



*SCIENTIFIC COOPERATION TO SUPPORT  
RESPONSIBLE FISHERIES IN THE ADRIATIC SEA*

***MiPAF***

Food and  
Agriculture  
Organization  
of the  
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Italian Ministry  
of Agriculture  
and  
Forestry  
Policies

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AdriaMed

GCP/RER/010/ITA

## Source and Accessibility of Socio-Economic data in AdriaMed member countries

AdriaMed survey of existing socio-economic data

Paper presented at the AdriaMed Meeting “Aspects of Fish Markets  
in the Adriatic Sea Fishery Sector”

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# Source and Accessibility of Socio-Economic data in AdriaMed member countries \*

## FAO-AdriaMed Project

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## Abstract

The document presents one of the results of the research activities of the FAO-AdriaMed Project on Fishery Socio-economics in the Adriatic Sea. It deals with a survey on existing socio-economic data in AdriaMed member countries. This paper constitutes a tool for comparison of the existing information on the national fishery socio-economics sector. Contributions of each countries participating in AdriaMed (Albania, Croatia, Italy and Slovenia) are provided.

## 1. Background and objectives

This paper presents the first results of the research work, related to the FAO-AdriaMed Fishery Socio-economics component and it concerns a survey on existing socio-economic data in AdriaMed member countries.

This task goes back to the first AdriaMed meeting on Socio-economic aspects of the Adriatic Sea Fishery Sector held in Campobasso in May 2001 (AdriaMed Technical Document GCP/RER/010/ITA/TD-05 refers<sup>1</sup>). On that occasion, investigating the existing data was considered the necessary step to be taken towards the establishment of a regional socio-economic network for Adriatic fisheries. During this meeting it was to take the tables proposed by the GFCM SAC Sub-committee on Economic and Social Sciences (SCESS) meeting in May 2001 (Table 1) as a suitable starting point for the discussion of socio-economic variables and indicators to be applied to the Mediterranean region and therefore also to the Adriatic Sea. This outline was modified to include further indicators concerning

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\* This paper was conceived as one of the outputs of the AdriaMed Working Group on Socio-Economic Aspects of the Adriatic Sea Fishery Sector which is composed of experts from Albania, Croatia, Italy and Slovenia. The outcome of the meetings and the follow-up are summarized in four Tasks: 1) Preparation of a technical document on the Adriatic fleet; 2) Preparation of a technical document on “Source and accessibility of socio-economic data in AdriaMed member countries”; 3) *Ad hoc* meeting to detail data characteristics and sampling requirements; 4) Fish marketing aspects.

<sup>1</sup>AdriaMed. 2001. Socio-economic aspects of the Adriatic Sea fisheries. Report of AdriaMed Meeting on Socio-Economic Aspects of the Adriatic Sea Fishery Sector. FAO-MiPAF Scientific Cooperation to Support Responsible Fisheries in the Adriatic Sea. GCP/RER/010/ITA/TD-05. *AdriaMed Technical Documents*, 5: 53 pp.

other economic and in particular social phenomena and a new list of variables was produced (Tables 2-4). After initial investigation in AdriaMed member countries it was immediately clear that the table/questionnaire would be largely left blank, partly because of the analytic structure of the tables and partly anticipating the problem of gaps in socio-economic data on the fisheries sector which will be discussed in greater detail later in this paper. Therefore the new investigation concerns a small number of variables (grey coloured in Tables 1-4). Nonetheless, the work done in the original tables has been useful, if not for the current accessibility of data, for reflection on future collection of data (and to detail data characteristics and sampling requirements).

The review of the existing socio-economic data in AdriaMed member countries gives particular emphasis to the social profile of fisheries because it is considered the area in which most information is lacking at aggregate and disaggregated local level, both referring to the territorial sphere (national vs. local) and thematic sphere (macro vs. micro phenomena). When social aspects are considered, it is generally a matter of few indicators concerning work at national level and strictly connected with economic analysis. In other words, statistics on the whole sector and at disaggregated scale, albeit with a lot of limitations concerning their completeness and infrequent updating, are available with reference to the economic sphere, however for the social sphere data are generally reduced to aggregated information on the work force. Even if social data are often easy to collect, attention always focuses on economic information, such as that on landings and earnings, which is not so freely given by fishing communities.

Recently social aspects has received a renewed attention both at political than economical and research levels. It is not the intention of this paper to underline how important social aspects are in explaining the success/failure of local development and of economic policy in general, not only for fisheries. Concerning this specific sector of activity, it is of fundamental importance to know social conditions in local fishing areas in order to support the application of the Code of Conduct for Responsible Fisheries (art.12.9: *“States should ensure that the economic, social, marketing and institutional aspects of fisheries are adequately researched and that comparable data are generated for ongoing monitoring, analysis and policy formulation”*).

The tables which follow for each country represent the final, shorter version which is used as a guideline to detect the existing data on socio-economic issues in fisheries. Besides filling in the tables, each country's expert was asked to write a short note to clarify details about the content. The tables, albeit provisional, have been compiled for each of the AdriaMed countries with the exception of Slovenia; the notes on compilation are only ready for Italy and Croatia. At this point of the analysis, this is a serious limitation for the comparison of the different situations in all the AdriaMed countries, but this problem will be solved as soon as we complete tables for all countries. At this stage our efforts have to focus on data existing in each country, specifying if they are published or only accessible.

Some reflections follow as a first impression which has to be confirmed later as the work proceeds.

The comparison of the country tables, supported by expert evaluations, highlights the following points which represent major limitations in realising socio-economic analysis for

the whole Adriatic basin using the existing statistical information. *Ad hoc* data collection is required on a few indicators which is standardised among the four countries.

These limitations are common to all the countries with varying intensity. Particular problems related to data collection in each country are considered in the specific paragraphs.

Maybe some common denominators could be found on fleet data, an area in which international standards are applied in all the countries.

