

The Adriatic resource: valorisation of the fishery within the collaboration Italy - Croatia

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Abstract

The paper reports the results of the research "The Adriatic resource: the valorisation of the fishery within the collaboration Italy - Croatia" carried out between 1996-1997. A brief overview on the fishery sector in Croatia is outlined. It is a macroeconomic analysis of the most relevant indicators which put in evidence the role of the Croatian fishery, considered as an productive sector, in the period 1989 - 1995. Particular emphasis is placed on the analysis of the fleet composition and on the trade indicators.

1. Introduction

This paper reports some of the results of the research (Jukić¹, 1997): "The Adriatic resource: the valorisation of the fishery within the collaboration Italy - Croatia". This research was stimulated by the increasing need to get more articulated knowledge about principle characteristics of the fishery sector in Croatia as well as to fill gaps, at least partially, that were accumulated during the years in economic and statistic studies of the Croatian fishery. The paper reports some information collected from different responsible authorities, regarding the characteristics of the productive structure of the fishery sector in Croatia. This work offers a brief framework of the Croatian fishery reality and whose results need to be updated and examined more closely.

2. The economic influence of the fishery in Croatia

During the examined period, from 1989 to 1995, the fishery occupation, extended to the fish food processing industry, had an almost constant decreasing trend. In fact, data for 1995 show a drop of 12% compared with 1989 data. As shown by the following Table 1, the reduction in the employment was related in particular to the processing industry² and this resulted in re-evaluation of the importance of the fishery as an occupational alternative. Data for 1995 show that fishery itself employs 85% of the total of employees against 13% of the processing industry and only 2% of the aquaculture.

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¹Final thesis, supervisor Prof. Franco Sotte, Faculty of Economics, University of Ancona.

²The processing industry has been facing a lot of difficulties caused by: a) necessity to import machinery and materials as well as fish suitable for the processing, b) the loss of a big part of ex national market (in 1971 the Republic of Serbia represented 37% of domestic demand), c) barriers to entry in the EU market. In 1995 in Croatia there were 6 active industries and they were operating at 39% of their potential.

Table 1. The fishery employment in Croatia (1989 - 1995). (Source: Morsko Ribarstvo).

	1989	1990	1991	1992	1993	1994	1995
Fishery	12217	12614	11589	12586	12434	12062	11846
Aquaculture	183	183	177	181	237	275	293
Processing industry	3425	2926	2382	2272	2085	2021	1815
Total	15825	15723	14148	15039	14756	14358	13954

The extended fishery sector, with a total of 13954 employees, represented in 1995 only 3,8% of the population employed in the agro food sector and only 1,4% of the active population at the national level³.

Although the fishery contributes modestly to the national economy - both in the employment and in GNP terms – nevertheless in 1995 the marine fishery was the only sector which influenced positively the agro food balance of trade, with the exportation that exceeded greatly the importation.

3. The marine production in Croatia

The analyses of the catch starts from 1987, a record year for the Croatian production. As shown by the following Table 2, from that year on, the volume of the production has had an almost constant decreasing trend and, in 1995 recorded the drop of 65% compared to 1989.

Table 2. Marine production in Croatia (tonnes). (Source: Morsko Ribarstvo).

	1987	1988	1989	1990	1991	1992	1993	1994	1995
Catch	48822	38803	40920	34901	18776	26463	25767	16560	15364
Aquaculture	n.a.	300	280	400	405	420	900	1300	1600
Total	48822	39103	41200	35301	19181	26883	26667	17860	16964

It is also interesting to put in evidence the composition of the Croatian catch by the groups of the main species. In 1995, as shown in Figure 1, more than 50% of the Croatian catch consisted of the group "Pelagic species", followed by the group "Other" mostly corresponding to highly commercial and prized demersal species.

³ It should be considered, however, that the fishery assumes much more importance if referred to the coastal zones and islands. In that case, sometimes, fishery represents the only occupational alternative. Therefore, when evaluating the occupational incidence of the fishery, it would be more appropriate to analyse its importance in those areas.

