org&xml=FIGIS_org.xml)

Finally, within the means of production we can examine employment in the fishery sector, undoubdtedly the most important factor in the social sphere. Measuring employment is even more complex, since fishing can be a part-time activity. In the case of Eurostat the criterion used is assessing part-time employment is to use full-time job equivalents. But it is outside the EU where this phenomenon has more importance and the same methodology is not always used.

Table 5 presents employment figures as well as the evolution between 1975 and 2005. In the EU a clear decreasing trend for employment has been observed since the beginning of the 1990s. Current information is missing in order to evaluate the trend in north African countries, which increased dramatically their employment rates between 1975 and 1995. This is very important indeed because most employment in this sector is located in North Africa, especially in Egypt and Morocco. Again we can see the need to improve the available information in order to conduct a more in-depth analysis.

Table 5. Employment – Number of primary fishermen

Fishers	1975	1980	1985	1990	1995	2000	2005
Spain	112,647	109,258	*98,000*	87,351	75,009	46,189	36,709
France	32,172	22,019	*30,000*	39,013	33,156	32,687	25,459
Greece	8,337	10,116	12,973	20,152	22,290	19,847	30,502
Italy	*20,000*	24,903	*36,000*	49,429	45,000	48,770	32,174
Portugal	28,883	35,000	39,547	38,700	30,937	25,021	19,777
Cyprus	537	869	1,234	761	1,279	1,351	*1,350*
Malta	1,037	1,349	1,320	1,230	1,828	2,077	*2,100*
Slovenia	*175*	*175*	*175*	*175*	175	231	343
Romania	8,324	10,132	14,981	14,304	8,682	25,661	8,324
Bulgaria	1,100	1,150	1,300	1,500	1,483	*1,450*	*1,450*
Total EU	*215,187*	*216,951*	*237,515*	*254,605*	*221,834*	*205,284*	*160,193*
Morocco	17,000	30,787	35,000	56,000	99,885		70,000[(1)]
Algeria	3,223	6,400	*12,800*	19,290	27,292	28,225[(1)]	
Tunisia	*90,000*	90,000	40,779	55,724	61,258	57,000[(1)]	53,000[(1)]
Libya	*2,000*	2,080	*5,000*	9,500	*10,000*		
Egypt[(2)]	88,685	95,000	176,114	230,000	*250,000*		
Tot. N. Africa	*200,908*	*224,267*	*269,693*	*370,514*	*448,435*		
Palestine	*3,000*	*3,000*	*3,000*	*3,000*	*3,000*		3,098
Israel	2,783	3,000	1,216	1,100	1,250		
Lebanon	*4,000*	4,000	*3,500*	2,900	9,825		
Syria	2,229	2,200	*5,000*	7,192	4,200		
Turkey	*60,000*	62,284	*45,000*	32,000	33,614	50,000	98,787
Albania	*2,800*	2,800	3,300	4,005	1,280	2,800	2,400[(1)]
Serbia and Montenegro							
Croatia	*50,000*	*50,000*	*50,000*	*50,000*	49,991	15,151	
Tot. Others	*12,4812*	*127,284*	*111,016*	*100,197*	*103,160*		
TOTAL	540,907	568,502	618,224	725,316	773,429		

Source: EUROSTAT, Employment in the fishery sector (Date of extraction: 27 Sep 07); Data for Turkey, Greece, Spain, France, Italy for the years 2000 & 2005, comes from: OECD/OCDE, Review of Fisheries. Data for non European countries: FAO Fish.Circ.927; Palestine: Pepijn Koster, The Gaza Fishermen, Fisheries, Law and Legislation; Italics: Estimations from the authors to allow calculations of partial and total trends.
[(1)]From FAO country profiles.
[(2)]Egypt presents a very particular situation, where fishermen mainly work in continental waters (Nile river and lakes). Only around 30,000 of their 250,000 fishermen are working in Mediterranean waters.

The total number of fishermen in these countries is around 720,000. Of them, approximately 360,000 fishermen currently work in Mediterranean waters: 90,000 from EU (excluding Atlantic and Black Sea fishermen), 150,000 from Africa (excluding fishermen working in the Atlantic, Black Sea, Red Sea and continental waters of Egypt) and 120,000 from other countries (excluding Atlantic and Black Sea fishermen). These figures should be taken with caution since they are very sensitive to a more harmonized and accurate measurement of their real weight.

Production

Total world fisheries production in 2005 amounted to 141 million tonnes, of which 103 million tonnes were from marine production (84 million tonnes from capture fisheries and 19 million tonnes from marine aquaculture). It must be pointed that only China represents a total production of 47 million tonnes.

Furthermore, looking at the regional level, there is a group of major fisheries regions which in terms of volume of catches total around 60 million tonnes; these regions are the North-West Pacific (including China), South-East Pacific, the West Central Pacific and North-East Atlantic. Capture production in the remaining regions rank between 5.6 million tonnes in the East Indian Ocean and 2.4 million tonnes in the North-West Atlantic (the remaining regions in this group are East Central Atlantic, South-West Atlantic, South-East Atlantic, Western Indian Ocean, North-East Pacific, East Central Pacific and South-West Pacific).

Capture fisheries production in the Mediterranean and Black Sea region with 1,326,425 tonnes is not so far behind this second group. And when we consider fishing activities in terms of value or from the social point of view, rather than in terms of volume of catches, the relative importance of Mediterranean fisheries in the world context becomes much clearer.

Fisheries (catches/landings: volume and value)

The trend of catches observed during the last year, shows a progressive decrease in the European share of catches in the Mediterranean. The new data confirm this trend, i.e. the European industrialised countries are reducing their respective shares in the total landings in favour of those of developing countries.

Table 6 and the graphs derived from it (Figs 1 and 2) describe the evolution of production in the Mediterranean in the past 50 years. This table shows the increase in the fishing activity until the end of the 1980s. From that moment production started to fall slowly and it has not yet become stable.

In the same figure it is possible to see how by including all national catches (those realized in other seas), although there are more oscillations, the trend observed is very similar. If by considering total production the trend points at a stabilization with no reduction this is due to the role of aquaculture, whose production in the past years has exceeded catches in the Mediterranean and Black Seas.

At present, catches in the Mediterranean and Black Seas account for 23% approximately of total fishery and aquaculture production of Mediterranean countries in terms of volume, a very modest position in the context of fish production in the region.

Table 8 shows –excluding aquaculture– that catches in the Mediterranean are less than 15% of total capture for France, Spain, Portugal and Morocco; and lower than 50% for Romania, Egypt, Syria and Turkey.

Although it should be pointed out that this low volume is compensated by the greater value of those products coming from the Mediterranean as we shall see later on.

Amongst the species frequently caught in the Mediterranean we can mention the anchovy and the sardine which, together with the Skipjack tuna, are very important within national catches. However, regarding aquaculture productions, the greater weight does not rely on products produced in the Mediterranean, but in fresh water or in other seas (Blue mussel, Nile tilapia, Cyprinids nei, Pacific

cupped oyster). That is, also in aquaculture, in terms of volume, the importance of the activity in the Mediterranean sea is reduced, although a increasing trend is observed.

Table 6. Total, capture and aquaculture productions in 2005 by country in tonnes. Source: FAO-FISHSTAT

Country	Capture from Mediterranean and Black Sea	Total capture	National Aquaculture	Total production
Bulgaria	3,409	5,434	3,145	8,579
Cyprus	1,886	1,916	2,333	4,249
France	31,189	651,003	258,480	909,483
Greece	88,615	92,743	106,208	198,951
Italy	281,475	299,978	180,943	480,921
Malta	1,435	1,435	736	2,171
Portugal	98	212,381	6,485	218,866
Romania	2,026	6,068	7,284	13,352
Slovenia	1,025	1,227	1,536	2,763
Spain	107,784	849,251	221,927	1,071,178
Total EU	*518,941*	*2,121,436*	*789,077*	*2,910,513*
Algeria	126,260	126,260	368	126,628
Egypt	56,722	349,554	539,748	889,302
Libya	46,003	46,076	266	46,342
Morocco	41,309	945,520	2,257	947,777
Tunisia	107,929	109,153	2,665	111,818
Total North Africa	*378,224*	*1,576,564*	*545,304*	*2,121,868*
Albania	2,065	3,802	1,473	5,275
Croatia	34,650	34,683	13,782	48,465
Israel	2,680	4,151	22,404	26,555
Lebanon	3,523	3,798	803	4,601
Palestine	1,805	1,805		1,805
Serbia and Montenegro	480	2,468	4,554	7,022
Syria	3,677	8,447	8,533	16,980
Turkey	380,381	426,496	119,177	545,673
Total others	*429,261*	*485,650*	*170,726*	*656,376*
Grand TOTAL (t)	1,326,425	4,183,649	1,505,107	5,688,756
% over total prod.	23.3	73.5	26.5	100.0

As regards the role of aquaculture over fisheries (Fig. 3), large differences exist between Mediterranean countries. Whereas for main EU Mediterranean countries aquaculture represents about 27% of the total production, in some countries, such as Egypt and Israel, aquaculture already represents a 60% and even a 84%, respectively. While Israel bases its development on high intensive production systems requiring large investments, Egypt does it with semi-intensive production looking to satisfy local consumption. In the other extreme there are countries with a very low relative weight, partly due to the importance of capture fisheries or due to lack of investment in aquaculture (e.g. Algeria, Portugal, Morocco, Tunisia).

