

COMMISSION OF THE EUROPEAN COMMUNITIES
Directorate-General for Fisheries

**Regional, Socio-Economic Study
in the Fisheries Sector**

ITALIA

Liguria, Toscana, Lazio, Campania, Calabria

**Document
1992**

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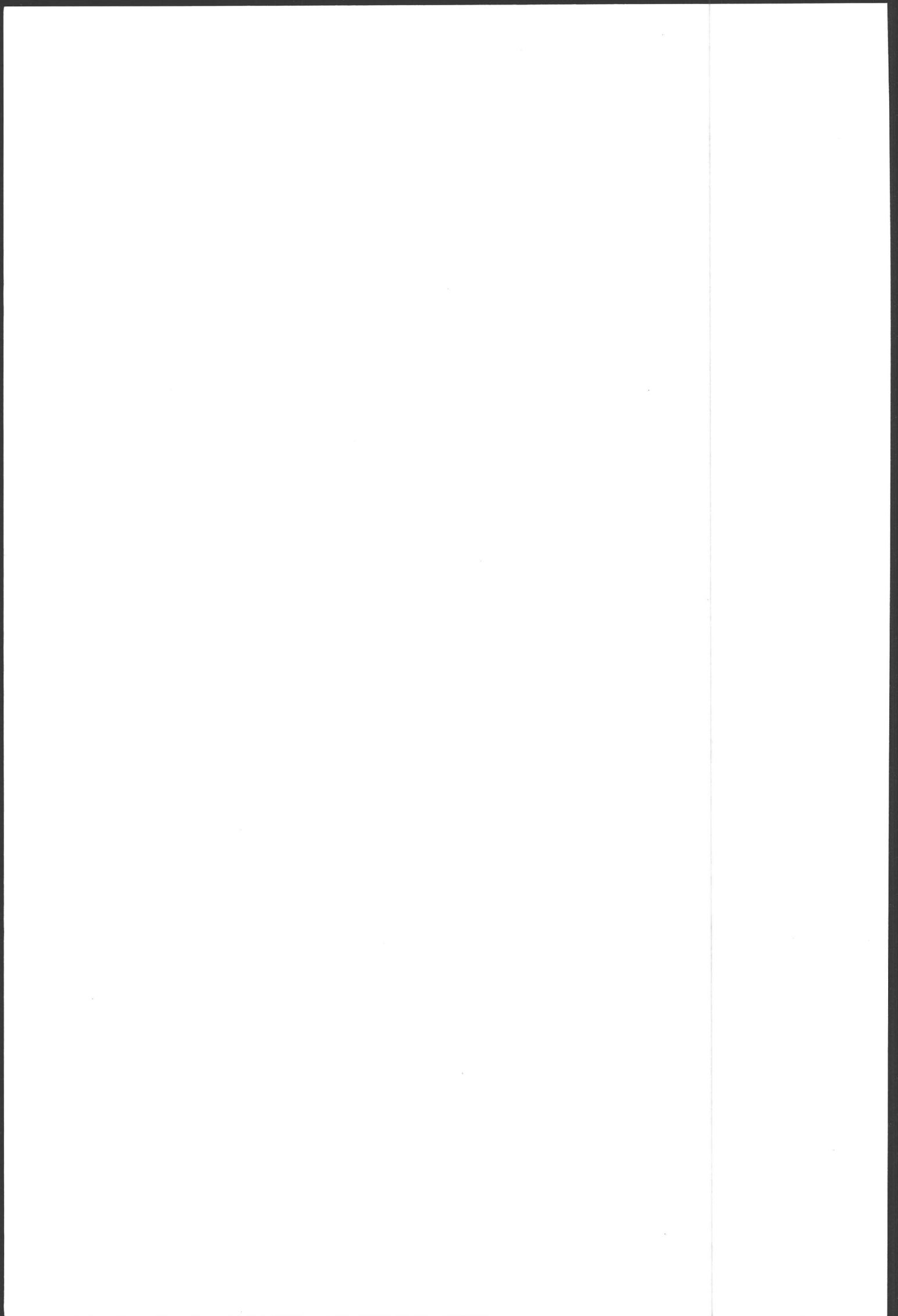
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A B S T R A C T

Lo studio concerne sei regioni amministrative italiane che presentano più di 2 000 km di coste, lungo le quali sono dislocati 289 punti di sbarco. La flottiglia peschereccia in attività si compone di 5 755 imbarcazioni, per un totale di 57 314 TSL; la forza lavoro comprende 13 233 marittimi (dicembre '89).

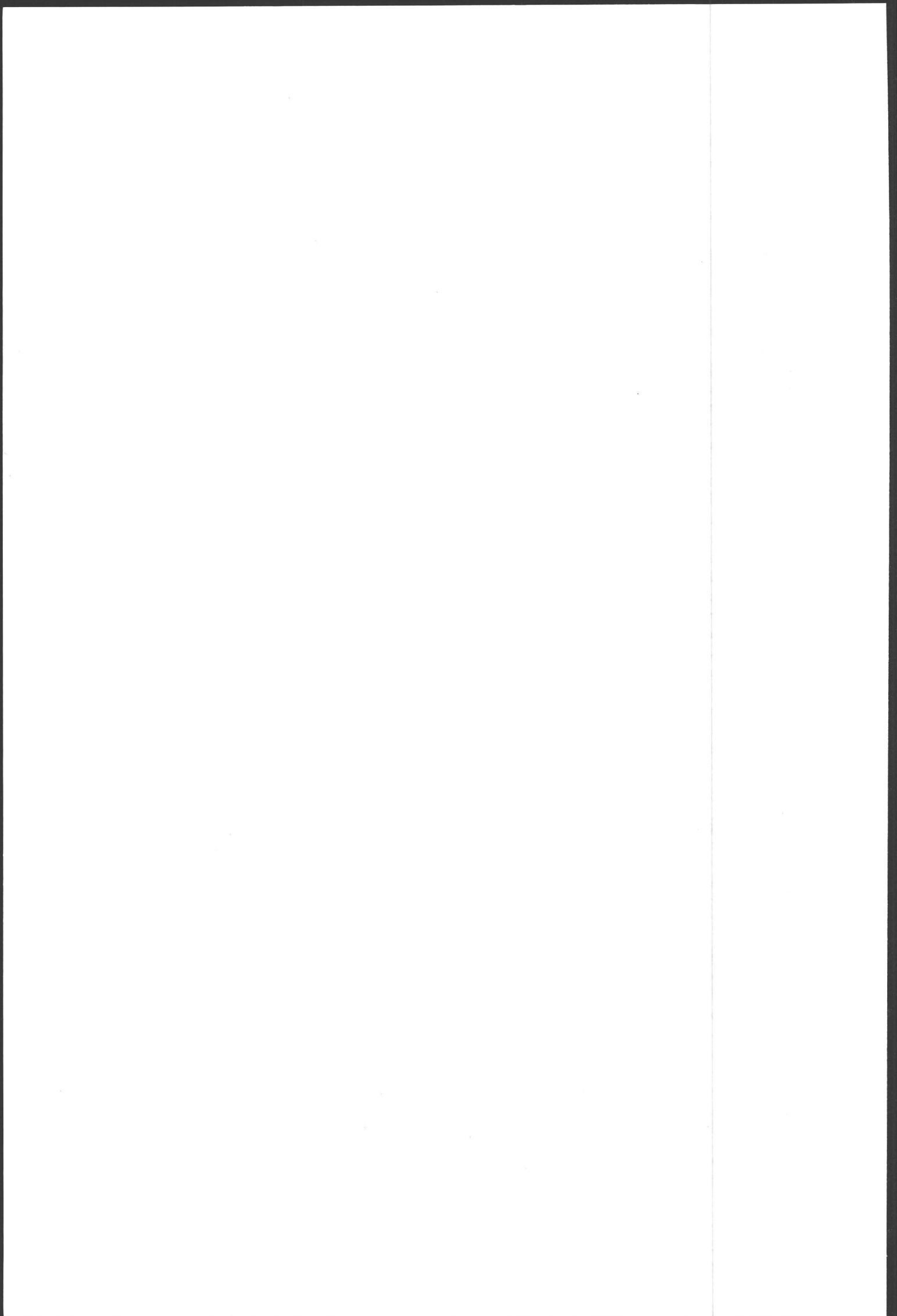
Il tipo di pesca predominante è quello praticato con pescherecci da traino. I battelli impiegati in tale comparto rappresentano rispettivamente il 50% della stazza lorda, il 36% delle catture ed il 51% delle vendite sull'intera zona in parola. Il potenziale produttivo locale dell'acquicoltura non viene pienamente sfruttato per problemi amministrativi e tecnici. L'acquicoltura della zona costituisce attualmente il 10% (in termini di volume e valore) della produzione nazionale e occupa circa 500 persone. Quanto all'industria di trasformazione, non vi saranno miglioramenti della produzione e dell'occupazione fintanto che non verrà dato un nuovo orientamento alla politica strutturale e di mercato (PCP). Questo comparto dà lavoro a circa 8 100 persone, ma per il futuro si teme una progressiva riduzione di manodopera.

Vi sono 57 porti nazionali attrezzati per i pescherecci. Date le condizioni delle strutture portuali nell'area in esame, l'investimento necessario per attrezzare i porti di queste regioni ammonta a circa 26 Mio di ECU. Nella zona operano inoltre 25 mercati; le loro dimensioni strutturali costituiscono tuttavia un ostacolo all'incremento delle vendite e del livello di occupazione.

In termini di rapporti intersettoriali, i collegamenti diretti fra la pesca e le attività connesse si distinguono per la loro capillarità. L'occupazione totale indotta nell'insieme delle attività economiche connesse (250) ammonta a 11 000 unità (inclusi i commercianti al minuto) a fronte di 17 000 pescatori.

Non è possibile affermare che esistono in questa area "zone geografiche altamente dipendenti dalla pesca" che oltrepassino i confini delle unità amministrative locali (comuni) in cui sono svolte le attività di pesca. Si può tuttavia ragionevolmente supporre che tali zone siano distribuite un po' ovunque sull'arco dell'intera area e a cavallo delle singole regioni amministrative.

Da questa analisi risulta opportuna una politica degli investimenti volta ad ottenere lievi cambiamenti nella struttura del consumo intermedio e finale in altri settori, in modo da poter assorbire la prevista riduzione della forza lavoro impiegata nella pesca e nelle attività connesse. Eventuali misure dirette vanno integrate con la garanzia istituzionale e con la possibilità di ottenere finanziamenti per nuove forme organizzate di gestione e di servizi. È inoltre di fondamentale importanza che il reddito ricavato dall'occupazione alternativa sia pari o superiore a quello tratto dall'attività in mare; in caso contrario, qualunque programma di redistribuzione delle risorse è destinato dall'inizio al fallimento.



ABSTRACT

The area of study is composed by six Italian administrative regions which have more than 2,000 km of coastline, along which there are 289 landing places. The fishing fleet operating is composed of 5,755 boats with 57,314 GRT. The labour force was made up of 13,233 professional seamen (12/89).

The catching sector is dominated by trawler fishing. Trawler boats account for 50%, 36% and 51% of GRT, catch and sales of the total area respectively. The area's productive potential of the aquaculture sector is not exploited to the full due to administrative and technology difficulties. Aquaculture current production in the area accounts for 10% (in terms of volume and value) of the national totals and employment in aquaculture is around 500 units. In the processing industry one observes that as long as structural and market policy (CFP) does not change direction, the sector cannot evolve in a positive manner both with regard to production and to employment. Around 8,100 people are employed in this subsector and one may expect a steady reduction in manpower in the industry in future.

There are 57 national ports equipped for fishing boats. Given the conditions of ports structures in the area under study, the investment necessary to equip fishing ports comes to around 26 million ECU. There are also 25 fish markets operating in the area. Current dimensions of the structure of the fish markets represent an obstacle to increasing the quantities sold and the level of employment.

In terms of sectorial interrelations the direct links between fishing and related activities are distinguished by their "pervasiveness". The total induced employment in all (250) related economic activities account for 11,000 units (retailers included) related to 17,000 fishermen at sea.

In the area, one cannot assert that there exist "geographical zones highly dependent on fisheries" which go beyond the confines of the local administrative unit (comune) in which fishing is carried out. It is not unreasonable to suggest that, there are "zones highly dependent on fisheries" distributed in "patches" across the entire area and across the individual administrative regions.

The analysis would suggest an investment policy directed towards a small change in the structure of intermediate and final consumption in other sectors, such as to absorb the expected reduction in the work-force employed in fisheries and ancillary activities. Any direct measure must be integrated with the additional institutional guarantee and the possibility of access to credit for new organisational forms of management and services. Furthermore, it is of fundamental importance that the income obtainable from the alternative occupation is equal to, or greater than, that earned at sea, otherwise any reallocation programme is doomed to failure from the outset.

ABSTRACT

L'étude porte sur une zone comprenant six régions administratives italiennes qui comptent plus de 2.000 km de côtes, le long desquelles se trouvent 289 lieux de débarquement. La flotte de pêche y comprend 5.755 bateaux totalisant 57.314 TJB. La main-d'oeuvre y comptait 13.233 marins professionnels en décembre 1989.

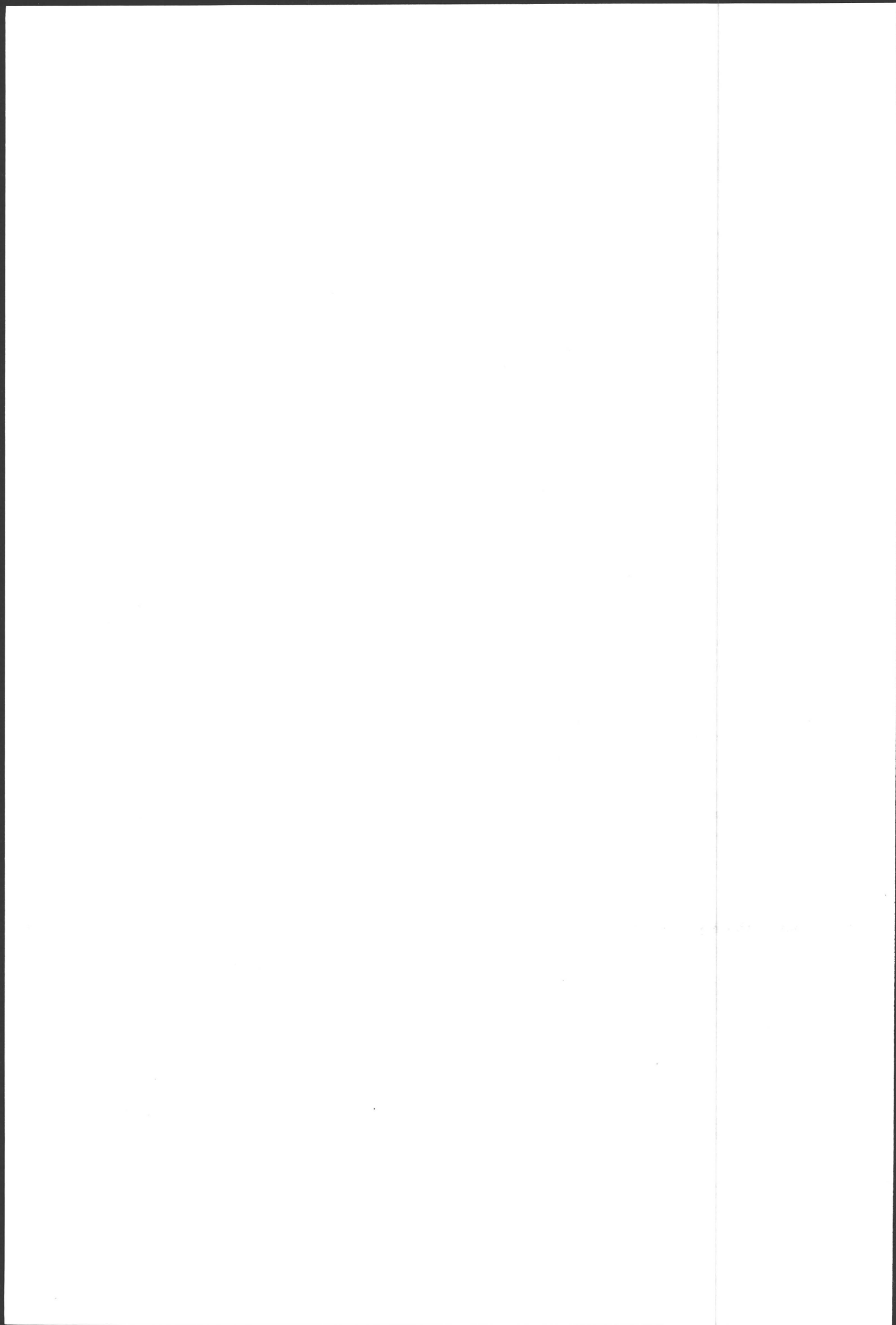
La pêche est assurée essentiellement par des chalutiers qui représentent 50 % des TJB, 36 % des captures et 51 % des ventes de la zone. Le potentiel de production de l'aquaculture n'y est pas exploité intégralement en raison de difficultés administratives et technologiques. La production aquacole actuelle y représente 10 % (en volume et en valeur) des totaux nationaux et quelque 500 personnes travaillent dans l'aquaculture. Dans le secteur de la transformation, on observe qu'à défaut de changement des politiques structurelles et de marché (PCP), ni la production, ni l'emploi ne pourront se développer. Environ 8.100 personnes travaillent dans ce sous-secteur et on peut s'attendre à une réduction continue de la main-d'oeuvre.