Table 1 - Socio-economic data

Items	Source Name	Source Type						Level of desegregation						Years	Frequency	Measurement Unit
		PB	PR	C	S	other	N	R	P	F	V	other				
<b>1. Fleet</b>																
• Number																
• Gross Tonnage																
• Horse Power																
• Length																
• Age																
• Type																
<b>2. Exploitation strategy</b>																
• Time at sea (days/year, hours/day)																
• No. of fishing operations/day																
• Duration of one fishing operation (hours)																
<b>3. Employment</b>																
• Direct employment (crews on board)																
• Indirect employment (shipbuilding, ship maintenance, shiphandlers, etc.)																
<b>4. Investment</b>																
• Vessel value ex novo (included equipment and gears)																
• Investment grants																
<b>5. Income data</b>																
• Landings weight by species and by area (specifying live weight, landed weight,...)																
• Landings value by species and by area																
<b>6. Fixed costs</b>																
• Insurance																
• Tax																
• Financial charges																
• Other fixed costs																
<b>7. Salary share (%)</b>																
<b>8. Variable costs</b>																
• Daily cost of gasoline																
• Ice and Food																
• Maintenance and repairing (included spare parts)																
• Taxes and other charges																
• Subsidies																
• Other variable costs																

Table 2 - Other economic data

Items	Source Name	Source Type					Level of desegregation					Years	Frequency	Measurement Unit	
		PB	PR	C	S	other	N	R	P	F	V	other			
9. Fishing gear type															
10. Exploitation strategy															
• Time at sea (days/week)															
• No. of fishing operations /month															
• Duration of one trip															
• Total time of work (hours/day) (at sea, at port, at market, other)															
• Fishing inactivity time (specify duration according to inactivity type)															
11. Vessel															
• Hull construction material															
• Distance of usual fishing area (miles)															
12. Vessel property															
• Kind of company															
• Owner/fisherman															
13. Employment															
• Direct full time employment (crews on board)															
• Direct part time employment (on board)															
• Direct occasional workers (on board)															
14. Investment															
• Vessel value at purchasing time															
15. Equipment cost															
• Cost of catching equipment															
• Cost of navigation equipment															
• Cost of freezing method															
• Cost of communication engine															
16. Market															
• Share of selling for geographical area															
• Share of fish sold into the local fish market															
• Share of selling for operator															

Table 3 - Sociological data

Table 3 Socioeconomic data

Items	Source Name	Source Type					Level of desegregation					Years	Frequency	Measurement Unit	
		PB	PR	C	S	other	N	R	P	F	V	other			
<b>17. Personal data</b> <ul style="list-style-type: none"><li>• Age</li><li>• Educational level</li><li>• Previous job</li><li>• Part time job</li><li>• Household members by numbers, age, gender</li><li>• Household members Job:<ul style="list-style-type: none"><li>• actual / expected</li></ul></li><li>• Fish consumption (weekly)</li><li>• Minimum earnings to family livelihood</li></ul>															
<b>18. Fishing strategy</b> <ul style="list-style-type: none"><li>• Decision level (community, vessel owner, crew members,...)</li><li>• Objectives (profit, household survival, cost efficiency, ...)</li></ul>															
<b>19. Crew</b> <ul style="list-style-type: none"><li>• Crew by status</li><li>• Crew by age and gender</li><li>• No. of relatives</li><li>• Kind of payment (salary, % of sales, other)</li><li>• Time of payment (week/month; beginning/end of period)</li><li>• Shared cost</li></ul>															
<b>20. Membership</b> <ul style="list-style-type: none"><li>• Type (owner association, trust union, other local institution)</li><li>• Purposes and activities</li><li>• Decision making (mechanism, power, enforcement, ...)</li></ul>															

Table 4 - Macro variables

		PB	PR	C	S	other	N	R	P	F	V	other			
<b>21. Foreign trade data</b> <ul style="list-style-type: none"> <li>• Export for species <ul style="list-style-type: none"> <li>• Quantity</li> <li>• Value (FOB)</li> </ul> </li> <li>• Import for species <ul style="list-style-type: none"> <li>• Quantity</li> <li>• Value (CIF)</li> </ul> </li> <li>• Country destination/provenance</li> </ul>															
<b>22. Macroeconomic variables</b> <ul style="list-style-type: none"> <li>• Unemployment rate</li> <li>• GDP (by sector)</li> <li>• Population (gender, age, school)</li> </ul>															

Symbols: Public (PB) or private (PR) sources, census (C) or sampling (S); Regional (R), national (N) level, by fishing port (P), by fleet (F), by fishing vessel (V), etc.

## **2. The state of socio-economic data in AdriaMed member countries**

*By Maria Forleo\**

The following country tables contain the last version, shorter than the previous ones, we decided to use as a guideline to detect the existing data on socio-economic issues in fisheries. Besides filling in the tables, each of country's experts was asked to write a short note in which clarifying details about the content of the tables. The tables, even if provisional, are compiled for each of AdriaMed countries; the compiling notes are now ready only for Italy and Croatia.

The work done could be useful at least on three different levels.

Firstly, on AdriaMed basin perspective it could be useful as a tool to make comparison among the level of the existing statistical information on fishery sector, identify a common base - really very narrow, as we will see- on which build integrated analysis, and for most of all the gaps the FAO-AdriaMed Project, in this field of activities, could help to reduce.

The second point of view is at national scale. Tables produced could be useful to fishery operators, politician and researcher interested in making socio-economic analysis on internal fishery sector. In our intention these tables could be considered as a “yellow pages” on *who* makes *what*; in other words, they could be a first guide to identify national statistical sources producing data on different socio-economic items. At institutional and fishery administration level tables like the ones produced could be useful in many contexts. For example, to build or re-organise the national state of information on fishery sector between public and private sources and among different public statistical offices; or to prepare socio-economic scenario for action plans in fishery sector; finally, to evaluate internal statistical data compatibility with international statistical sources –at FAO and UE scales firstly-.

For those purposes maybe further efforts are needed to improve the content of some of the country tables.

The comparison among country tables supported by expert evaluation allow to stress the following points which represent major limitations in realising socio-economic analysis for the whole Adriatic basins with the statistical information already existent. That requires ad hoc activities of data collection maybe on a low number of indicators but standardised and homogenised among the four countries. These limitations are in common in all the countries even with variable intensity, the single country problem in data collection considered inside the specific paragraph. Maybe some common denominator could be found on fleet data, area in which international standard are applied in all the countries.

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The comparison is carried on the following seven aspects which represents the main limitations to carry on basin analysis on socio-economic aspect of fisheries on the base of national current data availability:

- extent data coverage
- reliability
- standardization
- data collection methodology
- time series
- aggregation level
- fragmentarity of data sources

Making comments on these aspects some country situation will be presented. This is not to indicate good or bad performances but just to make an example that clarify concepts.

#### - EXTENT OF DATA COVERAGE

This limitation is also linked to the extension of the areas involved in fishing activities and the size of the sector.

For example, in Croatia where many people depend on fisheries for at least part of their living and there are a large number of landing sites, no database exists to gather such information on a national level and any data that are currently available are not fully reliable. To compound the problem of data collection further, there are no large-scale fish markets where information can be gathered, employment and payment records are lacking and the private processing industries are in some difficulty.

Concerning Slovenia the national fleet is very small so in theory data would be easier to access. Central offices would be able to supply some employment information and licences are issued so the authorities have some basic data on the vessels.

