MASMANAP country report: Portugal

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SUMMARY – The current situation of aquaculture in terms of production volume and value is described. We can verify that the apparent trends since 1988 are positive. In Portugal, aquaculture began to be regarded as an alternative method of production for human consumption when the Common Structural Policy was applied. Nevertheless, aquaculture does not represent more than 5% of the total catches in fisheries. Marine pelagic fish catches are dominated by sardine, horse-mackerel, tuna and tuna-like fish and mackerel. Marine aquaculture production increased since 1990 corresponding to a higher production of seabass and seabream. In net weight, the trend of imports since 1998 has been increasing. In landed weight, the import trend has also been increasing since 1993, the Atlantic cod being the principal imported species. In net weight, exports have decreased and there was a reduction in the main categories of fish and molluscs. We present the per capita consumption of aquatic products since 1989 and consumption by type of product where we can observe how difficult it is to correctly access values of apparent consumption. A table showing Portuguese food balance regarding fish products and other proteins of animal origin is constructed and we finish with some general information.

Key words: Portugal, fishery, aquaculture, seafood, supply, consumption.

RESUME – *"Rapport national dans le cadre de MASMANAP : Portugal". La situation actuelle de l'aquaculture est décrite en termes de volume et de valeur de la production. Il y est vérifié que les tendances apparentes depuis 1988 sont positives. Au Portugal, l'aquaculture a commencé à être envisagée comme méthode alternative de production pour la consommation humaine lorsqu'a été mise en oeuvre la Politique Structurelle Commune. Cependant, l'aquaculture ne représente pas plus de 5% du total des captures des pêcheries. Les captures de poissons marins pélagiques sont dominées par la sardine, le chinchard, le thon et les thonidés, et le maquereau. La production de l'aquaculture marine a augmenté depuis 1990 suite à une plus forte production de bar et de daurade. En termes de poids net, la tendance des importations depuis 1998 a été à la hausse. En termes de poids des débarquements, depuis 1993, la tendance des importations est également croissante, la morue atlantique étant la principale espèce importée. En termes de poids net, les exportations ont diminué et il y a une réduction des principales catégories de poissons et de mollusques. Nous présentons la consommation de produits aquatiques par habitant depuis 1989 ainsi que la consommation par type de produit, où nous pouvons observer combien il est difficile d'aborder correctement les valeurs de la consommation apparente. Nous dressons un tableau montrant le bilan alimentaire au Portugal pour le poisson et autres protéines d'origine animale, et nous finissons sur des informations générales.*

Mots-clés : *Portugal, pêche, aquaculture, produits de la mer, offre, consommation.*

Statistical methodology evaluation

Introduction

In Portugal, the fundamental information on fisheries comes from the National Institute of Statistics (INE) (Instituto Nacional de Estatística) and the General Directorate of Fisheries and Aquaculture (DGPA) (Direcção Geral das Pescas e Aquicultura). The INE is dependant on the Presidency of the Council of Ministers and the main Portuguese Institute that gathers, sorts and disseminates information at national and regional level.

The annual report is "Estatísticas da Pesca" ("Fishery Statistics") and after successive preceding years the systematic indices for 1997 and 1998 are the following: Introductory note, 1-Concepts and explanatory notes, 2-Fisheries in 19…, 3–Staff, 4-0wnership/Property, 5-Seafaring equipment, boats, driving force; 6–Production, 7–Trade, 8–Consumption, 9–Prices, 10– Investment, 11–Training, 12–Accounting.

The following publications from INE were also consulted: (i) Portuguese Food National Accounts (Balança Alimentar Portuguesa); (ii) Consumer Price Index (Indice de Preços ao Consumidor); (iii) Family Budget official figures (Inquérito aos Orçamentos Familiares); (iv) Estimations on Resident Population in 1998 (Estimativas da População Residente em 1998); (v) Family Budget official figures (Inquérito aos Orçamentos Familiares); and (vi) Job Statistics (Estatística do Emprego).

Aquatic food production data

The General Directorate of Fisheries and Aquaculture (DGPA) is dependant on the Ministry of Rural and Fisheries Development (Ministério do Desenvolvimento Rural e Pescas), and publishes more specific information on the Fisheries and Aquaculture sector.

Every year the "Fisheries resources – statistical series" (Recursos de Pesca – série estatística) is published with the index: I – Seafaring personnel, II – Changes in the fishing fleet, III – Primary production, IV – Secondary production, V – External commerce, Annexes.

The main information about primary production comes from DOCAPESCA the public enterprise that is responsible for the sale in auction, that is compulsory in what concerns fresh and refrigerated products.

The data relating to Aquaculture comes from an enquiry made by DGPA each year. This enquiry also concern data about the number of establishments, types of production. Remark that salmonids production is irrelevant in Portugal.

Aquatic food production data: Imports and exports

The export and import are classified in international joint Customs Tariff Codes. It has been considered also canned sardines and canned tuna as they are very important in what concern external trade. It was not possible to detail data concerning some categories: non pelagic and pelagic fishes, cephalopods and shellfish, except for 1997 and 1998.

Besides, the INE and the DGPA published jointly in September 1998 "The Portuguese Fisheries, 1986-1996" volume, with a great amount of information about the sector. Its main goal is to provide an overview on Portuguese Fisheries since Portugal entered the European Economic Community.

The tables made available in the above mentioned publications do not always allow direct filling in of the tables shown to the Portuguese members of Stirling committee of the MASMANAP Project. In effect, it is sometimes necessary to collect data and add, subtract and even multiply them by weighted factors. That allows to compile national information and introduces them in the joint data configuration requested by the Project Co-ordination.

Beyond this difference in the presentation of the statistics, it would be appropriate to employ community codes at European Union level in the specification of each of the fish species which would facilitate the computerised data sorting.

Consumption

The Portuguese balance for fish and seafood makes it possible to evaluate the quantity and quality of fish and seafood products which make up the diet of the Portuguese population, given in terms of gross average daily consumption and broken down into calories, proteins, fats and carbohydrates.

This balance is based on a summary of annual statistics of production, imports, exports, stocks, losses, industrial usage, industrial processing, human consumption and food composition.

Production and total supply of aquatic food

The purpose is to review the current situation in terms of volume and value of production and

supply and the apparent trends over the last decade. Besides the reservations about the efficacy of the statistical sources, the collected data from 1988 to 1998 were recorded in the tables in order to present the main features of the Portuguese situation.

Production

As Fig. 1 and Table 1 show a downward trend for the production (in volume). From 1990 to 1997, there has been a verified constant decrease totalling 34% between these dates, and an increase from 1997 to 1998 was verified (+4%), which will be greater once the aquaculture data values are made available.

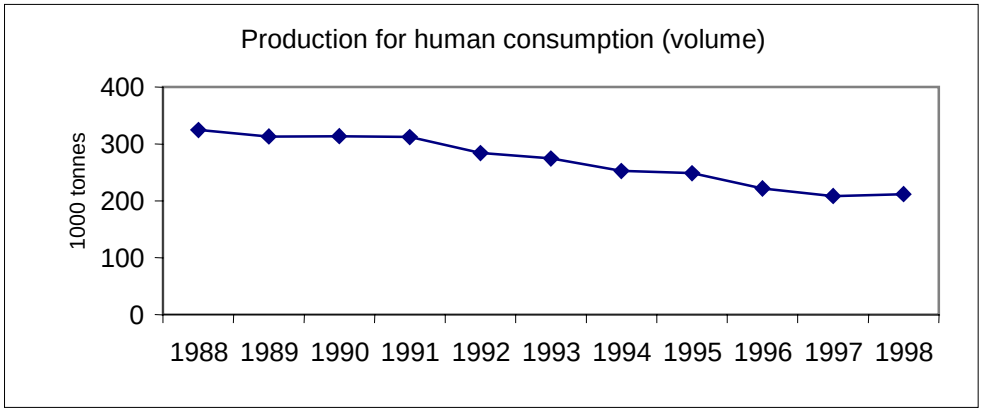

Fig. 1. Production for human consumption (volume) (source: DGPA).

Breaking aquatic food consumption by origin, the average values presented in the ten-year period are 290 thousand tonnes for fisheries catches and 4593 tonnes for aquaculture. The corresponding average percentages are, respectively 98.4% and 1.6%, which shows in obvious manner the significance of each sector.

From Tables 2 and 3, we can calculate that the marine species represent around 86% and the freshwater fish around 14% of total production. By category of products, considering the structure of production in 1998 (Table 3), the following approximated percentages give us an idea of the structure of production (Table 4).