Il existe 57 ports nationaux équipés pour les bateaux de pêche. Compte tenu de l'état des infrastructures portuaires de la zone étudiée, l'investissement nécessaire pour équiper les ports de pêche s'élève à près de 26 millions d'écus. Il existe également 25 criées dans la zone. Leurs dimensions actuelles constituent un obstacle à l'augmentation des ventes et de l'emploi.

En termes de corrélations sectorielles, les liens directs entre la pêche et les activités connexes sont très importants. Au total, on compte 11.000 emplois induits dans l'ensemble des activités économiques connexes (250) pour 17.000 dans la pêche maritime.

On ne peut pas affirmer qu'il y a "des zones géographiques fortement dépendantes de la pêche" qui dépassent les limites de l'unité locale administrative (commune) où la pêche est pratiquée. Il n'est pas déraisonnable de penser qu'il existe "des zones fortement dépendantes de la pêche" çà et là dans la zone et les différentes régions administratives.

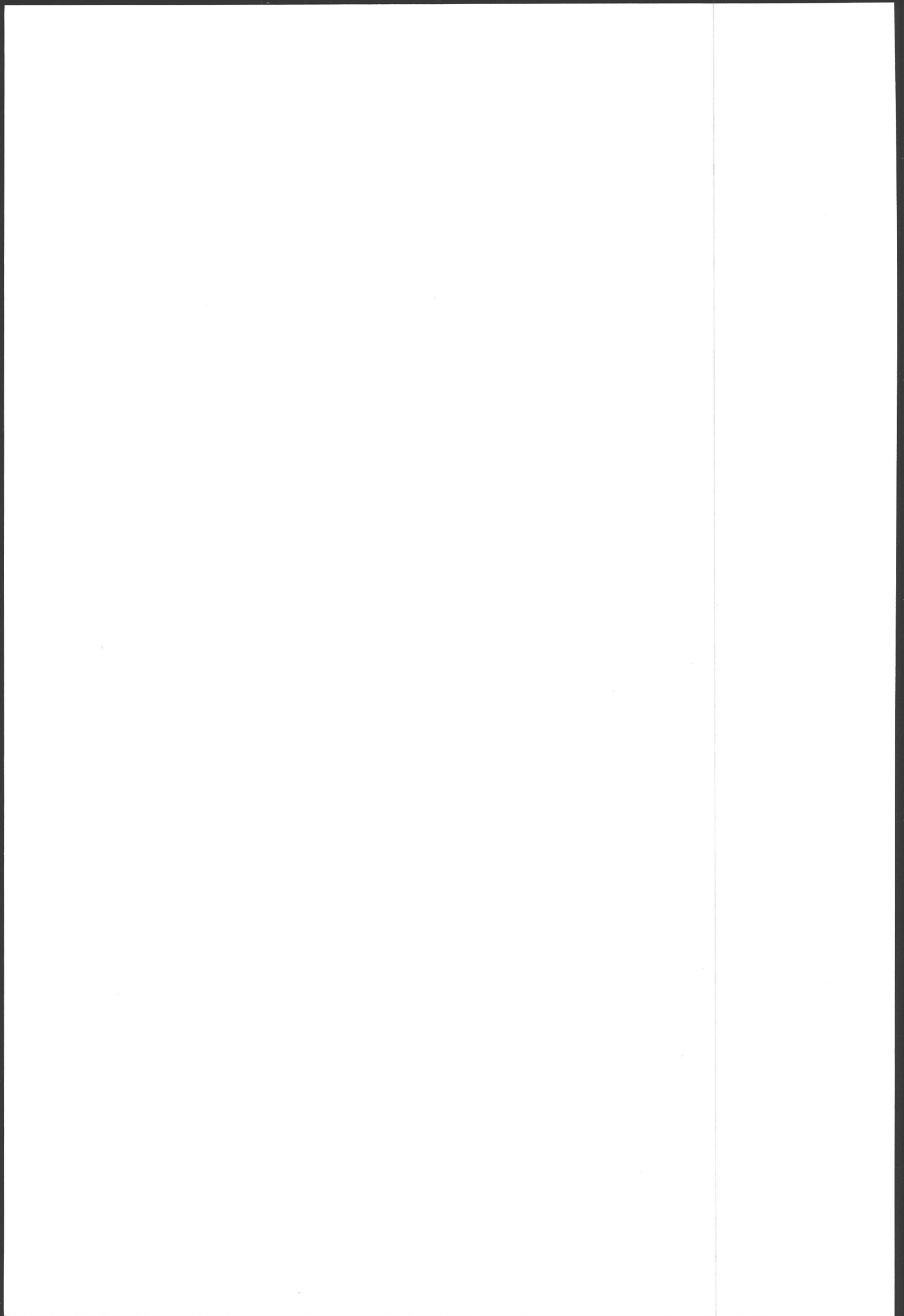
L'analyse préconise une politique d'investissements orientée vers une légère modification de la structure des consommations intermédiaire et finale dans d'autres secteurs, de manière à absorber la réduction prévue de la main-d'oeuvre employée dans la pêche et les activités auxiliaires. Toute mesure directe devrait être assortie d'une garantie institutionnelle et d'une possibilité d'accès au crédit pour les nouvelles entités de gestion et de services. En outre, il est essentiel que le revenu potentiel procuré par les emplois de remplacement soit égal ou supérieur à celui tiré de la pêche, sinon tout programme de reconversion est voué à l'échec dès le départ.



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GENERAL DESCRIPTION OF THE AREA OF STUDY "I.1"

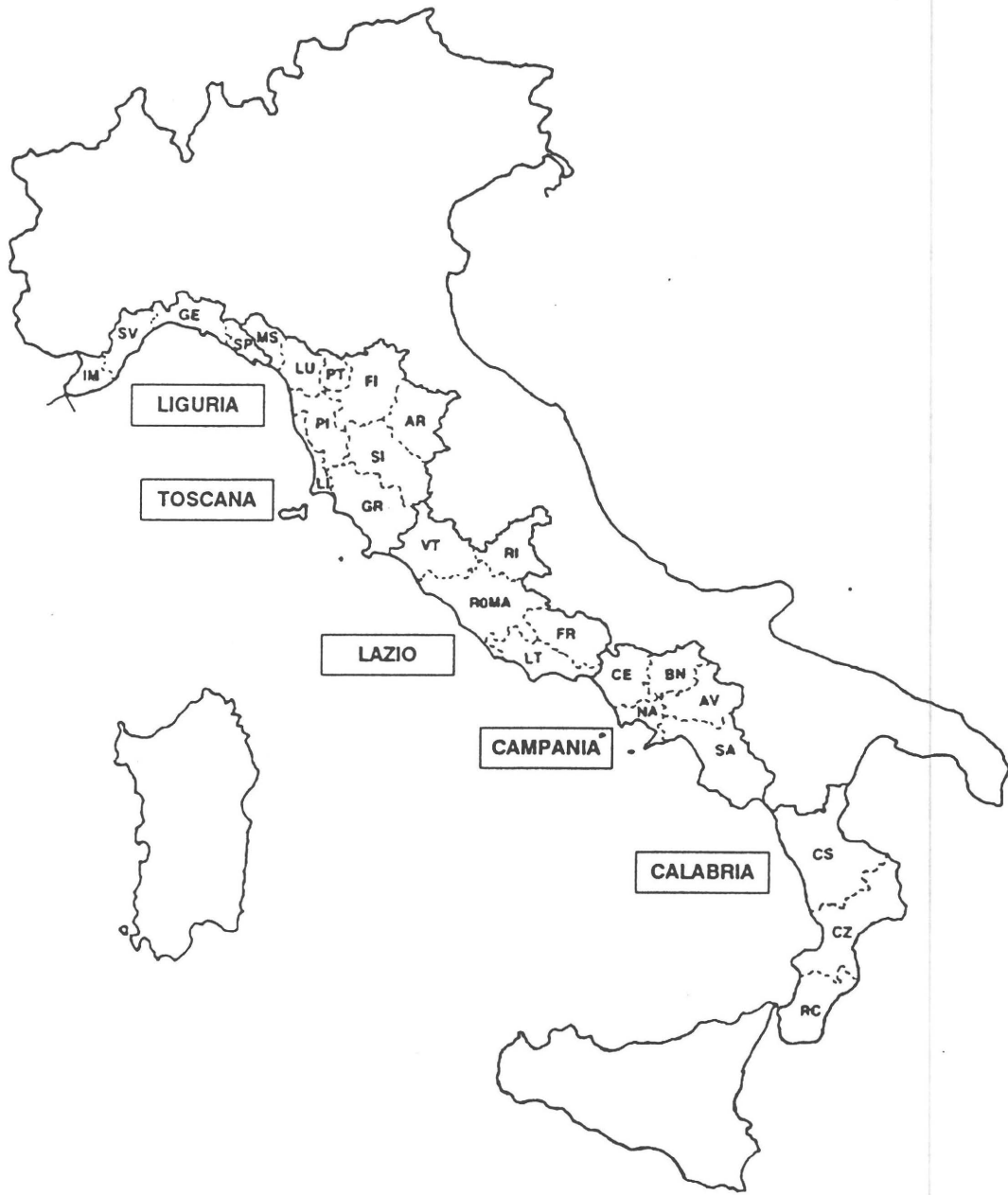
The five Italian administrative regions (Liguria, Tuscany, Latium, Campania, and Calabria) which are considered in this study have more than 2,000 km of coastline, along which there are 289 landing places. The Italian fishing sector is characterised by the large number of landing sites and their nearness to each other (roughly 8 km). The fishery has much diversity both in terms of the peculiarities of the local fleets and the equipment employed. In this context, the analysis cannot but draw attention to the geographical distribution of the fleet and the different types of fishing gear employed (see table 1.A and fig. 1.A).

To this end, the study has been conducted using all the available sources of information at differing levels of geographical and technical disaggregation. The most recent ISTAT (Central Statistical Institute) statistics provide a picture of the geographical location of the fleet. As regards information connected to the different fishing techniques and the related economic analysis, data was employed from IREPA studies and, in particular, from the systematic compilation of fishing indicators commissioned by the Italian Ministry for the Merchant Navy. No data were available on part-time employment.

TAB. 1.A MARITIME DISTRICT AND COAST	FISHING ACTIVITY IN AREA I.1 - 1989																	
	BOTTOM TRAWLER		PELAGIC TRAWLER		PURSE-SEINER		LONG-LINER		GILL-NET		DREDGER		OTHER METHODS		MULTIPLE PURPOSE VESSEL		TOTAL	
	N.	GRT	N.	GRT	N.	GRT	N.	GRT	N.	GRT	N.	GRT	N.	GRT	N.	GRT	N.	GRT
IMPERIA	27	797	-	-	5	170	1	2	69	200	-	-	6	37	100	563	208	1770
SAVONA	13	302	-	-	14	310	4	15	119	276	1	2	8	22	192	924	351	1851
GENOVA	48	1083	-	-	21	267	24	64	97	239	-	-	38	130	160	665	358	2449
LA SPEZIA	28	443	-	-	13	149	3	17	43	108	-	-	57	134	53	438	197	1288
LIGURIAN	116	2625	-	-	53	896	32	98	328	823	1	2	109	323	505	2590	1144	7358
VIAREGGIO	76	2780	3	99	7	527	1	5	67	171	-	-	4	8	83	1884	241	5473
LIVORNO	134	4783	-	-	6	188	2	4	329	1138	1	21	38	125	118	599	628	6857
PORTOFERR.	6	146	-	-	15	817	4	48	34	118	1	1	2	9	83	601	145	1741
M. CARRARA	2	25	-	-	-	-	-	-	13	17	-	-	18	33	21	54	54	130
UPPER THYRR.	218	7734	3	99	28	1531	7	57	443	1445	2	22	62	175	305	3138	1068	14201
CIVITAVECC.	21	999	-	-	2	21	-	-	68	433	-	-	-	-	24	90	115	1544
ROMA	82	5851	-	-	0	712	-	-	224	869	14	86	2	16	133	788	465	8322
GAETA	66	1927	-	-	5	206	1	9	284	1210	4	63	14	206	120	1145	494	4765
MEDIUM THYR	169	8777	-	-	17	940	1	9	576	2512	18	148	16	222	277	2023	1074	14631
NAPOLI	25	677	-	-	49	813	30	96	218	840	26	145	74	438	156	629	578	3638
TORRE D.G.	47	2252	-	-	-	-	1	5	54	140	2	4	1	2	70	271	175	2675
CASTELL.D.S.	15	66	-	-	18	733	2	4	64	250	4	32	8	59	87	587	198	1730
SALERNO	58	996	-	-	30	3470	8	34	384	1223	1	10	14	158	168	1721	663	7612
VIBO VALEN.	12	471	-	-	5	70	2	10	57	164	-	-	4	19	134	802	214	1536
REGGIO CAL.	7	173	-	-	7	33	17	28	100	253	-	-	55	170	205	940	391	1596
LOWER THYR.	164	4634	-	-	109	5118	60	177	877	2871	33	191	156	844	820	4951	2219	18786
TOTAL ITALY	3834	143745	86	5287	434	12854	474	3351	5198	17778	527	5217	769	4430	7111	70502	18433	263164

Source: I.S.T.A.T.

FIG.1.1 AREA I.1 BY ADMINISTRATIVE REGION AND PROVINCE



CHAPTER 1 DESCRIPTIVE ANALYSIS OF THE SECTOR IN AREA I.1

1.1 THE FISHING FLEET

1.1.1 The current state of the fishing fleet

The fishing fleet in area I.1 operating on December 31, 1989, was composed of 5,505 boats with the total gross tonnage of 54,976. The labour force was made up of 13,233 professional seamen corresponding to 24% of the respective national totals. Gross sales were 273,525 thousands ECU which, net of intermediate goods, gave a value added equal to 195,552 thousands ECU (see table 1.1.1 and 1.1.2).

When compared to the national situation the Tyrrhenian fleet presents a number of points of difference. Indeed, on one hand the structure of the Tyrrhenian fleet and its manpower make up 22% and 24% of the relevant national totals whilst, on the other, the volume caught and their sale make up 15% and 19% of the national totals respectively. Figures of volumes of landings by species in the administrative regions and total area, are reported in table 1.1.3. Landings by gears per regional coastals are reported in table 1.1.3A and the prevailing captures by species and gears in the area are drafted in fig. 1.1.3.

1.1.2 Types of fishing gear

Ligurian and Tyrrhenian sea fishing have typically Mediterranean characteristics with a predominantly artisanal organisational structure. The form of organisational structure chosen is the result both of the desire to protect against the substantial variations in the biomass of certain types of fish and of the desire for greater flexibility and diversification in fishing in order to ensure stability in the volumes of the catch, and therefore, of incomes. In this context, the artisanal boats exploit, on one hand, the capability to adapt equipment to the seasonality of the species fished and, on the other, the ability to operate at sales levels of under 130,000 ECU. According the results of the IREPA's sample survey (1986/87 and 1989), tables 1.1.4 and 1.1.5 provide some statistics on the fishing gears employed and their cost. In this context statistics are not consistent with official data for the same years.

Trawlers are the most common type of vessels used for fishing along the Ligurian and Tyrrhenian coasts. These boats account for ~50% of the gross tonnage of the area. The importance of trawling is further reinforced when one considers that many of the boats included in the multiple purpose category frequently trawl. The IREPA observatory reports that during 1987 on average trawling accounts for ~36% of the total catch. The fish caught in this way are of variable quality and mostly fall into the category of "other fish". Crustacea and molluscs make up, in roughly equal measure, the rest of the catch. Proceeds of this group make up 51% of the area's total.

The average trawling operator is characterised by gross sales of 123,000 ECU and operating costs equal to ~50% of the

total. Labour costs, principally the salaries of the boats' crews, come to ~38% of sales leaving a profit margin of 12%.

The average boat owner is also part of the crew and earns roughly 23,000 ECU per annum made up of the profits and his salary as a crew member.

Boats employing purse-seiner gears make up 13% of gross tonnage. This fleet was largely concentrated in Campania where it makes up 68% of the gross tonnage due to the tuna fishery of Salerno.

Purse-seiner fishing is characterised by its markedly seasonal nature and by a high level of technical efficiency (over 4,900 kg/GRT). Indeed, notwithstanding the low tonnage of the group, purse-seiner fishing accounts, on average, and with a high degree of year to year variation, for ~43% of the area's total catch. Two-thirds of the fish caught are small pelagic species, mainly sardines and anchovies and, given the low price of these species, the contribution of the group to sales is brought down to ~16%.

In spite of this the average annual income of a boat owner who is also a crew member is around 31,000 ECU, the highest income of all fishing gears in the area. This is due to the low operating costs which make up 31% of sales. The remaining value added, necessary to pay crews and to reward capital are high. Crew salaries make up 41% of the total whilst 28% goes in the way of profits (see tables 1.1.4 and 1.1.5).

The gill-netters and long-liners group, are the most traditional method employed by Italian fishermen. It makes up 16% of the area's tonnage, and, given the corresponding national figure of 7%, there is evidently a preponderance of this method along the Tyrrhenian coast.

Gill-netters account for 12% of the catch and 24% of sales. The target of gill net fishermen is largely composed of the high value species, the sale of which to final consumers is often carried out by the fishermen themselves. The average income of fishermen in this category is around 10,000 ECU per annum although there are marked regional differences in this figure.

Fishing is usually undertaken by the boat owner alone. Sometimes an additional person is taken on board, although the remuneration of such "crew" makes up just 18% of sales. Rather more important are the operating costs of which social contributions make up a substantial part. Overall, these costs account for 53% of total sales, the highest percentage of all fishing gears considered.