#### - RELIABILITY

Partly connected with the problem of extent of coverage is the limited reliability of data collected. Reference is made, for example, to the discrepancy between the income from fisheries quoted in the Gross Domestic Product and the real value of the fishery sector, the proportion of the population that is supported by fisheries.

Due to regional differences and lack of information, it is not possible to generalise excessively about the socio-economics of the Adriatic fishery sector; however, a common structure possible even if at a basic level.

As far as Croatia is concerned, even official fleet details to some extent might be incomplete or not updated, not to mention the more specific information. Whereas in Albania economic

data are more readily available than social data, however neither provides a clear picture of the present situation.

One of the major areas of limited reliability concerns indicators on work, the most important socio-economic problem. For example, in Albania there are no employment offices to supply data on the number of workers on a given vessel or those who work at a given port, information that in any case changes frequently.

In Croatia too, it was observed that while capture is easier to evaluate, its value however is not.

#### - STANDARDISATION

Standardisation is one of the most important aspects necessary to build a socio-economic profile of fisheries in Adriatic Sea countries.

As far as Croatia is concerned problems of standardisation have emerged in several circumstances. One of the main problems was identified as a lack of consistency in the registration of vessels and their classification; besides, time spent at sea is not standardised or reported according to an established system; vessel age would not be available in all cases as boats, which are not new, often enter the country and are registered from that moment, not from construction so they are not comparable with others. These phenomena also occur in other AdriaMed countries. For example, more investigation is necessary on the kind of fishery for which data is collected, whether this is professional, artisanal or both, as well as the emphasis each country gives to the different kinds of fisheries.

#### - DATA COLLECTION METHODOLOGY

This is a very big problem area that prevents any accurate comparative analysis of different fishing communities within the countries and between them.

For example, in the Slovenian fishery socio-economic sector no logbook system exists for data collection; all vessel owners report to the national statistics office with the inevitable result that data are fragmentary. In other AdriaMed countries logbooks exist. In some countries variables are collected on a census base, in others by sampling.

#### - TIME SERIES

It emerges from the tables that there is a problem of building time series for the fishery sector. This is for two reasons at least: in some cases because of collection of new data, in others because of a new collection methodology or a new definition/standardisation of the phenomena collected. It should not be disregarded that, for countries other than Italy, the political transformation that occurred in the nineties may also have influenced this topic.

#### - AGGREGATION LEVEL

The problem of a different scale of aggregation concerns both the collection and the availability of data. Sometimes data may be collected at the lowest level of aggregation and then be aggregated at each level progressively, however in the AdriaMed countries data are not available at any level. Sometimes data are only collected and made available at the most aggregate/disaggregate level without the possibility to change the reference scale.

In some cases the aggregation level is important to evaluate the strength of analysis: some analysis requires micro-data, others only macro-data according to the purposes of the research.

#### - FRAGMENTARY NATURE OF DATA SOURCES

Reading the tables, another aspect emerges concerning the source of socio-economic data. It refers to the multiplicity of sources between public and private, and the many institutions in each sector. Sometimes different aspects are covered, but sometimes there seems to be some overlap on the same subject.

In each country, private sources seem to have an important role in collecting socio-economic data on the fishery sector, more so than public sources. Public sources, with the partial exclusion of Croatia, have a limited role and data collection has been decentralised or delegated according to the subject. This can be due to a need for specific knowledge/expertise for the activity in question or because of the marginal importance assigned to the fishery sector or for other reasons.

It is clear that public preferences/objectives could diverge from private ones.

In conclusion, a few simple notes to read the content of the tables:

### **3. AdriaMed survey of existing socio-economic data in AdriaMed member countries**

In the following pages are presented the country tables for AdriaMed member countries. Table content is very simple to understand.

In any case, to make tables more readable, annexed are few simple compiling notes given as a guide to country experts.

- In the first column you find the *item*, which is the information we are interested in. It is considered important to go into some detail in the tables, specifying the item definition used in each country.
- The two following columns refer to the source of data collected in each country. In the second column the *source name* is requested, while in the third column the *source*

*type* is specified, distinguishing the nature of the source institution (public or private) and the way they collect the specific item (by census, sampling or other).

Obviously there could be more than one source of information on a specific item, maybe with a different frequency or level of desegregation. In this case you will find both the sources.

- The *level of desegregation* concerns the scale at which data are collected and available. If this level is different from the published level of desegregation then it is specified.
- In the column years was requested to indicate the time coverage
- The column "*Frequency*" refers to the frequency with which data are collected (daily, weekly, monthly, quarterly and so on); it could be useful to know the frequency with which data are published.
- The last column refers to the *Measurement unit* in which data are expressed (i.e. number, live weight in tonnes, currency unit...) not the data itself. The measurement unit has been defined precisely.
- At this stage our efforts have to be focused on data existing in each country, specifying if they are published or only accessible. For data published in each country a suggestion to compile the tables is to check for the methodological notes and definition generally enclosed to the data publication book.

Not all the countries tables are fully or exactly compiled according to these notes.

## 4. AdriaMed survey of existing socio-economic data in ALBANIA

By Vladimir Spaho\*

Table 1 - Socio-economic data

Items	Source Name	Source Type					Level of desegregation					Years	Frequency	Measurement Unit	
		PB	PR	C	S	other	N	R	P	F	V	other			
<b>1. Fleet</b> • Number • Gross Tonnage • Horse Power • Length (over all, between perpendiculars) • Age of construction • Authorised gear type • District Registration	Fishermen Organ.			X	X			X	X	X	X		2001	Quarterly	N. Grt KW Mt year
				X	X			X	X	X	X		"		
				X	X			X	X	X	X		"		
				X	X			X	X	X	X		"		
				X	X			X	X	X	X		"		
				X	X			X	X	X	X		"		
				X	X			X	X	XX	X		"		
				X	X										
<b>2. Exploitation strategy</b> • Time at sea (days/week, days/year, hours/day) • N° of fishing operations • Duration of one fishing operation (hours) • Total time of work (hours/day) (at sea, at port, at market, other) • Non fishing days • Hull construction material • Distance of usual fishing area (miles)	Fishermen Organ. Port Authority			X	X				X		X		2002	Quarterly	Days/year
				X	X				X	X	X		'00-'02	Monthly	Days
				X	X				X		X		2002	Quarterly	N/day
				X	X				X	X	X		'00-'02	Monthly	N7month
				X	X				X		X		2002	Quarterly	Hour
				X	X				X	X	X		'00-'02	Monthly	Hours/day
				X	X				X	X	X				
				X	X		X		X	X	X				
				X	X								'01-'02	Yearly	Miles
<b>3. Employment</b> • Direct employment (crews on board) • Indirect employment (shipbuilding, ship maintenance, ship chandlers, etc.) • Average crew	Fishermen Organ. Statist. Office of M.A.F.	X	X	X				X	X	X	X		2002	Yearly	N
				X	X				X				2002	Yearly	N
<b>4. Investment</b> • Vessel value ex novo (included equipment and gears) • Vessel value at purchasing time • Investment grants	Fishermen Organ. Statist. Office of M.A.F.	X	X	X					X		X		2000	Yearly	
				X	X				X	X	X		'01-'02	Monthly	
<b>5. Vessel property</b> • Kind of company	Fishermen Organ.			X	X			X	X	X	X	X	2002	Yearly	
<b>6. Income data</b>	M.A.F.												1990-		

