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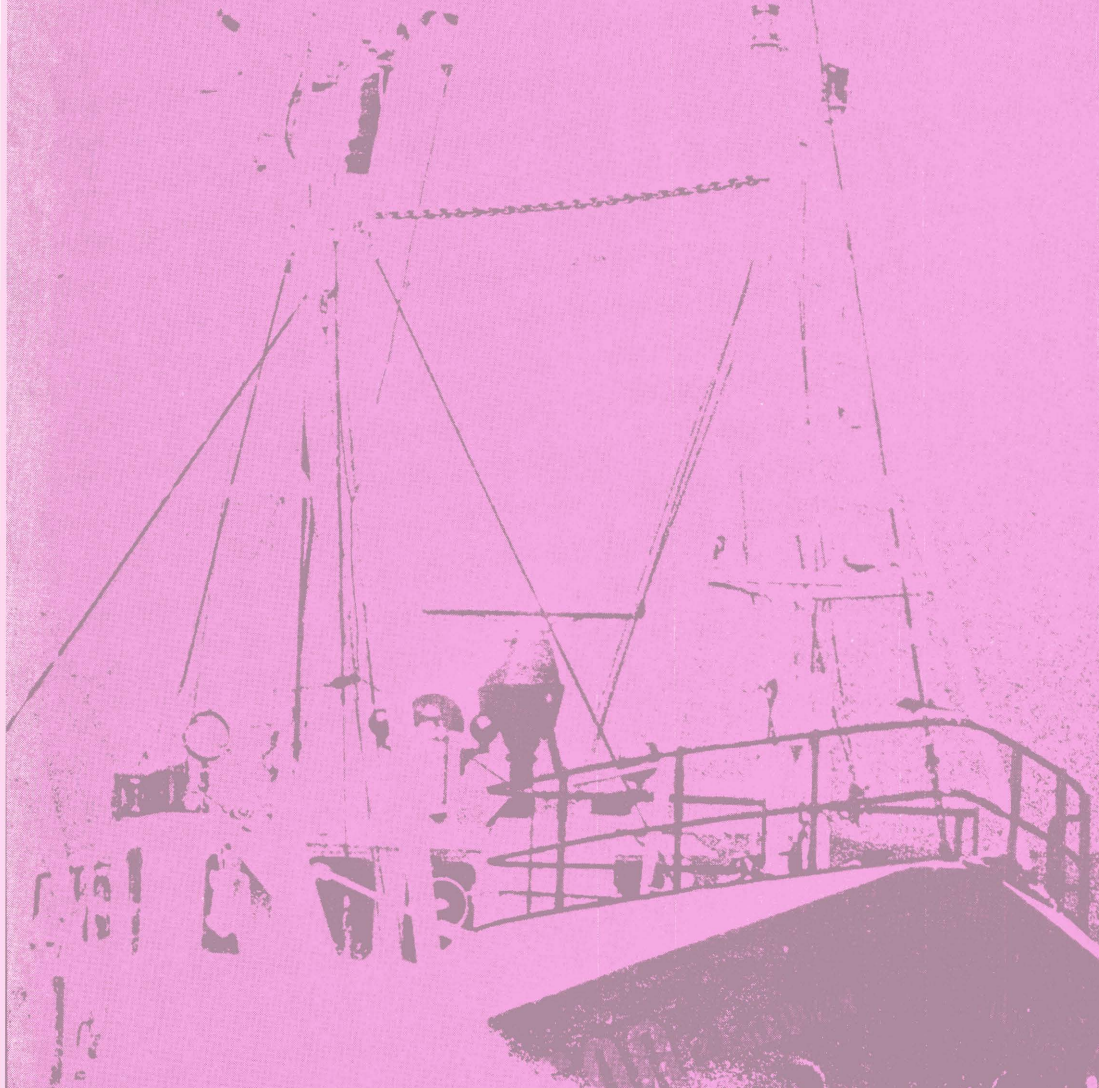

The regional impact of the EEC fisheries policy

The economic and social situation and outlook for the fisheries sector in certain regions of the Community:

CAMPANIA - CALABRIA

CEE VI/61

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08.XIV.80

COMMISSION OF THE EUROPEAN
COMMUNITIES

DIRECTORATE GENERAL FOR FISHERIES

Directorate B: Market and structure

Structural Policy Division

OUTLINE CONTENTS

PREFACE

This report was undertaken as part of the Commission of the European Communities Directorate-General for Fisheries research programme.