Finally, even with the peculiar cost structure, the level of profits at 29% of sales is in line with other fishing gears. However, in absolute terms, incomes are at the limit of what is economically and socially viable (see tables 1.1.4 and 1.1.5).

Boats employing multiple purpose gears make up the second largest group in terms of tonnage, accounting for 20% of the total. At the local level, these are characterised by a high degree of technical, economic and social heterogeneity.

The impact of this type of fishing gear is estimated as 7% of the catch and 8% of gross sales which, on average, is equal to 34,500 ECU per boat. Sales are divided up as follows: 48% go on operating costs, 37% on labour and boat owners receive, on average, around 11,380 ECU (see tables 1.1.4 and 1.1.5).

The modernisation of the fleet, through the restructuring of hulls and engines and the reduction in the intensity of fishing are the principal objectives adopted in Italy for the period 1992-1994.

The modernisation of the fleet was necessary since the average age of boats in the Italian fleet is around 20 years, most of which were constructed before the mid-1970's. Similarly, in the area under study, 59% of the boats - corresponding to 60% of GRT - are over 15 years old and 46% of boats - 47% of GRT - were constructed over 20 years ago. Just 25% of the fleet - 24% of GRT - has been constructed in the last ten years and over a third in the last fifteen (table 1.1.6).

Accordingly, maintenance work has become the means to counteract the obsolescence of the fleet. The IREPA (1985) observatory reports that during early '80 around one half of boats have been renovated in at least one of their principal components. If, on the one hand, renovation has, for the most part, taken the form of the substitution of engines, on the other, lately there has been a change in direction. Indeed, in recent years, even if almost half the fleet has changed its engine, more emphasis is beginning to be put on the modernisation of preservation and electronic equipment. This phenomenon may be understood in relation to the necessity to improve the quality of fish brought ashore in order to receive better prices for the catch and the need to improve fishing efficiency in the light of the reduction in the stock of fish available.

As regards the reduction in fishing intensity through a reduction in the overall tonnage and the KW of engines, it is worth noting that the objectives specified in the 1987-1991 orientation programme were, for the part, achieved.

In this context, the current directives envisage modest reductions in tonnage and engine power with a particular concentration on the reduction of the fishing intensity of trawlers. Indeed, these boats represent the largest component of the fleet (in terms of fishing hours, tonnage and horsepower) and are the fishing subsector most in need of rationalisation.

In this sense, the current regulations, whilst leading to a reduction in the tonnage of trawlers, have not exhausted their role. In particular, current policies point to the necessity of reallocating boats employing inefficient fishing gears to more efficient ones.

Technological innovation adopted in the area has been concerned with the mechanisation of net hauling and the preservation of the catch. Little or nothing has been done to maintain the sector's dwindling workforce (particularly the young) caused by the poor working conditions facing, above-all, the non-boat owning crew members.

A first step towards overcoming this problem would be an acceleration of the process of renewal of the fleet in order to both improve working conditions and increase the earnings of individual boats. Organisationally, this implies a reallocation of the fleet between the various fishing gears. From this point of view, the reduction of the trawling fleet in area I.1 is one of the main priorities. In this way, a reallocation of the fleet will benefit both the stock of fish and the earnings of fishermen.

TAB. 1.1.1 STATISTICS ON FISHING ACTIVITY IN AREA I.1 (1989)				
REGIONS	N.	GRT	FISHERMEN	CATCH (tons)
Liguria	1,144	7,358	2,293	11,899
Toscana	1,068	14,201	2,999	7,312
Lazio	1,074	14,631	2,114	21,220
Campania	1,614	15,654	4,070	10,195
Calabria (*)	605	3,132	1,757	3,892
AREA I.1	5,505	54,976	13,233	54,518
ITALY	18,433	263,164	54,450	360,962
(*) Excluded Crotona coastal department				
Source: I.S.T.A.T.				

TAB. 1.1.2 AREA I.1 : FINANCIAL DATA ON THE FLEET BY REGION ('000 ECU - 1989)			
REGIONS	PROCEEDS	COSTS	GVA
Liguria	62,074	15,481	46,875
Toscana	37,713	12,023	25,861
Lazio	105,757	27,906	78,331
Campania	41,775	15,883	26,081
Calabria (*)	26,206	7,921	18,404
TOTAL I.1	273,525	79,214	195,552
TOTAL ITALY	1,458,848	402,067	1,063,401
(*) Included Crotona coastal department			
Source: I.S.T.A.T.			

TAB. 1.1.3
LANDINGS VOLUMES BY SPECIES AND ADMINISTRATIVE REGIONS IN AREA I.1 (tons) - 1989

SPECIES	LIGURIA	TOSCANA	LAZIO	CAMPANIA	CALABRIA	AREA I.1	TOTAL ITALY
1 Anchovy	1274,2	1228,2	682,9	1177,2	375	4737,5	18861,6
2 Sardine	839,4	508,7	877,5	743,4	662,3	3631,3	45681,3
3 Mackerel	229,7	226,9	181,1	262,5	115	1015,2	3991,7
4 Tuna	24,2	0,3	168,9	95,6	69,2	358,2	2381,4
5 Horn fish	29,6	3,8	43	105,3	31,5	213,2	421,7
6 Eel	4,9	150,1	21,4	33,5	3,4	213,3	866,8
7 Frigate mackerel	90,4	34,5	14,5	41,3	83,7	264,4	489,7
8 Bogue	719,6	468,4	252	236,7	344,8	2021,5	4956
9 Gurnard	147,7	168,9	238,7	163,7	109,2	828,2	5818,9
10 Mullet	242,1	391,3	236,2	383	169,1	1421,7	4719,4
11 Grouper	24,3	18	200,9	61,6	19,4	324,2	3347,9
12 Dogs teeth	66,2	48,7	542,6	195,5	23,2	876,2	4458,8
13 Gobby	21,5	28,9	80,2	85,4	18,7	234,7	2315,3
14 Sand smalt	18,5	38,1	21,4	14,1	11,4	103,5	2301,1
15 Garrick	36	88,9	143,9	143,7	59,3	471,8	1562,4
16 Cockrel	211,2	65,4	179,2	98,8	95,8	650,4	1493,6
17 Hake	367,8	262	961,6	371,2	305,5	2268,1	25376,4
18 Croakar	56,1	48	251,6	29	19,2	403,9	1510
19 Gilthead seabream	75,2	163,1	287,5	93,7	17,1	636,6	2285,1
20 Red seabream	825,6	41,8	122,1	102,5	58,7	1150,7	2948
21 Bonito	109	99,3	118,9	130,1	127,2	584,5	1315,9
22 Smooth hound	80,1	66,6	327,9	44,1	12,1	530,8	4733
23 Blue whiting	183,9	47	274,8	49,9	79,1	634,7	2606,6
24 Sword-fish	65,9	18	156,9	96,9	177,4	515,1	2210,9
25 Angler	108,2	42,2	172,6	51,7	56,3	431	2756,1
26 Ray	39,3	58,3	134,9	49,9	32,8	315,2	2809,1
27 Turbot	54,9	59,2	205,7	96,9	89,5	506,2	2928,9
28 White bream	141,6	67,8	312,4	159,3	22,1	703,2	2236,9
29 Sole	68,1	105,6	466,9	134,6	23,8	799	5953,2
30 Sea bass	33,3	107	592,3	141,4	57,7	931,7	3010,2
31 Horse mackerel	448,6	247,2	463,9	359,3	213,6	1732,6	8719,2
32 Red mullet	314,2	248,8	749,1	807,3	270,7	2390,1	9283,8
33 Other species	1215,5	997,9	3874,1	1701,2	1094,7	8883,4	41805,9
34 Squid	162	82,9	1080,1	168	170,5	1663,5	8649,1
35 Octopus	261,7	292,8	771,3	481,1	213,3	2020,2	11595,9
36 Cuttlefish	224	157,8	1642,3	288,9	203,9	2516,9	11005,4
37 Mussel	1922,5	31,5	669,1	75,6	65,3	2764	19748,3
38 Horned octopus	240,9	46,2	122,4	33	111,8	554,3	2375,3
39 Squid-Todarodes	207,5	89,1	180,2	98	115,1	689,9	8365,5
40 Clam	9,5	33,3	651,2	51,6	20,9	766,5	28919,6
41 Other species	249,5	112,9	1136,1	256,3	121,9	1876,7	19596,9
42 Lobster	42,4	39	143,6	26	1,9	252,9	761,6
43 White shrimp	20,5	33,2	430,5	109,6	67,2	661	9177,7
44 Red-shrimp	93,4	20,8	217,3	81,6	38,7	451,8	3091,6
45 Squilla mantis	65,2	86,6	227,8	62,4	26,5	468,5	3476,1
46 Norway lobster	86,3	41,3	178,7	52	42,7	401	3982,4
47 Other species	147,2	95,2	412	150,1	93	897,5	4060,7
GENERAL TOTAL	11899,4	7311,5	21220,2	10194,5	6141,2	56766,8	360962,9

Source: I.S.T.A.T.

TAB. 1.1.3A - LANDINGS BY GEARS AND BY ADMINISTRATIVE REGIONS IN AREA I.1
(VOLUME IN TONS, % TOTAL ITALY = 100)

REGIONS	TRAWLER		PURSESEINER		GILLNETTER		OTHERS		POLYVALENT		TOTAL	
	TONS	%	TONS	%	TONS	%	TONS	%	TONS	%	TONS	%
LIGURIA	2997	0,58	9430	1,83	744	0,14	206	0,04	1364	0,26	14741	2,86
TOSCANA	6221	1,21	15395	2,99	903	0,18	(*)	(*)	1021	0,2	23540	4,57
LAZIO	13786	2,68	167	0,03	5248	1,02	608	0,12	(*)	(*)	19809	3,85
CAMPANIA E CALABRIA	7090	1,38	10932	2,12	3234	0,63	(*)	(*)	3666	0,71	24922	4,84
AREA I.1	30094	5,85	35924	6,97	10129	1,97	1628	0,16	6051	1,17	83012	16,12
TOTAL ITALY	271935	52,83	53678	10,43	39172	7,61	66890	13	83056	16,14	514731	100

(*) Not available

Source: Sample survey IREPA (1987)

FIG. 1.1.3 ITALIAN CAPTURES MATRIX BY GEARS AND SPECIES

	s p e c i e s																																																									
gears	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	45	47											
trawler																																																										
purse sein																																																										
gill net long																																																										
others																																																										
multiple																																																										
note: see table 1.1.3 for the species name																																																										
source: IREPA																																																										

TAB. 1.1.4 AREA I.1: DATA ON THE FISHING FLEET BY TYPE OF GEAR (1986/1987)					
TYPE OF VESSEL	GRT	CATCH (mt)	CATCH/GRT (kg)	PROCEEDS (Ecu '000)	PROCEEDS/GRT (Ecu '000)
	(a)	(b)	(c) = (b/a)	(d)	(e) = (d/a)
Trawler	27,350	30,094	1,100	158,670	5.801
Purse seiner	7,315	35,924	4,911	48,169	6.585
Gillnetter	8,848	10,129	1,145	74,548	8.425
Others	911	814	894	2,206	2.422
Polyvalent	10,820	6,051	559	26,149	2.417
AREA I.1	55,244	83,012	1,503	309,742	5.607
TOTAL ITALY	263,606	514,731	1,953	1,624,759	6.164

Source: (a) based on ISTAT figures; (b) and (d) IREPA's Fishing Fleet Observatory

TAB. 1.1.5 AREA I.1: SAMPLE AVERAGE PROFITS AND COSTS BY FISHING GEAR (ECU 1989)					
ITEM	TRAWLER	PURSESEINER	GILLNETTER	OTHERS	POLYVALENT
GROSS RECEIPTS	123,000	114,000	19,450	-	34,500
% RUNNING COSTS	50	31	53	-	48
% LABOUR COSTS	38	41	18	-	27
% PROFITS (1)	12	28	29	-	25
AVERAGE OWNER EARNING	23,000	31,300	9,500	-	11,380

Source: I.R.E.P.A.'s Fishing Fleet Observatory
(1) Depreciation costs not considered

TAB. 1.1.6 REGIONAL DISTRIBUTION OF THE FLEET BY AGE OF VESSELS (NUMBER AND GRT) - AREA I.1									
ZONE	0-4	5-9	10-14	15-19	20-24	> 25	UNKNOWN	TOTAL	%
LIGURIA	44	219	154	128	141	442	16	1144	20
TOSCANA	72	184	177	115	117	327	76	1068	19
LAZIO	73	171	134	160	199	317	20	1074	19
CAMPANIA	139	334	250	214	187	471	19	1614	27
CALABRIA	61	115	122	107	149	284	17	855	15
% A I.1=100	7	18	14	12	14	32	3	-	-
TOTAL NUMBER	389	1023	837	724	793	1841	148	5755	-
LIGURIA	369	1444	899	635	956	3010	45	7358	12
TOSCANA	1885	2753	1176	1445	2086	4716	140	14201	25
LAZIO	829	1329	1357	1370	4750	4774	222	14631	26
CAMPANIA	1224	2294	3880	3352	1643	3154	107	15654	27
CALABRIA	617	864	1004	764	942	1220	59	5470	10
% A I.1=100	9	15	15	13	18	29	1	-	-
TOTAL GRT (*)	4924	8684	8316	7566	10377	16874	573	57314	-
Source: Our processing on I.S.T.A.T. data '89									
(*) Total GRT is not consistent with figures in table 1.A and 1.1.1 because table 1.1.6 including Crotona coastal department. Total figures are 3132 for Calabria and 54976 for total GRT if Crotona coastal department is excluded.									

1.2 AQUACULTURE

1.2.1 The principal productive sectors

Aquaculture has developed following the national pattern. During the 1970's, emphasis was still placed on the breeding of fish in "fish valleys" which today cover 7,463 hectares. In 1990, in the area I.1, there were 49 establishments and total trout production was 1,765 tonnes corresponding to a value of 4.7 million ECU. The production of euryhaline species in salt-water has concentrated on the rearing of eels, sea-bream and sea-bass. Forty-four establishments are registered with API (Italian Association of Fish-Farmers), of which 26 farm eels. In 1990, these establishments employed 483 workers produced 755 tonnes of fish for a value of around 9 million ECU (see tables 1.2.1, 1.2.2, 1.2.3, 1.2.4, 1.2.5).

In this context, traditional eel production is now accompanied by the recently developed farming of more expensive species (namely, sea-bream and sea-bass). As such, this is a sector in evolution. On the one hand, eel farming is relatively stable whilst sea-bream and sea-bass farming is going through a phase of growth with better future prospects, even if these are conditioned by the speed of technological innovation and international competition.

Mussel farming, on the other hand, is in continual expansion, even if this has slowed down in recent years. In 1990 12,450 tonnes were produced, corresponding to a value of over 12 million ECU.

1.2.2 Trout farming

In area I.1 there are 49 trout farms, of which the majority (30) are concentrated in Tuscany. Seven more farms are present in Latium reinforcing the picture of the prevalence of such farms in central Italy. Indeed the remaining 12 farms which are distributed across the remaining three regions contribute just 8% of the supply of trout provided by the area.

The greater part of trout production is sold on the domestic market with a relatively small part being exported. Trout consumption is encouraged both by the constancy of the supply and its competitive price with respect to other fish. Technological developments in the last ten years have been concentrated on improving the yield from trout-feed and resolving technical problems of the farms and trout farming is now amongst the most productive forms of aquaculture in Italy. Technological development in trout farming is currently concerned with experimentation in new techniques for resolving problems of pathology and with reducing the cost of foodstuffs. From this point of view, the relatively small size of firms does not allow the exploitation of potential economies of scale which might be expected.

Trout farming is typically carried out as a family business covering, on average, an area of two hectares with limited access to technological and financial resources. The main aim of this

form of organisation is the reduction of the costs of production and of the riskiness of capital investment. Production workers are an integral part of the nuclear family and normally comprise no more than four persons. At the same time, productive techniques are developed at the level of the individual farm and there is limited circulation of information amongst farms.

1.2.3 Mussel farming

Mussel farming is undertaken in sheltered areas with an average level of eutrophy. There are 12 establishments in Liguria and Latium. It is true that, until 1970, the Campania region also had a sizeable mussel production which, however, was almost completely eradicated after the cholera crisis. Total production comes to around 12,000 tonnes per year, of which over 50% comes from Ligurian establishments in the area of La Spezia. The value of production, given a price of around 1,000 ECU per tonne, is roughly 12 million ECU.

Mussel production is almost entirely destined for the domestic fresh fish market with a small percentage going to the processing industries. In particular, supply is sufficient to entirely satisfy demand in the spring and summer periods, whilst in the autumn and winter months, the high demand is mostly satisfied by imports.

The simplicity of cultivation techniques has allowed the wide diffusion of mussel farming. The productive model employed in the Tyrrhenian area is of two types: fixed and floating. The first is found in areas characterized by shallow water in which the Mussel-lines are attached to poles sunk into the sea-bed. The second method employs a cable kept on the surface by buoys to which are attached the Mussel-lines.

In general, the establishments are organised as cooperatives and provide a viable alternative to crewing on fishing boats.

The establishments cover a minimum area of 1,500 square metres and the sector has developed in areas traditionally dedicated to this activity, and thus enterprises are able to exploit the existing technology.

1.2.4 The farming of euryhaline species

The farming of these species is carried out at 44 establishments in the area, of which 26 produce eels even if many do so on a small scale, and the remaining 18 are devoted to the farming of sea bass and sea bream. Also in the latter case there is a need to distinguish between family enterprises operating on a very small scale and whose objective is to increase incomes largely derived from other sources, and those establishments devoted entirely to fish production.