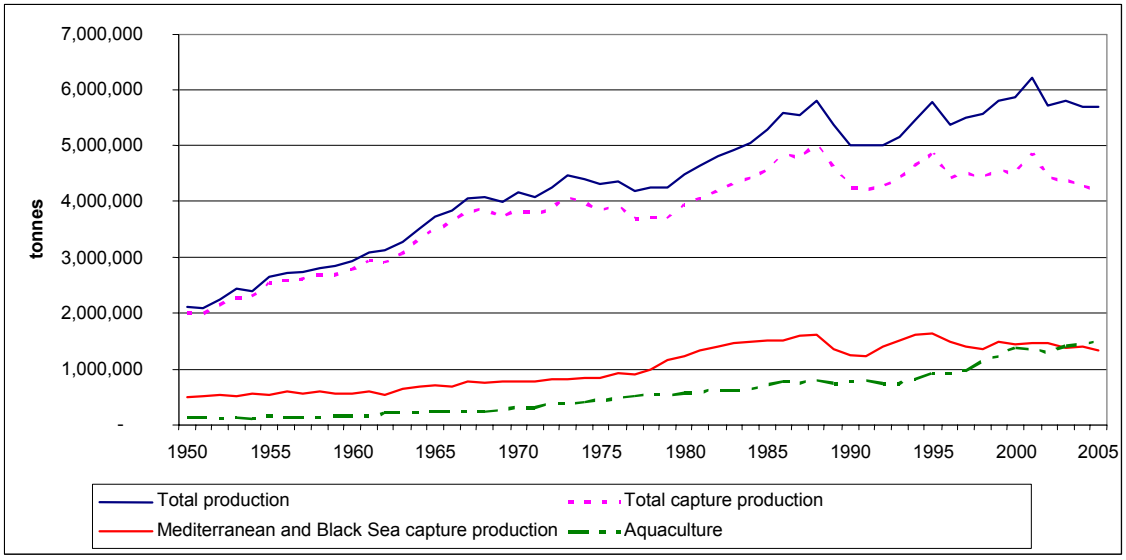


Fig. 1. Evolution of aggregated productions of Mediterranean Countries. Source: FAO-FISHSTAT.

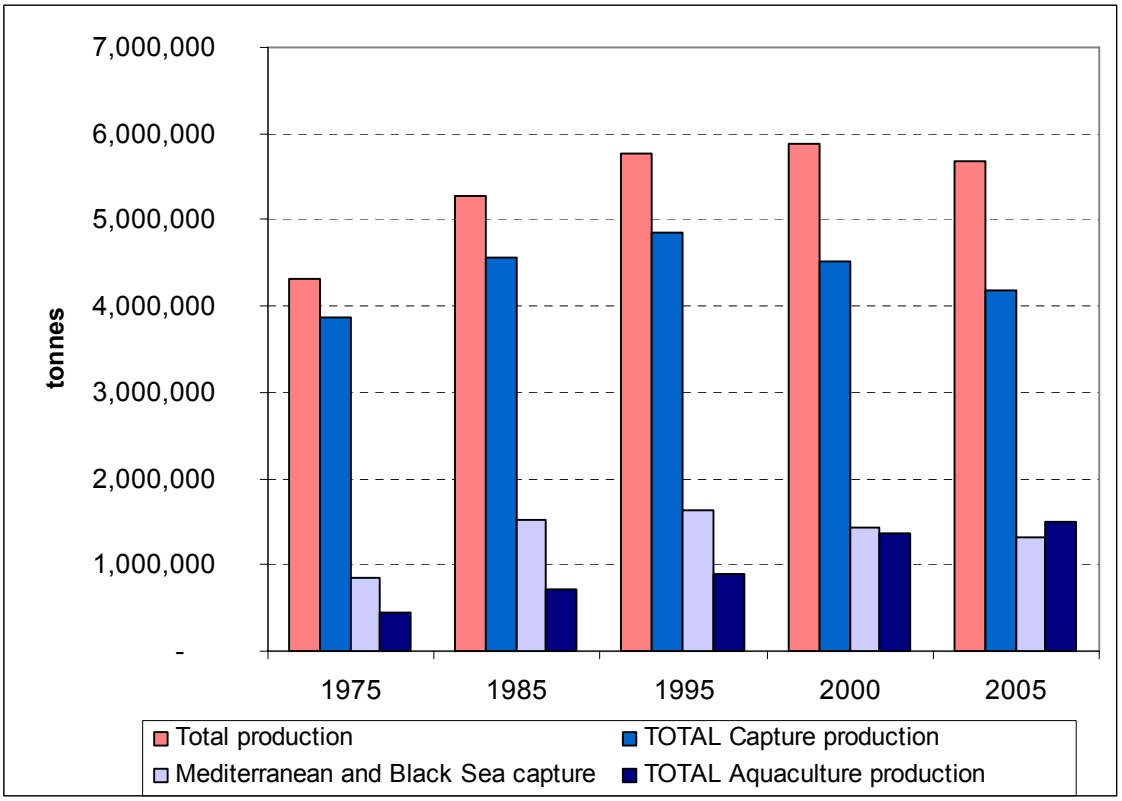


Fig. 2. Comparison of aggregated productions of Mediterranean Countries. Source: FAO-FISHSTAT.

When looking at main species produced in the region (Table 7), one can observe how aquaculture is already present within the top five species (European pilchard, Nile tilapia, European anchovy, Blue mussel and Skipjack tuna).

When examining the evolution of the distribution of production by big groups (FAOSTAT groups), we can observe in Table 8 how during the 80s certain stability was maintained in capture fisheries.

However, in the last ten years the two largest groups (Demersal and Pelagic marine fish) are experiencing a important decreasing trend which is not compensated by any other group. Only Mollusc and Crustaceans have seen small increases.

Table 7. Top 5 species (in volume) of capture and aquaculture productions in 2005

Capture from Mediterranean and Black Sea	Total capture	National aquaculture	Total production
European anchovy	European pilchard	Blue mussel	European pilchard
European pilchard	European anchovy	Nile tilapia	Nile tilapia
Marine fishes nei	Skipjack tuna	Flathead grey mullet	European anchovy
Atlantic bonito	Yellowfin tuna	Cyprinids nei	Blue mussel
Sardinellas nei	Marine fishes nei	Pacific cupped oyster	Skipjack tuna

Source: FAO-FISHSTAT.

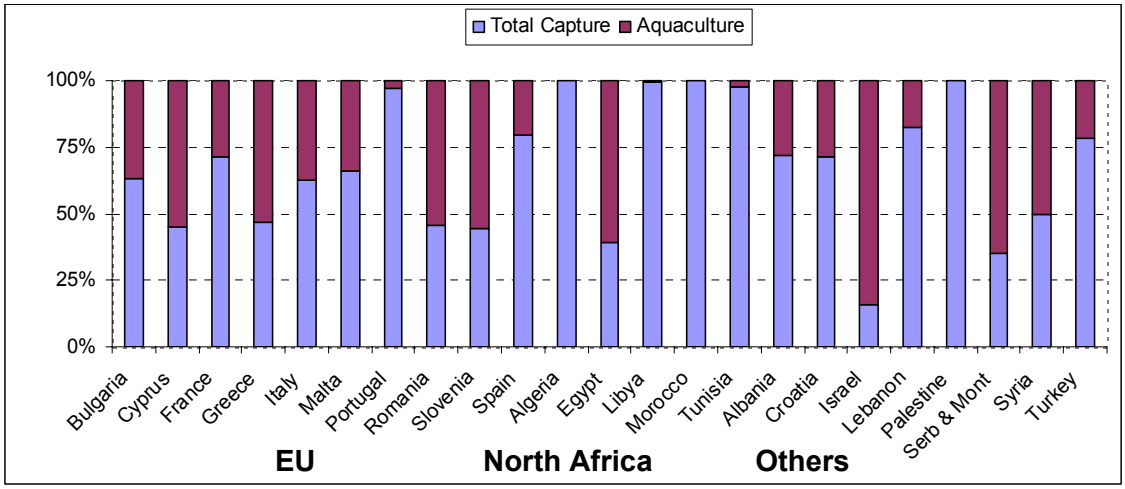


Fig. 3. Percentage distribution of total national capture and national aquaculture productions. Source: FAO-FISHSTAT.

On the contrary, in Table 8 we can also appreciate the expansion of aquaculture, especially for demersal marine and freshwater fishes, with productions based on increasingly intensive technologies. On the other hand, mollusc aquaculture production has stabilized, with volumes similar to those of ten years ago. Mollusc production is based on extensive systems more dependent on the environmental conditions, where most feeding resources are found (plankton).