The research for the report was carried out by the *Istituto Nazionale di Economia Agraria* (I.N.E.A.), Rome.

To carry out the research, a work group was formed whose members were Mr. Giulio Adilardi of I.N.E.A., Professor Giovanni Bombace of the National Research Council, Professor Carlo Cupo of the University of Salerno, Mr. Alfredo Luciano of the Ministry of Merchant Shipping, Mr. Tommaso Pedicini of ISTAT, Professor Carmelo Schifani of the University of Palermo and Mr. Michelangelo Tricarico of Film CGIL.

The report is by Professor Carlo Cupo, Director of the I.N.E.A. *Osservatorio di Economia Agraria per la Campania, Calabria e Molise.*

Professor Giovanni Bombaci, Director of the National Research Council's fishery technology laboratory, together with Professor Silvano Riggio, contributed on the subject of existing and potential resources.

The Structural policy Division of the Directorate-General for Fisheries took part in the research, as did the Directorate-General for Regional Policy, Studies Division.

Assistance was also given by:

the *Istituto Centrale di Statistica* (ISTAT);
the Italian Ministry of Merchant Shipping.

This report does not necessarily reflect the views of the Commission of the European Communities, nor does it in any way anticipate the Commission's future attitude to the subject.

INTRODUCTION

The report that follows is an analysis of the fishing industry in certain regions of Italy.

Its purpose is to describe the organizational structure of the industry in the regions surveyed, highlighting the problems that arise in connection with resources, production, the fishing fleet, organization of work, fish marketing and processing, port and shipyard facilities and vocational training, so that it will be possible to specify the objectives that should be pursued in the light of EEC policy and propose action in the fields of production, structure, organization, finance, legislation and promotion.

A preliminary point that should be made is that research on the fishing industry in Italy is sparse and fragmentary.

A factor that should be borne in mind is that catch statistics are under-estimated at source by the local bodies responsible for their collection. The situation in this respect is unsatisfactory in some other countries as well, but in Italy the difficulty is aggravated by the facts that fishing is very widely dispersed in a large number of ports and docks and that the markets do not operate efficiently, so that only a low percentage of the actual catch goes through this channel.

The statistics are thoroughly investigated by Italy's central statistical body, the Istituto Centrale di Statistica (ISTAT), when assessing the "creation of assets" at national level, and it adds to the figures to allow for the shortfall. This means that there may be divergences from the actual situation at the territorial level.

The result is that the quality of our information on the main features of the fishing industry is too low. The position is aggravated by the difficulty of evaluating the resources, as is essential before a rational fishing policy for Italy can be drawn up.

Subject to these reservations, based on official statistics production by Italy's maritime fishing industry over the five year period from 1973 to 1977 appears to have been about 367,000 tonnes a year, the trend falling in the case of fish and rising in the case of crustaceans.

Maritime fishing industry production (tonnes)

	Fish				Molluscs		Crus-taceans	Total
	Anchovy, sardine, mackerel	Tuna	Other fish	Total	Total	Cuttle-fish, octopus, squid		
1973	106,560	1,640	179,590	287,790	57,560	23,170	18,790	364,040
1974	123,040	2,550	171,590	297,180	71,370	25,320	18,890	387,440
1975	95,200	4,170	157,990	257,360	89,630	24,820	19,590	366,580
1976	93,360	3,500	169,260	266,120	92,630	23,540	19,830	378,580
1977	84,220	2,370	164,380	250,970	66,380	22,750	20,640	337,990

Source: ISTAT - Annuario statistico italiano, 1978, Rome.

When output is broken down according to region, the leader is Sicily, followed in order by Emilia-Romagna, Apulia, the Marches, Lazio, Veneto, Campania, Tuscany and the Abruzzi with an overall annual catch of 10,000 tonnes.

In a breakdown of output by coastal area, on the other hand, the Adriatic accounts for approximately 51% of production, the Tyrrhenian coast for about 21%, the Sicilian coast 18%, the Ionian Sea 4% and the Sardinian and Ligurian coasts 3% each.

During the five year period in question, a steady increase in the number, gross tonnage and engine power of motor vessels was recorded, combined with a reduction in the number of non-powered boats.