The sector concerned with eel farming, even if traditionally linked to fresh water "vallicoltura", has provided the productive structure which has allowed the development of the intensive farming of salt-water fish. It should be emphasised, however, that the take-off of productive activity in this area, as in the

rest of Italy, has only been made possible by the introduction of Community regulations which have provided financial incentives for the setting up of the productive apparatus on an industrial scale which would not otherwise have been possible, given the economic risks and the physical characteristics associated with animal production in its experimental phase.

Currently, production of euryhaline species in this area has reached 755 tonnes per year. Tuscany and Latium are the regions with the highest concentration of farms accounting for 90% of the area's production both in terms of quantity and in terms of value.

Apart from the traditional valley farming, eel farmers have recently developed intensive farming techniques. In particular, in Latium, the presence of 1,618 hectares of valley and 11 intensive farms have allowed the creation of a solid productive structure. In 1990, regional production reached 220 tonnes destined principally for the domestic market which is characterised by the seasonal nature of demand, concentrated around the Christmas period.

From the technological point of view, this section is going through a period of transition due to the diffusion of intensive farming techniques. Family farms make up the majority of productive units and operate in areas of up to 15,000 square metres and employing 3-4 workers.

Sea bass and sea bream farming has not yet fully exploited its potential, given the relatively recent introduction of intensive farming techniques. There are currently 17 establishments, 8 of which are in Tuscany. Thanks to the particular characteristics of the water, Tuscan farms produce 250 tonnes of sea bass, 100 tonnes of sea bream, 60 of mullet and 55 of eels. These figures, drawn from official sources make Tuscany the principal producing region in the country.

The insufficiency of newly hatched fish is still creating uncertainty to farmers even if many have opted for the introduction of hatcheries on their farms. At present, there are 3 hatcheries operating in Tuscany able to produce 360,000 newly hatched sea bass and 80,000 sea bream. At an experimental level, newly hatched sole and white bream are also being produced. The production of newly hatched fish is not sufficient to satisfy the needs of the fish farmers.

The market for both types of fish have the similar characteristics. 80% of production is sold directly to wholesalers whilst the rest goes to restaurants. Export of these species is virtually non-existent, conversely the importation of these types of fish from other Mediterranean countries is carried out on a massive scale. The price of imported fish is highly competitive in relation to the internally produced stock. As a result, the reduction in the risk faced by producers in this sector is subordinated to the need to reduce costs of production.

Employment in productive activity is relatively low. Indeed, on the larger farms, which are typically joint-stock companies, the average number of employees is 7. In the case of the smaller family enterprises, for whom fish farming is not the principal activity, there are no more than 4 employees for each productive unit.

ZONE	TROUTS	EURYHALINE SPP.	MUSSELS	OTHERS	SUB TOTAL	VALLI (HA)
LIGURIA	3	2	5	3	13	-
TOSCANA	30	20	-	2	52	5410
LAZIO	7	18	6	3	34	1618
CAMPANIA	5	2	1	1	9	435
CALABRIA	4	2	-	-	6	-
SUB TOTAL I.I	49	44	12	9	114	7463
TOTAL ITALY	562	185	280	258	1285	63485

Source: A.P.I. (Associazione Piscicoltori Italiani)

ZONE	SEA BASS	SEA BREAM	EEL	MULLET	TOTAL
LIGURIA	10	40	-	-	50
TOSCANA	245	105	55	60	465
LAZIO	-	-	220	-	220
CAMPANIA	-	-	10	-	10
CALABRIA	-	-	10	-	10
TOTAL I.I	255	145	295	60	755

Source: I.R.E.P.A. estimate

ZONE	TROUTS	EURYHALINE SPP.	MUSSELS	A.I.I.
LIGURIA	-	50	6.800	6.850
TOSCANA	1.080	465	-	1.545
LAZIO	560	220	2.800	3.580
CAMPANIA	75	10	2.850	2.935
CALABRIA	50	10	-	60
SUB TOTAL I.I (a)	1.765	755	12.450	14.970
TOTAL ITALY (b)	35.000	1.900	95.000	132.550

Source: (a) I.R.E.P.A. estimate (b) I.C.R.A.P.

ZONE	TROUTS	EURYHALINE SPP.	MUSSELS	A.I.I.
	ECU	ECU	ECU	'000 ECU
LIGURIA	-	767.113	6.569.630	7.337
TOSCANA	2.832.400	6.068.000	-	8.900
LAZIO	1.578.800	1.875.165	2.753.740	6.208
CAMPANIA	211.120	91.770	2.802.911	3.106
CALABRIA	140.965	85.200	-	226
SUB TOTAL I.I (a)	4.763.285	8.887.248	12.126.281	25.777
TOTAL ITALY (b)	104.904.275	64.122.738	84.906.897	253.934

Source: (a) I.R.E.P.A. estimate (b) I.C.R.A.P.

ZONE	TROUT	EURYHALINE SPP.	EEL	MUSSELS	OTHERS	TOTAL
LIGURIA	12	7	4	15	9	47
TOSCANA	120	56	48	-	6	230
LAZIO	28	49	44	18	9	148
CAMPANIA	20	-	8	3	3	34
CALABRIA	16	-	8	-	-	24
TOTAL I.I	196	112	112	36	27	483

Source: I.R.E.P.A.

1.3 THE FISH PROCESSING INDUSTRY

1.3.1 Overview of the fish processing industry

The structure of the industry concerned with processing fish is divided into differentiated sections. On the one hand there is a section consisting of small-scale artisanal production while on the other there is a truly industrial sector.

The latter, in line with the general strategy of industrial concentration characterizing the entire foodstuffs industry, is going through a process of concentration based both on commercial strategy (the acquisition of bigger market shares in certain products) and financial strategy (the buying up of existing productive units with diversified lines of production). The phenomena of the specialization and the vertical integration of production is increasingly evident.

Quite apart from the economic consequences of these developments, one observes a slow process of restructuring and rationalization which cannot but have an important influence on the future development of, and employment in, the sector. The driving force behind these changes are trends in consumption subject to the constraints of providing primary goods, international trade and tariff and regulatory policy.

On the basis of data produced by ANCIT, domestic consumption in Italy in 1990 was 1384 million ECU. When compared with the corresponding total for 1983 of 530 million, this figure gives us a precise measure of the important role played by consumption in the sector. The figure for domestic consumption is comprised of 945 million ECU spent on domestic production (equivalent to 144300 tonnes) added to 439 million ECU of net imports. Exports equal to 56 million ECU represent 10% of the normalized balance of payments and are equally insignificant when seen against the imports of 495 million ECU. Furthermore, to the cyclical nature of exports is added the trend towards growth in imports (see table 1.3.1).

The progressive liberalization of the Community market, following the end of the period of protectionism in 1985, has given a stimulus to the import of both raw materials and goods for final consumption to such an extent that it is now at a level of 52% of domestic production and 36% of total consumption. Furthermore, the enhanced competitiveness of imported products has slowed down price increases to such an extent that these no longer cover increases in the cost of labour on the domestic market.

Even so, sustained by increased consumption, domestic production continues to grow steadily (at an average rate of 10% p.a.). Around 6,800 people work in the industrialised part and over 1,300 are employed in the artisanal segment. As is well known, however, overall employment depends on the degree of capacity utilisation of the industry which, in the case under consideration, is relatively low with respect to other industrial sectors and has been in steady decline since 1987, reaching an all time low of 58% in 1990. Therefore, *ceteris paribus*, one may expect a steady reduction of manpower in the industry in the future (see table 1.3.1).

With regard to this last point, it is relevant to note that degree of capacity utilisation is accompanied by constancy in gross fixed investment. That is to say, notwithstanding the excess of unused capacity present in the processing industry, the nature of gross fixed investment has not been altered in the slightest. Industrial policy based on the direct substitution of depreciating capital stock has thus replicated the existing structural deficiencies without taking account of changing economic trends. Over the last decade the policy of simply substituting worn out equipment has not altered the productivity of either labour or capital. Thus, entrepreneurs have simply responded to market pressures by sustaining the status quo, investment being simply a response to physical deterioration of the capital stock of the industry, without adapting to external conditions (i.e. laws, and the loss of competitiveness).

This defensive strategy has had the support and encouragement of EEC structural policy which has only recently begun to reward investment aimed at increasing productivity, so as to partially compensate for the rising (relative) cost of labour. Thus, the impact of Community policy in the form of its structural policy has been the maintenance of the existing levels of production and employment, without, however, tackling the existing structural problems and without a policy of orientation to prepare for the unification of Community markets.

A relative growth in competitiveness is not common to all sections of the fish processing industry and does not depend exclusively on the nature of gross fixed investment. Specific productive subsectors respond differently to market conditions, with the only common factor being the dependence on foreign provision of raw materials. Going beyond problems of individual subsectors, it should be stressed that the principal problem of the processing industry is the lack of competitiveness of Italian production with respect to foreign producers caused by the high cost of labour. Given that the processing industry is invariably "labour intensive" it is clear that, as long as the domestic product supplied is similar to, and in competition with, that provided by foreign producers, the conditions for a growth in employment do not exist and domestic demand is destined to be increasingly satisfied by foreign production. Furthermore, as long as structural and market policy (CFP) does not change direction, the sector cannot evolve in a positive manner both with regard to production and to employment (see fig. 1.3.1 to fig. 1.3.6).

1.3.2. The fish processing industry in the area and principal productive subsectors.

Tuna processing, represents the largest subsector in the area. Local production amounts 27.000 tons (1990) while 430 workers are employed. To increase flexibility and reduce financial costs factories are now also employing about 20% part time workers in order to meet demand just in time and to reduce In the whole area there are 6 canning factories. In Calabria there are 3 small/medium size factories ,in Campania there are 2

plant, of which one is among the largest in Italy with a production of 13.219 tons. In Lazio there is 1 large factory and 1 small canning factory is located in Tuscany. In Liguria there is no tuna in oil production. Since Italian catch of tuna is virtually non-existent (3./4.000 tons) if compared with the total tuna processed in the Country (140.000 tons) it is evident that there is no link between the catching and canning sector and no direct induced employment can be foreseen.

The sardine in oil processing industry (around 3.000 tons and 220 workers in the area under study) has a different structure since it is vertically integrated with the catching sector and it is able to take advantage of the existing EEC market rules since the raw material is supplied by Italian O.P.'s. They are also concentrated in Lazio (2) and Tuscany (1). Notwithstanding the level and type of gross fixed investment undertaken in the last decade, problems related to domestic demand and international competitiveness are threatening employment in both the industrial sector and in related fishing activities.

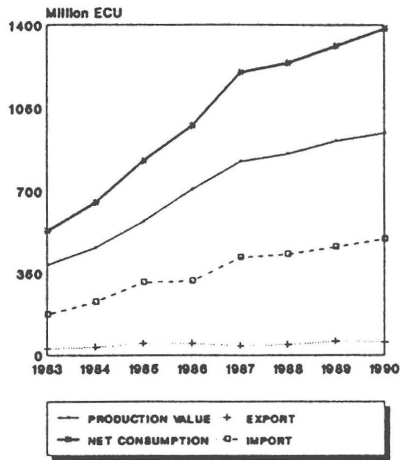
Firms involved in the anchovy processing industry are concentrated in Campania, in the Salerno Province, even if some others are located in Liguria. More than 30 factories are actually active in the area and most of them are real family business. The size of the factories is determined by the high level of flexibility needed by this production, since periods of intense activity follow periods where activity is reduced to nothing and workers are involved with other, not necessarily fish based, productions. The value of the production is high if compared with other products. The unit value of anchovies in oil is about 25.000 Lit/kg, while tuna reaches only 8.000 Lit/kg. During 1990, anchovy processed production reached about 10.500 tons, while there were about 500 workers employed.

Factories processing non frozen products are also important either for the value of the production and in terms of employment. Production is distributed along the west coast and, once again, most of the productive units are family business. Most of the raw material used for the process is imported (squid, cuttle fish, molluscs, octopus etc), even if some species are supplied from local sources (mackerel, eel, tuna, swordfish, pilchards) and from import (molluscs, squid, cuttle fish, etc.). Production in the area amounts to 2.000 tons and employment reaches 80 workers.

As regard frozen fish products, there are quite a few factories (20), generally small, and they are disseminated all along the coast. Production is sold to the four or five leading brands operating in the sector which have a market share of approximately 80%. The remaining 20% is marketed directly by producers. Thus, with regard to intersectoral dependence one needs to be careful in identifying areas which are "heavily dependent on fisheries", with the resultant employment effects. The presence of freezing plants provides an indication of this dependence. However, the sector is so small (no more than 3% of domestic production) that one may say that there are no areas "heavily dependent on fisheries" which cannot absorb the negative effects on fishing activities of possible restrictive policies.

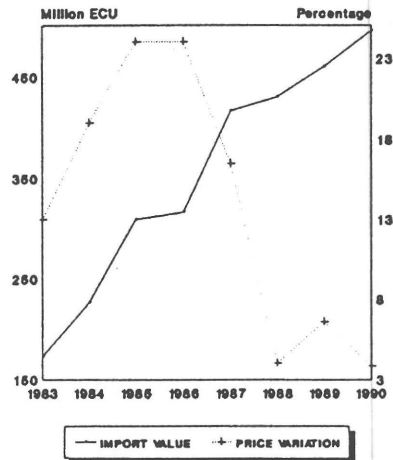
TAB. 1.3.1 PRINCIPAL INDICATORS FOR THE PROCESSING INDUSTRY - 1983/1990											
YEAR	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
1983	384	26	173	-146	530	87000	7	63	6600	11.11	13.00
1984	458	32	226	-194	652	95100	10	64	6500	10.44	19.00
1985	569	50	309	-260	828	107600	13	65	6700	12.00	24.00
1986	707	49	316	-267	975	120500	17	68	6800	5.00	24.00
1987	823	39	416	-377	1200	130500	17	70	6900	7.30	16.50
1988	854	45	430	-385	1239	129110	19	65	7050	8.05	4.00
1989	910	59	460	-401	1312	137400	15	63	7100	7.34	6.58
1990	945	56	495	-439	1384	144300	12	58	6800	5.34	3.84
[1] National production value at market price (million ECU)											
[2] Export value at market price (million ECU)											
[3] Import value at market price (million ECU)											
[4] Inbalance commercial trade at market price (million ECU)											
[5] Net consumption at market price (million ECU)											
[6] Production (tons.)											
[7] Gros investments (million ECU)											
[8] Average exploitation of firms (%)											
[9] N. of workers											
[10] Annual variation of the labour cost's (%)											
[11] Annual variation of production prices (%)											
Source: elaboration on ANCIT data											

PRODUCTION, IMPORTS, EXPORT, NET CONSUM.
PROCESSING INDUSTRY



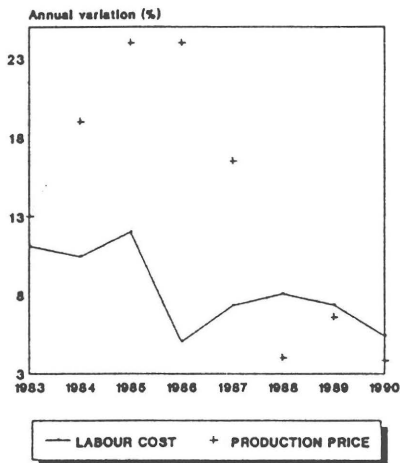
(Fig. 1.3.1)

VALUE OF IMPORTS AND PRICE VARIATION
PROCESSING INDUSTRY



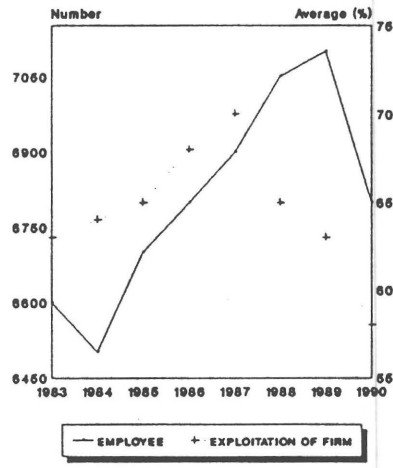
(Fig. 1.3.2)

LABOUR COSTS AND PRODUCTION PRICE
PROCESSING INDUSTRY



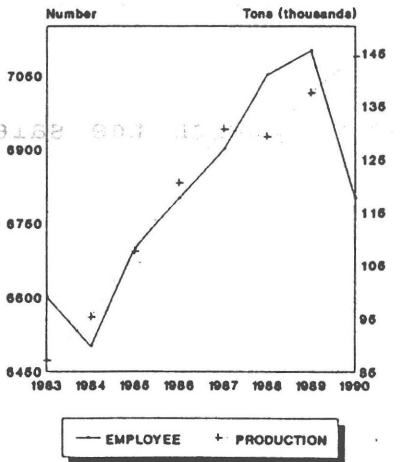
(Fig. 1.3.3)

EMPLOYMENT, CAPACITY UTILIZATION OF FIRM
PROCESSING INDUSTRY



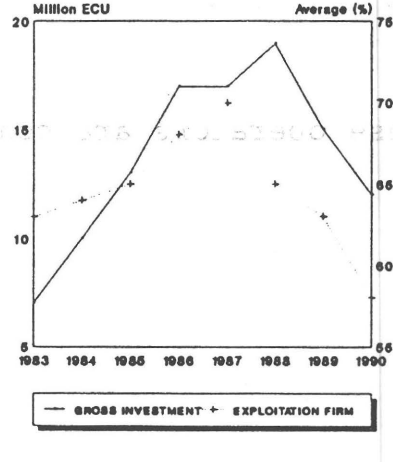
(Fig. 1.3.4)

EMPLOYMENT AND PRODUCTION
PROCESSING INDUSTRY



(Fig. 1.3.5)

GROSS FIXED INVESTMENT, CAPACITY UTILIZATION
PROCESSING INDUSTRY



(Fig. 1.3.6)

Source: Our processing on ANCIT data

1.4 SUPPORTING SECTORS, DISTRIBUTION AND RELATED SECTORS

1.4.1 Fishing ports

In area I.1 there are 57 ports which are currently equipped for fishing boats. Indeed, the majority of fishing ports are not sufficiently equipped to provide the range of services necessary to rationalise and improve the conditions for the unloading and first sale of the catch.