A very important aspect to be analysed is the comparative evolution of Mediterranean capture production by countries studied (Table 9). Catches of the countries that make up the EU today account for only 39% of the total, whereas by the mid 1970s they caught 70% of the captures in the Mediterranean. At present, Turkey, Tunisia and Algeria are the new emerging countries in the Mediterranean context, and are positioned close to or above the old European fishing "leaders" (Italy, Spain, Greece). Thus, although the remarkable drop in catches experienced by EU countries in the Mediterranean during the last ten years (28%) has been partially compensated by North African countries, the total Mediterranean capture volumes in 2005 were 20% lower than in 1995. The drop experienced by Turkey since 1995 is also highlighted, and is probably due to the collapse of the fisheries in the Black Sea.

Table 8. Evolution of aggregated production (in tonnes) by groups (FAOSTAT groups). Source: FAO-FISHSTAT

Groups	1975	1985	1995	2000	2005	% 2005
Capture Med. & Black Sea						
Aquatic plants	2,000	2,881	500	2,000	1,600	0.1
Cephalopods	46,443	65,061	62,545	53,875	66,848	5.0
Crustaceans	27,718	51,313	46,533	52,613	61,100	4.6
Demersal marine fish	168,893	284,601	318,710	275,035	247,092	18.6
Freshwater and diadromous fish	6,862	4,128	3,610	2,581	4,368	0.3
Marine fish nei	118,698	112,324	117,315	82,656	81,050	6.1
Miscellaneous aquatic animals	544	2,175	558	1,142	555	0.0
Molluscs (excl. cephalopods)	62,545	58,347	113,561	109,368	70,994	5.4
Pelagic marine fish	412,681	937,170	975,989	843,106	792,730	59.8
Other	18	256	82	78	88	0.0
TOTAL Capture production	846,402	1,518,256	1,639,403	1,422,454	1,326,425	100.0
Aquaculture nat. prod.						
Aquatic plants		6	5,100	3,032	45	0.0
Cephalopods			<0.5	28	16	0.0
Crustaceans		88	273	276	3,549	0.2
Demersal marine fish	2,107	7,374	69,121	249,495	372,277	24.8
Diadromous fishes	41,982	75,328	148,180	179,446	156,123	10.4
Freshwater fishes	61,916	115,757	117,060	295,476	421,321	28.1
Marine fish nei			90	1,910	3,488	0.2
Molluscs (excl. cephalopods)	341,011	523,283	569,862	644,301	540,269	36.0
Pelagic marine fish		51	16	3,682	8,019	0.5
TOTAL Aquaculture nat. prod.	447,016	721,793	904,329	1,374,310	1,501,497	100.0
Total nat. production						
Aquatic mammals	689	71	23	327	165	0.0
Aquatic plants	78,084	91,016	106,216	94,782	92,156	1.6
Cephalopods	222,933	207,773	312,115	309,168	201,241	3.5
Crustaceans	119,527	132,982	118,755	126,886	116,207	2.0
Demersal marine fish	1,294,302	1,235,222	1,032,260	1,266,713	1,239,085	21.8
Freshwater and diadromous fish	244,200	394,370	562,266	750,605	839,385	14.8
Marine fish nei	359,474	349,836	276,769	179,052	164,104	2.9
Miscellaneous aquatic animals	742	2,252	1,429	1,577	1,820	0.0
Molluscs (excl. cephalopods)	477,036	620,211	730,686	822,807	690,500	12.1
Pelagic marine fish	1,509,901	2,241,795	2,626,357	2,336,456	2,344,167	41.2
Other	18	256	85	82	91	0.0
TOTAL Production	4,306,906	5,275,784	5,766,961	5,888,455	5,688,921	100.0

Table 9. Mediterranean and Black Sea capture productions (in tonnes) by country. Source: FAO-FISHSTAT

Country	Mediterranean and Black Sea capture					Total capture	%
	1975	1985	1995	2000	2005	2005	Med. in Total
Bulgaria	8,623	17,029	7,250	6,137	3,409	5,434	62.73
Cyprus	919	2,382	2,505	2,235	1,886	1,916	98.43
France	39,329	43,505	37,977	45,561	31,189	651,003	4.79
Greece	62,859	94,709	139,547	90,767	88,615	92,743	95.55
Italy	356,920	433,069	376,476	295,411	281,475	299,978	93.83
Malta	1,529	2,584	1,170	1,074	1,435	1,435	100.00
Portugal			446	96	98	212,381	0.05
Romania	6,316	14,268	2,719	2,476	2,026	6,068	33.39
Slovenia			1,851	1,630	1,025	1,227	83.54
Spain	141,436	140,290	149,007	140,208	107,784	849,251	12.69
Total EU	*617,931*	*747,836*	*718,948*	*585,594*	*518,941*	*2,121,436*	*24.46*
Algeria	37,693	66,001	105,879	113,160	126,260	126,260	100.00
Egypt	5,392	16,599	43,702	54,873	56,722	349,554	16.23
Libya	4,949	14,006	34,010	44,006	46,003	46,076	99.84
Morocco	15,442	35,061	39,676	32,878	41,309	945,520	4.37
Tunisia	45,131	91,105	82,931	94,744	107,929	109,153	98.88
Total North Africa	*108,607*	*222,772*	*306,197*	*339,661*	*378,224*	*1,576,564*	*23.99*
Albania	5,500	7,419	1,161	2,366	2,065	3,802	54.31
Croatia			15,904	21,051	34,650	34,683	99.90
Israel	7,836	4,972	3,577	3,966	2,680	4,151	64.56
Lebanon	2,400	1,400	4,065	3,646	3,523	3,798	92.76
Palestine			1,229	2,623	1,805	1,805	100.00
Serbia and Montenegro			377	434	480	2,468	19.45
Syria	876	1,245	1,950	2,581	3,677	8,447	43.53
Turkey	103,252	532,612	585,995	460,531	380,381	426,496	89.19
Yugoslavia SFR	31,694	48,516					
Total others	*151,558*	*596,164*	*614,258*	*497,198*	*429,261*	*485,650*	*88.39*
Grand TOTAL	878,096	1,566,772	1,639,403	1,422,454	1,326,425	4,183,649	31.70

But perhaps for the companies who exploit the fishery resources, the most important indicator is to measure the revenues that are generated. A simple and representative indicator is the sum of the values of the sales of these products.

However, this piece of information is very difficult to obtain and harmonize. Regarding the measurement units, the decision made is to adopt the euro as a reference currency, and not the dollar, in order to consider the economic value aspects.

As regards the sources of information, it should be pointed out that no systematic information is produced. Very recently, Eurostat has started to produce this type of information, but it does not yet cover all EU member countries. However, this source is the most reliable and accessible. For the rest of the countries, only the FAO produced some systematic studies at the end of the 1990s which enabled the publication of countries' records profiles. Table 10 has been elaborated with the scarce information available.

Regrettably, despite the resources available and the repeated mandates issued in this respect, this basic information has not yet been published within the framework of the fisheries regional organizations of the area.

Table 10. Value of landings in millions Euros

TOTAL million €	1995	2000	2005	Gross value of fisheries output at ex-vessel prices [1] (millions €)	Gross value of fisheries output at ex-vessel prices (year of data)
Spain	1,898	1,751	1,513	2,458.5	2000
France	849[2]	845	775	1,155.5	1996
Greece	270	220	308	263.2	1997
Italy	882	823	1,413	1,436.8	1991
Portugal	261	272	127	240.0	1997
Cyprus			6	21.1	1998
Malta			6	3.8	2000
Slovenia			0.4		
Romania				40	2002
Bulgaria		24.2			2000
Morocco				560.9	2000[3]
Algeria				395.9	2001
Tunisia				250	2003
Libya				106.0	1996[4]
Egypt				3,255	2001
Palestine, Oc.Tr					
Israel				50.3	1996
Lebanon					
Syria					
Turkey	719[2]		852[2]	974.7	1999
Albania				18	2002
Serbia and Montenegro					
Croatia					

Sources: EUROSTAT, Monthly Landings of fishery products, Last update: 22 Mar 2007.
(1) FAO Fishery Country Profiles; (2) OECD/OCDE; (3) Data provided in Moroccan Dirham and transformed using the rate in 2003 1US$=9.3 Dh (1€=10.8 Dh); (4) Data provided in Libyan Dirham and transformed using the 1995 rate 1 US$=0,34 Dh.

From Table 10 it can be deduced that for the year 2005, capture fisheries have represented approximately 4,000 million euro for the European countries. For the rest of the countries the information available is highly fragmented, but if we extrapolate the amount of catches to the revenues, we could then estimate a total value of landings that exceeds 10,000 million Euro. Probably, this figure may overestimate the value generated, since prices outside the EU are lower, but not much lower, since production is partly exported to this zone.

Aquaculture

Regarding aquaculture production (Table 11), as indicated in the last report, production is dominated by some countries: Egypt, France, Spain, Italy, Greece and Turkey; Egypt being the country that has shown the highest expansion in recent years. These six countries supply 95% of the total production in the region. Whilst in Spain, France and Italy the production is mainly based on molluscs (mussels, oysters, and clams respectively), in Egypt the production is based on the semi-intensive production of freshwater (i.e. tilapia and carp) and marine finfish species (i.e., mullet). Greece and Turkey, among others, concentrate most of their production in the intensive production of finfish (seabream, seabass and trout).