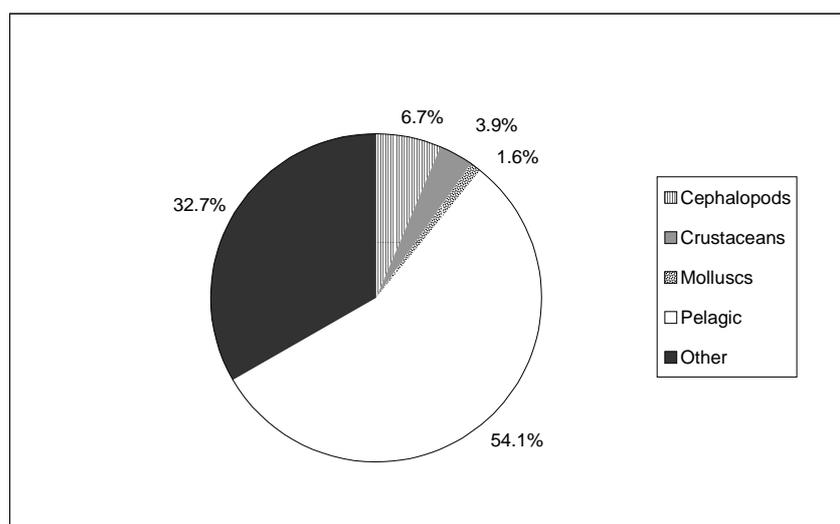


Figure 1. Production by the groups of the main species. 1995. (Source: Morsko Ribarstvo).

The composition of the catch by species in 1995 was undoubtedly better if compared to the previous years of reference period. In fact, the high percentage of demersal species suited well the increasing demand of the western commercial partners for those species, and that influenced positively the balance of trade of the sector. However, this improvement was due to a drastic decrease of the catch of pelagic species. The later group registered a drop of 79% in the considered period, while the species included under "Other" dropped by 8% "Molluscs" by 7%. The only exception was the increasing trend regarding Crustaceans and Cephalopods, even though this increase was very slight and insufficient to counterbalance the general decreasing trend of the Croatian production. At the same time and in correspondence with the continuous downward trend of the catch, the production structures increased considerably (Table 3).

Table 3. Fishery fleet in Croatia (1989 - 1995). (Source: P. Cetinic, Analiza sadasnjeg stanja jugoslavenske kolarske i plivariarske ribolovne flote in "Morsko ribarstvo", n.3, Zagreb 1989, Ministarstvo pomorstva, prometa i veza - Odijel sigurnosti plovidbe).

	Motor trawlers	Motor ships
1989	259	335
1990	n.a.	n.a.
1991	196	n.a.
1992	314	591
1993	318	n.a.
1994	349	676
1995	359	669

- Motor trawlers are fishery boats whose length is superior to 15 m and whose GRT superior to 15.
- Motor ships are production units whose length is inferior to 15 m and whose GRT inferior to 15 but superior to 3⁴.

⁴ It is important to observe that the units for recreational and non-professional fishery (almost 14.000 units in 1995) are not considered even though they have a great impact both from the economic and biologic point of view. As to the classification of fishery boats in Croatia, see Article 3 of the Marine Fishery Law 12/07/96.

In 1995 the Croatian fishery fleet consisted of 1029 units. This number represents a growth of 73% compared to the first year of the reference period of the analysis. With the reference to the same year, the Croatian fleet was mostly concentrated in the ports of the Central and North Adriatic (45,8% and 46,1% of the total fleet respectively), against 8,1% of the vessels registered in the South Adriatic local fleet.

In spite of this consistent and continuous rise, the Croatian fishery fleet is still far away from reaching the Italian counterpart in 1995, both in terms of the number of fishery units and of their tonnage⁵ or the power of the engines. In fact, in 1995, the Croatian production represented just a marginal part of the Adriatic production; less than 10% of Italian Adriatic production and less than 20% of the Italian Adriatic fleet (data source: fishing units number from Ministarstvo pomorstva, prometa i veza and Institute for Fisheries and Aquaculture Economic Research, IREPA; production figures from Morsko ribarstvo and Italian National Statistical Institute, ISTAT). As to the characteristics of the productive structures on the sea, the Croatian fleet can be defined prevalently artisanal. As shown in Figure 2, more than 68% of the fleet possess tonnage less than 10 GRT.