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<ul style="list-style-type: none"> <li>Landings weight by species and by area (specifying live weight, landed weight, etc.)</li> <li>Landings value by species and by area</li> </ul>		X	X	X		X	X	X		'01	Monthly	Kv
			X	X		X	X	X				Kv
<b>7. Fixed costs</b>	Insig.	X		X		X	X			'97-'01	Quarterly	
• Insurance		X		X		X	X			'97-'01	Quarterly	
• Tax		X		X		X	X			'97-'01	Quarterly	
• Financial charges		X		X		X	X			'97-'01	Quarterly	
• Other fixed costs		X		X		X	X			'97-'01	Quarterly	
<b>8. Variable costs</b>	Insig.		X	X			X	X	X	'01-'02	Yearly	
• Navigation equip. cost			X	X			X	X	X	'01-'02	Yearly	
• Communication engine cost												
• Daily cost of gasoline		X		X		X	X			'97-'01	Quarterly	
• Ice and food		X		X		X	X			'97-'01	Quarterly	
• Maintenance and repairing (included spare parts)		X		X		X	X			'97-'01	Quarterly	
• Taxes and other charges		X		X		X	X			'97-'01	Quarterly	
• Subsidies		X		X		X	X			'97-'01	Quarterly	
• Other variable costs		X		X		X	X			'97-'01	Quarterly	
<b>9. Market</b>	Local govern.											
• share of sale for geographical area		X	X	X		X	X			'01-'02	Quarterly	
• share of fish sold into the local fish market		X	X	X		X	X			'01-'02	Quarterly	
• share of sale for market channels												

Table 2 – Macro variables

Table 2 – Macro variables

Items	Source Name	Source Type					Level of desegregation					Years	Frequency	Measurement Unit	
		PB	PR	C	S	other	N	R	P	F	V	other			
<b>10. Foreign trade data</b>	Min. of Agricult.														
• Export for species															
• Quantity		X	X	X			X	X					1990-'02	Monthly	
• Value (FOB)		X	X	X			X	X					1990-'02	Monthly	
• Import for species															
• Quantity		X	X	X			X	X					1990-'02	Monthly	
• Value (CIF)		X	X	X			X	X					1990-'02	Monthly	
• Country destination/origin		X	X				X	X					1990-'02	Monthly	
<b>11. Macroeconomic variables</b>	Min. of Agricult.														
• Unemployment rate		X					X						1996-'02	Yearly	
• GDP (by sector)		X					X								
• Population (by age, gender, education)		X					X								

## 5. AdriaMed survey of existing socio-economic data in CROATIA

By Maja Fredotovic\*

Table 1 - Socio-economic data

Items	Source Name	Source Type					Level of desegregation					Years	Frequency	Measurement Unit	
		PB	PR	C	S	other	N	R	P	F	V	other			
<b>1. Fleet</b> <ul style="list-style-type: none"><li>• Number</li><li>• Gross Tonnage</li><li>• Horse Power</li><li>• Length (over all, between perpendiculars)</li><li>• Age of construction</li><li>• Authorised gear type</li><li>• District Registration</li></ul>	Ministry of Agriculture and Forestry  Croatian Ship Registry  Port Authority	X X X X		X X X X							X X X X			Annual/ biannual	GT kW
<b>2. Exploitation strategy</b> <ul style="list-style-type: none"><li>• Time at sea (days/week, days/year, hours/day)</li><li>• N° of fishing operations/day</li><li>• Duration of one fishing operation (hours)</li><li>• Total time of work (hours/day) (at sea, at port, at market, other)</li><li>• Non fishing days</li><li>• Hull construction material</li><li>• Distance of usual fishing area (miles)</li></ul>	Ministry of Agriculture and Forestry	X X X  X		X X X  X							X X X  X	2000 – (*)	Daily/ Monthly		
<b>3. Employment</b> <ul style="list-style-type: none"><li>• Direct employment (crews on board)</li><li>• Indirect employment (shipbuilding, ship maintenance, ship chandlers, etc.)</li><li>• Average crew</li></ul>	Port Authority  Employment Bureau  Accounting records (Union)	X % %	X X X	X  X X	X  X X						X  X X			Annual/ Monthly	
<b>4. Investment</b> <ul style="list-style-type: none"><li>• Vessel value ex novo (included equipment and gears)</li><li>• Vessel value at purchasing time</li><li>• Investment grants</li></ul>	Accounting records	X  X			X  X						X  X				
<b>5. Vessel property</b> <ul style="list-style-type: none"><li>• Kind of company</li></ul>	Port authority Company books Court of Commerce	X		X							X				
<b>6. Income data</b> <ul style="list-style-type: none"><li>• Landings weight by species and by area (specifying live weight,</li></ul>	Ministry of Agriculture & Forestry	X		X							X		2000- (*)	Daily/ Monthly	Landed weight

\* University of Split, Faculty of Economics- Radovanova 13, 21000 Split, Croatia;

landed weight, etc.) • Landings value by species and by area	Croatian Bureau of Statistics	X		X					X			
<b>7. Fixed costs</b> • Insurance • Tax • Financial charges • Other fixed costs	Accounting records		X			X			X			monthly
			X			X			X			
			X			X			X			
			X			X			X			
<b>8. Variable costs</b> • Navigation equipment cost • Communication engine cost • Daily cost of gasoline • Ice and food • Maintenance and repairing (included spare parts) • Taxes and other charges • Subsidies • Other variable costs	Accounting records  (Log books)		X			X			X			monthly
			X			X			X			
			X			X			X			
			X			X			X			
			X			X			X			
			X			X			X			
			X			X			X			
			X			X			X			
<b>9. Market</b> • Share of sale for geographical area • Share of fish sold into the local fish market • Share of sale for market channels	Accounting records Ministry of Agriculture and Forestry Croatian Bureau of Statistics	X		X					X		2000 – (*)	Daily/ Monthly Annual
		X		X					X			
		X		X					X			