Table 11. Aquaculture production (in tonnes) by country. Source: FAO-FISHSTAT

Country	1975	1985	1995	2000	2005
Bulgaria	6,188	10,560	4,615	3,654	3,145
Cyprus	31	56	452	1,878	2,333
France	164,937	226,903	280,786	266,802	258,480
Greece	1,520	2,377	32,644	95,418	106,208
Italy	51,088	104,301	214,725	216,525	180,943
Malta			904	1,746	736
Portugal	232	6,402	4,981	7,537	6,485
Romania	32,316	42,414	19,830	9,727	7,284
Slovenia			789	1,181	1,536
Spain	168,312	266,608	223,965	312,171	221,927
Total EU	*424,624*	*659,621*	*783,691*	*916,639*	*789,077*
Algeria		141	369	351	368
Egypt	9,000	41,846	71,815	340,093	539,748
Libya			100	100	266
Morocco	59	160	2,072	1,889	2,257
Tunisia	2	147	960	1,553	2,665
Total North Africa	*9,061*	*42,153*	*74,947*	*343,635*	*544,936*
Albania	85	1,208	340	307	1,473
Croatia			4,007	6,674	13,782
Israel	12,441	12,954	16,180	20,098	22,404
Lebanon	5	300	300	400	803
Syria	30	2,810	5,857	6,797	8,533
Turkey	770	2,700	21,607	79,031	119,177
Yugoslavia SFR	16,968	11,086			
Otal others	*30,299*	*31,058*	*50,695*	*117,021*	*170,726*
Grand TOTAL	463,984	732,832	909,333	1,377,295	1,504,739

Regarding European countries, the aquaculture sector, after a rapid increase observed during last decades, seems nowadays more or less stabilised. This fact is probably due to several factors, such as the decrease of prices (normally seen after fast growth periods) observed in several marine finfish species (i.e seabass and seabream), to the scarcity of new potential production sites, to

environmental concerns and new regulations and/or because main production volumes are still concentrated in few species. Actually, in these countries there are no real expectations, in the short term, for new species to be produced in high commercial volumes.

In European countries, the possibilities of expansion may come from the development and application of new productions technologies (recirculation systems and offshore production) which may help the sector to overcome environmental and space scarcity constraints.

As regards North African countries (with the exception of Egypt) aquaculture is not rising to the initial expectations of one or two decades ago. There, aquaculture represents a very small percentage of the total production (Fig. 3), and in same cases the sector has seen some company failures.

As regards Non European countries, the importance of aquaculture in Egypt is highlighted as well as its rapid growth during the last ten years (from 72,000 t in 1995 to 540,000 t in 2005). Egypt, with an aquaculture sector based on semi-intensive production techniques is the leader in some finfish species (tilapia, mullet and carps). Turkey and Israel are also successfully developing the aquaculture sector, basing their production on more intensive production techniques.

The production figures in values by countries (Table 12) and also by species groups (Table 13), confirm the same recent trend observed in the production in weight. Thus, despite an increase in production weight of 9% for the whole region for the period 2000-05, the production value has decreased by 3%. This decrease of the revenues seems to be a general trend and affects mainly European and North African countries.

Bearing this information in mind, we may conclude that the aquaculture sector is risking development constraints and may even slow down in the future in many countries, if the sector is not able to generate more added value. A possible reading is the existence of a common business strategy based mainly on the increase of production. This strategy, accompanied by a reduction of production costs, can enable very competitive prices, but can also narrow margins too much, pushing many small companies out of the market. This has been observed, for instance, in the case of seabass and seabream.

Another element of interest is its relative importance compared to fisheries. In previous sections the turnover of products from capture fisheries in the region was estimated at 10,000 million euro. Today the turnover of aquaculture production is around 3,000 million euro, that is, around 30% of the economic weight.

As regards species group, as illustrated in Table 13, the production of mollusc (bivalves) and diadromous fishes (trout) has been declining over the last 5 years. On the contrary marine fishes and freshwater fishes have seen a significant increase in production volumes, which however have had a negative growth on value. Currently, marine fishes account for 25% of the volume and 43% of the value of aquaculture production.

Figures 4 and 5 represent the comparison of production volume and value for the main aquaculture produced mollusc and finfish families. As regards molluscs, is interesting to see how the value of the clams, mussels and oyster sectors are more or less similar, despite having different production weight. When looking at finfish, the high value of the seabass (Moronidae) and seabream (Sparidae) sector is to be pointed out, followed by the trout (Salmonidae), and the tilapia (Cichlidae), mullet (Mugilidae) and carps (Cyprinidae).

Finally it should be pointed out that an increase in the number of species cultured is taking place (Table 14). This increase of species is mainly seen in fish species, as for mollusc, crustacean and aquatic plant species, the recorded species are stable or are even decreasing. Within fish, 40 species, out of the 65 recorded species, have very low production volumes (less than 1000 T); these being low levels considered between pilot/semi-commercial production conditions (as in the case of some marine fishes: sole, blackspot seabream, etc.) or commercial production targeting at local demands or very specific market niches (tench, sturgeon, etc.).

Table 12. Aquaculture production value (1000 Euros) by countries

Country	1985	1995	2000	2005
Bulgaria	28,794	9,726	7,961	7,677
Cyprus	313	3,511	11,184	14,240
France	337,558	521,274	461,354	555,217
Greece	9,019	123,648	316,197	345,442
Italy	221,089	329,572	494,698	476,201
Malta		6,388	5,439	4,313
Portugal	35,023	22,180	54,818	32,966
Romania	139,724	37,715	16,972	13,000
Slovenia		2,507	3,926	3,292
Spain	308,866	196,519	410,064	280,394
Total EU	*1,080,384*	*1,253,040*	*1,782,615*	*1,732,742*
Algeria	567	763	1,018	687
Egypt	32,033	90,546	884,652	636,392
Libya		118	163	1,016
Morocco	602	9,632	5,486	6,383
Tunisia	218	4,287	7,714	11,144
Total North Africa	*33,419*	*105,346*	*899,031*	*655,622*
Albania	1,790	197	519	2,933
Croatia		9,803	28,749	47,839
Israel	26,779	38,441	82,917	58,360
Lebanon	1,478	1,179	1,302	1,964
Serbia and Montenegro		4,738	10,588	9,102
Syria	10,110	21,154	34,831	59,025
Turkey	10,060	99,980	238,544	413,749
Yugoslavia SFR	35,560			
Total others	*85,776*	*175,493*	*397,450*	*592,973*
Grand TOTAL	1,199,578	1,533,879	3,079,096	2,981,338

Source: FAO-FISHSTAT.

Table 13. Volume (tonnes) and value (1000 Euros) of Aquaculture production by species group (ISSCAAP Division)

Volume (tonnes)						
Species	1985	1995	2000	2005	% 2005	Increa. 00-05
Aquatic plants	6	5,100	3,032	45	0.0	n.d.
Crustaceans	88	273	276	3,549	0.1	n.d.
Diadromous fishes	75,328	148,180	179,446	156,123	10.4	-13.0
Freshwater fishes	115,757	117,060	295,476	421,321	28.1	42.6
Marine fishes	7,425	69,227	255,087	383,784	25.6	50.5
Molluscs	523,283	569,862	644,329	540,285	36.0	-16.1
TOTAL	721,793	904,329	1,374,338	1,501,513	100.0	9.3
Value (1000 €)						
Species	1985	1995	2000	2005	% 2005	Increa. 00-05
Aquatic plants	1	1,453	10,904	13	0.00	n.d.
Crustaceans	654	3,393	3,076	31,627	1.06	n.d.
Diadromous fishes	317,271	329,998	432,121	395,354	13.26	-8.5
Freshwater fishes	273,932	187,451	593,524	472,358	15.84	-20.4
Marine fishes	32,576	367,817	1,304,920	1,287,237	43.18	-1.4
Molluscs	575,146	643,769	734,552	794,748	26.66	8.2
TOTAL	1,199,578	1,533,879	3,079,096	2,981,338	100.00	-3.2

Source: FAO-FISHSTAT.