A study commissioned by the Ministry for the Merchant Navy has compared the existing state of affairs as regards the equipping of fishing ports with what would be theoretically optimal. As a result it has been possible to identify the financial requirements necessary to improve conditions regarding fishing and the unloading of the catch.

In the present case, given the conditions of port structures in the area under study, the investment necessary to equip fishing ports comes to around 26 million ECU. More than 50% of this would be necessary to equip ports in Campania and Calabria (7.9 and 6.7 million ECU, respectively). In the former, investment is necessary to provide equipment concerned with production, whilst in the latter, equipment is necessary for safety reasons.

It should be emphasised, however, that the total sum required in the area is only 16% of that required for the whole of Italy. In particular, the majority of the expenditure is necessary to improve the safety of ports in the area. Indeed, investment in safety equipment in area I.1 represents 20% of the total required for Italy as a whole (table 1.4.1). The dynamics of employment in this sector is dealt with in step 1.4.3..

1.4.2 Commercial channels

The unloading of the fishermen's catch is extremely fragmented there being 289 unloading points in the area. At the commercial level, the numerous landing-places translates itself into a segmentation of distribution channels. On the one hand, there are fish markets institutionally set up in order to bring together demand and supply. On the other, private operators, quite different in function and scale from the institutional markets, have the task of distributing fresh fish throughout the area. These operators are concerned exclusively with the sale of fresh fish unloaded by the fleet. Indeed, if one excludes sardine fishing, most of the fish caught in the area is not processed or conserved, but is sold fresh. In this context, distribution of the catch is limited to the province or, at most, the region. The sale to final consumers is carried out by specialised fishmongers which even today, notwithstanding large-scale investment in this sector by the bigger distributors, remains the principal channel for the sale of fresh fish.

The result of this fragmented distribution system is a complicated and crowded web of commercial flows which, as well as resulting in the duplication of intermediaries, is the cause of the lack of transparency of the market.

Fish markets

This analysis of fish markets in area I.1 is based on data available which relate to ten of the twenty-five markets in the area under study. The evaluation of the data, apart from drawing attention to the technical and economic indicators relating to the markets, is concerned with the analysis of average (sample) values of structural parameters (see tab. 1.4.2).

Such an analysis shows that the current dimensions of the structure represent an obstacle to increasing the quantities sold. Given the productive potential of the area, the markets' dimensions are in line with the quantities passing through them.

From this point of view, the current scale of operations represents a physical obstacle to increasing in the quantities sold in fish markets. In contrast, the presence of "off-the-market" sales, estimated as representing 30% of market sales, provide the possibility for increasing fish sales. In this context, the possibility to exploit the potential that a reduction in "off-the-market" sales would represent is conditional on, on the one hand, an expansion of existing structures and the construction of new public commercial complexes and, on the other, the capacity of markets to provide additional services above and beyond the sale of produce.

The level of employment in these structures is constrained by the level of trade carried out therein. Indeed, apart from the indispensable minimum employment necessary for the normal carrying out of market operations, expansion of the workforce must occur in the auxiliary services which aid the smooth running of the market. Thus, the existence of structures of dimensions commensurate to potential supply and demand in the area would encourage the allocation of fish through institutional channels and the induced employment in the sector.

Wholesale

Given the evident shortcomings of the fish markets, private wholesalers have assumed a necessary role in the distribution and sale of fish.

In area I.1, there are over 1,300 registered wholesalers (equal to 30% of the national total) whilst those who are effectively operative are no more than 500 (35% of the national total). Thus, effective fish wholesalers make up 38% of those registered. Even though these figures refer to the Census of 1981 the picture is still valid.

With regard to area I.1, a previous examination of the density of the catch (in terms of value) and the density of wholesale outlets by region, controlling for population density, suggests a close link between the location of wholesalers and fishing areas that goes beyond simple regional disparities and is attributable to the uneven distribution of fishing activities. This variation in density is due to the relative weight of inland areas with respect to coastal ones (see, for example, Liguria compared to the other regions) and the limited range of activity of wholesalers who do not generally extend beyond the boundaries

of single provinces, whether they are acting as receivers of fish direct from fishermen, supplying final consumers or commercial outlets.

A quick look at the map of the provinces provided in figure 1.4 is sufficient to verify the unequal distribution of fish wholesalers with the highest concentration being found in coastal provinces. 80% of wholesalers operate in coastal provinces with only 20% operating in inland provinces.

Another aspect of the fish distribution network is the dichotomy between small and large firms, with a clear prevalence of the former. 75% of firms employ between one (proprietor) to five persons; just 2.2% of wholesalers employ more than 20 persons.

There is also a marked tendency towards specialisation in one form of product (fresh, frozen or processed) which reflects the lack of dynamism of the family business which tend to be as lacking in any desire to diversify as they are in technical and managerial skills. This has consequences for consumption in as much as the specialisation of suppliers tends to shrink the consumers' preferences and thus acts as an obstacle to future evolution of the market. Diversification is also lacking in the prevalent types of activity. Few wholesale firms also undertake the related activities such as decapitation, gutting or packing or have been vertically integrated with retail outlets.

1.4.3 Related activities

In Italy, the productive units involved in all economic activities are over 3.5 million firms employing around 17 million people. In the area under consideration there are almost one million firms with over 4.7 million employees.

Necessarily limited to a qualitative and quantitative analysis of the existing sectoral links, the starting point is the identification of categories of economic activity that interact with the fisheries. We have used an Input-Output matrix for Italy, broken down into 92 branches of economic activity, which identifies both the origin of inputs and the destination of output from fisheries. On the basis of this matrix, we have identified the corresponding activities branches to the individual activities category, more than 500. More than 250 business types related to fishery have been identified and finally related to the 17 activities branches related to the regional matrix.

In Italy the analysis may, in this way, be narrowed down to a consideration of 1.2 million firms with around 8.1 million employees. In the case of area I.1, the relevant population consists of roughly 230,000 firms (around 20% of the areas total) employing a workforce of roughly 2.5 million equal to around 50% of total employment in the area (see table 1.4.3).

The analysis is carried out using regional input-output tables which divides economic activity up into 17 branches (see appendix 1).

The regional tables include the relevant subsectors, namely fish farming, fish processing, fishing ports, distribution (wholesale

and retail), boat construction and other related activities distributed across the 17 branches of economic activity. For each region in the area under study the fishing sector has been broken down on the basis of regional economic accounts, the structure of investment and working units involved in each activity (1).

Induced regional employment in fisheries is defined in terms of the sum of the full-time equivalent manhours employed in the fishing industry, and not in terms of the (larger) number of people actually employed in each activity. The strength of regional links between sectors, i.e. the volume of business of fishery-related production activities has been obtained by the value of the normalized exchange of the agricultural sector with other production sectors together with a synthetic numerical conversion factor, in order to consider the high employment levels of non-productive and service activities. This allows the quantification of employment multipliers for individual branches at a regional level (see table 1.4.5), which in turn allows induced employment in the single branches of economic activity by region to be derived (see tables 1.4.6 and 1.4.4) (2). It is worth recalling the statistical bond which forces to consider fishery-related sectors as all of the activities connected to it, e.g. fish processing, aquaculture, building, marketing (wholesale and retail), transport, commercial and non-commercial services. It indirectly considers also the import/export flows, both between regions and between nations, of raw materials and manufactured goods.

Results by branch of economic activity

In terms of sectoral interrelations the direct links between fishing and related activities are distinguished by their "pervasiveness". No single branch of economic activity is excluded but neither is any single branch predominant, with the exception of trade, lodging and catering which have the strongest links with fishing.

Employment induced by fishing is highest for this sector, as is reflected by the induced employment multiplier which has a regional average of 0.34. This implies that for every three seamen employed on board fishing boats there is, on average, one person employed in the trade, lodging and catering branch (namely retail). The individual regional employment structures result into 5,300 job opportunities, for persons working in the fishery sector alone.

(1) Working units refer to the volume of work in productive activities in terms of the full-time annual manhours. Thus, the concept of a working units does not necessarily correspond to actual employees whose actual working hours will vary between types of work.

(2) The definition of the 17 branches of activity and their correspondence to the 44 branches of activity identified by the NACE-CLIO classification and the 92 branches employed in the national input-output table are given in the appendix of the final report.

Also employment induced by fishing in the transport and communications (boat building and other activities) and in food, drinks and tobacco (food processing), at 1650 and 1400 respectively is certainly not insignificant. These are followed in importance by "Fuel and power products" (fuel and lubricants with its 650 full-time employee equivalents) and "Metal products excluding machinery and means of transport" (motors and equipment, with its 600 employees). It goes without saying that there is considerable regional variation in these figures (see table 1.4.6).

Results by administrative region and branch of activity

It is also important to consider the results for individual regions. The direct employment multiplier effect in Liguria is almost double that of the average for area I.1 (1.29 against 0.70, see table 1.4.4). In terms of employment, this implies that for every five fishermen there are four people employed in related sectors. Liguria is followed by, in order of importance, Tuscany, Latium and Campania. Calabria brings up the rear thanks to its low overall multiplier effect (equal to 0.14, or in other words 7 jobs at sea are necessary to create one job in all the related sectors) (see table 1.4.6).

The reasons underlying these differences may be summed up in terms of differences in the structure and location of productive activities and employment across regions as well as in differences in the capital/labour ratio or, in other words, differences in labour productivity across regions.

Interrelations between sectors in Liguria are characterised by a demand on the part of the fisheries industry for goods and services provided by other branches of economic activity. The strong links between fisheries and "fuel and power products" (branch 02) - fuel and lubricants - and between fisheries and "means of transport" (branch 07) - boat building - are the characteristic features of this region. Also of importance are the strong links between fisheries and "textiles and clothing, leather, footwear" (branch 09) - equipment - in Tuscany and the links between fisheries and "food, drinks and tobacco" (branch 08) - fish processing - in Latium (see table 1.4.6).

To summarise, it is the regional specialisation in specific productive sectors which determines the extent of links between sea and land-bound activities. One does not discern, however, any process of vertical integration.

Indeed, the specific regional productive structure determines the size of intersectoral links. In this case, it is the existing availability, at a regional level, of goods and services that define the links with the regional fishing industry. Simply stated, it is the existence of a supply that determines the demand by the fishing industry for goods and services. Obviously, in cases in which a local supply does not exist, the demand by the fishing industry for products produced by other sectors will be directed towards other regions and/or areas. In view of the configuration of production activity at sea on the coastline of the area in question. This reinforces the low capacity of fishing to act as a driving force for employment

creation at the regional level.

Notwithstanding this, the employment induced by fishing activities is considerable. Taken as a whole, induced employment in area I.1 is equal to about 11,000 full-time employee equivalents (including retail employees) set against a total of around 17,000 units employed at sea. A number of important differences exist between regions, however, reflecting the impact of a relative strong productive structure (in Liguria, Latium and Tuscany) with respect to a weak one (Campania and Calabria) (see table 1.4.6).

TYPE OF EQUIPMENT	FINANCIAL REQUIREMENT OF FISHING PORTS IN AREA I.1 BY TYPE OF EQUIPMENT (ECU current price 1989)							
	LIGURIA	TOSCANA	LAZIO	CAMPANIA	CALABRIA	AREA I.1	ITALY	AREA I.1/ITA %
Commercial equipment	763.140	1.636.471	716.850	2.173.290	1.069.124	6.358.875	44.431.323	14
Production equipment	1.578.562	2.986.143	1.005.422	5.096.195	2.540.898	3.207.220	88.462.426	15
Safety equipment	1.154.250	788.523	853.807	653.015	3.178.262	6.627.858	33.902.480	20
TOTAL	3.495.952	5.411.137	2.576.079	7.922.501	6.788.284	16.193.953	166.796.28	16

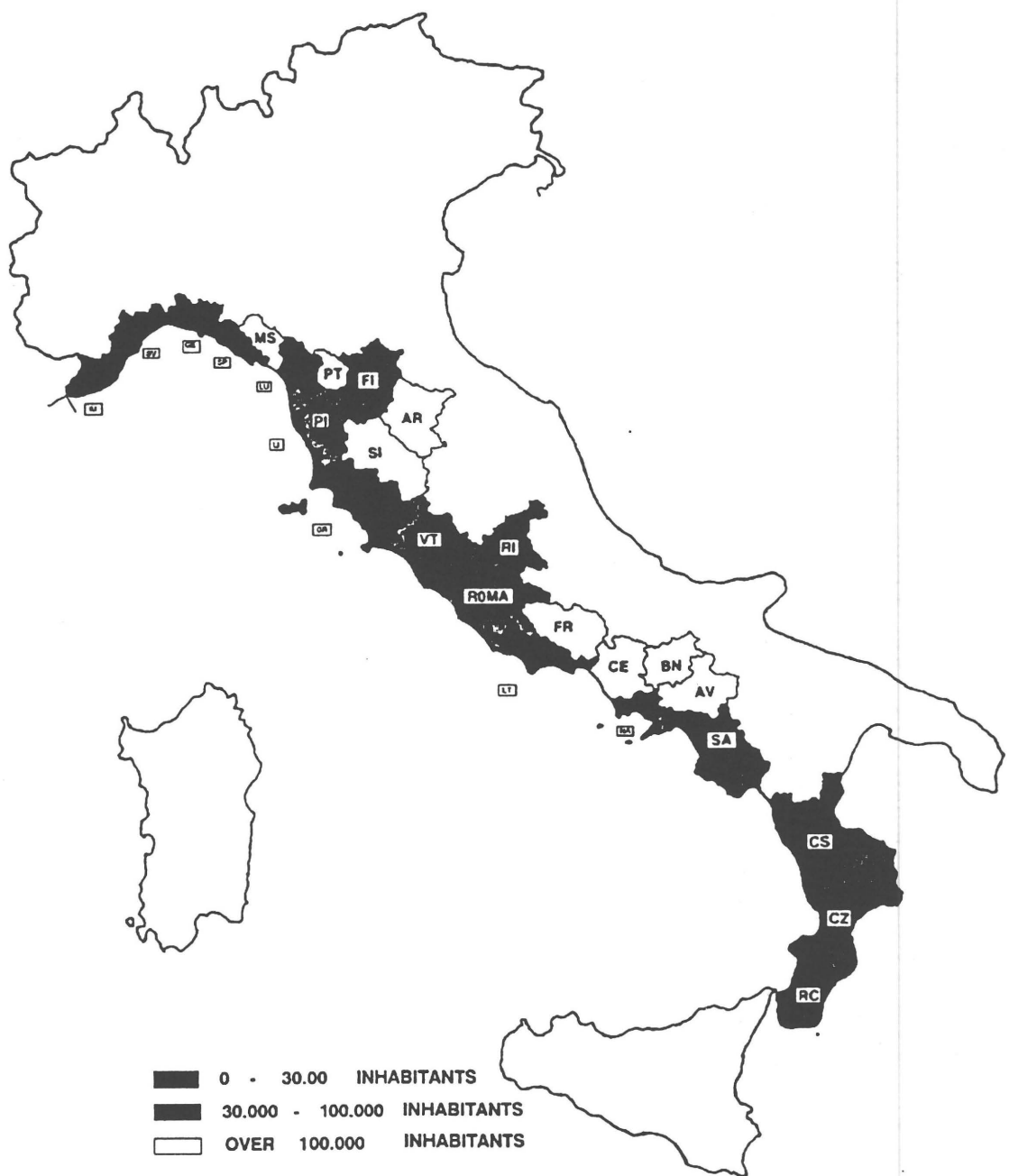
Source: our processing on Ministry of Merchant Marine data

ZONE	STRUCTURAL PARAMETERS OF FISH MARKETS IN AREA I.1 (Average value 1989)					
	QUANTITY AREA	QUANTITY EMPLOYEES	QUANTITY HOURS	SALES VALUE/ EMPLOYEES	SALES VALUE/ OPERATORS	SALES VALUE/ HOURS
	(Tons/ m ²)	(Tons/ n.)	(Tons/ n.)	(ECU/ n.)	(ECU/ n.)	(ECU/ n.)
LIGURIA	5,66	327	1,63	1.248.618	34.489	5.492
TOSCANA	0,93	97	1,07	288.652	23.021	8.481
LAZIO	2,60	903	5,57	4.345.005	41.046	26.801
CAMPANIA	1,13	207	1,59	531.623	20.656	4.091
CALABRIA	NA	NA	NA	NA	NA	NA

Legenda: NA = Not Available

Source: our processing on ICRAP and CERCOMINT data

FIG. 1.4 FISH WHOLESALE OUTLET DENSITY (PER CAPITA)



TAB. 1.4.3 PRODUCTIVE UNITS AND EMPLOYMENT BY REGION - AREA I.1 (1981)				
ZONE	RELATED WITH FISHERIES AND ANCILLARY ACTIVITIES		ALL ECONOMIC ACTIVITIES	
	ESTABLISH.	EMPLOYM.	ESTABLISH.	EMPLOYM.
LIGURIA	51248	344186	127568	580562
TOSCANA	NA	554105	284338	125398
LAZIO	77524	787341	242436	1387610
CAMPANIA	72539	576460	228089	1070643
CALABRIA (*)	31143	190777	93401	347349
AREA I.1	232454	2452869	975832	4645562
ITALIA	1180139	8108620	3513523	16883286