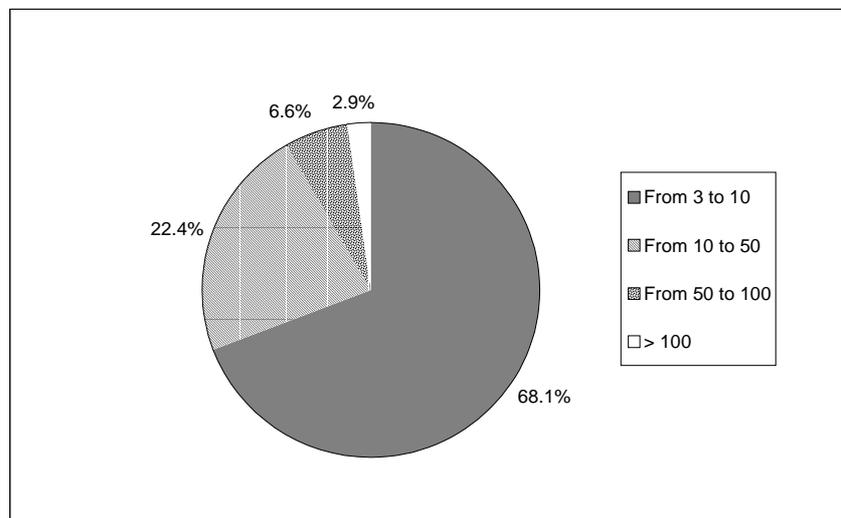


Figure 2. Fleet by GRT categories. 1995. (Source: elaboration data Ministarstvo Pomorstva, Prometa i Veza Odijel sigurnosti plovidbe).

The units of 10 to 50 GRT assume some relevance, while the enterprises more properly industrial whose tonnage exceeds 100 GRT represent only 2,9% of the total. Small dimensions of the Croatian vessels are accompanied by the elevated vessel age; hulls aged more than twenty years, represent the most significant category (55%). Data of Ministry of Agriculture and Forestry for 1995 show that the average age of the Croatian vessels was 38 years (Ministarstvo poloprivrede i sumarstva - Sektor morskog ribarstva, Ribarski registri, Zagreb 04. 10. 1995). This data could be, at least partially explained, by the fact that in the early 90s the sector was privatised and, this process was more accomplished by a transfer of "old" vessels both from a public sector and EU countries to the private sector, than by an adequate reconstruction of the fishing fleet (Figure 3).

⁵ In 1993, total tonnage of 318 Croatian motor trawlers was 15.093 GRT.

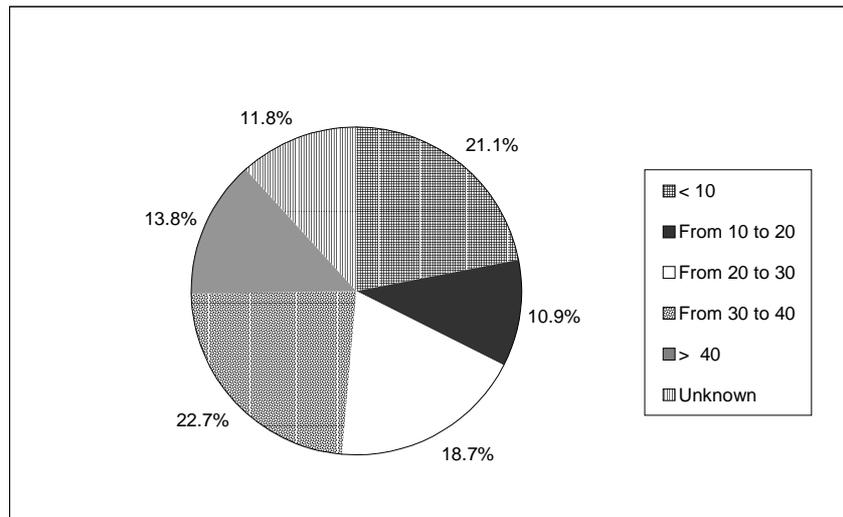


Figure 3. Fleet by categories of hull age. 1989. (Source: P. Cetinic, Analiza sadasnjeg stanja jugoslavenske kocarske i plivaricarske ribolovne flote in "Morsko ribarstvo", n.3, Zagreb 1989).