Human consumption production in value (amounts in thousands of EURO) is illustrated in Table 5 and Fig. 2. Production in value also declined between 1990 and 1998.

Given price variations and the evolution in it, these do not correspond exactly to the evolution in quantities, with a maximum in 1991. Between 1989 and 1997 there is a positive trend (+13%), which is the result of the law of the increase demand when the production declines.

The evolution of this total is determined by the total production of captured fisheries, the values increase and decrease without uniform sequence greater than three years. However, it should be noted that there was an increase between 1996 and 1997. Value corresponding to aquaculture are low – in 1997 only, the aquaculture surpassed 10% of total production of aquatic food – mainly due to an increase of the value of sea-fish production in aquaculture. In 1998 the value of aquaculture was 11.8 % of the total production value.

By categories, the main positive trend is related with the value of landed molluscs (+200%).

Table 1. Production data series (volume) – Production for human consumption† (source: DGPA/INE)

Year	Fisheries				Aquaculture				Total production							
	Total catches	Sea fish fresh water	Moluscs	Crustaceans	Total	Salmonids	Other sea fish	Other fresh water fish	Shellfish	Others	Total	Fish – salmonids	Fish – others	Moluscs	Crustaceans	Others
1988	313604	292031	18108	3661	10995	0	383	2072	7000	1540	324599	–	294486	25108	3661	1344
1989	304827	266742	34411	3661	8449	0	39	979	7425	6	313276	0	267760	41836	3661	19
1990	309929	277806	18712	2148	4457	0	111	2267	2079	0	314386	0	280184	20791	2148	11263
1991	305431	266790	35285	2727	6178	0	310	2270	3576	22	311609	0	269370	38861	2727	651
1992	277820	238696	37284	1405	6391	1	385	1792	4210	4	284211	1	240873	41494	1405	439
1993	269461	237387	29641	2158	6016	0	392	1411	4214	0	275477	0	239190	33855	2158	275
1994	245956	218468	25541	1798	6595	1	592	2142	3824	37	252551	1	221202	29365	1798	186
1995	244447	217963	22108	2039	5001	0	795	958	3247	1	249448	0	219716	25355	2039	2338
1996	217039	191487	22536	1892	5364	4	2345	1330	3018	1	222403	4	195162	25554	1892	1125
1997	202223	179857	18753	2123	7188	250	1496	1246	4442	4	209411	250	182599	23195	2123	1494
1998	212128	189115	19034	2598	7536	0	1957	1251	4327	1	219664	0	192323	20285	6925	1382

†Amounts in tonnes (t) of landed weight (1988-1998); aquaculture, only mainland; all categories of products are disjoined: sea-fish and fresh-water fish categories do not include salmonids.

Table 2. Import and export data series† (tonnes of net weight) (source: INE)

Year	Imports for human consumption 1							Exports for human consumption 1						
	Total aquatic products††	Sea fish fresh water	Canned sardines	Canned tuna	Moluscs	Crustaceans	Others	Total aquatic products††	Sea fish fresh water	Canned sardines	Canned tuna	Moluscs	Crustaceans	Others
1988	196926	173494	251	23	12012	5101	6319	71241	32073	22461	2291	4147	1881	65213
1989	183526	159443	193	66	14423	6298	3362	91279	45772	26144	3863	6655	2189	82435
1990	218910	190810	211	168	15348	9867	2885	92778	50759	23900	4923	5868	2291	84619
1991	255992	215988	161	2613	24195	13274	2535	97880	55456	20826	6259	9574	1985	86321
1992	243226	201978	252	2293	20680	14803	5765	85365	41166	17631	5985	14160	1839	69366
1993	247411	193684	41	2908	20995	13909	18823	74545	63675	16087	6730	5018	1496	68032
1994	280692	228836	42	5865	20218	14563	17075	91261	44428	21158	9694	4881	1406	84974
1995	289036	231349	218	4707	22624	13605	21458	102374	50365	24142	9599	11826	2040	88508
1996	308373	240944	315	2418	21704	14072	31653	99547	53691	18144	10288	10413	3189	85945
1997	298030	245764	711	2955	28017	14756	9493	93835	50687	17282	6700	9031	3557	81247
1998	302538	248739	255	3583	29412	15385	9002	83681	45168	18232	6912	6665	3520	73496

†All categories of products are disjoined: sea-fish and fresh-water fish categories do not include salmonids.
††Moluscs and crustaceans canned products have been included only in this total.

Table 3. Import and export data series[†] (converted in tonnes of landed weight) (source: INE)

Year	Imports for human consumption 2							Exports for human consumption 2						
	Total aquatic products[††]	Sea fish fresh water	Canned sardines	Canned tuna	Moluscs	Crustaceans	Others	Total aquatic products[††]	Sea fish fresh water	Canned sardines	Canned tuna	Moluscs	Crustaceans	Others
1988	377272	353840	452	23	12012	5101	6319	76472	37304	40430	2291	4147	1881	70444
1989	346483	319068	347	66	14423	6298	6694	101350	55843	47059	3863	6655	2189	92506
1990	394262	366162	380	168	15348	9867	2885	108874	58869	43020	4923	5868	2291	100715
1991	427026	387022	290	2613	24195	13274	2535	107645	59984	37487	6259	9574	1985	96086
1992	433088	391840	454	2293	20680	14803	5765	99492	47231	31736	5985	14160	1839	83493
1993	335881	282154	74	2908	20995	13909	18823	80297	69427	28957	6730	2122	1496	76679
1994	434884	383028	76	5865	20218	14563	17075	96575	53352	38084	9694	4881	1406	90288
1995	454158	396471	392	4707	22624	13605	21458	120200	61187	43456	9599	11826	2040	106334
1996	486466	419037	567	2418	21704	14072	31653	109778	63922	32659	10288	10413	3189	96176
1997	470044	417778	1280	2955	28017	14756	9493	107304	66256	31108	6700	9031	3557	94716
1998	478925	425126	459	3583	29412	15385	9002	91094	52581	32818	6912	6665	3520	80909

[†]All categories of products are disjoined : sea-fish and fresh-water fish categories do not include salmonids.
[††]Moluscs and crustaceans canned products have been included only in this total.

Table 4. Structure of the production by type of product (source: DGPA)

Type of product	Importance (%)
Pelagic	60.5
Non-pelagic	25.5
Salmonids	0.1
Freshwater fishes	0.9
Shellfish	3.2
Crustaceans	1.0
Cephalopods	7.9

In the considered categories, the highest prices are the crustaceans followed by the cephalopods, shellfish, the salmonids, the non-pelagic and lastly the pelagics. Concerning the different fisheries products, the sea-fish dominated, molluscs and crustaceans are insignificant relatively to fishes. The evolution in the landed catches evolution of these products shows that: (i) there has been a constant decrease in fishes from 1988 to 1998, reaching 35%; (ii) molluscs catches shows successive increases and decreases during the above period of analysis, with a maximum of 37,284 tonnes in 1992; and (iii) crustaceans catches fluctuated during this period although with an annual increase between 1996 and 1998.

Marine pelagic fishes catches are dominated by sardine (Tables 2 and 3 and Fig. 3) which represents more than 40% of total fishes catches and horse-mackerel. Tuna and tuna like are also important, mainly in what concerns fisheries that take place in the autonomous regions of Madeira and Azores.

Catches of sardine between 1997-1998 show a slight decrease due to the reduced abundance of the specie.

In what concerns demersal fishes the most important species in catches (volume) – Tables 2 and 3 and Fig. 4 – are scarbardfishes, cod, conger, hake, pouting, redfishes and anglerfishes. Among these cod and redfishes are the main species captured in North Atlantic external fishing grounds.

In value, the most important species in the catches are sardine, horse-mackerel, hakes and tunas (Fig. 5).

In what concerns the evolution of aquaculture it is important to consider the period until the mid 80's when aquaculture production consisted of fresh water trout and bivalves bottom culture, mainly clams, cockles and oysters, in estuaries affected by the tide.

The culture of marine species was practically insignificant and restricted to saline reserve tanks.

When the Communal Structural Policy was applied in Portugal, aquaculture began to be seen as an alternative method for the production of animal protein for human consumption, and even complement traditional fishery production. Production level has only recently shown results of the investment made, mainly due to the introduction of more intensive system production and a large number production units.

The total catches in fisheries represent 95% of the total production with the significance of aquaculture greatly diminished. Aquaculture production (Table 1 and Fig. 6) does not show a regular general trend given that the totals increase or decrease with irregularity from 1988 and 1997. This is essentially due to the fluctuations in the production of molluscs related mainly with the progressive deterioration of water quality. So, except for 1996, the shellfish quantities represent more than half the sum totals, which reveals its importance.