Fishing vessels (at 1 January)

	Engine-powered craft						Sailing and rowing boats	
	Trawlers			Motor boats				
	no.	g.r.t.	HP	no.	g.r.t.	HP	no.	g.r.t.
1973	4,206	201,173	701,995	16,278	51,705	338,726	26,195	33,135
1974	4,213	202,990	716,356	16,531	55,360	364,247	25,332	32,147
1975	4,230	206,356	740,654	16,653	56,420	375,408	24,223	30,893
1976	4,308	210,613	771,438	16,919	58,962	395,549	22,850	31,035
1977	4,335	211,051	784,958	17,100	60,083	410,773	22,388	28.036

Source: ISTAT - Annuario, op. cit.

As of 1 January 1977, the Italian fishing fleet was reported as consisting of 21,435 motor vessels with gross tonnage 271,138 t. and 1,195,731 horse power, and 22,388 sailing or rowing boats, gross tonnage 28,036 t.

According to the breakdown of the fishing fleet by coastal area, the Adriatic accounted for 29% of the number of motor vessels, 40% of gross tonnage and 38% of engine power; the Sicilian coast 27% in number, 26% in tonnage and 24% in engine power; the Tyrrhenian accounted for 26% in number, 20% in tonnage and 26% in power; while the Ligurian, Sardinian and Ionian coastal areas accounted for the balance of 18% in number, 14% in tonnage and 12% in power.

According to ISTAT estimates, the Italian fishing industry's gross saleable output at current prices was Lit.393,000 million in 1977, intermediate consumption Lit.135,000 million and value added of Lit.258,000 million.

Value added by fish at market prices ('000 million lire)

Year	Saleable output	Intermediate consumption	Added value
1973	186	54	132
1974	233	84	149
1975	272	94	178
1976	331	120	211
1977	393	135	258

At constant prices (1970), it appears that net output reached its peak in 1974 at Lit.115,000 million, falling to Lit.100,000 million by 1977.

In the regional breakdown of saleable output and value added, the leader is Sicily, followed by Lazio, Apulia, the Marches and Veneto.

Fishing makes only a small contribution to the national economy as a whole, its net output being barely 0.15% of the gross domestic product and slightly under 2% of the net output arising from agriculture, hunting and fishing.

Nevertheless, fishing is concentrated in specific regions and in the coastal areas of those regions, so that it may be of substantial importance to the local economy. If we relate the net output produced by fishing to the value added by agriculture, region by region, the percentage is over 4% in Lazio, the Marches and Sicily and over 3% in Liguria and Sardinia.

This report covers three regions in Southern Italy: Sicily, Campania and Calabria. The fishing industry is organized differently in each region and each one faces a different set of problems, as will be described in the regional analysis.

The report on each region is set out along similar lines. In each case, a foreword defines the role of fishing in the region and describes the limits of the survey. Part one discusses recent developments in the organizational structure, while part two takes up the points outlined in the analysis and highlights the problems. In the third part, an attempt is made to specify the objectives that should be pursued and propose the measures that are needed.

FOREWORD

Over the three year period from 1975 to 1977, there was a 45.4% growth in the value added by fishing in Italy, which rose from approximately Lit.177,600 million to Lit.258,200 million, although growth in the mainland portion of the Mezzogiorno was slightly lower (+ 42.3%). By the end of the period, that area of the South of Italy accounted for 48.8% of Italy's net output from fishing, a 1.0 point fall from the level of 49.8% at the beginning of the period.

The trend was not uniform in all of the regions into which the South is divided. In Campania, for example, there was a 104.2% rise in the value added by fishing (from Lit.4,400 million to Lit.9,000 million), far outstripping growth elsewhere in Italy and the Mezzogiorno. In Calabria the picture was altogether different, with a 43.8% growth rate (from approximately Lit.3,500 million to Lit.5,000 million). In other words, the contribution made by these regions towards growth in net output from fishing was considerably higher in Campania (rising from 5.0% to 7.2%) and more or less stationary in Calabria (3.9%), so that their combined contributions now amount to slightly more than 11%.

If, on the other hand, a comparison is made between the figures translated into 1970-level constant prices, the trends that emerge are rather different: value added in Italy as a whole apparently fell by 7.6%, while the decrease in the Mezzogiorno was slightly lower (- 6.7%), even less so in Calabria (- 2.4%), while there was actually a 36.9% increase in Campania. In essence, then, the Mezzogiorno accounted for a slightly higher proportion of Italy's net output (rising from 49.5% to 50.0%), with Calabria and Campania alone increasing their combined percentage of the whole from 9.1% to 11.6%.