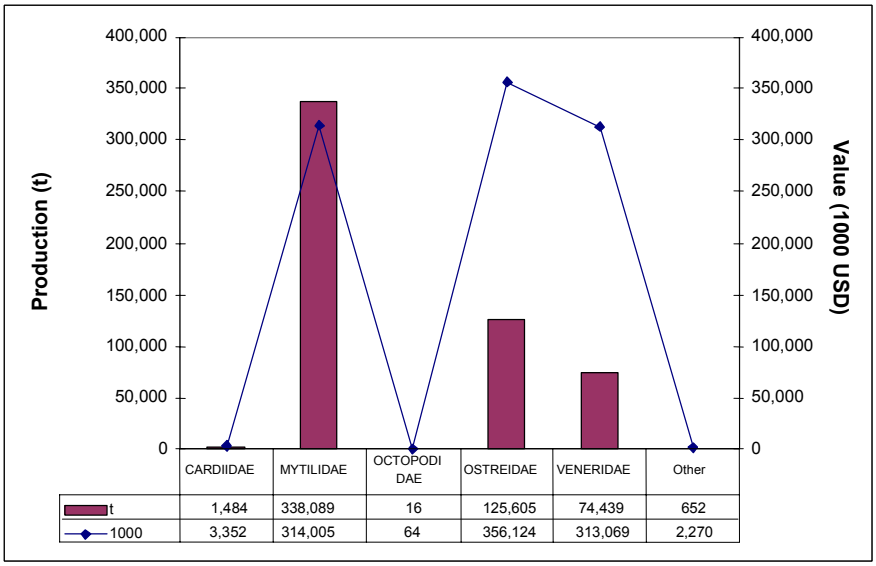
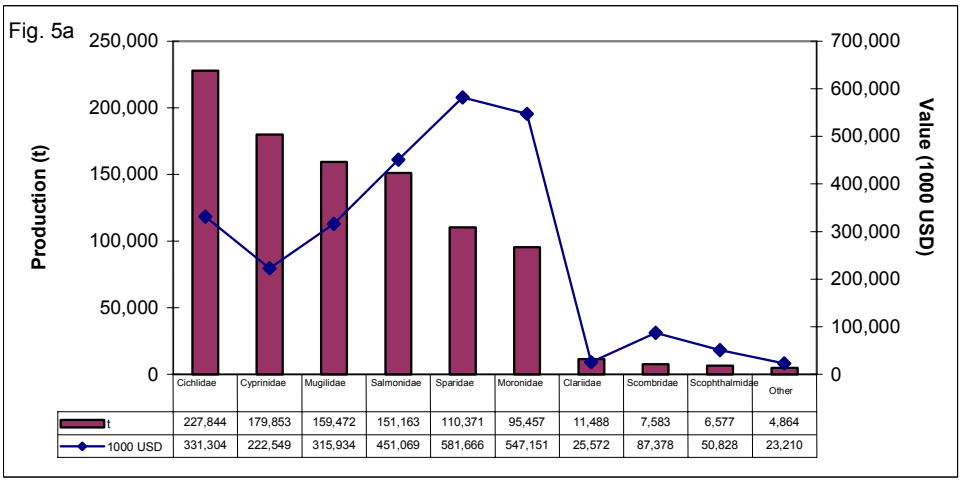


Fig. 4. Mollusc aquaculture production by family: quantities (tonnes) and value (1000 USD) in 2005. Source: FAO-FISHSTAT.



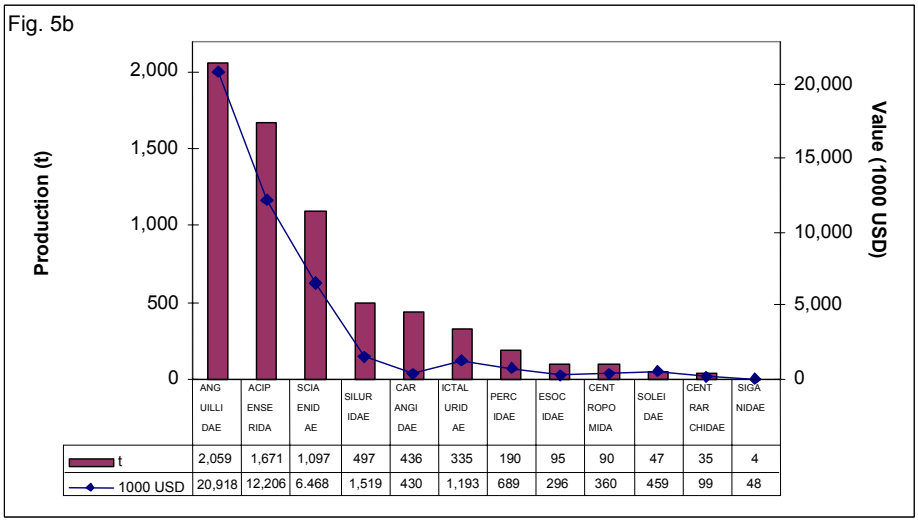


Fig. 5. Fish aquaculture production by family: quantities (tonnes) and value (1000 USD) in 2005. Source: FAO-FISHSTAT.

Table 14. Aquaculture. Evolution of cultured species (number). Source: FAO-FISHSTAT.

Production (t)	No. of cultured species				
	1975	1985	1995	2000	2005
Pisces					
> 50,000		2	2	6	7
50,000 – 10,000	2	2	6	3	4
10,000 – 1,000	6	8	12	12	14
1,000 - 100	3	11	11	18	18
< 100	5	7	17	13	22
Total fish	*16*	*30*	*48*	*52*	*65*
Mollusca					
> 50,000	2	3	4	4	4
50,000 – 10,000	2				
10,000 – 1,000		3	4	4	3
1,000 - 100		1	3	5	4
< 100		3	7	8	6
Total mollusca	*4*	*10*	*18*	*21*	*17*
Crustacea					
10,000 – 1,000					1
1,000 – 100			1	1	1
< 100		5	12	8	6
Total crustacea		*5*	*13*	*9*	*8*
Plantae aquaticae					
10,000 – 1,000			1	1	
1,000 – 100			1		
< 100		1		2	2
Total plantae aquaticae		*1*	*2*	*3*	*2*
TOTAL	20	46	81	85	92

The exploitation of tuna

The exploitation of tuna is one of the oldest and most complex fishing activities of the Mediterranean. It is practised on a species of very high economic value whose main target are the Japanese markets, and this causes a strong fishing effort. Tuna is a transzonal species/product swimming in international and national waters of dozens of countries and in large aggregates of individuals, which facilitates its location and capture on a large scale. Finally, it should be noted that tuna is characterized by complex breeding, low maturation and by being vulnerable to reductions in their feed (small pelagics) and also very much affected by overfishing.

Taking into consideration all these factors, it is easy to understand the critical situation of these resources. Information about the markets presented here can be found in the International Commission for the Conservation of Atlantic Tunas (ICCAT), and although it may be improved, this information presents remarkable scope, homogeneity and continuity, at least regarding the normal standards in the Mediterranean. The source of information on production/capture data is FISHSTAT, and due to the characteristics of this fishery, the reliability and coverage of these data are limited. This circumstance also makes it difficult to determine these catches used for fattening.

In accordance with available statistics, production of tunas, bonitos and billfishes in the Mediterranean sea has been decreasing since the year 1995 (Table 15), after various decades of expansion. The expansion of production that took place between 1975 and 1985, when it more than doubled, has proved to be unsustainable. However, despite this slight contraction reported by official statistics, the state of the resources has not improved and there is still pressure to adopt more stringent measures.

Table 15. Capture production (in tonnes) of tuna, bonitos and billfishes fishes in the Mediterranean and Black Sea by country. All countries included.

Country	1975	1985	1995	2000	2005
Bulgaria		1	25	35	56
Cyprus	12	113	109	189	631
France	1,600	5,680	9,608	6,794	8,655
Greece	658	3,915	5,610	6,673	4,362
Italy	12,843	24,191	17,843	16,321	20,439
Malta	313	248	670	557	732
Portugal			446	75	21
Spain	2,996	6,322	8,581	5,735	3,069
Total EU	*16,822*	*34,790*	*37,282*	*36,379*	*37,965*
Algeria	706	2,030	2,343	4,494	2,823
Egypt	3	94	1,227	2,804	1,389
Libya	780	300	1,540	1,076	73
Morocco	362	177	3,456	4,292	2,714
Tunisia	1,365	4,511	3,513	6,568	6,489
Total North Africa	*3,216*	*5,082*	*10,539*	*19,234*	*13,488*
Albania			1	25	35
Croatia			1,437	1,050	1,123
Israel	200	259	215	113	89
Lebanon	200	120	500	500	385
Palestine				140	134
Serbia and Montenegro			45	45	49
Syria		95	155	370	460
Turkey	3,398	15,229	13,470	14,509	11,841†
Yugoslavia SFR	200	1,133			
Total Others Med.	*3,998*	*16,836*	*2,353*	*15,702*	*14,116*
China			137		
Japan	1,263	925	741	143	409
Korea			460		987
Other nei		1,289	1,350	126	
Panama			1,498		
Taiwan	25		493	31	277
Total Others Non Med.	*1,288*	*2,214*	*3,329*	*300*	*1,673*
Grand TOTAL	26,924	66,632	75,472	72,640	67,242

Source: FAO-FISHSTAT PLUS

†Turkey, although 2005 reported data 73,769 t, for the calculation of the sums and total has been considered the average of five previous reported years (11,841 t).

Amongst the species exploited we could highlight the Atlantic Bonito, Atlantic Bluefin tuna and Swordfish. These three species account for 90% of the total capture of these large pelagics in the Mediterranean; some 130,000 t in 2005 (Table 16).