(*) Included Crotone coastal department
Source: Our processing on ISTAT-CENSUS (1981)

TAB. 1.4.4 DIRECT AND INDUCED EMPLOYMENT ESTIMATE IN FISHING AND RELATED ACTIVITIES BY REGION (88)				
ZONE	FISHERMEN AT SEA	INDUCED EMPLOYMENT	TOTAL EMPLOYMENT	EMPLOYMENT MULTIPLIER
	[1]	[2]	[3]	[4]
LIGURIA	2448	3148	5596	1.286
TOSCANA	3088	2672	5760	0.865
LAZIO	2227	2381	4608	1.069
CAMPANIA	5022	2928	7950	0.583
CALABRIA (*)	3839	535	4374	0.139
AREA I.1	16624	11664	28288	0.702
ITALIA	54450	37321	91771	0.685

(*) Included Crotone coastal department
Source: Our processing on ISTAT data and IREPA data bank

TAB. 1.4.5 EMPLOYMENT MULTIPLIERS BY BRANCH OF ECONOMIC ACTIVITY - AREA I.1							
BRANCI	LIGURIA	TOSCANA	LAZIO	CAMPANIA	CALABRIA	WEIGHT MEAN I.1	ITALIA
	[1]	[2]	[3]	[4]	[5]	[6]	[7]
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.10	0.03	0.07	0.02	0.00	0.04	0.04
3	0.02	0.03	0.01	0.01	0.00	0.03	0.02
4	0.00	0.01	0.00	0.00	0.00	0.00	0.00
5	0.01	0.03	0.09	0.01	0.00	0.03	0.03
6	0.05	0.05	0.05	0.03	0.01	0.04	0.07
7	0.40	0.08	0.03	0.07	0.00	0.23	0.06
8	0.05	0.07	0.24	0.07	0.02	0.09	0.10
9	0.00	0.16	0.01	0.00	0.00	0.07	0.03
10	0.00	0.01	0.01	0.00	0.00	0.00	0.00
11	0.01	0.04	0.03	0.02	0.00	0.02	0.03
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.59	0.31	0.41	0.30	0.09	0.34	0.28
14	0.01	0.00	0.01	0.00	0.00	0.00	0.00
15	0.00	0.00	0.01	0.00	0.00	0.00	0.00
16	0.02	0.01	0.02	0.01	0.00	0.01	0.01
17	0.02	0.01	0.02	0.02	0.01	0.02	0.01
TOTAL	1.28	0.84	1.01	0.56	0.13	0.92	0.68

Source: I.R.E.P.A.

TAB. 1.4.6 INDUCED EMPLOYMENT BY BRANCH OF ECONOMIC ACTIVITY AND ADMINISTRATIVE REGION IN AREA I.1							
BRANCI	EMPLOYEE IN LIGURIA	EMPLOYEE IN TOSCANA	EMPLOYEE IN LAZIO	EMPLOYEE IN CAMPANIA	EMPLOYEE IN CALABRIA	EMPLOYEE IN AREA I.1	EMPLOYEE IN ITALY
	[1]	[2]	[3]	[4]	[5]	[6]	[7]
1	0	3	1	1	1	6	24
2	250	98	166	118	17	649	2262
3	48	82	19	49	3	201	920
4	4	21	4	7	0	36	116
5	27	106	214	51	4	402	1448
6	120	161	124	159	20	584	4048
7	975	256	63	345	1	1640	3073
8	133	213	580	371	96	1393	5535
9	3	507	23	22	12	567	1386
10	3	21	18	7	1	50	225
11	28	136	66	90	9	329	1662
12	4	4	5	5	3	21	73
13	1433	967	976	1518	333	5227	15110
14	15	10	15	25	4	69	150
15	12	13	14	16	2	57	161
16	41	29	40	47	7	164	474
17	52	45	53	97	22	269	654
IND. EMPL.	3148	2672	2381	2928	535	11664	37321
MULT. EMPL.	1286	0.865	1069	0.583	0.139	0.702	0.685
FISHERMEN N.	2448	3088	2227	5022	3839	16624	54450

Source: I.R.E.P.A.

CHAPTER 2: THE IDENTIFICATION AND CHARACTERISTICS OF ZONES HIGHLY
DEPENDENT ON FISHERIES AND ANCILLARY SECTORS IN AREA
I.1

2.1 INTRODUCTION

Area I.1 is comprised of five administrative regions containing 26 administrative provinces (of which 18 are on the coast) (see fig. 1.A). It has four administratively distinct coastlines, which in turn are subdivided up into 16 maritime districts each with autonomous maritime control and powers of jurisdiction. Each of these districts has its own particular geographical and social characteristics. As was mentioned in chapter 1, the existence of around 300 landing-points with the consequent dispersion of the fleet and employment along the 2,000 km of coast is the dominant characteristic of fishing activities.

In the area under study there are no "real" centres of fisheries. In fact, to the distribution of resources and the consequent dispersion of the fleet along the entire coast, should be added the structural characteristics of fishing methods and supporting activities. The entire area is, therefore, characterised by dissagregated and disaggregating fishing activities whether in physical, economic or social terms.

To summarise, fishing activities in the area under consideration are the sum of a series of highly localised situations which, determined by the widely varying characteristics of the local sea's ecosystem, have given rise to a multiplicity of locally specific methods of production. Nevertheless, the total amount of business activities implies investment and employment levels far higher than other NUTS areas. Thus, one cannot assert that there exist "geographical zones highly dependent upon fisheries" which go beyond the confines of the local administrative unit (comune) in which fishing is carried out.

Looking at the situation from the overall point of view, the degree of concentration of the fleet and the landing places and, therefore, employment is so low that fishing activities in the area in question appear as a continuum along the length of the coast.

Thus, it is important to stress that the relative importance attributed to fishing will be highly sensitive to choice of the level of geographical dissagregation to which the suggested socioeconomic indicators relate.

In this connection the evaluation of socioeconomic indicators changes radically when one passes from the regional to the provincial level. Furthermore, it is only at the level of the local administrative unit (comune) that the role and relative importance of fishing in the local economy (principally as regards employment) can be identified with clarity and precision.

With regard to the question of employment, it should be pointed out that, in the context of the territorial subdivision for the purposes of economic analysis, and, in particular, labour economics, the "local labour systems" and the "functional labour regions" in Italy are territorially correlated entities, both of which are designed to identify local labour markets and are therefore a point of reference in the design and management of active labour market policy (3).

The territorial dimensions of "local labour markets" in Italy do not go much beyond communal boundaries, and, more or less, coincide with the said communes. Furthermore, according to the ISERS model of the functional repartition of the territory (IT-1990), the 8101 Italian communes have, on average, a degree of occupational autonomy (self contained employment) of over 90%, or, in other words, almost all employment opportunities are contained in the comune of residence of the workers. This is all the more true in areas in which the local economy is heavily dependent on fisheries and ancillary activities. This implies the penalisation of geographical labour mobility with the consequent rigidity in employment in productive areas (administrative communes or provinces). In area I.1 there are 1858 administrative communes.

To this rigidity, is added the intersectoral rigidity, whether at a regional, communal or local level, which characterises productive activity in the area in question. If one adds the specialised character and the emargination of fisheries, one can only emphasise the meaninglessness of the identification of specific geographical zones which are highly dependent on fisheries and ancillary activities for the Italian case.

It is not unreasonable to suggest that, in the area under study, there are as many zones which are highly dependent on fisheries as there are landing-places.

Unfortunately, this suggestion cannot be verified by a quantitative analysis. In fact, in Italy, the absence of a data on the relevant variables at a communal (local administrative unit) level and the implicit difficulties of estimation impede the precise identification, or rather ordering, of the degree of relative dependence of communes on fisheries. However, the same conclusions are reached by analyzing the variables considered both at a provincial and regional levels. Indeed, we may say that if this is true at a regional and provincial level, it is much more true at a municipal level. In this connection, we list results obtained at the level of the administrative region and at that of the province (tables 2.1 and 2.2).

(3) The model of the territorial repartition of Italy represents a development of the "Standard Metropolitan Areas (SMSA)" (USA-1960), the "Functional Economic Areas (FEA)" (USA-1970), the "Standard Metropolitan Labour Areas (SMLA)" (GB-1978), the "Travel to Work Areas (TTWA)" (GB-1974), the "Daily Urban Systems (DUS)" (GB-1979), as well as the "Regionale Arbeitsmarkte" (RDF) and the "Zones d'Etude de l'Emploi (ZEE)" (FR-1985).

The latter provide the basis for the identification of the "zones highly dependent on fisheries" (even if the concept is not really applicable in the present case). The relative dependence being assessed in terms on employment, in economic terms and total terms (see tables 2.3 and figure 2.1).

The statistics relating to employment in, and the value added of fishing employed of administrative regions are the official ISTAT figures, whilst for related activities the statistics are the result of our estimates produced on the basis of the statistics of TAGLIACARNE INSTITUTE. The statistics relating to employment and relative value added of administrative coastal provinces are the results of our estimates produced on the basis of the official ISTAT figures by coastal departments, whilst for related activities the employment statistics are the results of our estimates on the basis of the classification of the individual economic activities related to fishing (of which there are more than 250) drawn from the sectoral interrelationships between branches and sectors of economic activity at the national level, grouped into the 17 branches of economic activity (SEC classification) at the regional level which were constructed for each individual administrative region under consideration (see point 1.4.3). Finally, for the added value at coastal provinces, the statistics are the results of our estimates produced on the basis of the TAGLIACARNE INSTITUTE figures.

2.2 RELATIVE DEPENDENCE AT THE LEVEL OF ADMINISTRATIVE REGIONS

The population present in area I.1 represents 32% of the national total and comes to 18,200 million people, of whom 40% are in the labour force. The high rate of unemployment (roughly 16% compared to the national average of 12%) in the area, however, brings total employment down to around 6,200 million or 30% of national employment. A consequence of this is the lower per capita gross output of the area equal to 11,100 ECU compared to the national average of 12,200 ECU.

Employment in fisheries represents just only 0.27% of total employment in the area and produces just 0.10% of total wealth. If one considers also activities related to fisheries the degree of relative dependence increases to 0.44% in terms of employment and 0.25% in terms of economic value, i.e. the relative significance of employment in fishery is infinitely low. Despite this, the overall volume of landing exceeds 80 thousand tons for a value exceeding 300 million ECU.

There are substantial regional differences deriving from the existing production differentials of the individual places, which in their turn are due to different fleet composition per fishing system, associated to different target species and prices.

For instance, we may compare the added value by coastal sector in the Latium region and that in the Campania region (approx. 35,000 ECU adn 5,500 ECU respectively) to the proceeds per GRT of both regions (approx. 7,000 ECU and 3,000 ECU respectively).

This is to be added to the different productivity of work and

capital in fishery-related sectors and other sectors. First of all, "2-speed" economics mark regions as Latium and Campania (GDP/jobs approx. 37,000 ECU for Latium and approx. 26,000 ECU for Campania), mainly due to the composition of the existing capitals. In Latium only the widened fishery sector (fishery plus related activities) shows a higher efficiency of production factors (added value by jobs approx. 37,000 ECU. Considering the different sector and intra-sector productivity at a regional level, fishery in Latium is "quantitatively" twice higher than the average of the area. Despite this, Latium is not the administrative area relatively more dependent on fishery.

In terms of employment, Liguria, Campania and Calabria are the main debtor sub-areas of fishery; Liguria and Latium, in economic terms. As for the related dependences, the correct location of sub-areas shall depend on the selected parameter (job vs. economic terms vs. fisheries or related activities). Nevertheless, considering both the job opportunities and the economic aspects, Liguria and Calabria sub-areas are the relatively most dependent on fishery, compared with Tuscany, Latium and Campania (approx. 0.45% compared with approx. 0.20% respectively) (see fig. 2.1). Obviously, if the higher job dependence is added to the economic dependence, four administrative regions out of five result to be the "most dependent on fishery and related activities", thus eliminating Tuscany. Paradoxically, Tuscany has important fishery centers, e.g. those in the province of Leghorn. This objectively leads to compare the latter region with the former ones, and finally to consider the degrees of dependence on fishery of these five regions as equivalent one to another, i.e. to regard the area as a single whole. Thus, the discriminating capacity of the selected indicators loses its effectiveness and its purpose, leading to regard certain sub-areas as equivalent. This is the consequence of the specific productive structures and the relative weight that local economies have within the individual administrative regions and/or the geographical area under study.

This demonstrates the difficulty of application and the limited usefulness of economic measures applied to individual regions or provinces in the area.

2.3 RELATIVE DEPENDENCE AT THE LEVEL OF ADMINISTRATIVE PROVINCES

At a higher level of territorial partition, the same indicators have been estimated at a provincial level. It is worth noting the immediate rise in the values of the selected indicators, confirming the above statements concerning fragmentation of fishery along the whole area coastline and the direct correspondence between geographic level of analysis and level of the relative dependence degree.

There are substantial disparities in the area under consideration and it is rather difficult to classify the administrative provinces which are highly dependent on fishery, even though Leghorn has the highest composite value of the relevant statistics.

Considering the average of indicators for 18 coastal

provinces out of 26 composing the survey universe, the "areas mostly dependent on fishery and related activities" were identified as outlined in the plan of work. It is important to stress that the identification is highly dependent on the specific criteria adopted: the one that we have chosen corresponds to values exceeding the average of the area under examination.

On the basis of the relative importance of fishery in terms of employment, the considered zones are: the provinces of Imperia, Savona and La Spezia, in Liguria; the provinces of Lucca, Livorno and Grosseto in Tuscany; the province of Latina in Latium; the provinces of Naples and Salerno in Campania; and the Reggio Calabria province in Calabria. On the basis of the relative importance of fishery in economic terms, the considered zones are: the provinces of Imperia, Savona, Genova and La Spezia, in Liguria; the provinces of Livorno and Grosseto in Tuscany; the province of Latina in Latium. On the basis of both terms exceeding the average of the area, the considered zones are: the provinces of Imperia, Savona and La Spezia, in Liguria; the provinces of Livorno and Grosseto in Tuscany; the province of Latina in Latium (see table 2.3 and fig. 2.2).

It may be noted that the adoption of the latter criterion implies six provinces out of the 11 involved, excluding precisely the provinces in which employment opportunities out of the fishery sector are much more limited compared with other provinces. Considering the territorial distribution of the 11 provinces involved out of the 18 analyzed, the conviction that there are "zones highly dependent on fishery", distributed into "patches" across the whole area and across the individual administrative regions gets stronger. Finally, we are convinced that the application of the same criterion at a "municipal" level would further strengthen the idea of the existence of zones highly dependent on fishery distributed into patches across the whole area, across the individual administrative regions and across the individual provinces, thus resulting into a "continuum" on the whole area under examination.

2.4 CONCLUDING COMMENTS AND PROPOSALS

The identification of geographical zones which are "highly" dependent on fisheries and ancillary activities on the basis of the analysis of relative dependence (considered in section 2.1), can give an indication of the direct effects on the local economy, thus indicating the zones at immediate risk. The analysis using the SAM approach, not here reported, has demonstrated, on the other hand, that direct and indirect effects compensate each other, thus equalising relative dependence across individual areas and regions.

In general terms, a reduction in fishing activities in the Tyrrhenian regions in Italy would produce substantial socioeconomic effects, both direct and indirect. Their presence and the way in which they are induced, provides useful information for the refinement of policies aimed at compensating the negative effects under consideration. It is clear that these

policies must be altered according to whether they are intended to counteract direct or indirect effects.

In the case of direct effects, policies should be concentrated territorially, and aimed at supply. Territorial concentration is necessary because the direct reduction in incomes and employment will occur in coastal areas. The concentration on supply is important because it is necessary to identify alternative productive activities able to provide adequate incomes. The principal problem is not so much incomes, as that of transferring workers who, as members of fishing boats' crew, have acquired very specific traditions and working habits, to other forms of work with very different working rhythms and organisation. This is an extremely difficult problem, as has been shown by a study carried out by the New England Institute for Employment Policy in 1982 regarding the possibility of transferring the fishermen of the area to other activities, and by the experience of the various attempts that have been made in Italy over the last ten years to bring about such transfers.

As regards the indirect effects, on the other hand, their pervasive nature and the varied routes which they follow suggest that the appropriate action would be a policy aimed at sustaining the level of regional demand. Obviously, such policy could be coordinated with those aimed directly at the fisheries sector, however, without the need for a particular territorial concentration since it has been shown that the secondary effects have the peculiarity to be widely diffused amongst all the regions' activities.

It is important to remember that the demand for investment could play an important role in counteracting negative indirect effects. Thus, alongside a policy on supply hypothetically aimed at aiding the re-absorption of the labour force leaving the fishing sector, a policy encouraging the substitution of capital equipment would be useful. Unfortunately, however, such a policy will only be beneficial in regions which are able to satisfy this investment demand in significant measure. In the absence of this capability, the positive effects will be felt by different regions to those suffering the damage. Thus, in regions which do not produce a substantial quantity of capital goods, the only remaining alternative is a policy aimed at sustaining final demand.