It is very likely that the reason for the divergences between the trends expressed in current prices and in constant prices lies in the overall reduction in fish landings or in their lower quality.
In the two regions under consideration, on the other hand, the trends in the Mezzogiorno and in Italy as a whole have been reversed. In Calabria, the counter-trend has been less marked, but in Campania the more buoyant increase in net output in terms of current prices and the significant increase in net output in terms of constant prices point to the conclusion that there has been a real increase in the value of the catch in those regions during the three year period under review.

In Campania and Calabria, the fishing industry accounts for a negligible portion of incomes in the primary sector (agriculture, forestry and fishing) and of value added as a whole: 0.4% and 0.06% respectively in the case of Campania, and 0.7% and 0.1% in the case of Calabria. Nevertheless, their fishing industry is far more significant than might appear from its contribution to the economy, since it provides jobs and an income for a substantial portion of the coastal population in those areas where most fishing is concentrated.

Table 1 - Fishing industry production, 1975-77

	1975		1976		1977	
	Lit. million	%	Lit. million	%	Lit. million	%
	a. Campania					
Gross saleable output	9 541	100.0	16 637	100.0		100.0
Intermediate consumption	5 095	53.4	7 183	43.2		
Value added	4 446	46.6	9 454	56.8	9 032	
	b. Calabria					
Gross saleable output	5 094	100.0	6 464	100.0		100.0
Intermediate consumption	1 620	31.8	2 131	33.0		
Value added	3 474	68.2	4 333	67.0	4 978	

Table 2 - Fish landings: quantity and value added, 1975-77

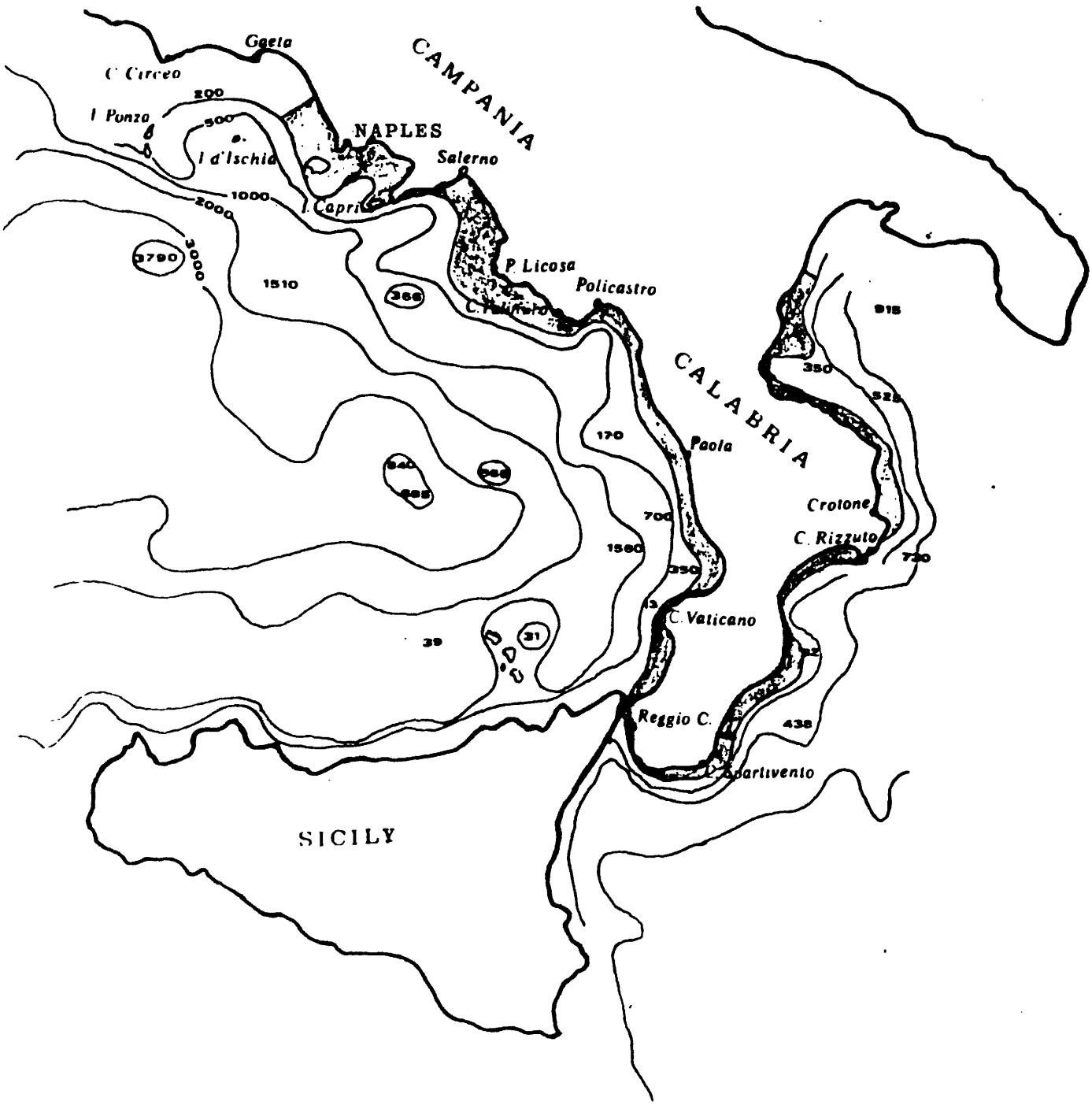
	Campania	Calabria
	a. Tonnes	
1975	11 154	4 665
1976	15 846	5 406
1977	18 008	5 903
	b. Value (Lit.1000/current prices)	
1975	4 446	3 474
1976	9 454	4 333
1977	9 032	4 978
	c. Value (Lit.1000/1970 prices)	
1975	2 745	2 047
1976	5 425	2 374
1977	3 757	1 997