Table 2 – Macro variables

Table 2 - Macro variables															
Items	Source Name	Source Type					Level of desegregation					Years	Frequency	Measurement Unit	
		PB	PR	C	S	other	N	R	P	F	V	other			
<b>10. Foreign trade data</b> <ul style="list-style-type: none"><li>Export for species<ul style="list-style-type: none"><li>Quantity</li><li>Value (FOB)</li></ul></li><li>Import for species<ul style="list-style-type: none"><li>Quantity</li><li>Value (CIF)</li></ul></li><li>Country destination/origin</li></ul>	Ministry of Finance  Croatian Bureau of Statistics	X X		X X			X X						1994 -	Annual	
<b>11. Macroeconomic variables</b> <ul style="list-style-type: none"><li>Unemployment rate</li><li>GDP (by sector)</li><li>Population (by gender, age, education)</li></ul>	Croatian Bureau of Statistics  Chamber of Economy	X X		X X				X X						Annual / Quarterly	

Legend: Public (PB) or private (PR) sources, census (C) or sampling (S), etc. Regional (R), national (N) level, by fishing port (P), by fleet (F), by fishing vessel (V), etc.

**Note:** If the column “years” is left blank, it means that data are available for each year, ever since the source has been in operation. (\*) There are some data available at the Croatian Bureau of Statistics for the period before 2000. All the data collected by the Ministry of Agriculture and Forestry exist also for the year of 2000, but will not be processed. Data collected by the state administration, are also published in the statistical yearbooks or reviews. They are also accessible through administration offices. Port authorities are the part of the Ministry of Maritime Affairs, Traffic and Communications.



## ***NOTES ON THE COMPILATION***

### **5.1 General remarks**

There are two main types of marine fishery in Croatia. The first is the professional fishery, where the fleet is owned by a number of companies employing people and having accurate data (accounting records) on their operations. The data on the vessels from this group is collected by the state administration (Ministries, Directorates, bureaux etc). Usually the basic level of information is vessel (sometimes the company).

The second type of marine fishery is the so-called small-scale fishery. The main difference between the two types is that the first one is allowed to fish for a living (meaning catching for sale) while the latter type is not allowed to sell the catch, only to use it as an additional source of food. Consequently, the fishers belonging to the second type are sometimes not registered as fishers and the gears used and other data are rather hard to track down. In general, there are many more licences issued than are actually used in this type of fishery, while economic and especially sociological data are almost non-existent.

### **5.2 Fleet**

Data on vessel number, gross tonnage, horsepower length and registration district can be obtained at the Croatian Ship Register for all vessels longer than 12 m. The same data for the same vessels can also be obtained from the port authorities at the port of registration. The Croatian Ship Register updates these data on an annual basis. On the other hand, for the vessels of less than 12 m, these data can be obtained at the port of registry (county offices etc.). The port authorities collect the data annually for all the vessels. In addition, all data should be contained in the database in the Ministry of Agriculture and Forestry (Directorate of Fisheries).

As for age of construction, the situation is somewhat complicated. In general this data can be obtained, except in the cases of imports, when the vessel age is counted from the date of registration in Croatia. There also may be some other cases when the vessel is registered upon reconstruction etc.

Authorised gear type is registered at the county offices of the Directorate of Fisheries. All the fleet data are collected and provided by the state administration and are included in official books and statistics (Directorate of Fisheries). Some data can be found at the Chamber of Craftsmen.

### **5.3 Exploitation strategy**

All the data concerning exploitation strategy are filled in the logbooks issued by the Ministry of Agriculture and Forestry (Directorate of Fisheries). All the vessels (professional fishery) are obliged by the law to fill in the logbook on a daily basis, but submit them once a month. The problem would be the data regarding the total time of work since the logbook only

contains the data on the time spent at sea. Moreover, the distance of usual fishing areas is in question because the logbooks provide data on the fishing area where the fish was caught - what would be the "usual" area?

As for small-scale fishery, the logbook contains only the data on the fishing area and gears used. It is filled in and submitted on a monthly basis to the county office of the Directorate of Fisheries.

Even though the logbook system was introduced in the year 2000, only the data for the year 2001 will be processed. The results can be expected at the end of 2002 at the earliest.

## **5.4 Employment**

There are a few sources of employment data. The first is the port authority, in the case of professional fishing vessels of certain tonnage and length. For these vessels the navigation licence defines the minimum number, position and education of the crew. However, this means only the implementation of the Maritime Code, not the data of real employment.

Real employment (direct employment) data can be obtained at the Employment Bureau. However, these can be incomplete since all the crew onboard might not be registered at the Bureau. Data on the employed (and registered) crew (direct employment) are to be found in the accounting books (of the company owning the vessel – in the case of professional fleet). As far as the small-scale fishery is concerned, none of these data can be obtained since they officially (as defined by the law) do not employ people.

Accounting books may be the only source for the data on indirect employment and average crew size – again, data refer only to what is reported (black market, self-maintenance, friendly services etc. are not included). Of course, more aggregated data on indirect employment could be generated, but it would take significant resources in terms of time and manpower as well as agreement with the companies to provide the data.

Finally, some of the data – but fragmented and not always official or documented – might be found in the fishers' unions.

As for frequency, the (direct) employment data can usually be obtained on a monthly basis (at the Employment Bureau), and there is an official publication on employment issued once a year. Data from the port authorities (the minimum number of direct employment on the largest vessels) is collected on an annual basis and is connected with navigation licence issuing.

## **5.5 Investment**

The data regarding the vessel value ex novo (implying the amount of money that should be invested in order to buy a brand new vessel and the equipment) cannot be obtained from an "official" source such as the State Ministry, board, bureau or a similar office. These data can

be provided by simple market value assessment of new/second-hand vessel and gear. Alternatively the data could, in some cases, be requested from the manufacturer.

The data regarding the value of the vessel and the gears at the purchasing time i.e. the exact amount of money paid for the vessel and gear, can be found in the accounting books of the owner company. Nevertheless, sometimes the recorded value does not correspond to the value of the vessel at the time of purchasing (usually lower values of investment are recorded in the contracts etc. so as to lower the tax base).

Investment grants: A: those that are offered – data can be obtained at the banks, Chamber of Craftsmen, Chamber of Economy as well as some Ministries (e.g. Ministry of Economy, Ministry of Small and Medium Scale Entrepreneurship, Ministry of Agriculture and Fishery etc.) as well as Croatian Reconstruction and Development Bank. B: the grants taken – data must be recorded in the accounting books of the owner companies.

All data refer to professional fishery, not to the small-scale fishery.

## **5.6 Vessel property**

In the case of small-scale fisheries, the owner of the vessel is always an individual and his/her name is to be written in the licence issued by the port authority.