The available data indicate that, as far as the most commonly used fishing gears in Croatia are concerned, just two types of vessels (Figure 4) can be distinguished. More than 70% of vessels are trawlers, followed by purse seiners (25%).

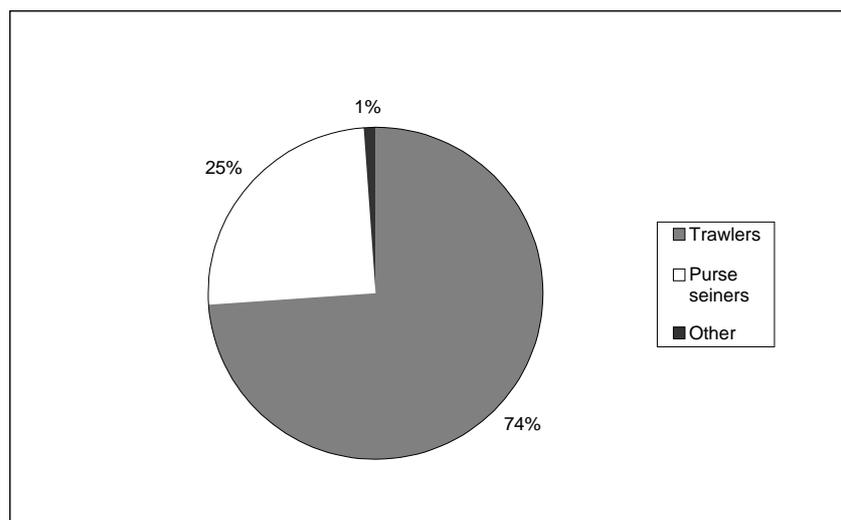


Figure 4. Fleet by vessels (main gears). 1995. (Source: Ministarstvo Pomorstva, Prometa i Veza- Odijel sigurnosti plovidbe).

As to official data, only 1% of Croatian vessels are included under the group "Other" which corresponds to those vessels that combine more than one fishing gear. It should be put in evidence that this low percentage is due to the fact that national legislation does not consider a high number of vessels whose tonnage is inferior to 3 GRT. Those vessels, mostly operating in artisanal/coastal fishery actually combine during the year a big variety of fishing gears as to stabilise their income.

4. The balance of trade

National production is mostly destined to the exportation and it gets placed in two principle markets⁶. Fresh fish, especially highly commercial and prized demersal species, almost entirely goes to the markets of the European Union member Countries and, the Italian market absorbs more than 80% of the Croatian fresh fish (Table 4).

Table 4. Trade indicators (tonnes). (Sources: Morsko Ribarstvo).

Total Products	1992	1993	1994	1995
Production	26883	26667	17860	16964
Import	7680	6244	8946	10567
Availability	34563	32911	26806	27531
Export	26377	25627	20792	16442
Balance	18697	19383	11846	5875
Movement	34057	31871	29756	27009
Apparent consumption	8186	7284	6014	11089
Normalised balance	54.9%	60.8%	39.8%	21.7%
Autosufficiency	328%	366%	296%	152%
Level of covering import	343%	410%	232%	156%
Propulsion to import	93.8%	85.7%	148%	95%
Propulsion to export	98%	96%	116%	96.9%

Availability (Production + import)

Apparent consumption (Availability - export)

Normalised balance the relation between balance (export - import) and movement (export + import)

Level of autosufficiency indicates the level of the theoretical consumption that could be covered by the national production and is given by the relation between production and apparent consumption

Level of covering import is given by the relation between export and import

Propulsion to import indicates how much a certain county depend of imports for a national consumption

Propulsion to export indicates a quota of a national production that is exported

The processed fish, on the contrary, gets placed almost entirely in the markets of the East European Countries while the importance of the European Union market for the processed fish is marginal (Table 5).