Table 3 - Role of fishing in Campanian and Calabrian provinces (1974)

PROVINCE	GROSS DOMESTIC PRODUCT AT FACTOR COST (Lit.m)						Percentages	
	Fishing		Agriculture		Private sector		Fishing as % of agriculture	Fishing as % of private sector
	Val	%	Val	%	Val	%		
Avellino	1	..	77 264	8,9	260 821	5.3	..	..
Benevento	2	..	93 431	10.8	234 518	4.8	..	..
Caserta	184	4.0	218 616	25.2	676 005	13,9	0,8	0,3
Naples	2 692	59.0	267 723	30,9	2.776 352	56.9	1.0	0,1
Salerno	1 687	37.0	209 536	24,2	928 869	19,1	0.8	0.2
CAMPANIA	4 566	100.0	866 570	100.0	4 376 566	100.0	0 5	0,1
Catanzaro	910	23.1	131 245	35,7	576 665	38,0	0.7	0.1
Cosenza	1 511	38.4	104 311	28,4	481 666	31.8	1.4	0.3
Reggio Calabria	1 514	38,5	131 686	35.9	458 653	30.2	1,1	0.3
CALABRIA	3 935	100.0	367 242	100.0	1 516 984	100.0	1,1	0.2
CALABRIA/CAMPANIA	8 501	-	1 233 812	-	6 393 550	-	0.7	0.1
Mezzogiorno mainland	30 845	-	2 586 502	-	12 253 407	-	1.2	0.2
ITALY	148 500	-	8 221 500	-	77 483 000	-	1,8	0.2

Source: A. Pompei - Il reddito prodotto nelle provincie italiane nel 1974, Sintesi Economica, n 1 - 2, 1976

ISOMETRIC DEPTH CHART



PART 1

RECENT DEVELOPMENTS IN THE STRUCTURAL ORGANIZATION OF THE FISHING INDUSTRY

1. PRODUCTION

1.1. Fishing Areas

In the regions of Campania and Calabria, the areas fished comprise a coastal strip which, although varying in size, is fairly narrow on the whole as the continental shelf does not extend very far.

The width of the area used as fishing grounds depends on the type of fishing carried out there and the size of the fishing vessels. In general terms, the inshore fishing area extends about three miles from the coast. It is fished on a small, non-industrial, scale from rowing boats and motor boats with low engine power or with gill nets. The area three to twenty miles offshore is fished from larger motor boats and most of the engine-powered fishing vessels, usually equipped with trawling gear. Fishing with ring nets or with drifting trammel nets is carried out both within and beyond this 20-mile limit, depending on the season and the type of catch sought.

In addition to the statutory restrictions on fishing (trawling beyond the three-mile limit, etc. - see Law 963 governing fishing at sea and the enforcing regulations), there are limitations on fishing in areas of heavy maritime traffic (such as the Bay of Naples and the Straits of Messina) and a ban on all fishing in the area between Punta Licosa and Punta Tresino (Bay of Salerno and the Castellabate marine conservation area).