In the case of the professional fleet, the name of the owner or owner company is written in the fishing and navigation licences (issued by the Ministry of Agriculture and Forestry and by the Ministry of Maritime Affairs, Traffic and Communications, respectively). The kind of company (ownership structure) can be checked out in two different ways: through the company books (statute etc.) and in the Court of Commerce (where the company is registered).

In Croatia it is important to distinguish between the vessel licence and the fishing licence. In fact, port authority issues the licence for the vessel to sail and the name of the owner is on it. That is true to all the vessels, fishing or not. On the other hand, there is a fishing licence (small-scale fishery) issued to a person, not the vessel. However, this person is obliged to fill in the log book in which the name and the registration of the vessel he/she fishes in has to be written. It means that, rarely but possibly, the owner of the fishing licence does not have to fish in his own vessel (and in any case, the vessel has to have its own vessel licence).

## **5.7 Income data**

The data requested under the title “Income data” have only been collected for professional fishery up to the year 1998. (In fact, income data for professional fishery until 1991 do exist in the Croatian Bureau of Statistics; it is the matter of accounting methodology that makes them rather incomparable with the present data.) Data regarding small scale fisheries (treated in a somewhat different manner then – they were allowed to sell the catch) were generally estimated until 1998, and in 1998 and 1999 the sampling method was applied (based on the

income data - income tax base - supplied from the Ministry of Finance) to estimate more precisely the income of this group.

Until the year 2000, the income data (both landing weights and prices) were based on the accounting books and income tax base reported by the companies and fishermen. These were collected through official channels (Ministry of Finance and Ministry of Agriculture and Forestry) and then processed and published by the Croatian Bureau of Statistics. However, it would be difficult to find complete data specified by the area; they are usually presented by species, but at country level.

In the year 2000, the logbook was introduced as a basis for fishery statistics. These include the landing weight of each species and each area. The logbooks are collected by the county offices of the Ministry of Agriculture and Forestry (Directorate for Fisheries) and processed within the Directorate. Combined with the officially gathered data on fish prices (Directorate of Fisheries) they could provide assessment of income, although based on species and area.

### **5.8 Fixed costs**

All the data regarding fixed costs can be found in the accounting records of the owner (company). These data can be verified through the database of the Croatian Financial Institute (in fact upon request they issue the notifications of financial standing and business efficiency of all Croatian firms). So, these data are based on vessel or company. Aggregates by cost type could be done on sampling base, or maybe provided by the Institute upon request.

The time series: there used to be a standard accounting system until 1991. In the period between 1991 and 2001 a couple of fundamental changes were introduced into the system and in addition, the privatisation process was on the way. Consequently, the fishery system (agents, organization, companies etc.) as well as the accounting system changed profoundly, making the comparison of data quite impossible. However, the data on costs from the years 1996/7 are comparable from a methodological point of view.

### **5.9 Variable costs**

All the information listed under the article 7 (fixed costs) is valid here as well. However, contrary to the accounting records which present the costs on monthly basis, some of the data can be obtained from the logbooks on a daily basis (e.g. costs of gasoline, ice and food). Information on subsidies can be obtained from the accounting records but also from Ministerial sources.

### **5.10 Market**

These data were based on the accounting records of the fishery companies. They were processed by the Croatian Financial Institute and published by the Croatian Bureau of Statistics (although not in a detailed way, particularly for the geographical areas). As mentioned before, the data are comparable from 1996/7.

The new logbook system enables the collection of the data required. They will be available at the Ministry of Agriculture and Forestry although not before the end of 2002 for the year 2001. Naturally, the accounting data are still a valid database.

As for frequency, the log books are filled in daily, collected monthly and processed annually. The Croatian Bureau of Statistics also publishes data on an annual basis.

### **5.11 Foreign Trade Data**

These data are gathered by the Customs Offices, i.e. Ministry of Finance. Data processing and publishing is the task of Croatian Bureau of Statistics. The data are published on annual basis, at national level.

Of course, these data are based on the accounting books of the registered foreign trade companies.

### **5.12 Macroeconomic variables**

Macroeconomic variables regarding the unemployment rate and GDP are published in the statistical yearbooks on an annual basis at county and state level. However, these data can also be obtained on a quarterly basis (state level) in the publications of the Chamber of Economy, Croatian National Bank and other such Institutes.

Data on the population are based on 10-year censuses and are published annually by the Croatian Bureau of Statistics.

## 6 AdriaMed survey of existing socio-economic data in ITALY

By Rosaria Sabatella\*

Table 1 - Socio-economic data

Items	Source Name	Source Type			Level of desegregation					Years	Frequency	Measurement Unit			
		PB	PR	C	S	other	N	R	P	F	V	other			
<b>1. Fleet</b> <ul style="list-style-type: none"><li>• Number</li><li>• Gross Tonnage</li><li>• Horse Power</li><li>• Length (over all, between perpendiculars)</li><li>• Age of construction</li><li>• Authorised gear type</li><li>• District Registration</li></ul>	Alp-Mipaf	X		XXXXXX						XXXXXXX			1992-1992-1992-1992-1992-1992-1992-		Number Grt kW Metre Number Number
		X		X						X					
		X		X						X					
		X		X											
		X													
		X													
		X													
		X													
		X													
<b>2. Exploitation strategy</b> <ul style="list-style-type: none"><li>• Time at sea (days/week, days/year, hours/day)</li><li>• N° of fishing operations/day</li><li>• Duration of one fishing operation (hours)</li><li>• Total time of work (hours/day) (at sea, at port, at market, other)</li><li>• Non fishing days</li><li>• Hull construction material</li><li>• Distance of usual fishing area (miles)</li></ul>	Irepa		X		X		X						1996-	Weekly	Number
			X		X		X						1996-	"	"
			X		X		X						1996-	"	"
	Alp-Mipaf	X			X						X		1992-		
	Irepa		X			X	X						1996-	Weekly	Miles
<b>3. Employment</b> <ul style="list-style-type: none"><li>• Direct employment (crews on board)</li><li>• Indirect employment (shipbuilding, ship maintenance, ship chandlers, etc.)</li><li>• Average crew</li></ul>	Irepa		X		X		X						1996-	Annually	Number
	Istat	X					X						1996	"	"
	Irepa		X			X	X						1997	"	"
	Irepa		X		X		X						1996-	Weekly	"
<b>4. Investment</b> <ul style="list-style-type: none"><li>• Vessel value ex novo (included equipment and gears)</li><li>• Vessel value at</li></ul>	Irepa		X			X				X			1996-	Annually	Millions of Liras