Table 5. Trade indicators ('000 US\$⁷). (Source: Morsko Ribarstvo).

Total Products	1992	1993	1994	1995
Import	12123	12598	18716	22942
Export	54582	49231	50763	45680
Movement	66705	61829	69479	68622
Balance	42459	36633	32047	22738
Normalised balance	63.6%	59.2%	46.1%	33.1%
Level of covering import	450%	390%	271%	199%

⁶ It is important to note that an average Croatian family consumes c.a. 7 kg of fish per capita/year, which is one of the lowest consumption in the World. The consumption can be divided as follows: c.a. 3,5 kg of fresh fish, 2 kg of frozen fish and 1,4 kg of the processed fish (Data Chamber of Commerce).

⁷ The exchange rates Italian Lira/ US \$ were: 1.232,6 Liras for 1 US\$ in 1992; 1.572,7 Liras/1 US\$ in 1993; 1.611,8 Liras/1 US\$ in 1994 and 1.628,9 Liras/1 US \$ in 1995.

As shown by the Tables 4 and 5, however, the reference period is also characterised by a consistent increase of imports with reference to the fresh and frozen fish. In fact, although the tables show an active balance of trade in the period 1992 – 1995 its decreasing trend, both in terms of volume and value, is evident.

5. Conclusions

As already mentioned in the introduction, this work offers only a brief description of the Croatian fishery reality and the results need to be updated and fulfilled with more detailed information. The data collected, however, clearly show that in the period observed, the Croatian fishery sector was characterised by deep changes of all the indicators considered. From 1989 to 1995, the employment and production, as well as the balance of trade present a decreasing trend. On the other hand, the number of fishing vessels is in continuous increase. This could mean that the Croatian fishery is becoming a sensitive economic sector, which needs particularly careful, but radical management measures, not only to permit the survival of the fishery as the economic activity, but also to prevent the depletion of the Adriatic resources.

6. References consulted

- Dragic, A. (1990) Pomorska orijentacija i morsko ribarstvo. *Morsko ribarstvo*, 2: 6 pp.
- Hrvatska Gospodarska Komora. (1993) Stanje ribarske privrede Hrvatske i mjere za poticaj razvoja, *Morsko ribarstvo*, 2: 5 pp.
- Hrvatski Zavod za Statistiku (1996) Hrvatski Zavod za Statistiku, Statisticki ljetopisi Hrvatske. 1994 – 1995, Zagreb 1996.
- IREPA. (1995) Sistema di rilevazione sistematica ed organica degli indicatori economici della pesca in Italia, IV Rapporto, Salerno 1995: 278 pp.
- Jukic-Peladic N. (1997) La risorsa Adriatico: La valorizzazione della pesca nell'ambito della collaborazione Italia – Croazia. Final thesis, Università degli Studi di Ancona, Facoltà di Economia e Commercio, A. A. 1996-1997: 196 pp.
- Ministrastvo Poljoprivrede i Sumarstva (1995) - Sektor morskog ribarstva, Ribarski registri, Zagreb 04.10.1995: 8 pp.
- Morsko Ribarstvo. (1987 – 1994). Stanje ribolovne flote i ulova, Zagreb 1987 – 1994.
- Nemarnik. (1981) Fishery economy and marketing, Institute of Oceanography and Fisheries, Split - Centre for the training of fishing personnel from developing countries, Split 1.
- Pasalic, Z. (1994) Mediteranska komponenta u razvojnoj strategiji poljoprivrede i ribarstva Hrvatske, Sveuciliste u Splitu, Ekonomski fakultet, 1. Znanstveni skup (Split 8. I 9. 12/93), radovi god.4, broj 11.
- Saponja, Z. (1991) Poslovanje ribarske privrede za 1990.u godinu, *Morsko Ribarstvo* 1, Zagreb: 10 pp.