ZONE	GENERAL FEATURES OF THE ZONE					NUMBER OF JOBS IN FISHERIES AND RELATED ACTIVITIES - units 1988			ADDED VALUE OF FISHERIES AND RELATED ACTIVITIES - Mio ECU 1989			RELATIVE DEPENDENCE			
	TOTAL POPULATION 000 '89	WORKING FORCE 000 '89	TOTAL NUMBER OF JOBS 000 '89	G.D.P.		FISHERMEN ONLY	OTHER JOBS	TOTAL	LANDINGS & FIRST HANDLING	OTHER ACTIVITIES (*)	TOTAL	IN TERMS OF JOBS %		IN ECONOMIC TERMS %	
				TOTAL Mio ECU	PER CAPITA Mio ECU							d=c/a	e	f	g=e+f
LIGURIA	1706	705	634	24462	14,339	2448	3148	5596	47,005	95,997	143,002	4	9 1/2	2	6
TOSCANA	3526	1508	1369	47802	13,557	3088	2672	5760	26,482	43,033	69,515	2 1/2	4	1 1/2	1 1/2
LAZIO	5100	2163	1889	70509	13,825	2227	2381	4608	78,121	131,030	209,151	1	2 1/2	1	3
CAMPANIA	5735	2230	1719	44542	7,767	5022	2928	7950	25,820	27,828	53,648	3	4 1/2	1 1/2	1
CALABRIA (**)	2111	834	610	14083	6,671	3839	535	4374	18,537	4,643	23,180	6 1/2	7	1 1/2	1 1/2
AREA I.1	18178	7440	6221	201398	11,079	16624	11664	28288	195,965	302,531	498,496	3	4 1/2	1	2 1/2
ITALIA	56836	23870	21004	691462	12,166	54450	37321	91771	1063,245	1238,687	2301,932	2 1/2	4 1/2	1 1/2	3 1/2

(*) Figures on added value of related activities in the table are estimated underlying hypotheses were that jobs in related activities produce an amount of gross added value against factor costs per capita, by administrative region, equal to the corresponding multiplier of regional added value as obtained by our processing of regional input-output tables (IREPA, 1992, A quasi SAM approach to Study Fisheries)

(**) Included Crotona coastal department

Source: I.R.E.P.A., I.S.T.A.T., TAGLIACARNE INSTITUTE

ZONE	GENERAL FEATURES OF THE ZONE					NUMBER OF JOBS IN FISHERIES AND RELATED ACTIVITIES - units 1988			ADDED VALUE OF FISHERIES AND RELATED ACTIVITIES - Mio ECU 1989			RELATIVE DEPENDENCE			
	TOTAL POPULATION 000 '89	WORKING FORCE 000 '89	TOTAL NUMBER OF JOBS 000 '89	G.D.P.		FISHERMEN ONLY	OTHER JOBS	TOTAL	LANDINGS & FIRST HANDLING	OTHER ACTIVITIES	TOTAL	IN TERMS OF JOBS %		IN ECONOMIC TERMS %	
				TOTAL Mio ECU	PER CAPITA Mio ECU							d=c/a	e	f	g=e+f
Imperia	221	82	73	2837	12,8	430	553	983	8,257	16,864	25,121	6	13 1/2	2	9
Savona	291	108	97	4001	13,7	769	989	1758	14,766	30,159	44,925	8	18	3 1/2	11
Genova	996	370	333	14577	14,6	818	1052	1870	15,707	32,080	47,787	2 1/2	5 1/2	1	3 1/2
La Spezia	234	87	78	3046	13,0	431	554	985	8,276	16,894	25,170	5 1/2	12 1/2	2 1/2	8 1/2
Massa C.	204	79	72	2151	10,5	14	12	26	0,120	0,210	0,330	1/2	1/2	0	0
Lucca	382	148	134	5020	13,1	598	517	1115	5,128	8,326	13,454	4 1/2	8 1/2	1	2 1/2
Pisa	387	150	136	5431	14,0	12	10	22	0,103	0,161	0,264	1/2	1/2	0	0
Livorno	343	133	121	4486	13,1	1736	1502	3238	14,888	24,190	39,078	14 1/2	27	3 1/2	8 1/2
Grosseto	220	85	77	2485	11,3	728	630	1358	6,243	10,146	16,389	9 1/2	17 1/2	2 1/2	6 1/2
Viterbo	277	102	89	3334	12,0	12	13	25	0,421	0,715	1,136	1/2	1/2	0	0
Roma	3772	1397	1220	53692	14,2	1115	1192	2307	39,113	65,598	104,711	1	2	1/2	2
Latina	469	173	151	6202	13,2	1100	1176	2276	38,587	64,717	103,304	7 1/2	15	6	16 1/2
Caserta	815	244	188	6233	7,6	140	82	222	0,720	0,770	1,490	1	1	0	0
Napoli	3124	936	721	24361	7,8	3243	1891	5134	16,673	17,972	34,645	4 1/2	7	1/2	1 1/2
Salerno	1062	318	245	8523	8,0	1639	956	2595	8,427	9,086	17,513	6 1/2	10 1/2	1	2
Cosenza	781	225	174	5289	6,8	140	19	159	0,676	0,165	0,841	1	1	0	0
Catanzaro	775	224	172	5080	6,6	537	75	612	2,593	0,651	3,244	3	3 1/2	1/2	1/2
Reggio Cal.	592	171	131	3712	6,3	1598	222	1820	7,716	1,927	2,643	12	14	2	2 1/2
Total of the 18 Provinces	14945	5032	4212	160460	11,03	15060	11445	26505	188,414	300,631	489,045	3 1/2	6 1/2	1	3
AREA I.1 26 Provinces	18178	7440	6221	201398	11,079	16624	11664	28288	195,965	302,531	498,496	2 1/2	4 1/2	1	2 1/2
ITALY	56836	23870	21004	691462	12,166	54450	37321	91771	1063,245	1238,687	2301,932	2 1/2	4 1/2	1 1/2	3 1/2

(*) The reported values refer to 18 coastal provinces alone, not to all of 26 provinces of the corresponding administrative regions, therefore total amounts of area I.1 do not correspond to the sum of columns. Work-force and job totals by province may be inconsistent with the regional total or zone total, due to a systematic defect in the ISTAT work-force survey sampling pattern.

Source: I.R.E.P.A., I.S.T.A.T., TAGLIACARNE INSTITUTE

ZONE	GENERAL FEATURES OF THE ZONE					NUMBER OF JOBS IN FISHERIES AND RELATED ACTIVITIES - units 1988			ADDED VALUE OF FISHERIES AND RELATED ACTIVITIES - Mio ECU 1989			RELATIVE DEPENDENCE			
	TOTAL POPULATION 000 '89	WORKING FORCE 000 '89	TOTAL NUMBER OF JOBS 000 '89	G.D.P.		FISHERMEN ONLY	OTHER JOBS	TOTAL	LANDINGS & FIRST HANDLING	OTHER ACTIVITIES	TOTAL	IN TERMS OF JOBS %		IN ECONOMIC TERMS %	
				TOTAL Mio ECU	PER CAPITA Mio ECU							d=c/a	e	f	g=e+f
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Savona	291	108	97	4001	13,7	769	989	1758	14,766	30,159	44,925	8	18	3 1/2	11
La Spezia	234	87	78	3046	13,0	431	554	985	8,276	16,894	25,170	5 1/2	12 1/2	2 1/2	8 1/2
Livorno	343	133	121	4486	13,1	1736	1502	3238	14,888	24,190	39,078	14 1/2	27	3 1/2	8 1/2
Grosseto	220	85	77	2485	11,3	728	630	1358	6,243	10,146	16,389	9 1/2	17 1/2	2 1/2	6 1/2
Latina	469	173	151	6202	13,2	1100	1176	2276	38,587	64,717	103,304	7 1/2	15	6	16 1/2

Source: I.R.E.P.A., I.S.T.A.T., TAGLIACARNE INSTITUTE

FIG. 2.1 ZONES DEPENDENT ON FISHERIES AND ANCILLARY ACTIVITIES BY ADMINISTRATIVE REGIONS AREA I.1

FIG. 2.1A ZONES DEPENDENT ON FISHERIES AND ANCILLARY ACTIVITIES IN TERMS OF JOBS BY ADMINISTRATIVE REGIONS



LI: LIGURIA CA: CAMPANIA CAL: CALABRIA

FIG. 2.1B ZONES DEPENDENT ON FISHERIES AND ANCILLARY ACTIVITIES IN ECONOMIC TERMS BY ADMINISTRATIVE REGIONS



LI: LIGURIA LA: LAZIO

FIG. 2.1C ZONES DEPENDENT ON FISHERIES AND ANCILLARY ACTIVITIES IN JOBS AND ECONOMIC TERMS BY ADMINISTRATIVE REGIONS



LI: LIGURIA CAL: CALABRIA

FIG. 2.2A ZONES DEPENDENT ON FISHERIES AND ANCILLARY ACTIVITIES IN TERMS OF JOBS BY COASTAL PROVINCES



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IM: IMPERIA; SV: SAVONA; SP: LA SPEZIA; LU: LUCCA;
LI: LIVORNO; GR: GROSSETTO; LT: LATINA; NA: NAPOLI; SA:
SALERNO; RC: REGGIO CALABRIA

FIG. 2.2B ZONES DEPENDENT ON FISHERIES AND ANCILLARY ACTIVITIES IN ECONOMIC TERMS BY COASTAL PROVINCES



IM: IMPERIA; SV: SAVONA; GE: GENOVA; SP: LA SPEZIA;
LI: LIVORNO; GR: GROSSETTO; LT: LATINA

FIG. 2.2C ZONES DEPENDENT ON FISHERIES AND ANCILLARY ACTIVITIES IN JOBS AND ECONOMIC TERMS BY COASTAL PROVINCES



IM: IMPERIA; SV: SAVONA; SP: LA SPEZIA; LI: LIVORNO;
GR: GROSSETTO; LT: LATINA

CHAPTER 3: ANALYSIS OF THE SOCIOECONOMIC IMPACT OF THE CFP

3.1 COMMUNITY POLICY ON FISHING

The CFP was initiated by (EEC) Rule no. 2141/70 and (EEC) Rule 2142/70. With these documents, a Community policy regarding fishing was laid out in terms of four main objectives, not all equally relevant for fishing in the Mediterranean. In fact, alongside structural and market policy which have been relevant (in the latter case partially) to Mediterranean countries, regulations have also been laid out regarding the management of internal and external resources which are entirely irrelevant to fishing in the Mediterranean.

In the early years, the emphasis on the regulation of markets had positive effects on the Italian market through control of supply or orientative prices. In any case, neither the instruments for market regulation, like the O.P., nor the organisational norms had a significant impact on the sector in Italy. Rather, in the early years, "structural policy for fisheries" encouraged a strengthening of the ocean fishing fleet and trawling.

The results achieved have been, in the long run, rather haphazard and the policy of strengthening the fleet has produced imbalances regarding its optimal organisation, as well as increasing the emargination of small scale fishing compared to Mediterranean fishing, that is to say, that part of the fleet which had access to Community subsidies and financing.

The subsequent development and expansion of the CFP, however, has produced levels of intervention which, in the context of the Community's structural policy, have included measures concerned not just with the fishing fleet, but also concerning the processing and commercialisation of fish products and fish farming.

As regards the Italian fishing fleet, the result has been the strengthening of the fleet which, however, has not been sufficient to allow adequate modernisation given the advanced age of much of the fleet. As regards fish farming, the effects have been relatively small due to the specialised nature of the sector in Italy. Indeed, the type of investment requested by Italian fish farmers up to now has been concentrated on highly capital-intensive systems with little impact on employment. The existence of other limiting factors has further prevented Italy from reaching rates of growth in production that other Mediterranean countries have achieved. An example of this is the absence of foreign capital investment in Italy which in other nearby countries has seen rapid increases. As regards the structural policy for the fish processing industry, from which Italy has gained benefit, it should be emphasised that the policy has allowed an expansion in the capacity of the industry which has allowed the sector to reduce Italy's dependence on foreign production of processed fish.

Market policy, directed towards the formation of organisations of producers, the regulation of prices (orientative prices and compensation), and the regulation of trade with

countries outside the EEC (tariffs, reference prices, compensating taxes), has had only a marginal impact on Italy which has used it only in specific cases. As regards CFP on resources (internal and external) the effects have been felt even less by Italy.

To summarise, the EEC's CFP, up until the mid-1980's has been concentrated on policies regarding the development of external agreements and regarding the North Sea and the countries fishing in it rather than the Mediterranean and Mediterranean countries of which Italy is one.

From 1983 on, the CFP has put a certain emphasis on problems of the management of internal resources and the (EEC) Rule 4042/86 followed by (EEC) Rule 3944/90 have made Community intervention regarding structural policy on the fishing fleet systematic and organised. Rules 355/77 and 4042/90 have organised structural policy on the fish processing and distribution industry. As regards the objectives of this policy and use Italy has made of it, much of the Community policy has been incorporated in National legislation and a number of initiatives are still in operation.

3.2 NATIONAL POLICY AND THE DEVELOPMENT OF THE SECTOR

In accordance with the CFP, the policy for the development of the sector in Italy found its first systematic organisation in the Law no. 41/82 and in the three year plans for fisheries and aquaculture which are the operative instruments of policy.

It is important to emphasise that an important re-orientation of the sector is underway, driven by administrative measures on the management of fisheries. In this case, the productive process should be understood as a combination of the social, economic, biological, industrial and financial phenomena capable of capturing the principal interdependencies and to promote conditions for harmonious development.

Regarding the new policy for the sector, it is worth drawing attention to the abandoning of a single overall target for the reduction in fishing intensity in favour of adapting the fleet to the availability of resources. This objective, in accordance with MAGP, is achieved through the setting of specific targets for each segment of the Italian fleet, that is, for each combination of geographical area, type of boat and fishing gear. The rationalisation and reallocation of fishing is based on the elimination of operational inefficiency within each homogeneous group of boats. The measures outlined tend to bring the management of inefficient groups of boats closer to more (technically and economically) efficient groups of boats through the regulation of fishing intensity.

The central instrument of the new system of regulation is the system of fish licenses introduced in 1982 and adopted as the basic criteria of the National Three-Year Plan. The construction of new boats and the withdrawal of old ones has followed a programme on the distribution of fishing intensity by geographical area and fishing gear so as to satisfy the overall requirements on the fleet's tonnage. Specific subsidies are given

to licensed boat owners for their withdrawal from fishing and their transfer to fish farming at sea. At the same time, taxes have been introduced on specific types of equipment to discourage particular types of fishing.

It is, however, the new financial policy which forms the crucial point of strategic planning. In fact, in contrast with the past, credit is provided on the basis of the priorities laid out in the Three-Year Plan and the level of intervention has been reduced and restricted to specific priorities.

3.3 THE RESULTS ACHIEVED

The adaptation of the capacity of the fleet to the availability of resources has been one of the principal aims of both the CFP and the Three Year Plans introduced up to now. The results achieved through the first Three-Year Plan (1983/86) were relatively modest, indeed, contrary to the original aims. In fact, by the end of the period there had been an increase in fishing capacity in terms of GRT and nominal KW and, at the same time, an increase in unused capacity.

The original lack of success may be attributed to the regulations of the previous period, and to the failure to use full the fishing licensing system. This deficiency was rectified with the introduction of the Second Plan (1987-91). The Second Plan was both wider in scope and more explicit in the intervention measures to introduce and succeeded in bringing about both a reduction in fishing intensity and the modernisation of the fleet, as well as other minor improvements. The tonnage and KW of the Italian fleet were, at the end of the period, reduced to a greater extent than was laid out in the MAGP. The new plans for a further reduction in Italian fishing intensity laid out in the programme adopted recently in the context of the MAGP will not be difficult to implement given the natural rate of withdrawal from fishing and the containment of fishing intensity in the various Italian fishing areas, and principally in the area under consideration in this study.

As regards the process of modernisation of the fleet over the period 1987-1991, thanks to the use of Rule 4028/76 around 390 modernisation projects regarding 6% of national tonnage have been implemented, exactly as laid out in the programme. With regard to boat building, around 120 new boats have been financed, accompanied by the scrapping of an equal number of old boats, and in this way, some progress has been made in the renewal of the fleet. There has, however, been a marked decline in employment in fisheries. This tendency will be even more marked in the next few years and consequently there will be a reduction in fishermen unprecedented in the long history of Italian fisheries.

CHAPTER 4 RECONVERSION ACTION UNDERTAKEN BY THE EEC

4.1 THE APPLICATION OF COMMUNITY RECONVERSION PROGRAMMES IN ITALY

RENAVAL (EEC Rule 2506/88): on the basis of the eligibility requirements for the programme, of the regions in the area under study, only Liguria was able to take advantage of the measures proposed for boat building. The fundamental criterion for access to the programme's funds is based on the relative dependence of the relevant area on boat building associated with the decline in employment. That is to say, the assessment of the social and economic importance to the local economy of boat building. In this way, situations of crisis or of potential crisis are identified and the programme aims at aiding in the provision of the conditions of economic efficiency, through action aimed both at rescuing the area from industrial deterioration and at the promotion and diffusion of technological innovation, technical assistance and support services for small and medium-sized firms. The underlying motivation is the safeguarding of local conditions. It is envisaged that the programme will be continued until 1993. Thus, it is impossible at this stage to offer an evaluation of its effects.

PILOT PLAN FOR ACTION (PROGRAMME OBJECTIVE 2) (EEC Rule 2052/88): The Community's "structural funds" provide for support measures for the reconversion of production of areas hit by the industrial recession. In contrast to the programme discussed above (Renaval), structural fund intervention is aimed at coping with, and compensating for, the decline of industrial areas. In this case, the purpose is not the safeguarding of economic activity which is going through a crisis, but the encouragement of a range of economic activities which can aid the revitalisation of an area hit by structural crisis. The credit provided for small and medium-sized firms is orientated towards promoting the diffusion of technology, the setting-up of new firms, the creation of employment and the safeguarding of the environment. The geographical areas identified for aid in the area under study are: Genova (in Liguria), Massa Carrara, Prato, Livorno (in Tuscany), and Frosinone (in Latium). The programme is still in operation at this time and so no definitive evaluation is possible.