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purchasing time												
• Investment grants	Mipaf	X		X				X			Annually	
<b>5. Vessel property</b>												
• Kind of company	Irepa	X			X	X				1996-	Annually	
<b>6. Income data</b>												
• Landings weight by species and by area (specifying live weight, landed weight, etc.)	Irepa	X		X	X					1996-	Weekly	Landed weight in ton
• Landings value by species and by area	“	X		X	X					1996-	“	Millions liras
<b>7. Fixed costs</b>												
• Insurance	Irepa	X		X	X					1996-	Quarterly	Million liras
• Tax												
• Financial charges	“	X		X	X					1996-	“	“
• Other fixed costs												
<b>8. Variable costs</b>												
• Navigation equipment cost	Irepa	X		X	X					1996-	Quarterly	Million liras
• Communication engine cost	“	X		X	X					1996-	“	“
• Daily cost of gasoline	“	X		X	X					1996-	“	“
• Ice and food												
• Maintenance and repairing (included spare parts)												
• Taxes and other charges	“	X		X	X					1996-	“	“
• Subsidies												
• Other variable costs												
<b>9. Market</b>												
• Share of sale for geographical area	Irepa	X		X	X					1996-	Weekly	% on total
• Share of fish sold into the local fish market	“	X		X	X					1996-	“	“
• Share of sale for market channels	“	X		X	X					1996-	“	“

Table 2 - Macro variables

Table 2 - Macro variables															
Items	Source Name	Source Type				Level of desegregation						Years	Frequency	Measurement Unit	
		PB	PR	C	S	other	N	R	P	F	V	other			
1. Foreign trade data	Istat	X		X			X								Tonns Liras
• Export for species															
• Quantity	“	X		X			X								
• Value (FOB)															
• Import for species															
• Quantity	“	X		X			X								Tonns. Liras
• Value (CIF)															
• Country destination/origin															

<b>2. Macroeconomic variables</b>																				
• Unemployment rate	Istat	X			X		X												Annually	
• GDP (by sector)	Istat	X			X		X												Annually	
• Population (by gender, age, education)	Istat	X	X					X											Annually	

#### ***Sources in symbol and detail***

Symbols: Public (PB) or private (PR) sources, census (C) or sampling (S), etc.

#### ***Level of desegregation***

Symbols: Regional (R), national (N) level, by fishing port (P), by fleet (F), by fishing vessel (V), etc.

*Source Name:*

Alp-Mipaf => Archivio Licenze di Pesca del Ministero delle Politiche Agricole e Forestali

Irepa: => Irepa Onlus – Istituto Ricerche Economiche per la Pesca e l'Acquacoltura

Istat: => Istituto Nazionale di Statistica

N.B.: With regard to the Irepa databank, data are available since 1985 but at a different level of desegregation (coasts instead of regions)

## ***NOTES ON THE COMPILATION***

### **6.1 Fleet (point 1)**

The “Archive Fishing Licence” was introduced by the Italian Law n.41 of 17/2/1982, regarding the “Rationalisation and Development Plan for Maritime Fishing” and it was completed in January 1993.

It is a census-based recording and is updated on a six-monthly basis. The recording body is the “Ministero delle Politiche Agricole e Forestali” (Mipaf – the Italian Ministry for Agriculture and Forestry Policies); the 49 Port Authorities and the 293 boat enrolment offices are the intermediary recording bodies. Information is recorded by means of codified sheets. The statistical office in charge of providing fishing fleet statistics to the EC is under the responsibility of the Mipaf-General Directorate for Fisheries.

In terms of content with regard to statistical data reported in the ALP, each vessel is entered as a record (corresponding to one line of data), which equals 303 characters (bits). Definitions employed cover a total of 33 different parameters, such as vessel name, registration office, vessel type, overall length, grt, kW, engine type (in-shore, off-shore), shipbuilding material, shipbuilding year, operation start date. Microdata is entered and transmitted in the form of a database (DBF), which is compatible with ASCII (and other) format on normal PC disk drives.

### **6.2 Exploitation strategy, employment, income data, vessel property, fixed costs, variable costs an market (points 2, 3, 4, 6, 7, 8 and 9)**

Data collection and estimates of economic parameters concerning the Italian fishing fleet is produced by IREPA through a National Observatory, which dates back to the early 80's.



Sample data are recorded by means of three specific questionnaires:

- an annual questionnaire to record technical, dimensional and vessel – management information on the sample units and relevant socio-economic aspects (number of shipowners, their ages, their property quotas and relationships between them);
- a quarterly questionnaire to record data on fixed and variable costs, and on social aspects of property and crew;
- a weekly questionnaire to record information reporting activity such as fishing time and area, average number of crewmembers, gears used, quantities, prices and revenues – as per species or group of species – and trade channel for sales.

The first part of the questionnaire concerns general information such as the name of the boat, the gears employed, the days of activity at sea, the days of bad weather, non-fishing days for rest, the total number of hours, the average crew and the distance of the fishing area from the coast. The second part is meant to gather the survey's target information such as the species caught (quantity, quality, average prices, destination).

In brief, the most important annual, monthly and weekly information recorded is the following:

Annual information	
<ul style="list-style-type: none"> <li>▪ name</li> <li>▪ maritime district where the boat has been registered, (coastal area/sector)</li> <li>▪ first year of service (therefore, age)</li> <li>▪ authorised fishing gears</li> <li>▪ maritime district from where the ship departed for fishing</li> <li>▪ maritime district where the product is landed</li> <li>▪ type of association and year of its creation</li> <li>▪ number of shipowners, their ages, their property quotas and relationships between them</li> <li>▪ type of association and year of its creation</li> <li>▪ length overall and length between perpendiculars</li> </ul>	<ul style="list-style-type: none"> <li>▪ gross registered tonnage (GRT)</li> <li>▪ gross tonnage (GT) based on London Convention (Reg. EC 2930/86)</li> <li>▪ horsepower (kW)</li> <li>▪ engine make, location and type of propeller</li> <li>▪ communication engine</li> <li>▪ navigation engine</li> <li>▪ fish location engine</li> <li>▪ conservation equipment</li> <li>▪ employment contract used</li> </ul>
Quarterly information	
<ul style="list-style-type: none"> <li>▪ name</li> <li>▪ month</li> <li>▪ maritime district where the boat has been registered (coastal area/sector)</li> <li>▪ fuel (total and unit value)</li> <li>▪ cost of nets</li> <li>▪ cost of bait</li> <li>▪ cordage and ropes</li> <li>▪ food</li> <li>▪ boxes and ice</li> <li>▪ commercialisation costs</li> <li>▪ other running costs</li> </ul>	<ul style="list-style-type: none"> <li>▪ fish transport cost</li> <li>▪ other running cost</li> <li>▪ labour share, wages and social insurance</li> <li>▪ ordinary maintenance</li> <li>▪ extraordinary vessel maintenance</li> <li>▪ extraordinary hull maintenance</li> <li>▪ extraordinary engine maintenance</li> <li>▪ vessel insurance</li> <li>▪ tax and other fiscal costs</li> <li>▪ bank charges</li> <li>▪ other vessel costs</li> </ul>