Marine aquaculture production showed an overall increase in the beginning of the 90's followed by a period of some fluctuation. However, it is to be noted that from 1995 and 1997, an increase has been verified that corresponds to a higher production of seabass and seabream and also to diversification in landed/production of marine fishes namely turbot.

Table 5. Production data series in value (000 €) – Production for human consumption† (source: DGPA/INE)

Year	Fisheries			Aquaculture							Total production					
	Total catches	Sea-fish	Moluscs	Crustaceans	Total	Salmonids	Other sea fish	Other fresh water fish	Shellfish	Others	Total	Fish salmonids	Fish others	Moluscs	Crustaceans	Others
1988	289583	238049	27918	23552	–		–	–		–	–	–		–	23552	
1989	335460	240324	75073	19830	31798	0	268	2458	39156	62	367258	0	243050	114229	19830	295
1990	365907	231700	31544	18192	20200	0	949	7085	12166	1	386107	0	239733	43710	18192	84473
1991	394940	311295	39659	18773	28717	0	2910	7116	18470	220	423657	0	321321	58130	18773	25433
1992	327185	255635	39659	10360	32767	3	3402	9717	19608	33	359952	3	268755	59267	10360	21564
1993	301224	237327	30945	11756	26348	0	2597	5298	18353	0	327571	0	245221	49298	11756	21196
1994	292112	226077	31065	12551	31067	0	4603	8629	17528		323179	0	239310	48593	12551	22418
1995	306900	219865	43106	15927	29484	0	5811	2489	21194	0	336384	0	228165	64300	15927	28003
1996	280130	209001	51581	14864	22052	20	6699	3053	12285	5	302182	20	218753	63866	27150	4689
1997	290086	208253	61238	16859	34883	648	10655	3191	21512	19	324969	646	222099	82750	16861	3755
1998	320062	233624	60522	22564	37769	0	13685	2545	21537	2	357831	646	249854	82058	16861	3355

†All categories of products are disjoined: sea-fish and fresh-water fish categories do not include salmonids.

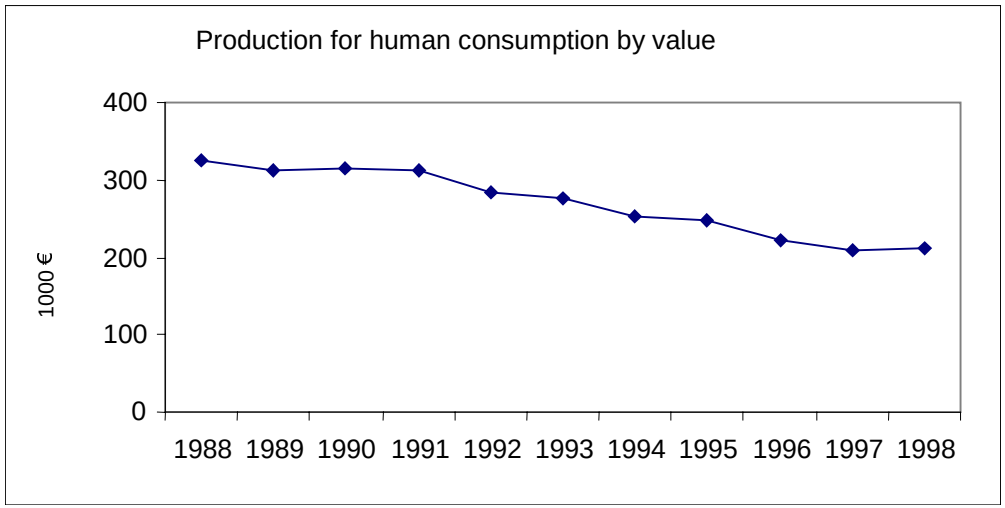

Fig. 2. Production for human consumption (value) (source: DGPA).

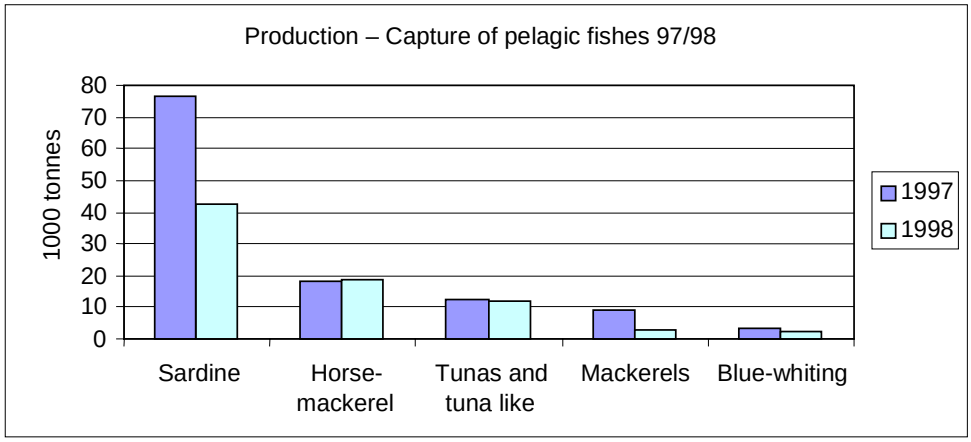

Fig. 3. Production – captures of pelagic fishes 1997/1998 (source: DGPA).

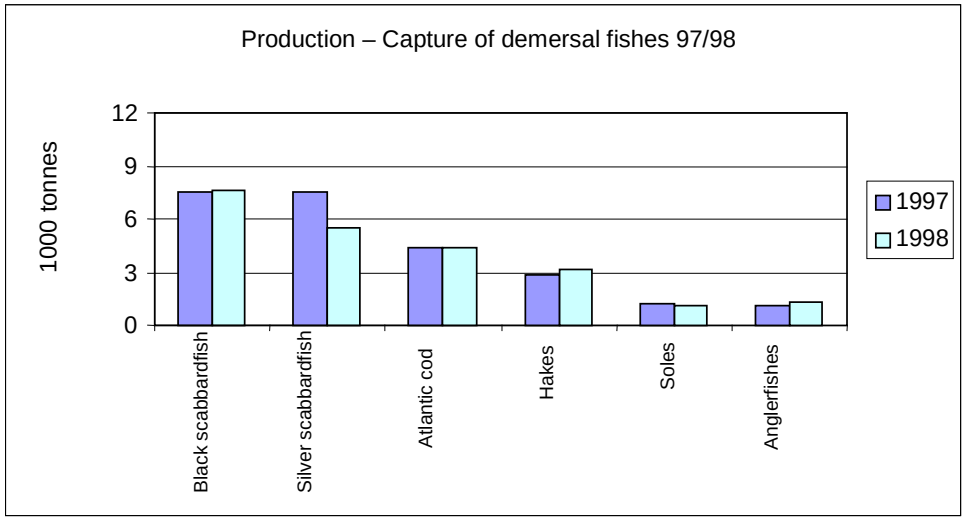

Fig. 4. Production – captures of demersal fishes 1997/1998 (source: DGPA).

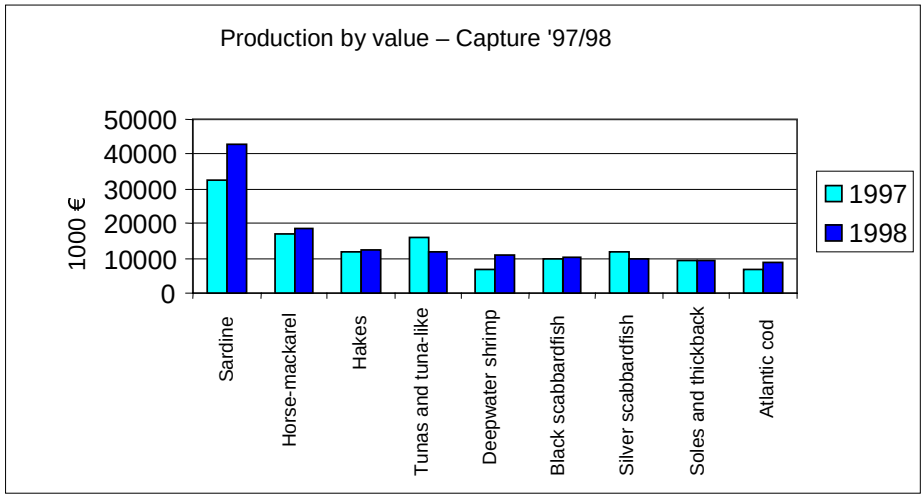

Fig. 5. Production by species (value) 1997/1998 (source: DGPA).