To give an idea of the size of the fishing grounds, calculations have been made of the area fished by the two main fishing methods: small-scale non-industrial fishing (within the three-mile limit) and trawling (from the three-mile limit to an isometric depth of 200 m and beyond).

The inshore fishing area off Campania stretching three miles from the shoreline, including the islands, covers about 600 square miles. The area extending outwards from the three-mile limit to a depth of 200 isobathic m covers 700 square miles.

With its very long coastline, Calabria's fishing area covers at least 1,100 square miles within the three-mile limit. The continental shelf, on the other hand, is narrow and the area between the three-mile limit and a 200 metre depth is no more than 600 square miles.

The depth chart on page 5 shows the continental shelf areas (to within a limit of 200 m) for the two regions under discussion.

1.2 Quantity and composition of catch

Over the past decade there has been a considerable increase (+ 54.1%) in the aggregate catch off the shores of Campania, while there has been a marked decline (- 17.8%) in landings off Calabria. According to ISTAT - Italy's central statistical agency, "Istituto Centrale di Statistica" - Campania's landings in 1977 were estimated at 18,008 tonnes. The main group of species caught in Campanian waters was the "fatty fish" (such as sardine, anchovy and mackerel), which accounted for 46.4% of the catch, compared with 38.4% "other fish". In Calabria, where landings were estimated at 5,903 tonnes, "other fish" accounted for 50.4% of the catch, "fatty fish" for 25.5%.

Of the individual species, Campania's largest catches were: anchovy (81.0% of its "fatty fish"); bream (16.0%), cod (11.0%) and swordfish (9.5%) in the "other fish" category"; octopus (31.4%) in the mollusc category; and crayfish (26.5%) among the crustaceans.

In Calabria the percentages were slightly different: anchovy accounted for only 45.0% of the "fatty fish" caught, while red mullet made up a substantial proportion (8.2%) of "other fish". A large proportion of the crustaceans fished was in the form of langouste and lobster (41.9%).

1.3 Seasonal distribution of catch

The volume of landings obviously depends on sea conditions, something that is particularly true of Campania and Calabria, both because of the types of fishing carried out in these areas and because of the special characteristics of their fishing fleets. The months in which landings are smallest are January and February; June, July and August are those in which most fish is caught.

The trends for 1968, 1972, 1976 and 1977 shown in Appendix 2 give some idea of the differences between production levels in the low and high fishing seasons and the variations between one year and another.

1.4 Size and organization of fishing units

Generally speaking, fishing concerns are categorized according to the number of their vessels. Apart from the main characteristic of tonnage, it is the type of vessels which is indicative of the way in which such units are run.

According to official data for 1977, in the regions of Campania and Calabria there were about 3,780 fishing concerns operating motor boats of up to 20 g.r.t. and about 230 concerns operating motor boats and engin-powered fishing vessels, equipped for trawling or ring-net fishing, with tonnage of 20 g.r.t. or over.

Both types could fairly be described as family businesses, as in most cases the joint owners and the crews are drawn from the members of a single family. The running of these concerns is based on what is known as the *contratto alla parte*, or "share contract".

It could be said that as a general rule a share contract provides a minimum guaranteed wage for all members of the crew plus a share of the takings in proportion to each man's duties and responsibilities, paid out when the return is highest.

When considering the financial aspects of running a trawler on a share contract basis, due note should be taken of the accounting vocabulary used:

A)	THE GROSS *(MONTE)*	the gross value of the catch sold.
B)	DEDUCTION FROM THE GROSS *(DETRAZIONE DAL MONTE)*	the amount deducted from the gross for the cost of food, ice, radio-telephone rental, fish boxes, net repairs, stationery and sundries.
C)	THE NET *(NETTO)*	the amount remaining after the deduction described in B) above.

The net is divided up according to a system of "shares" ("*poundage*" in English usage). A "share" is one-eighteenth part of the net in the case of vessels fishing in middle waters, or one-twentieth part in the case of local and inshore motor fishing vessels.

Fishing is classified as "distant water", "middle water" or "local or inshore" according to the engine power of the vessels concerned, the fishing periods - i.e. length of trips - or the fishing grounds.