RESIDER (EEC Rule 328/88): conceived originally for the reconversion of steel production, this form of intervention takes into account only those geographical areas highly dependent on this activity. For the area under consideration in this study, the regions of Liguria and Tuscany have been considered for action by the Commission. The strategy of intervention may be summarised in terms of capital grants to small and medium-sized firms in order to set-up new productive units, rationalisation of productive processes of already operative plants, expansion of existing capacity through the acquisition of new machinery, and the development and expansion of physical structures. Furthermore, it provides aid for assistance services necessary to

sustain the level of production through subsidising market research, research into new products, and studies on productive cycles and means to raise productivity (automation). The support was provided from June 1991 on, and the programme continues to operate.

LEADER (EEC Rule 4253/88): conceived to support economic activity and employment in small and medium-sized establishments in agriculture following the general objectives of the regional fund. These interventions, very varied in nature, favour the speedy implementation of individual projects, able to influence directly and indirectly the creation of new economic activity in the relevant geographical area. In essence, the programme envisages the creation of new cycles of local investment favouring improvements in employment opportunities. In Italy, 28 projects costing 80 million ECU have been approved.

4.2 POSSIBLE ANALOGIES WITH, AND APPLICATIONS TO, THE FISHERIES SECTOR

Community programmes concerned with the reconversion of production are aimed at raising the efficiency of capital and labour, through the creation of new investment in areas affected by structural crises at the sectoral or regional level. The target variable employed by this measure of political economy remains the cost of money, assuming that crucial factor provoking the crisis is the lack of alternative investment in the sector. The objectives established are to be reached through the encouragement of autonomous investment. It is assumed to be certain that a reduction in the cost of money will autonomously generate investment.

Renaval and Resider are sectoral programmes directed towards specific geographical areas where their socio-economic situation of the area depends heavily on the particular activity. Both aim at the re-establishment of the conditions for efficiency in situations of sectoral crises and at the safeguarding of local conditions. They are, overall, programmes for intervention aimed at the supply of products. Analogies with the fishing sector are immediately obvious, in as much as they represent action aimed at individual sectors and at specific geographical areas highly dependent on that sector. One may point to the areas where fishing is fundamental in its direct effects on employment and investment (see chapter 2). However, the specific characteristics of fishing and its products, taking into consideration the effective degree of interaction with other branches of economic activity point to a greater affinity with the Resider programme, which, going beyond the rescue of the conditions for efficiency considers the possibility of sectoral growth.

Objective 2 and Leader are regional programmes aimed at the construction of new productive assets, designed to revitalise both industrial and rural areas. The former is concerned with the overcoming the situation of crisis whilst the latter is concerned with the generation of development, both of them operating through the creation of new activity. Fundamentally, they are

both programmes acting on demand, or, in other words, encouraging the driving force of production and the distribution of wealth. Also in this case, the analogies are immediate: where indirect effects are relatively important with respect to areas in which these are less so (see chapter 2), the measures envisaged by the two programmes are ideally suited to fisheries.

With regard to the programmes discussed above, for application in the fisheries sector, the conditions for eligibility need to be re-examined as does the control and co-ordination of investment programmes.

However, certain specific characteristics of the production of fishing products broaden the relevant sectors. For example, one might point to aquaculture, with its need for the adaption of the physical environment (whether at sea, in lakes or on land), boat building related to the fishing fleet in connection with technological research, port activities and the related infrastructure, tourist activities, commercial activities (fish markets, means of transport, viability of roads etc.,) and technological, economic and social research.

CHAPTER 5: CONCLUSIONS EMPLOYMENT OPPORTUNITIES IN FISHING AREAS AND THE IDENTIFICATION OF SUPPORTING MEASURES

The adjustment of fishing capacity to the available resources is the basic principle underlying the national plans for fisheries. Given the different structural characteristics and the different degrees of exploitation of these resources, policy aimed at achieving the objective in question must necessarily be pursued through a process of re-allocation of fishing across fishing gears and geographical areas. If a request for a reduction in the capacity of the fishing fleet is hypothesized, this could be achieved through the scrapping of boats and restrictions on the number of days fishing allowed. If implemented, the socio-economic consequences will be limited to the myriad of fishing villages (see chapter 1).

Notwithstanding this, support measures should be introduced to allow an increase in the levels of efficiency and professional skills, whether the change envisaged is large or small. In fact, under the hypothesis that a restrictive policy is introduced or, alternatively, that a national programme is introduced aimed at improving economic efficiency of human and physical resources, institutional support is necessary.

In any event, the process of the reallocation of fishing capacity would imply direct consequences for employment both in the fishing sector and in those related to it. The measurement of these effects, through the evaluation of interdependencies at the level of the sector, the region and/or larger geographical area, determines the size of the labour force affected by the process of reconversion and the sector's prospects. In this specific case, induced employment is substantial (much greater than was expected) and comprises a myriad of activities and firms. It has been found that induced employment reflects the characteristic pervasiveness of the linkages and differs according to the local or regional occupational structure. Measures aimed at counteracting greater or lesser structural weaknesses should be directed towards policies concerned with the encouragement of demand and supply, respectively.

Even if geographical zones are identified that are "directly" dependent on fisheries at a local level (see section 2.1) it will be the numerous localities which will feel the effects of restrictive policies towards fisheries. To this may be added that employment opportunities are restricted, firstly, at a level of the individual comune (generally coinciding with local labour markets), and secondly, at the level of the individual sea provinces (generally coinciding with Italian functional labour systems). Furthermore, the presence of widespread indirect regional effects suggest that one needs to take care not to give too much importance to limited measures of provincial and/regional relative dependence on fisheries. Indirect effects on production, on incomes and regional value-added, eliminate differences between individual regions in terms of the relative dependence upon fishing. In this sense, it is possible to assert that there is a homogeneity in the relative dependence of individual areas.

In terms of the socio-economic impact of the CFP (see

chapter 3), evaluation of the size and the type of employment lost at the level of the whole area, regions and provinces, associated with the measurement of intersectoral linkages with fishing, would suggest an investment policy directed towards a small change in the structure of intermediate and final consumption in other sectors, such as to absorb the expected reduction in the work-force employed in fisheries and ancillary activities.

The intersectoral linkages also give an indication of the the probability of success in absorbing excess workers from fisheries. Employment opportunities are limited to certain specific categories of economic activity, namely, naval carpentry, textiles, the provision of oil-based products, the supply of mechanical and electronic services, machining, repairing, food products and, finally commercial outlets and lodging.

Experience has shown that there is a recurrent and natural transfer of activities towards other sectors under particular conditions (for example, towards the management and administration of activities, towards tourism, towards the commercialisation of products, towards the commercial supply of navigation equipment, towards repairing boats etc.). This phenomenon confirms the validity of the intersectoral linkages found above and indicates the natural path to which the absorption of employment should be directed. However, any direct measure must be integrated with the additional institutional guarantee and the possibility of access to credit for new organisational forms of management and services.

It should be emphasised that countless obstacles impede instantaneous action. Firstly, and most importantly, the stumbling-block of professional skills. The particular skills associated with, and characteristics of, fishing is such as to constitute an extreme job specialisation. Each employed person undertakes individual and specific operational tasks concerned with navigation, the catching of fish etc.. Supplementary skills have a small role in fishing.

Thus, the importance of creating employment opportunities is confirmed with the necessity of overcoming the problem of professional qualifications, through the certification of experience already gained or through brief requalification programmes. Furthermore, it is of fundamental importance that the income obtainable from the alternative occupation is equal or greater to that earned at sea, otherwise any reallocation programme is doomed to failure from the outset.

Quite another approach needs to be adopted in areas in which the direct effects on employment are important. From the point of view of supply, the consolidation of the productive fabric must be able to count on the creation of new activities aimed principally at restoring the environment of in coastal areas, at the infrastructure necessary for the activity and at control and monitoring services for the activity. Countless opportunities offer themselves under this heading, for example, the encouragement of fish farming at sea; building work to improve port structures; boat building and repairs; centres for the supply of nautical equipment; and, finally, include work in

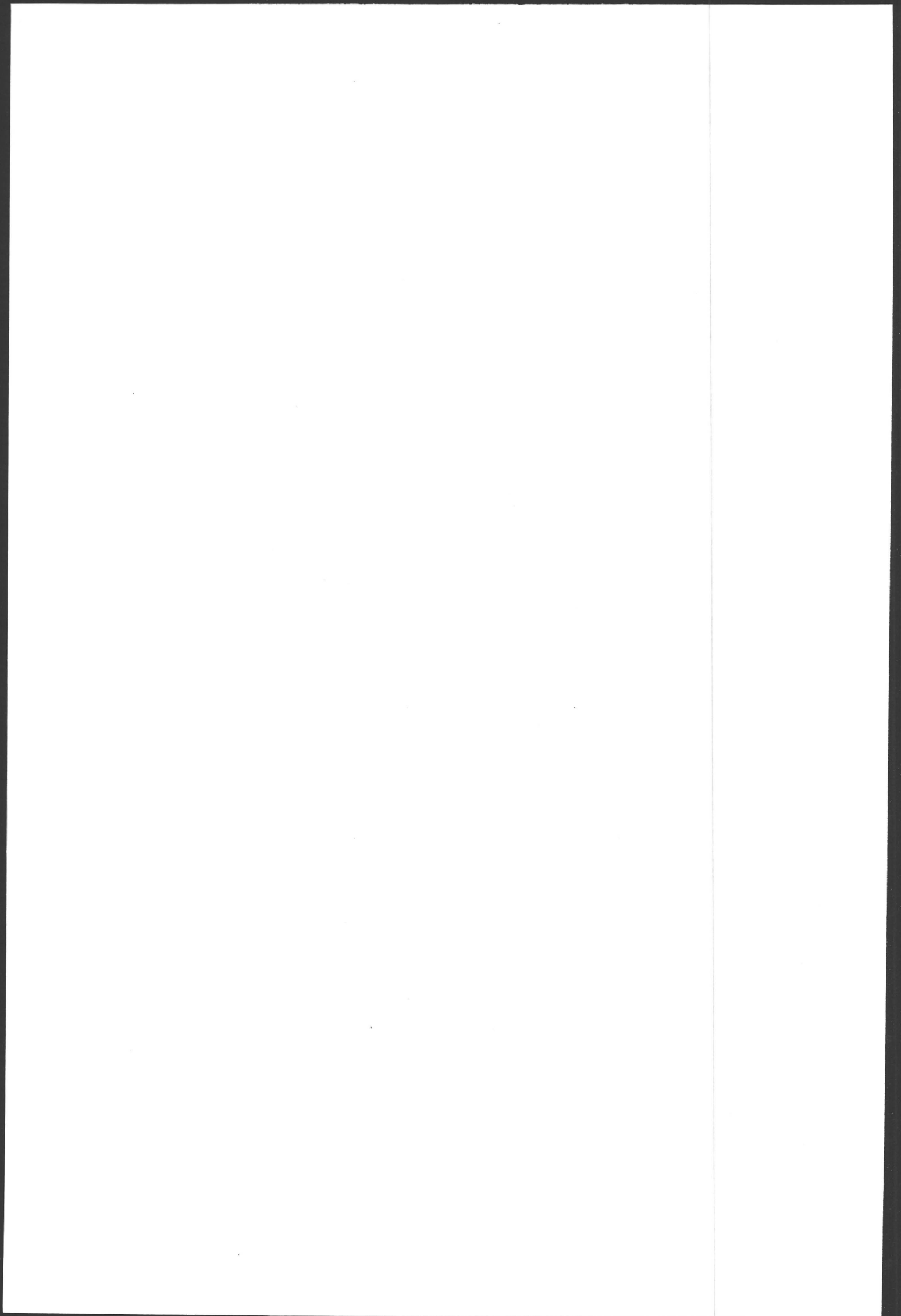
transport sectors on land or at sea and in the control of fishing activities themselves.

As regards reconversion programmes similar to those already approved for application in other sectors (see chapter 4), the need for these to be a combination of the above cited action should be stressed, aimed at reinforcing the productive fabric on both the demand-side and the supply-side.

It remains just to emphasise that any programme aimed at safeguarding employment in the fisheries sector in the area under study, and more generally, in Italy, must be conceived not just as a programme for the individual sector or geographical area, but must be implemented as an intersectoral programme.

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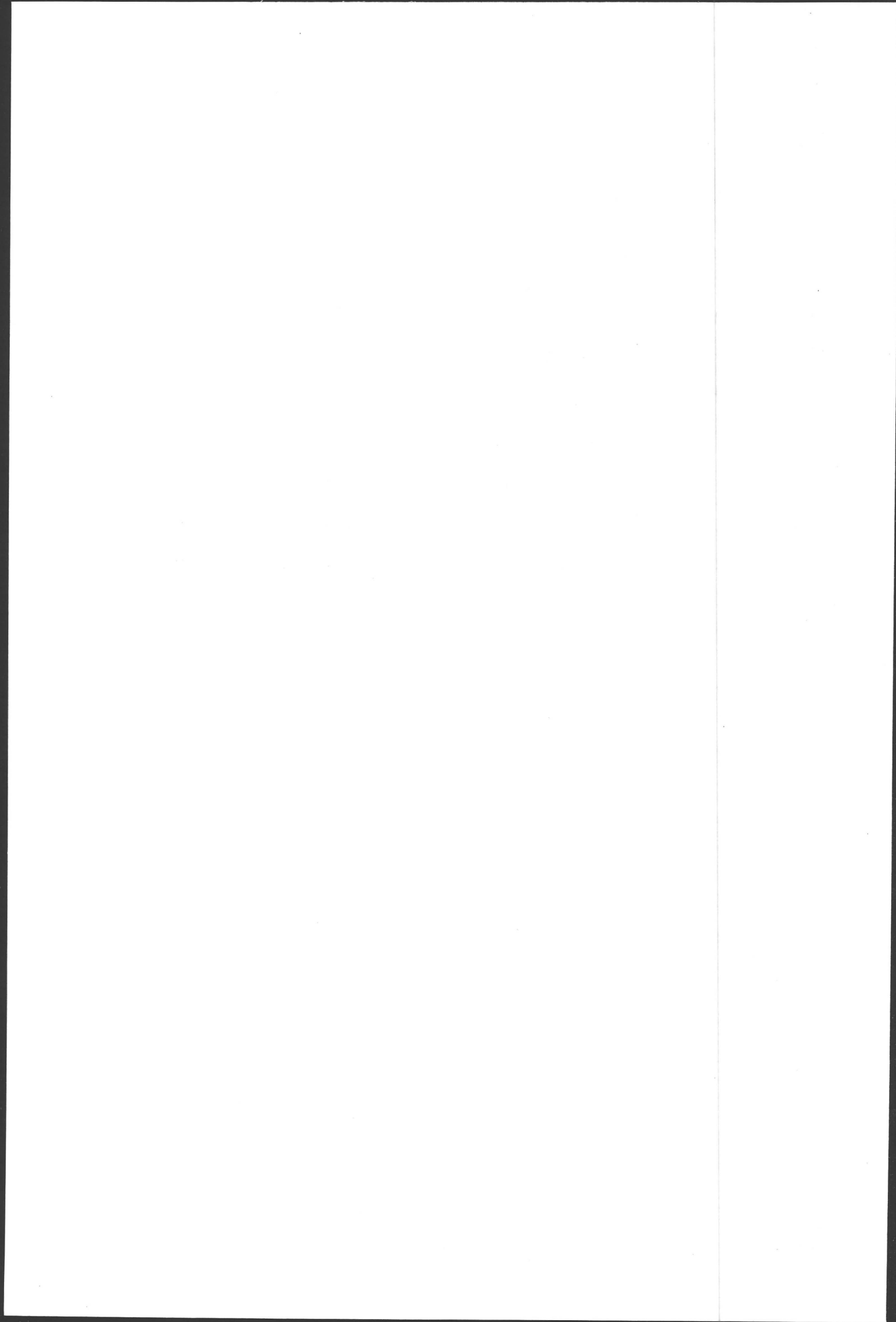
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APPENDIX 1

BRANCHES OF ACTIVITIES ECONOMICS IN THE INPUT-OUTPUT REGIONAL
MATRIX

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- 1 AGRICULTURE AND FORESTRY PRODUCTS
 - 2 FUEL AND POWER PRODUCTS
 - 3 FERROUS AND NON-FERROUS ORES AND METALS
 - 4 NON-METALLIC MINERALS AND MINERAL PRODUCTS
 - 5 CHEMICAL AND PHARMACEUTICAL PRODUCTS
 - 6 METALS PRODUCTS EXCLUDING MACHINERY AND MEANS
OF TRANSPORT
 - 7 MEANS OF TRANSPORT
 - 8 FOOD DRINKS AND TOBACCO
 - 9 TEXTILES AND CLOTHING, LEATHER, FOOTWEAR
 - 10 PAPER, PAPER PRODUCTS, PRINTING AND PUBLISHING
 - 11 RUBBER AND PLASTIC PRODUCTS
 - 12 BUILDING
 - 13 TRADE, LODGING AND CATERING
 - 14 TRANSPORTATION AND COMMUNICATIONS
 - 15 BANKING AND INSURANCE
 - 16 OTHER MARKET SERVICES
 - 17 NON-MARKET SERVICES
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