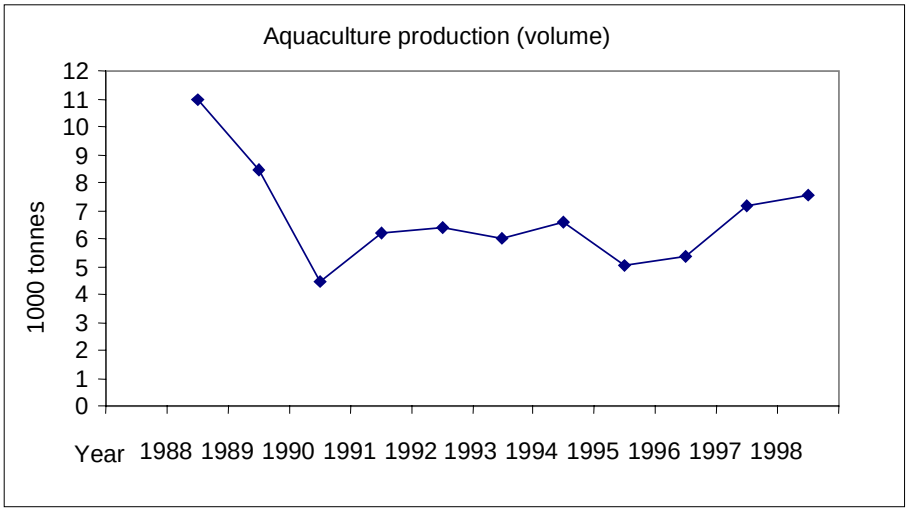

Fig. 6. Aquaculture production (volume) (source: DGPA).

There has not been a uniform general trend. in what concerns total production by aquaculture in value (Table 5) being the value of shellfish largely predominant.

Imports-exports

In net weight (Table 6) the trend in imports throughout the whole period has been increasing (+54%). Although, in two years (1992 and 1997) two slight decreases were verified. From 1996 and 1998, the imports of fresh-water sea-fish, molluscs and crustaceans increased even though only slightly (Fig. 7).

Fishes have increased successively their total weight in aquatic products. Cod is the most significant species herein representing more than 60% of the total imports (Tables 7 and 8).The imports of crustaceans and molluscs more than doubled in the period 1988-1998.

Exports (net weight) peaked in 1995 (102,374 tonnes) with a decrease being verified thereafter until 1998 (Tables 9 and 10), caused above all by a reduction in the main categories fishes and molluscs. During the period exports of crustaceans increases.

Landed weight was calculated using conversion factors. Given diversity of products traded internationally, processed in different ways and the categories considered in statistics data the final values could contain some impressiveness.

In landed weight (Table 11), since 1993, the import trend is to increase. It is to be noted that from 1988 and 1993 there has also been an increase with a major fall in 1993 (from 433,088 to 335,881 tonnes). Bearing in mind that the relative weight of fishes is always greater than 85% of the total, the main cause is logically the fall in this bracket. In molluscs and others there has even been an increase between 1992 and 1993.

Exports (in landed weight) peaked in 1995 after an irregular evolution until that year. Since 1995, there has been a decrease which was particularly worrisome between 1997 and 1998. The category bracket with the greatest importance is also fishes which the main category responsible for this last fall and aided and abetted by falls in all the other categories (Fig. 8).

The imbalance between imports and exports has been accentuated and, for example, imports since 1996 have been more than triple of exports in net weight and fourfold in landed weight.

Table 6. Import and export data series in value† (000 €) (source: INE)

Year	Imports for human consumption							Exports for human consumption						
	Total aquatic products††	Sea fish fresh water	Canned sardines	Canned tuna	Moluscs	Crustaceans	Others	Total aquatic products††	Sea fish fresh water	Canned sardines	Canned tuna	Moluscs	Crustaceans	Others
1988	329845	300189	360	193	10476	12273	6907	197835	58289	35844	8916	6967	7001	125577
1989	305239	271478	337	252	12278	19201	2283	197835	75475	46662	14910	13283	10485	98592
1990	431186	368309	339	489	15785	40177	6915	199474	93184	45051	20321	8867	14790	82634
1991	545091	441028	444	6230	27397	62509	14157	202183	136617	43274	22808	11023	9459	45083
1992	497401	391897	619	5197	24177	66011	15316	168599	74105	37307	21345	13090	7056	74347
1993	497810	372817	90	6829	31719	65362	27913	160763	62659	38555	21220	10584	7861	79658
1994	581952	429885	115	14186	34846	79354	37867	193863	71657	48012	30971	8405	11351	102451
1995	601924	447732	584	12535	35224	77458	41510	225147	82365	53534	33932	14969	16828	110985
1996	633054	462612	773	6844	35148	78514	56779	240795	77833	42644	35569	23730	22428	116804
1997	675651	506276	1481	8837	52596	87705	29074	250655	107118	44041	26925	23983	25999	93555
1998	829333	628167	716	7171	64443	103265	33458	242635	98150	48239	30632	16438	29921	98127

†All categories of products are disjoined: sea-fish and fresh-water fish categories do not include salmonids.
††Including all type of preservation: fresh, smoked, dried, marinated, salted, frozen, canned, etc.

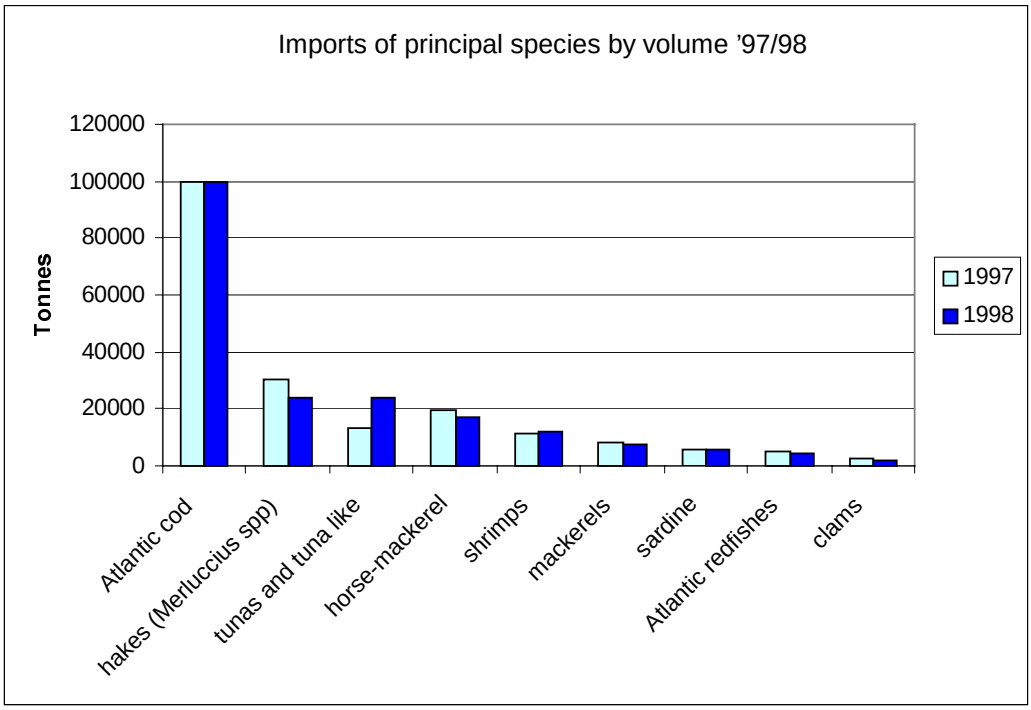

Fig. 7. Imports of principal species (net weight) 1997/1998 (source: INE).

Table 7. Apparent consumption data series in value (000 €) – Apparent consumption (production + imports – exports)† (source: INE/DGPA)

Year	Total aquatic products††	Sea fish fresh water	Moluscs	Crustaceans
1988	–	241900	–	28824
1989	474663	439052	113224	28546
1990	617819	520346	28114	25386
1991	766566	543721	38792	53050
1992	688755	545957	39089	58955
1993	664619	555379	25823	57501
1994	711268	597538	75035	80555
1995	713161	593532	84555	76557
1996	694441	603533	75285	83236
1997	749965	621257	111363	78568
1998	944529	779871	130063	90206

†All categories of products are disjoined : sea-fish and fresh-water fish categories do not include salmonids.
††Canned products have been incuded only in this total.

Consumption

Apparent consumption was calculated using data concerning production, imports and exports.

In landed weight (Table 12) consumption has varied slightly without a regular trend with a minimum of 531 thousand tonnes in 1993 and a maximum of 631 thousand tonnes in 1991. The regularity verified in fishes, which represents 90% of the sum total, is the main cause. It is noteworthy that there has been an increase since 1996.