Distant water fishing, for instance, may be described as fishing by vessels with engine power of over 200 HP that stay out for at least 20 days, sometimes a month; middle water fishing is carried out by vessels with engine power of 100 to 200 HP, their journeys lasting 10 to 12 days, perhaps no more than a week; local and inshore fishing is carried out by boats with engine power of under 100 HP that stay out no more than 24 hours at a stretch and that fish in territorial waters.

2. THE FISHING FLEET

2.1 Number of boats in individual maritime districts

The ten year period from 1968 to 1977 has produced no significant change in the size of the engine-powered fleet in Campania and Calabria, with the total number rising from 2,961 to 2,970. There has been a slight increase in numbers in Campania (1,960 to 2,061), offset by a small decrease in Calabria (from 1,001 to 909). The overall trend has been reasonably consistent in the two regions, with a slight rise between 1968 and 1976 followed by a decline between 1976 and 1977.

The same trends are to be found within the various maritime districts. In 1977, the maritime departments having the largest number of vessels were Naples and Salerno in the region of Campania (55.1% and 22.4% of the regional fleet respectively) and Reggio Calabria in the region of Calabria (71.8%).

2.2 Breakdown of fishing fleet according to type of vessel

There have been considerable changes in the composition of the fishing fleet in both Campania and Calabria over the years from 1968 to 1977. In Campania, trawlers constituted only 9.2% of the total number of engine-powered fishing vessels at the beginning of the period, rising to 11.5% (a 2.3 point increase) by the end. In Calabria, the trawler ratio rose from 3.5% to 4.9% (an increase of 1.4 points) over the same period. The figures are in line with the general increase in the number of trawlers (Appendix 4).

2.2.1 Tonnage

The total size of the fishing fleet, including vessels laid up as well as those in use, increased to a significant degree in Campania and Calabria during the ten years under review. In Campania, the number of vessels rose from 2,589 to 2,784 (+ 7.5%), their tonnage increasing from 12,875 to 21,673 g.r.t. (+ 68.3%). In Calabria, the increase was of the order of 13.7% in number (from 1,069 to 1,216) and 38.1% in tonnage (from 3,512 to 4,850 g.r.t.).

There has been an increase in the average tonnage of boats in both regions: in Campania, for instance, boats displacing up to 20 g.r.t. accounted for 95.1% of the total number and 59.4% of total tonnage in 1968 but, by 1977, these percentages fell to 93.2% and 38.7%. In contrast, vessels displacing more than 100 g.r.t. leapt in number from 0.1% to 9.7%, from 8.6% to no less than 31.5% of total tonnage. Though the changes in Calabria were far less marked, a similar swing took place in that region: boats of up to 20 g.r.t. fell in number from 98.5% to 96.7% and in tonnage from 84.0% to 72.6%. Vessels displacing over 100 g.r.t. were non-existent in the region in 1967, but by 1977 they accounted for 0.1% of the total number of vessels and 2.3% of total tonnage.

In this summary analysis, we have included boats that are laid up since in most cases they are out of commission for no more than a temporary period, for the purpose of routine repairs and maintenance.

2.2.2 Engine ratings

The increase in the average tonnage of fishing vessels has led to an increase in their engine power. Suffice it to note that the number of boats with engine ratings of up to 109 HP fell from 95.1% to 88.9% between 1968 and 1977 (i.e., by 6.2 points) in Campania, and from 98.9% to 96.7% (- 2.2 points) in Calabria. The engine rating category in which the largest increase occurred in both Campania and Calabria was the 150-249 class: the rise was from 1.8% to 5.3% in Campania and from 0.4% to 1.6% in Calabria.

2.2.3 Type of fishing gear

There has been no significant alteration in the breakdown of the engine-powered fishing vessels according to the fishing methods for which they are fitted out. During the period under review, the most common type of fishing boat in Campania is equipped for fishing with gill nets or long-lines; these types of gear were used in 70.3% of the number of vessels in 1977, representing 26.9% of total tonnage. In Calabria, most boats are equipped for "multiple fishing systems": 46.9% of the fishing fleet in number, 37.3% in tonnage.

2.2.4 Age of vessels

The ten years from 1968 to 1977 saw a noticeable increase in the age of fishing boats in the two regions under study, with a sharp decline in the number of boats built within the past five years and a rise in the number built more than 21 years before. The reduction in the number of newer boats was about 3.9 points (from 11.7% to 7.8%) in Campania and no fewer than 8.5 points (from 18% to 9.5%) in Calabria. There was an even more marked reduction in vessels in the 6- to 10-year age bracket: from 26.0% to 10.6% (- 15.4 points) in Campania, and from 30.8% to 14.2% (- 16.6 points) in Calabria. The older boats - 21 years or over - inceased by 15.3 points from 31.3% to 46.6% in Campania and from 17.9% to 28.6% (+ 10.7 points) in Calabria.