Table 16. Capture production (in tonnes) of tuna fishes in the Mediterranean and Black Sea by species. All countries included

Species	1975	1985	1995	2000	2005
Albacore	500	4,129	1,587	5,578	3,657
Atlantic bluefin tuna	11,266	19,296	37,560	23,106	23,886
Atlantic bonito	6,038	18,487	15,371	18,760	77,460
Atlantic sailfish					
Atlantic white marlin			1	1	
Frigate and bullet tunas	2,644	5,240	5,205	2,763	3,029
Little tunny (=Atl. black skipj)	1,386	2,040	1,894	3,298	1,660
Marlins, sailfishes, etc. nei			1	1	50
Plain bonito		9	115	145	5
Skipjack tuna	6	13	43	90	29
Swordfish	4,304	15,293	12,432	15,570	14,582
Tuna-like fishes nei	780	2,125	1,264	3,353	4,739
TOTAL	26,924	66,632	75,473	72,665	129,097

Source: FAO-FISHSTAT.

Of all of them, the Atlantic bluefin tuna is the most valuable and sensitive species, whose reported catches are 24,000 t in the Mediterranean, which accounts for 55% of total production worldwide. As illustrated in Table 17 and Fig. 6, most of these catches (66%) are realized by European fleets (mainly, France, Italy and Spain). But 18 non-European countries (Mediterranean and from other regions) also fish this species, apart from catches realized illegally by IUU fleets and of which there is of course no statistical information.

The final destination of this production (at least 70%) is mainly Japan. This type of trade started at the beginning of the 1990s, as shown in Table 18, until becoming today the final destination of the fishing activity on the Atlantic bluefin tuna.

Finally the stagnation of production should be mentioned, as it has become a limited resource, although for the time being this has not led to a reduction of the flow of this product to Japan. And this is so simply because less is consumed and more is exported. However, it seems evident that finally this market will be affected and then the need for a more restrictive and stringent management will become more evident, in order to assure the sustainability of the stock and of the markets.

Table 17. Atlantic bluefin tuna production (in tonnes) in 2005 by country. All countries included (Source: FAO-FISHSTAT)

Country	Capture: Mediterranean and Black Sea	Capture: Other areas†	Total capture	Aquaculture	Total production
Cyprus	149		149	193	342
France	8,638	818	9,456		9,456
Greece	318		318		318
Italy	4,841		4,841	300	5,141
Malta	346		346		346
Portugal		80	80	1	81
Spain	1,519	4,166	5,685	3,364	9,049
Total EU	*15,811*	*5,064*	*20,875*	*3,858*	*24,733*
Algeria	950		950		950
Libya				25	25
Morocco	92	2,405	2,497		2,497
Tunisia	3,249		3,249	275	3,524
Total North Africa	*4,291*	*2,405*	*6,696*	*300*	*6,996*
Croatia	1,021		1,021	3,425	4,446
Serbia and Montenegro	7		7		7
Syria	98		98		98
Turkey	990		990		990
Total Others Med.	*2,116*	*0*	*2,116*	*3,425*	*5,541*
China		24	24		24
Faeroe I.		2	2		2
Canada		600	600		600
Ireland		1	1		1
Japan	404	3,210	3,614		3,614
Korea	987		987		987
Mexico		22	22		22
Taiwan	277		277		277
USA		526	526		526
Total Others Non Med.	*1,668*	*1,175*	*6,053*		*6,053*
Grand TOTAL	23,886	11,854	35,740	7,583	43,323

†Other areas: Northeast, Northwest and Eastern Central Atlantic.

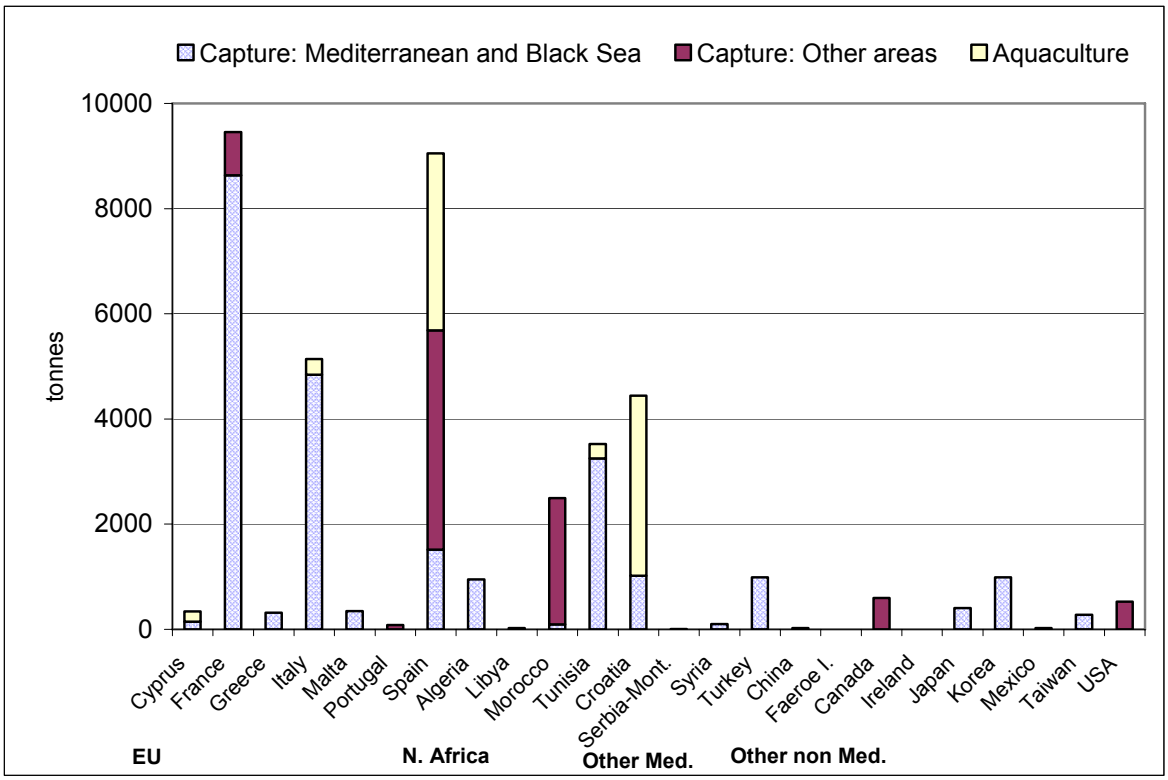


Fig. 6. Total capture and aquaculture productions (in tonnes) of Atlantic bluefin tuna in 2005. All countries included. Source: FAO-FISHSTAT. Other areas: Northeast, Northwest and Eastern Central Atlantic.

Table 18. Declared exports (mainly to Japan) of bluefin tuna in tonnes

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
EU	300	8,325	11,965	10,248	8,595	8,727	13,674	10,477	9,722	12,245	10,751	13,520	14,680
Morocco		3	30	3	11	102		38	4	5	112	44	
Tunis		120	718	1,290	588	956	703	645	728	390	1,234	660	1,622
Libya		36			26	236	262	514	583	532	559	680	1,843
Turkey		94	140	163	369	417	336	534	584	1,409	1,822	4,359	3,662
Croatia				36	415	262	287	721	1,080	1,835	2,445	2,503	2,081
Total	300	8,578	12,853	11,740	10,004	10,700	15,262	12,929	12,701	16,416	16,923	21,766	23,888

Source: ICCAT, Bluefin 2006 Assessment Meeting SCRS /2006/013. Report of the 2006 Atlantic Bluefin Tuna Stock Assessment Session (Madrid, Spain – June 12 to 18, 2006). Extracted from *Table 3: Total Task I, reported production and estimated capture weights of exported bluefin from the Mediterranean and East Atlantic*.

Trade

First of all, it has to be taken into account that the import-export data used are considering the trade activity of fish and fishery products produced (capture or aquaculture) by Mediterranean countries inside and outside of the Mediterranean region, but also the trade activity of those products landed by non Mediterranean fleets of Mediterranean countries. It is also important to take in consideration that these countries have traded not only between each other but also with the rest of the world. This fact can difficult the appreciation of the situation of the Mediterranean Sea, especially in the case of France, Morocco, Spain and Portugal, whose fleets are also fishing in the Atlantic Ocean, of Turkey because they also fish in the Black Sea, and of Egypt in the Red Sea. However, this kind of analysis provides a whole overview of fisheries in each country.

The importing nature of the region should be stressed as a common characteristic. All countries

are net importers in volume terms, except Morocco (Table 19). As regards value terms (Table 20) most countries are also importers. Net exporters in value are Morocco, Turkey and Tunisia.

An important trend to be mentioned is the significant increase of trade during recent years; with an export-import trade balance increase of 42% for the period 1995-2005. Both imports and exports have increased during this period, 47% and 51%, respectively.

In the area taken into consideration, Italy, France, Spain and Portugal, and in general the European countries, appear as the main importers as is shown in Tables 19 and 20 (88% in volume and 95% in value in year 2005). The same countries, together with Morocco, are also the main exporters. In 2005, European countries reported almost 80% of exports in 2005. For this reason, the trade balance of EU countries, is partially compensated by the value of exported products.

From a global perspective some structural changes appear between 1995 and 2005 in the area. In particular, some countries have shown important relative changes. Some of them have an important increment of their external trade (import and exports), this is the case of Egypt, Croatia, Lebanon or Syria.