In value (Table 13) over the 10-year period, the evolution is regular even though it has decreased significantly in 1998. This decrease is caused principally by the 21.7% decreased value in fishes between 1997 and 1998 (Tables 14 and 15). In the same year, a fall has been verified even though less accentuated in the other two category brackets.

Table 8. Detailed information in 1997 – Total production (fishery catch + aquaculture) in 1997 (source: INE/DGPA)

Category Main species	Quantity (t)	Value (1000 €)	Average price (€/kg)	Market share (% of the category)	% Aquaculture (in quantity)
Marine fishes – pelagics					
Total	126752	71822	0.6	100	0
Sardine	76402	32415	0.4	45	
Horse-mackerel	18331	16952	0.9	24	
Tunas and tuna-like	12666	15890	1.3	22	
Mackerels	9239	2263	0.2	3	
Blue jack mackerel	3589	2030	0.6	3	
Blue-whiting	2305	1114	0.5	2	
Anchovy	632	1157	1.8	2	
Marine fishes – non-pelagics					
Total	53596	121988	2.3	100	3
Black scabbardfish	7575	9619	1.3	8	
Silver scabbardfish	7518	12111	1.6	10	
Atlantic cod	4347	6448	1.5	5	
European conger	2864	5890	2.1	5	
Hakes (*Merluccius* spp.)	2840	11798	4.2	10	
Pouting	2026	4566	2.3	4	
Atlantic redfishes	1933	2991	1.5	2	
Rays	1723	3467	2.0	3	
Soles and thickback soles	1178	9122	7.7	7	1
Anglerfishes	1124	4675	4.2	4	
Sargo breams	1062	3518	3.3	3	
Axillary bream	969	3800	3.9	3	
Blackspot seabream	830	5377	6.5	4	
Wreckfish	415	4013	9.7	3	
Salmonids					
Total	250	648	2.6	100	100
Atlantic salmon	250	648	2.6	100	100
Fresh water fishes					
Total	1795	3821	2.1	100	69
Trouts	984	1920	2.0	50	100
Eels	48	431	9.0	11	3
Shads (*Alosa* spp.)	17	72	4.2	2	
Shellfish					
Total	6607	23146	3.5	100	67
Clams	3723	21051	5.7	91	88
Common cockle	1392	514	0.4	2	8
Wedge shell	372	602	1.6	3	
Oysters	619	611	1.0	3	100
Mussels	501	369	0.7	2	91
Crustaceans					
Total	2123	16861	7.9	100	0
Deepwater rose shrimp	908	6837	7.5	41	0
Shrimps	622	5667	9.1	34	0
Norway lobster	145	2258	15.6	13	0
Crabs	222	173	0.8	1	0
Cephalopods					
Total	16588	59603	3.6	100	0
Octopus	9182	34741	3.8	58	0
Cuttle	1650	5464	3.3	9	0
Squids	1152	5220	4.5	9	
Flying squids	365	574	1.6	1	
Total	209411	324969	1.6		

Based on an average population of 9838 thousand inhabitants over the 1992-1994 period inclusive, the values of production per capita (kg) of aquatic products were shown in Table 16.

Table 9. Detailed information of total production (fishery catch + aquaculture) in 1998 (source: INE/DGPA)

Category Main species	Quantity (t)	Value (1000 €)	Average price (€/kg)	Market share (% of the category)	% Aquaculture (in quantity)	General trends over the last 10 years[†]
Marine fishes 1 – pelagics						
Total	134102	85958	0.6	100	0	Falling
Sardine	82991	42608	0.5	50		Falling
Horse-mackerel	21398	18775	0.9	22		Falling
Tuna and tuna like	11559	12026	1.0	14		Fluctuating
Mackerels	10666	2899	0.3	3		Stagnant
Blue jack mackerel	2688	2238	0.8	3		Fluctuating
Blue whiting	1900	760	0.4	1		Stagnant
Anchovy	1657	343	0.2			Fluctuating
Marine fishes 2 – non-pelagics						
Total	56958	161213	2.8	100	3	Falling
Black scabbardfish	7583	10169	1.3	6		Fluctuating, rising
Silver scabbardfish	5511	9899	1.8	6		Fluctuating, rising
Atlantic cod	4414	8692	2.0	5		Falling
European conger	2858	6323	2.2	4		
Hakes (*Merluccius* spp.)	3174	12118	3.8	8		Falling
Pouting	2254	4796	2.1	3		
Atlantic redfishes	4862	7537	1.6	5		
Rays	1899	3982	2.1	2		
Soles and thickback soles	1166	10711	9.2	7	1	
Anglerfishes	1295	6186	4.8	4		Falling
Sargo breams	2278	12006	5.3	7		
Axillary bream	882	3915	4.4	2		
Blackspot seabream	1482	8297	5.6	5		
Wreckfish	346	4013	11.6	2		
Total	4	17	4.4	100	100	
Atlentic salmon	4	17	4.4		100	
Fresh-water fishes						
Total	1311	3045	2.3	100	69	Fluctuating
Truit	1248	2547	2.0	95	100	
Eels	43	407	9.4	3	31	
Shads (*Alosa* spp.)	20	92	4.5	2	0	
Total	6591	23254	3.5	100	67	Fluctuating
Clams	3599	21089	5.9	91	88	
Common cockle	1378	472	0.3	2	8	
Wedge shell	702	843	1.2	4		
Oysters	578	600	1.0	3	100	
Mussels	334	251	0.8	1	91	
Total	2598	22564	8.7	100	0	Fluctuating
Deepwater rose shrimp	1404	10702	7.6	47	0	
Shrimps	691	7564	11.0	34	0	
Norway lobster	175	3073	17.6	14	0	
Cephalopods						
Total	12443	37268	3.0	100		Fluctuating, rising
Octopus	6464	23159	3.6	62	0	
Cuttle	1885	6438	3.4	17	0	
Squids	1165	4863	4.2	13	0	
Flying squids	2152	2143	1.0	6		
Total	219667	357848	1.6			

[†]Data concerning aquaculture not available.

However in the publication "Portuguese Fisheries 1986-1996", it is stated that the annual gross consumption per capita of the aquatic products was 37.4 kg/inhabitant in 1996 and edible products was 24.8 kg/inhabitant. The tax per category of product and per kg is considered in Table 17.

Table 10. Total imports (fishery catch + aquaculture) in 1997 (source: INE)

Category Main species	Quantity (t)		Value (1000 €)	Average price (€/kg)	Market share (% of the category)
	Net weight	Landed weight			
Marine fishes 1 – pelagics					
Total	46934	47584	34826	0.7	100
Sardine	5573	5573	3571	0.6	10
Horse-mackerel	19733	19733	13241	0.7	38
Tunas and tuna like	13011	13417	13443	1.0	39
Mackerels	7931	7931	4096	0.5	12
Blue jack mackerel	n.a. †	n.a.	n.a.	n.a.	n.a.
Blue-whiting	494	494	248	0.5	1
Anchovy	192	436	227	0.5	1
Marine fishes 2 – non-pelagics					
Total	198182	369012	469671	1.3	100
Black scabbardfish	n.a.	n.a.	n.a.	n.a.	n.a.
Silver scabbardfish	n.a.	n.a.	n.a.	n.a.	n.a.
Atlantic cod	99603	238521	288980	1.2	62
European conger	n.a.	n.a.	n.a.	n.a.	n.a.
Hakes (*Merluccius* spp.)	30510	35892	56123	1.6	12
Pouting	n.a.	n.a.	n.a.	n.a.	n.a.
Atlantic redfishes	4973	4975	8526	1.7	2
Rays	n.a.	n.a.	n.a.	n.a.	n.a.
Soles and thickback soles	370	370	986	2.7	0
Anglerfishes	1412	1949	5176	2.7	1
Sargo breams	n.a.	n.a.	n.a.	n.a.	n.a.
Axillary bream	n.a.	n.a.	n.a.	n.a.	n.a.
Blackspot seabream	n.a.	n.a.	n.a.	n.a.	n.a.
Wreckfish	n.a.	n.a.	n.a.	n.a.	n.a.
Salmonids					
Total	1614	1755	5810	3.3	100
Atlantic salmon	1109	1126	4135	3.7	100
Fresh-water fishes					
Total	648	1182	1779	1.5	100
Trouts	65	87	212	2.5	12
Eels	99	99	487	4.9	27
Shads (*Alosa* spp.)	n.a.	n.a.	n.a.	n.a.	n.a.
Shellfish					
Total	4226	4226	5081	1.2	100
Clams	2473	2473	3266	1.3	64
Common cockle	n.a.	n.a.	n.a.	n.a.	n.a.
Wedge shell	n.a.	n.a.	n.a.	n.a.	n.a.
Oysters	10	10	27	2.7	1
Mussels	642	642	1104	1.7	22
Crustaceans					
Total	14211	14211	79588	5.6	100
Deepwater rose shrimp	103	103	439	4.3	1
Shrimps	11107	11107	70619	6.4	89
Norway lobster	138	138	853	6.2	1
Crabs	2341	2341	7642	3.3	10
Cephalopods					
Total	23791	23791	47515	2.0	100
Octopus	297	297	721	2.4	2
Cuttle	n.a.		n.a.	n.a.	n.a.
Squids	n.a.	n.a.	n.a.	n.a.	n.a.
Flying squids	n.a.	n.a.	n.a.	n.a.	n.a.
Total	298030	470044	675651		

†n.a.: Non-available data.