#### Weekly information

<ul style="list-style-type: none"> <li>▪ Name</li> <li>▪ Week</li> <li>▪ Maritime district where the boat has been registered</li> <li>▪ Engine used</li> <li>▪ Average crew</li> <li>▪ Fishing days</li> <li>▪ Total hours at sea (navigation and fishing)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Non fishing days for rest, repair and other</li> <li>▪ Hulls</li> <li>▪ Average time (in hours) for each single trip</li> <li>▪ Minimum and maximum fishing area's distance perpendicular to coast line</li> <li>▪ Maritime district from where the ship departs</li> <li>▪ Maritime district where the product is sold</li> <li>▪ For each single species or group of species landed: quantity, prices, income and commercial channel (wholesaler, fish market, retail dealer, others).</li> </ul>
<ul style="list-style-type: none"> <li>▪ Non fishing days for bad weather</li> </ul>	

### 6.3 Indirect employment (point 3)

Data related to indirect employment are obtained from ad hoc scientific research. (*Regional socio-economic studies on employment and the level of dependence on fishing* – Lot n°12, Lot n°13, Lot n°14 – Contrac N° 98/S63 – 37476 Report to the General Directorate for Fisheries (DG XIV) – EC, Bruxelles, December 1999)

### 6.4 Investment (point 4)

The replacement-value method will be used to estimate this parameter.

The methodology for calculating replacement value is based on a number of information sources:

The unit value of a vessel per unit GRT as published by RINA (the Italian Shipping Register). These values date from 1992 and are updated annually for inflation. The updated values are multiplied by the total GRT of each vessel (Alp). The RINA estimate is based on technical and engineering information. It also takes account of the hull material – wood, glass fibre or steel.

## 7. AdriaMed survey of existing socio-economic data in SLOVENIA

By Dejan Pehar\*

Table 1 - Socio-economic data

Items	Source Name	Source Type			Level of desegregation							Years	Frequency	Measurement Unit	
	Statistical office	PB	PR	C	S	other	N	R	P	F	V	other			
<b>1. Fleet</b> <ul style="list-style-type: none"><li>Number</li><li>Gross Tonnage</li><li>Horse Power</li><li>Length (over all, between perpendiculars)</li><li>Age of construction</li><li>Authorised gear type</li><li>District Registration</li></ul>	106 1023,8 7973,9 4-25m  Oldest than 15y Demersal and pelagic gears trawls		X				X				X		1996-now	Yearly	
<b>2. Exploitation strategy</b> <ul style="list-style-type: none"><li>Time at sea (days/week , days/year, hours/day)</li><li>N° of fishing operations/day</li><li>Duration of one fishing operation (hour)</li><li>Total time of work (hours/day) (at sea, at port, at market, other)</li><li>Non fishing days</li><li>Hull construction material</li><li>Distance of usual fishing area (miles)</li></ul>	Statistical office  10 daily 5-6  8  10 our per day  2 or 3  Steel, wood, Fiberglas  Not more than 30miles from coast		X X  X X  X X				X X  X X  X X				X X  X X  X X			Daily Weekly Daily Daily   Yearly	
<b>3. Employment</b> <ul style="list-style-type: none"><li>Direct employment (crews on board)</li><li>Indirect employment (shipbuilding, ship maintenance, ship chandlers, etc.)</li><li>Average crew</li></ul>	Statistical office 136		X				X				X		2000-now	Yearly	
<b>4. Investment</b> <ul style="list-style-type: none"><li>Vessel value ex novo (included equipment and gears)</li><li>Vessel value at purchasing time</li><li>Investment grants</li></ul>															
<b>5. Vessel property</b> <ul style="list-style-type: none"><li>Kind of company</li></ul>	Private														

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<b>6. Income data</b> • Landings weight by species and by area (specifying live weight, landed weight, etc.) • Landings value by species and by area	2000 tons nord Adriatic sea	X	X			X	2000-now	Yearly	
	1,5 million euro	X	X			X	2000-now	Yearly	
<b>7. Fixed costs</b> • Insurance • Tax • Financial charges • Other fixed costs	250 euro per capita 100 euro per capiat	X	X			X	2002	Monthly Yearly	
<b>8. Variable costs</b> • Navigation equipment cost • Communication engine cost • Daily cost of gasoline • Ice and food • Maintenance and repairing (included spare parts) • Taxes and other charges • Subsidies • Other variable costs	euro 5.000-10.000	X	X			X	2002	Yearly	
	10.000-25.000	X	X			X	2002	Yearly	
	25.000-150.000	X	X			X	2002	Daily	
	150-800								
<b>9. Market</b> • share of sale for geographical area • share of fish sold into the local fish market • share of sale for market channels	80%	X	X			X	1996-now	Yearly	
	20%	X	X			X	1996-now	Yearly	

Table 2 - Macro variables

Table 2 - Macro variables													
Items	Source Name	Source Type				Level of desegregation				Years	Frequency	Measurement Unit	
		PB	PR	C	S	other	N	R	P	F	V	other	
3. Foreign trade data													
• Export for species													
• Quantity													
• Value (FOB)													
• Import for species													
• Quantity													
• Value (CIF)													
• Country destination/origin													
4. Macroeconomic variables													
• Unemployment rate													
• GDP (by sector)	Less than 0,01GDP												
• Population (by gender, age, education)													

## List of AdriaMed Publications

### A. Technical Documents

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Mannini, P., Massa, F., and Milone, N. (eds). 2001. Priority Topics Related to Small Pelagic Fishery Resources of the Adriatic Sea. Report of the First Meeting of the AdriaMed Working Group on Small Pelagic Resources. FAO-MiPAF Scientific Cooperation to Support Responsible Fisheries in the Adriatic Sea. GCP/RER/010/ITA/TD-03. *AdriaMed Technical Documents*, 3: 92 pp.

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Azzali, M., Marasović, I., Luna, M., Tičina, V., Kariš, T., Franičević, M., De Felice, A., Ninčević, Ž., Grbec, B., Matić, F., Kršinić, F., Kušpilić, G., Stojanovski, L., Caccamo, G., Palumbo, V. Pilot joint echo-survey and training exercise in the Northern part of the Adriatic Sea to assess the pelagic fish biomass and correlation with environmental parameters. FAO-MiPAF Scientific Cooperation to Support Responsible Fisheries in the Adriatic Sea. GCP/RER/010/ITA/TD. *AdriaMed Technical Documents*, (in preparation).

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