In other aspects the situation remains constant. Morocco, is the major "exporter" country and seems to show an increasing of imports, which results in an important increase in the internal consumption of fish and sea products. Spain, remains the main "importer", followed by France and Italy.

A relevant aspect to be considered is that despite the stable production of the last decade (with a decrease in capture fisheries and an increase of aquaculture), the volume of trade (both of imports and exports) carries on increasing, showing the effects of trade globalization, which no doubt fully affects fisheries. This increase of fish trade is correlated with an increase of consumption in the region.

In this approach, it is clear that the basis of the trade structure of the region is kept constant. While the EU is an important importer of high value products, with an increasing deficit of more than 8700 million euro, North-African countries are exporters from the monetary viewpoint, with a positive trade balance (a surplus of 800 million euro). However, among the rest of the countries there is a movement towards a deficit in the fishery trade balance (Israel, Albania, Croatia, Lebanon or Syria) – but in the case of the increasing exporting character of Turkey.

This structural change should be considered carefully. We are facing a scenario in which more and more countries of the Mediterranean basin are becoming net importers of fish. In summary, only Morocco, Tunisia and Turkey are net exporters out of the 22 countries considered, in economic terms. In volume terms, only Morocco is a net exporter, that is, it exports more tonnes of fish than it imports.

In a context with increasing population and a stagnant or reduced production, caused by the state of the resource, it is likely to have a future scenario of increased prices for fish products in the Mediterranean basin. This involves positive (more added value for producers in the area), but also negative (inflation pressure, pressure on the resources which become more valuable) aspects.

Table 19. Imports, export and trade balance volumes (tonnes) by counties. Source: FAO-FISHSTAT

Country/Year	Import			Export			Export - Import		
	1995	2000	2005	1995	2000	2005	1995	2000	2005
Bulgaria	14,160	20,567	31,648	21,222	3,109	3,245	7,062	-17,458	-28,403
Cyprus	16,132	16,079	21,953	293	759	3,108	-15,839	-15,320	-18,845
France	919,988	1,013,696	1,131,102	387,731	480,708	424,046	-532,257	-532,988	-707,056
Greece	95,839	160,452	211,884	33,019	83,091	99,398	-62,820	-77,361	-112,486
Italy	688,756	827,095	962,049	115,103	142,571	141,223	-573,653	-684,524	-820,826
Malta	6,987	8,081	17,259	641	1,992	1,380	-6,346	-6,089	-15,879
Portugal	278,806	320,125	362,673	95,674	94,374	115,967	-183,132	-225,751	-246,706
Romania	22,171	55,834	97,418	21	561	1,064	-22,150	-55,273	-96,354
Slovenia	14,266	12,211	19,120	1,608	2,372	7,556	-12,658	-9,839	-11,564
Spain	1,015,591	1,373,416	1,583,190	471,671	802,244	922,653	-543,920	-571,172	-660,537
Total EU	*3,072,696*	*3,807,556*	*4,438,296*	*1,126,983*	*1,611,781*	*1,719,640*	*-1,945,713*	*-2,195,775*	*-2,718,656*
Algeria	20,356	8,118	20,505	1,045	1,317	1,982	-19,311	-6,801	-18,523
Egypt	129,065	261,154	243,189	1,860	1,016	5,474	-127,205	-260,138	-237,715
Libya	5,032	4,489	9,377	5,500	1,913	3,938	468	-2,576	-5,439
Morocco	5,940	14,831	32,858	235,799	330,744	356,041	229,859	315,913	323,183
Tunisia	7,646	11,647	37,903	9,863	13,452	21,613	2,217	1,805	-16,290
Total North Africa	*168,039*	*300,239*	*343,832*	*254,067*	*348,442*	*389,048*	*86,028*	*48,203*	*45,216*
Albania	1,187	4,985	7,946	1,029	1,924	549	-158	-3,061	-7,397
Croatia	28,632	36,362	62,367	16,177	18,130	24,084	-12,455	-18,232	-38,283
Israel	80,552	55,834	65,184	911	1,343	1,351	-79,641	-54,491	-63,833
Lebanon	6,054	18,203	19,157		38	86	-6,054	-18,165	-19,071
Serb. & Mont.	38,082	43,417	25,925	372	387	623	-37,710	-43,030	-25,302
Syria	5,419	21,210	14,184	157	54	168	-5,262	-21,156	-14,016
Turkey	57,924	75,725	89,392	37,664	39,433	46,243	-20,260	-36,292	-43,149
Total Other Med.	*217,850*	*255,736*	*284,155*	*56,310*	*61,309*	*73,104*	*-161,540*	*-194,427*	*-211,051*
Grand TOTAL	3,458,585	4,363,531	5,066,283	1,437,360	2,021,532	2,181,792	-2,021,225	-2,341,999	-2,884,491

Table 20. Imports, export and trade balance value (1000 €) by counties. Source: FAO-FISHSTAT

Country/Year	Import			Export			Export - Import		
	1995	2000	2005	1995	2000	2005	1995	2000	2005
Bulgaria	8,821	12,529	23,414	16,812	7,841	8,617	7,991	-4,688	-14,797
Cyprus	30,033	33,411	44,017	2,674	7,753	24,843	-27,358	-25,658	-19,173
France	2,519,104	3,275,872	3,700,551	775,224	1,203,271	1,286,781	-1,743,880	-2,072,600	-2,413,770
Greece	168,821	312,866	423,551	126,571	250,516	353,471	-42,251	-62,350	-70,080
Italy	1,786,321	2,773,732	3,408,567	248,093	412,862	487,592	-1,538,228	-2,360,871	-2,920,975
Malta	13,579	18,623	24,443	2,023	8,366	9,460	-11,556	-10,257	-14,983
Portugal	591,418	937,143	1,076,636	215,942	310,683	363,697	-375,475	-626,460	-712,938
Romania	13,241	33,352	84,981	32	3,754	5,752	-13,209	-29,598	-79,229
Slovenia	20,928	29,343	58,073	3,399	6,783	26,558	-17,529	-22,560	-31,515
Spain	2,412,661	3,660,493	4,539,785	934,265	1,753,171	2,092,132	-1,478,396	-1,907,322	-2,447,653
Total EU	*7,564,926*	*11,087,364*	*13,384,019*	*2,325,035*	*3,965,000*	*4,658,904*	*-5,239,891*	*-7,122,363*	*-8,725,114*
Algeria	25,551	13,617	16,939	3,515	4,564	8,779	-22,036	-9,053	-8,160
Egypt	61,415	185,670	120,249	2,827	1,348	3,513	-58,589	-184,322	-116,736
Libya	11,124	9,877	16,135	24,756	13,526	11,841	13,632	3,649	-4,293
Morocco	6,570	10,714	29,206	623,830	1,059,815	879,613	617,261	1,049,101	850,407
Tunisia	8,317	12,705	33,158	62,145	96,451	129,717	53,828	83,746	96,559
Total North Africa	*112,977*	*232,583*	*215,687*	*717,073*	*1,175,704*	*1,033,464*	*604,096*	*943,121*	*817,778*
Albania	1,590	5,009	12,290	1,898	5,937	1,392	308	928	-10,898
Croatia	25,868	42,442	83,661	34,619	47,938	78,223	8,750	5,495	-5,438
Israel	104,587	140,398	132,993	8,176	9,355	12,413	-96,410	-131,043	-120,580
Lebanon	11,363	47,623	34,061	0	142	216	-11,363	-47,481	-33,845
Serb. & Mont.	15,345	36,555	35,597	390	774	1,098	-14,955	-35,781	-34,500
Syria	3,858	44,525	65,567	279	114	149	-3,580	-44,411	-65,417
Turkey	39,635	57,020	82,863	71,419	100,251	197,312	31,784	43,230	114,449
Total Other Med.	*202,245*	*373,573*	*447,032*	*116,780*	*164,511*	*290,803*	*-85,465*	*-209,062*	*-156,229*
Total	7,880,148	11,693,520	14,046,737	3,158,889	5,305,215	5,983,172	-4,721,260	-6,388,305	-8,063,565

Consumption

The general trend observed from 1969 is the increase in the supply of fishery products *per capita*, in most countries of the area (Table 21). Only Portugal has shown a moderate decrease in recent years, such as Libya, Israel and Palestine. A clear distinction emerges between EU countries and the others, regading consumption characteristics. Average fish consumption *per capita* is three times larger in the EU than in the other countries.