Table 11. Total imports (fishery catch +aquaculture) in 1998 (source: INE)

Category Main species	Quantity (t)		Value (1000 €)	Average price (€/kg)	Market share (% of the category)	Main forms of import†	General trends over the last 10 years†
	Net weight	Landed weight					
Marine fishes 1 – pelagics							
Total	54117	54416	53197	1.0	100		Rising
Sardine	5374	5374	5226	1.0	10	Fresh or refrigerated	
Horse-mackerel	17061	17061	12040	0.7	23	Fresh or refrigerated	
Tunas and tuna like	23806	23865	31869	1.3	60	Frozen whole	
Mackerels	7544	7778	3824	0.5	7		
Blue jack mackerel					n.a.†		
Blue-whiting	280	280	148	0.5	0		
Anchovy	52	58	90	1.7	0		
Marine fishes 2 – non-pelagics							
Total	172253	348194	526600	3.1	100		Rising
Black scabbardfish					n.a.		
Silver scabbardfish					n.a.		
Atlantic cod	99903	260418	362813	3.6	69	Dried and salted	
European conger					n.a.		
Hakes (*Merluccius* spp.)	23820	31097	47508	2.0	9	Frozen	
Pouting					n.a.		
Atlantic redfishes	4696	4704	9429	2.0	2	Frozen	
Rays					n.a.		
Soles and thickback soles	388	390	1079	2.8	0	Frozen	
Anglerfishes	1644	1982	6524	4.0	1	Frozen	
Sargo breams	25	24002			n.a.		
Axillary bream	245	156966			n.a.		
Blackspot seabream	117	34789			n.a.		
Wreckfish	1	196			n.a.		
Salmonids							
Total	2851	2851	10161	3.6	100	Fresh	
Atlantic salmon	57	57	169	3.0	100	Frozen	
Fresh-water fishes							
Total	22369	22517	48370	2.2	100		Fluctuating
Trouts	397	539	997	2.5	2	Fresh whole	
Eels	40	46	202	5.1	0		
Shads (*Alosa* spp.)					n.a.		
Shellfish							
Total	3014	3014	5321	2.2	100	Fresh	Fluctuating, rising
Clams	1669	1669	3372	2.5	63		
Common cockle	n.a.	n.a.			n.a.		
Wedge shell	n.a.	n.a.			n.a.		
Oysters	30	30	92	3.1	2		
Mussels	336	336	541	1.6	10	Live or fresh	
Crustaceans							
Total	15385	15385	103265	6.7	100	Frozen	Fluctuating, rising
Deepwater rose shrimp	49	49	255	5.2	0		
Shrimps	12004	12004	86520	7.2	84		
Norway lobster	175	175	1211	6.9	1		
Cephalopods							
Total	26398	26398	59121	2.2	100		Fluctuating, rising
Octopus	248	248	598	2.4	1	Live or fresh	
Cuttle					n.a.		
Squids					n.a.		
Flying squids					n.a.		
Total	302538	478925	829333	2.7			

†n.a.: non-available data.

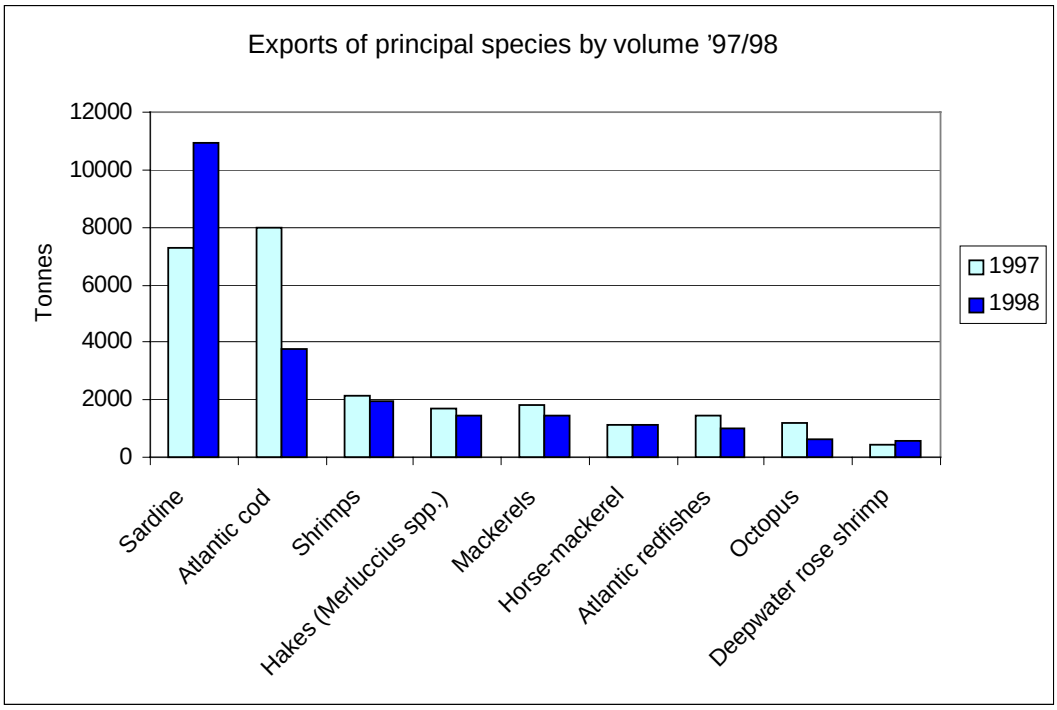

Fig. 8. Exports of principal species (net weight) 1997/98 (source: INE).

Table 12. Total exports (fishery catch +aquaculture) in 1997 (source: INE)

Category Main species	Quantity (t)		Value (1000 €)	Average price (€/kg)	Market share (% of the category)
	Net weight	Landed weight			
Marine fishes 1 – pelagics					
Total	11438	11459	24444	2.1	100
Sardine	7316	7316	19006	2.6	78
Horse-mackerel	1106	1106	1318	1.2	5
Tunas and tuna like	981	1002	2915	3.0	12
Mackerels	1816	1816	933	0.5	4
Blue jack mackerel	n.a.†	n.a.		n.a.	n.a.
Blue-whiting	132	132	98	0.7	0
Anchovy	87	87	174	2.0	1
Marine fishes 2 – non-pelagics					
Total	55227	61385	83037	1.4	100
Black scabbardfish	n.a.	n.a.		n.a.	n.a.
Silver scabbardfish	n.a.	n.a.		n.a.	n.a.
Atlantic cod	8008	16769	21621	1.3	88
European conger	n.a.	n.a.		n.a.	n.a.
Hakes (*Merluccius* spp.)	1724	1887	3134	1.7	13
Pouting	n.a.	n.a.		n.a.	n.a.
Atlantic redfishes	1457	1615	2949	1.8	12
Rays	n.a.	n.a.		n.a.	n.a.
Soles and thickback soles	265	265	1278	4.8	2
Anglerfishes	74	74	230	3.1	0
Sargo breams				n.a.	n.a.
Axillary bream				n.a.	n.a.
Blackspot seabream				n.a.	n.a.
Wreckfish	n.a.	n.a.		n.a.	n.a.
Salmonids					
Total	19	24	83	3.5	100
Atlantic salmon	9	8	31	3.9	100

†n.a.: non-available data.

Table 12 (cont.). Total exports (fishery catch +aquaculture) in 1997 (source: INE)

Category Main species	Quantity (t)		Value (1000 €)	Average price (€/kg)	Market share (% of the category)
	Net weight	Landed weight			
Fresh-water fishes					
Total	213	519	3228	6.2	100
Trouts	42	99	277	2.8	9
Eels	1	1	73	73.3	2
Shads (*Alosa* spp.)	n.a.†	n.a.		n.a.	n.a.
Shellfish					
Total	2058	2058	10891	5.3	100
Clams	121	121	130	1.1	1
Common cockle				n.a.	n.a.
Wedge shell				n.a.	n.a.
Oysters	26	26	45	1.7	0
Mussels	21	21	62	3.0	1
Crustaceans					
Total	3189	3189	23059	7.2	100
Deepwater rose shrimp	433	433	1872	4.3	8
Shrimps	2142	2142	17195	8.0	75
Norway Lobster	118	118	1481	12.6	6
Crabs	312	312	1075	3.4	5
Cephalopods					
Total	5969	5969	13091	2.2	100
Octopus	1224	1224	6068	5.0	21
Cuttle	n.a.	n.a.		n.a.	n.a.
Squids	n.a.	n.a.		n.a.	n.a.
Flying squids	n.a.	n.a.		n.a.	n.a.
Total	93835	107304	250655	2.3	n.a.

†n.a.: non-available data.

Table 13. Total exports (fishery catch +aquaculture) in 1998 (source: INE)

Category Main species	Quantity (t)		Value (1000 €)	Average price (€/kg)	Market share (% of the category)	Main forms of export
	Net weight	Landed weight				
Marine fishes 1 – pelagics						
Total	14277	14373	14071	1.0	100	
Sardine	10930	10930	8003	0.7	77	Fresh, frozen
Horse-mackerel	1135	1135	1424	1.3	8	Frozen
Tunas and tuna like	505	505	2684	5.3	4	Fresh
Mackerels	1419	1419	612	0.4	10	Frozen
Blue jack mackerel						
Blue-whiting	24	24	13	0.6	0	Fresh
Anchovy	264	360	319	1.2	2	Fresh
Marine fishes 2 – non-pelagics						
Total	30655	37610	84078	2.7	100	
Black scabbardfish					n.a.†	
Silver scabbardfish					n.a.	
Atlantic cod	3759	4594	10117	2.7	72	Frozen
European conger					n.a.	
Hakes (*Merluccius* spp.)	1434	2016	3292	2.3	23	Frozen whole
Pouting					n.a.	
Atlantic redfishes	994	999	1773	1.8	13	Frozen
Rays					n.a.	
Soles and thickback soles	238	246	1303	5.5	2	Frozen
Anglerfishes	143	143	716	5.0	1	Frozen
Sargo breams					n.a.†	
Axillary bream					n.a.	
Blackspot seabream					n.a.	
Wreckfish					n.a.	

†n.a.: non-available data.

Table 13 (cont.). Total exports (fishery catch +aquaculture) in 1998 (source: INE)

Category Main species	Quantity (t)		Value (1000 €)	Average price (€/kg)	Market share (% of the category)	Main forms of export
	Net weight	Landed weight				
Salmonids						
Total	11	17	74	6.7	100	
Atlantic salmon	5	5	26	5.2	100	Frozen
Fresh-water fishes						
Total	236	598	4352	18.4	100	
Trouts	139	383	967	7.0	22	Dried, fillets
Eeels	2	4	109	54.4	2	Dresh
Shads (*Alosa* spp.)					n.a.	
Shellfish						
Total	194	194	380	2.0	100	
Clams					0	
Common cockle					n.a.	
Wedge shell					n.a.	
Oysters	0	0	2		1	
Mussels	10	10	22	2.2	6	
Crustaceans						
Total	3520	3520	29921	8.5	100	
Deepwater rose shrimp	586	586	3132	5.3	10	Frozen
Shrimps	1977	1977	20394	10.3	68	Frozen
Norway lobster	17	17	156	9.2	1	Frozen
Cephalopods						
Total	6471	6471	16438	2.5	100	
Octopus	613	613	2457	4.0	0	
Cuttle					n.a.	
Squids					n.a.	
Flying squids					n.a.	
Total	83681	91094	242635	2.9	n.a.	

[†]n.a.: non-available data.

Table 14. Total apparent consumption in 1997 (source: INE/DGPA)

Category Main species	Quantity (net weight) (t)[†]	Quantity (landed weight) (t) [††]	Value (1000 €)
Marine fishes 1 – pelagics			
Total	162248	162877	82203
Sardine	74659	74659	16980
Horse-mackerel	36958	36958	28875
Tunas and tuna like	24696	25081	26418
Mackerels	15354	15354	5427
Blue jack mackerel			
Blue-whiting	2667	2667	1264
Anchovy	737	981	1211
Marine fishes 2 – non-pelagics		0	0
Total	196551	361223	508621
Black scabbardfish			
Silver scabbardfish			
Atlantic cod	95942	226099	273807
European conger			
Hakes (*Merluccius* spp.)	31626	36846	64786
Pouting			
Atlantic redfishes	5449	5293	8568
Rays			
Soles and thickback soles	1283	1283	8830
Anglerfishes	2462	2999	9621
Sargo breams			
Axillary bream			
Blackspot seabream			
Wreckfish			
Salmonids			
Total	1845	1981	6375
Atlantic salmon	1350	1368	4752

Table 14 (cont.). Total apparent consumption in 1997 (source: INE/DGPA)

Category Main species	Quantity (net weight) (t)	Quantity (landed weight) (t)	Value (1000 €)
Fresh-water fishes			
Total	2230	2458	2372
Trouts	1007	972	1855
Eels	146	146	845
Shads (*Alosa* spp.)			
Shellfish			
Total	8775	8775	17336
Clams	6075	6075	24187
Common cockle			
Wedge shell			
Oysters	603	603	593
Mussels	1122	1122	1410
Crustaceans			
Total	13145	13145	73389
Deepwater rose shrimp	578	578	5405
Shrimps	9587	9587	59091
Norway lobster	165	165	1630
Cephalopods	2251	2251	6740
Total	0	0	0
Octopus	34410	34410	94027
Cuttle	8255	8255	29393
Squids			
Flying squids			
Total	413606	572151	749965

Table 15. Total apparent consumption (production + import – export) in 1998 (source: INE/DGPA)

Category Main species	Quantity (net weight) (t)	Quantity (landed weight) (t)†	Value (1000 €)	Market share (% of the category)
Marine fishes 1 – pelagics				
Total	173942	174144	125083	100
Sardine	77435	77435	39831	44
Horse-mackerel	37324	37324	29391	21
Tunas and tuna like	34860	34918	41210	20
Mackerels	16791	17025	6111	10
Blue jack mackerel	2688	2688	2238	2
Blue-whiting	2156	2156	895	1
Anchovy	1445	1355	114	1
Marine fishes 2 – non-pelagics				
Total	198556	367541	603735	100
Black scabbardfish	7583	7583	10169	2
Silver scabbardfish	5511	5511	9899	1
Atlantic cod	100558	260238	361388	71
European conger	2858	2858	6323	1
Hakes (*Merluccius* spp.)	25560	32254	56334	9
Pouting	2254	2254	4796	1
Atlantic redfishes	8564	8567	15193	2
Rays	1899	1899	3982	1
Soles and thickback soles	1316	1310	10487	0
Anglerfishes	2796	3134	11995	1
Sargo breams	2303	26280	12006	7
Axillary bream	1127	157848	3915	43
Blackspot seabream	1599	36271	8297	10
Wreckfish	347	542	4013	0
Salmonids				
Total	2844	2838	10104	100
Atlantic salmon	56	56	159	100
Fresh-water fishes			0	
Total	23444	23230	47063	100
Trouts	301	199	437	1
Eels	1286	1290	2640	6
Shads (*Alosa* spp.)	20	20	92	0

Table 15 (cont.). Total apparent consumption (production + import – export) in 1998 (source: INE/DGPA)

Category Main species	Quantity (net weight) (t)	Quantity (landed weight) (t)†	Value (1000 €)	Market share (% of the category)
Shellfish				
Total	9411	9411	28196	100
Clams	5268	5268	24461	56
Common cockle			472	n.a.
Wedge shell			843	n.a.
Oysters	608	608	689	6
Mussels	660	660	770	7
Crustaceans				
Total	14463	14463	95909	100
Deepwater rose shrimp	867	867	7824	6
Shrimps	10718	10718	73690	74
Norway lobster	333	333	4127	2
Cephalopods				
Total	32370	32370	79951	100
Octopus	6099	6099	21301	19
Cuttle	1885	1885	6438	6
Squids	1165	1165	4863	4
Flying squids	2152	2152	2143	7
Total	438524	607498	944546	

†Foreign trade data expressed in landed weight.