Table 21. Annual per capita supply/consumption (kg)

	Period average					
	1969-1971	1979-1981	1990-1992	1993-1995	1995-1997	2001-2003
Spain	29.9	32.9	36.5		43.8	47.5
France	21.2	24.8	31.0		29.6	31.4
Greece	18.3	16.8	20.8		24.5	23.4
Italy	15.0	16.1	23.7		23.0	26.3
Portugal	65.3	28.1	59.5		64.2	59.5
Cyprus	8.8	9.5	22.3		25.2	28.5
Malta	13.1	27.7	25.6		37.2	50.4
Slovenia				6.6		7.7
Romania				2.2		3.3
Bulgaria				1.5		3.0
Total EU						*30.1*
Morocco	3.3	6.2	7.7		7.7	8.8
Algeria	1.5	2.6	3.7		3.3	3.3
Tunisia	4.7	8.4	8.8		9.1	11.0
Libya	5.1	7.7	8.0		6.9	6.9
Egypt	2.6	5.1	8.4		9.1	15.0
Total N. Africa						*10.6*
Palestine, Oc.Tr					0.7	0.4
Israel	17.5	19.3	23.0		24.1	21.9
Lebanon	4.0	0.7	2.9		7.7	12.0
Syria	1.5	2.6	0.7		1.5	2.6
Turkey	4.4	6.6	5.8		8.0	7.3
Albania				1.8		5.1
Serbia and Montenegro				1.1		1.8
Croatia				2.6		12.0
Total Others						*7.1*
TOTAL						18.4

Supply/caput/year (kg) data: FAOSTAT, Food Security Statistics, Food consumption groups, 30/6/2005.

Table 22 presents data on seafood consumption by different groups per inhabitant. Mean consumption of countries has been calculated proportionally to the population of the respective countries. It is surprising to see that in the available data, especially for north African countries or others like Croatia and Turkey, the information on consumption of small pelagics does not seem reasonable. It may be possible that this type of consumption is included in the category of large pelagics.

Table 22. Seafood consumption by groups in 2005

Country	Cephalopods	Crustaceans	Molluscs (excl. cephal)	Demersal fish	Freshwater fish	Large pelagic fish	Marine fish, other	Total	Total (kg/ capita /year)
	(g/capita/day)								
Bulgaria	0	0	0	0	2	8	0	10.0	3.7
Cyprus	10	4	2	15	1	20	9	61.0	22.3
France	1	10	19	26	9	18	5	88.0	32.1
Greece	10	3	5	21	3	9	5	56.0	20.4
Italy	9	5	12	15	5	13	5	64.0	23.4
Malta	5	9	9	11	4	35	8	81.0	29.6
Portugal	11	5	7	94	3	29	4	153.0	55.8
Romania	0	0	0	0	2	6	0	8.0	2.9
Slovenia	2	1	1	1	2	6	7	20.0	7.3
Spain	12	12	19	37	6	27	5	118.0	43.1
EU Med average	6.2	7.0	13.0	24.4	5.7	16.9	4.3	77.4	28.3
EU 27 average	*2.3*	*6.0*	*4.8*	*15.7*	*6.2*	*17.4*	*3.3*	*55.8*	*20.4*
Algeria	0	0	0	1	0	11	0	12.0	4.4
Egypt	0	0	0	8	21	6	3	38.0	13.9
Libya	0	0	0	7	0	23	2	32.0	11.7
Morocco	0	0	0	6	0	17	0	23.0	8.4
Tunisia	1	0	0	9	0	19	0	29.0	10.6
North Africa average	*0.1*	*0*	*0*	*6.1*	*10.0*	*10.8*	*1.5*	*28.5*	*10.4*
Albania	0	0	0	0	1	8	0	9.0	3.3
Croatia	2	0	4	3	2	26	0	37.0	13.5
Israel	0	0	0	38	9	11	0	58.0	21.2
Lebanon	0	1	0	1	3	8	7	20.0	7.3
Syria	0	0	0	0	2	4	0	6.0	2.2
Turkey	0	0	0	3	2	12	0	17.0	6.2
Others average	*0.1*	*0*	*0.2*	*4.6*	*2.4*	*10.9*	*0.2*	*18.5*	*6.7*
Total average	2.9	3.2	6.0	14.1	6.3	13.6	2.5	48.5	17.7

Source FAOSTAT Consumption.

In general, for all countries, the highest consumption is observed within the groups "Demersal fish" and "Large Pelagic fish". Within "Demersal fish", the high consumption of Portugal (94 g/capita/day), should be emphasized, probably associated to the traditional consumption of cod.

Within the group of countries of this study the European countries (EU Med) are the group showing the highest consumption of fish at 24.1 kg. Some 4 kg higher than the average consumption of the EU 27. Spain and Portugal are the countries with the highest consumption rate. Bulgaria, Rumania and Slovenia, show the lowest rates. These three countries present low fish consumption rates and very low or no consumption at all of "Shellfish" (molluscs and crustaceans).

The group of North African countries and Others show lower levels of fish consumption, in general terms, with very low or no consumption of "Shellfish" in these countries. The highest consumption levels in these countries are observed in the groups "Demersal fish" and "Large pelagic fish".

Finally, if we consider the consumption of fish proteins (Table 23), as an indicator of food quality, we can observe that the consumption of fish protein in EU doubles that of North Africa and increases four-fold in the other countries group.

Table 23. Fish and animal protein consumption per country in 2003 (g/capita/day)

	Fish proteins	Animal proteins	Total proteins	Fish/animal proteins	Fish/total proteins
	(grams per capita per day)			(%)	(%)
Bulgaria	1.4	42.5	87.5	3.3	1.6
Cyprus	6.7	66.1	104.9	10.1	6.4
France	7.8	77.1	118.1	10.1	6.6
Greece	6.0	62.1	117.6	9.7	5.1
Italy	7.0	62.4	114.3	11.2	6.1
Malta	8.3	61.1	117.5	13.6	7.1
Portugal	15.0	68.8	116.5	21.7	12.8
Romania	1.3	50.1	113.2	2.5	1.1
Slovenia	2.4	59.7	100.9	4.0	2.3
Spain	13.8	76.8	117.3	17.9	11.7
EU	*8.09*	*67.70*	*115.01*	*11.43*	*6.93*
Algeria	1.7	20.6	85.1	8.3	2.0
Egypt	4.3	19.3	93.2	22.1	4.6
Libya	3.4	24.6	78.8	13.9	4.3
Morocco	2.7	15.6	87.9	17.4	3.1
Tunisia	3.1	24.1	90.1	13.0	3.5
North Africa	*3.30*	*19.34*	*89.63*	*17.25*	*3.65*
Albania	1.3	47.7	98.3	2.8	1.4
Croatia	4.3	36.6	75.7	11.8	5.7
Israel	4.9	69.4	122.3	7.0	4.0
Lebanon	2.2	36.6	88.2	6.0	2.5
Palestine	0.1	19.2	63.0	0.7	0.2
Serbia and Montenegro	0.7	43.9	74.1	1.7	1.0
Syria	0.7	22.4	80.8	3.0	0.8
Turkey	2.2	24.7	95.2	8.9	2.3
Others	*2.02*	*29.47*	*91.29*	*7.02*	*2.13*
TOTAL	5.12	43.36	101.34	12.14	4.73

Source: FAO, Fisheries and Aquaculture Information and Statistics Service.

Even so, it should be pointed out that there are great dissimilarities within the EU, and in some countries (Bulgaria, Romania, Slovenia) their consumption level is much lower than that of North

Africa. The low consumption reported in Palestine is remarkable where consumption does not even reach 2% of that of the EU.

Regarding protein supply, the fisheries sector plays a very minor role, at around 5% of protein supply, although there are countries accounting for 12% and others 1%. There are only two countries (Spain, Portugal) that hold an important position with regard to total proteins (animal and plant proteins), greater than 10%.

Unbalances in the consumption of animal and fish proteins are compensated for with a greater consumption of plant proteins between the EU zone and the rest of the countries; in such a way that total protein consumption shows smaller differences and thus certain homogeneity. In the case of North Africa, the consumption of fish protein and meat is low, compared to plant proteins; but the relative distribution between meat and fish is similar and even higher than that of the EU.

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Annex – Summary table

Country	Population† (x1000)	Total production (t)††	Export-Import††	Consumption†† (kg/capita/year)
Bulgaria	7,781	8,579	-28,403	3.7
Cyprus	737	4,249	-18,845	22.3
France	60,381	909,483	-707,056	32.1
Greece	11,062	198,951	-112,486	20.4
Italy	58,175	480,921	-820,826	23.4
Malta	401	2,171	-15,879	29.6
Portugal	10,502	218,866	-246,706	55.8
Romania	21,684	13,352	-96,354	2.9
Slovenia	1,997	2,763	-11,564	7.3
Spain	42,692	1,071,178	-660,537	43.1
Total EU Med	*215,412*	*2,910,513*	*-2,718,656*	*28.3*
Algeria	32,364	126,628	-18,523	4.4
Egypt	71,223	889,302	-237,715	13.9
Libya	5,484	46,342	-5,439	11.7
Morocco	30,540	947,777	323,183	8.4
Tunisia	9,941	111,818	-16,290	10.6
Total North Africa	*149,552*	*2,121,868*	*45,216*	*10.4*
Albania	3,127	5,275	-7,397	3.3
Croatia	4,439	48,465	-38,283	13.5
Israel	6,809	26,555	-63,833	21.2
Lebanon	3,556	4,601	-19,071	7.3
Palestine, Oc.Tr	3,638	1,805	-	-
Serbia & Mont.	8,147	7,022	-25,302	-
Syria	17,980	16,980	-14,016	2.2
Turkey	71,152	545,673	-43,149	6.2
Total Other Med.	*118,848*	*656,376*	*-211,051*	*6.7*
TOTAL	483,812	5,688,756	-2,884,491	17.7

†2004.
††2005.