Table 16. Consumption per capita of aquatic products (kg/inhabitants) (source: INE/DGPA)

Year	Consumption per capita (kg)
1989	48
1990	63
1991	78
1992	70
1993	67
1994	72
1995	72
1996	70
1997	76
1998	59

Table 17. Consumption per capita of aquatic products by type of product (kg/inhabitants) (source: INE/DGPA)

Type of products	Brut	Edible
Fish (fresh, chilled, frozen or canned)	24.2	15.0
Codfish and other dried fish, salted, smoked or in brine	7.7	5.8
Crustaceans and molluscs	5.5	4.0

This reveals how difficult it is to is correctly assess values of apparent consumption.

National seafood market information

Fresh consumption is predominant followed by dry and salted consumption (almost exclusively of

cod), frozen fish and canned fish. The main processing industry is the canned sardine and the canned tuna.

Commercialisation circuits are relatively complex in what fisheries catches (Fig. 9) and aquaculture production are concerned. Remark that aquaculture products are sold in a variety of ways but rarely in auction in a Fishing Port.

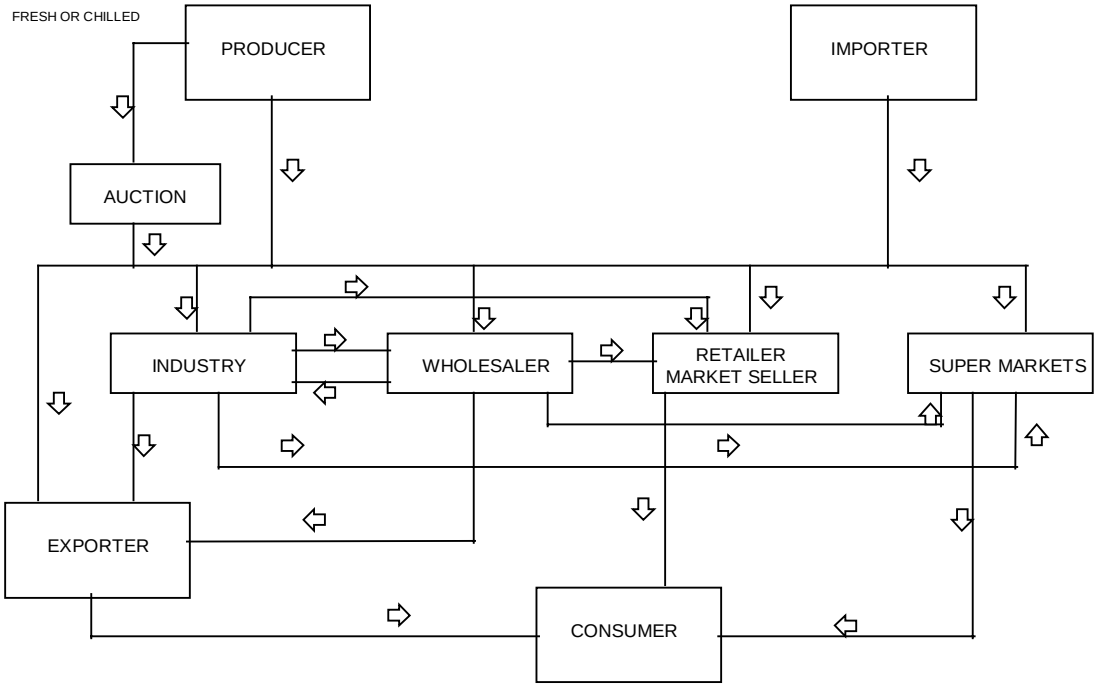

Fig. 9. Fish products trade circuits in Portugal (source: *Study on the Bioeconomic Management and Commercialization of Hake,* Final Report Ref. 94/80, DGXIV/D Commission of the European Communities).

Fish landings must be sold at port market by auction or alternatively according to the terms of pre-arranged contract involving a Producers Organisation and a buyer. "Contracts" are frequent in the case of sardine that is directly sold to a factory.

Buyers are normally wholesalers, sometimes retailers. Eventually fish could be sold again in the auction in the "second market sales". In the last years with the generalisation of big supermarkets, another kind of contracts take place, between a Producers Organisation or wholesaler and a big supermarket chain, which is the shortest circuit.

It was not possible to estimate the relative importance of the various distribution channels.

As a result of the multiple degrees of the circuit the price varies tremendously between the fish auction (1st sale) and the price to the consumer, revealing differences in excess of 40% between the auction and the final market prices.

Regional variation in purchasing fish are evident being the prices on the Porto market usually lower than the Lisbon market. Between 1996-1998 retail prices in the Lisbon market had risen about 37% regarding octopus, 16% in sole and 15% in hake.

The consumer price index based in year 1997 (= 100) is for 1998 of 117.1 in aquatic food, 103.5 in food, 97.7 in meat and 115.5 in vegetables and potatoes.

Within aquatic food, this value is higher in what concern dried and salt fish 134.1 and crustaceans and molluscs 112.1.

General information

Portuguese food balance regarding fish products and other proteins of animal origin is considered in Table 18.

Table 18. Portuguese food balance (unit 1000 tonnes) (source: INE/DGPA)

	Year	Total catches	Imports	Exports	Gross annual consumption per capita
Seafood	1995	295	322	158	37.7
	1996	275	335	143	37.2
	1997	251	324	129	36.5
Marine fishes (fresh,	1995	216	259	144	24.8
chilled, frozen, canned)	1996	189	275	126	24.2
	1997	177	259	114	23.8
Cod and other (dried,	1995	55	21	2	7.4
salted, smoked fishes)	1996	62	19	2	7.7
	1997	53	20	2	7.5
Crustaceans, molluscs	1995	24	42	12	5.5
(fresh, chilled, frozen,	1996	24	41	15	5.3
canned)	1997	21	45	13	5.2
	1995	645	157	19	78.4
Meat	1996	668	143	18	78.4
	1997				

The daily protein consumption per capita[1] from animal origin was 66.7 g and from fish and seafood 15.6 g. So, the relative importance of aquatic products within protein diet from animal origin was 23.4%.

The total household expenditures dedicated to food and beverages was 2592 € in 1994/1995: 372 correspond with seafood fish and its products, 711 meat and other products containing meat and 321 corresponding to fruits, vegetables and dried products.

Tables 19 and 20 indicate, respectively, average annual expenses per family, and average annual income per family taken from the "Inquérito aos Orçamentos Familiares".

Table 19. Average annual expenses per family (source: INE)

TOTAL	PTE 14,722,372.3	€ 2,956,870,697
Fishes, crustaceans, molluscs and derived products	449,750.1	90,328,709.58
Fruit, vegetable and others	433,426.1	87,050,164.77
Meat and derived products	923,120.1	185,401,367.40

Table 20. Average annual income per family in PTE (source: INE)

Private sector		Public sector	
Employees	Other workers	Employees	Other workers
2,492,607	3,788,877	2,806,173	4,319,288

[1]The average population in Portugal in 1952-1994 was 9,838,000 inhabitants.

In terms of household size (Table 21) predominate families with 3 members. Woman employment rate is lower than men (Table 22). Table 23 shows the distribution of the population by age groups. In the last years the trend indicates an ageing of the population.

Table 21. Number of family members (source: INE "Inquérito aos Orçamentos Familiares")

No. of family members	1994/1995 (%)
1 individual	14.02
2 individuals	27.92
3 individuals	23.45
4 individuals	20.97
5 individuals	8.44
6 individuals	5.12

Table 22. Employment rate by sex groups – average of three month periods (Jan. 1998 to June 1999) (from "Estatísticas do Emprego") (source: INE)

SEX	%
M + W	50
M	57
W	44

Table 23. Estimation of the resident population in 1958 (source: INE)

Age	Total	Man	Woman
0-4	516,760	266,840	249,920
5-9	525,200	268,190	257,010
10-14	531,780	271,680	260,100
15-19	655,890	333,820	322,070
20-24	781,690	394,300	387,390
25-29	769,840	387,050	382,790
30-34	705,910	351,180	354,730
35-39	675,610	331,640	343,970
40-44	643,520	313,060	330,460
45-49	616,340	298,730	317,610
50-54	577,900	274,640	303,260
55-59	506,170	238,720	267,450
60-64	509,490	234,820	274,670
65-69	476,550	212,520	264,030
70-74	412,050	174,690	237,360
75-79	301,860	121,150	180,710
80-84	166,030	59,720	106,310
85 +	101,480	30,310	71,170

Abbreviations

INE, National Institute of Statistics (Instituto Nacional de Estatística).
DGPA, General Directorate of Fisheries and Aquaculture (Direcção Geral das Pescas e Aquacultura).