2.2.5 Fish storage equipment

There are disturbing shortcomings in the provision of equipment for the storage of fish on fishing vessels in both the regions under consideration. In 1977, 92.9% of the engine-powered vessels in Campania and 96.4% of those in Calabria had no such equipment. The remainder consisted of 1.7% and 1.1% respectively with refrigerators, 3.7% and 2.3% with ice chests and 6.7% and 0.2% with both refrigerators and ice chests.

These figures assume even greater significance when it is realised that vessels without storage equipment account for 40.7% of total tonnage in Campania and 71.0% in Calabria; in terms of engine rating, they rise to 62.3% and 80.0% respectively.

2.2.6 Auxiliary navigation and fishing equipment

The difficult conditions under which the fishing fleet in the two regions operate are aggravated by the lack of auxiliary navigation and fishing aids (such as radar, radio-telephones, echo-sounders and icthyoscopes). According to ISTAT, in 1977 the percentage of fishing vessels lacking any sort of equipment was 90.9% in Campania and 93.9% in Calabria. The percentages of vessels fitted with "other equipment" - i.e. different from the aids listed above - were 2.5% and 4.0% respectively. Only 0.1% (70 vessels) in Campania possessed all four types of auxiliary equipment.

3. PORT AND DOCKYARD FACILITIES

3.1 Description of harbours and their geographical distribution.

Looking at the coastline of the regions of Campania and Calabria, a reasonably clear picture of the number and geographical distribution of the harbours and landing places used for fishing can be obtained.

The 360 kilometre stretch of coastline in Campania forms four wide bays, the largest on the entire Tyrrhenian seaboard. They were brought into being by a combination of internal and external factors that continually modified the region's coastline, which consists mainly of detrital coasts produced by lava flows or the deposition of alluvial or pyroclastic materials and (though to a lesser degree) coasts of submersion and emersion.

As a result of the vertical movements, which have raised and lowered the level of the coasts, and the horizontal movements that have widened and narrowed the beaches, the shoreline consists of stretches which are alternately wide or narrow, high or low, unbroken or indented, volcanic or alluvial, bordered or free from sand dunes.

From the mount of the Rivers Garigliano and Torregaveta on the Garigliano and Volturno plains, the shore is broad, low-lying and unindented, for the most part alluvial and dune-bordered. It is b ken by the mouths of the Rivers Garigliano, Agnena, Volturno and Regi Iagni and by outlets from the Patria and Fusaro lakes. The delta formed by the mouth of the Volturno brings this straight stretch of coastline to an end.

Between Torregaveta and Santa Lucia the shore is almost entirely of volcanic origin, with high cliffs that make access difficult (Monte di Procida, Miseno and Posillipo). The coast lies in wide, curving sweeps between one promontory and another, providing a wide variety of landing places.

From Naples to Castellammare, the mainly low-lying coastline has been changed in many ways both by the eruptions of Mt. Vesuvius and by the hand of man; it now presents an almost unbroken line of harbours.

The coastline of the Sorrento-Amalfi peninsula is narrow, cliff-like, indented and cut by the deep gorges carved out by torrential streams, making long stretches inaccessible. The shoreline here is marked by promontories, overhanging cliffs, peninsulas, rocks and water-filled cavities and by little valleys where small beaches have formed, creating natural havens, where a few fishing boats can shelter and a few buildings can cluster.

Between Salerno and Agropoli (the "plain of the sun"), the shore formation is once again low-lying, sandy and uniform, almost the whole stretch being bounded by sand dunes cut only by the Rivers Tusciano and Sele and other minor watercourses.

The Cilento coast is very varied, with inaccessible stretches alternating with gently sloping sandy beaches and the outlets of such rivers as the Alento and the Fiumarella. Here there are very few natural inlets and small bays, but where they exist the leading fishing centres have flourished. In only a few places, too, has the coast been cut by mountain streams.

The coastline of the islands in this area share the features of the neighbouring peninsulas, both in their basic formation and in appearance. Capri may virtually be considered as a continuation of the Sorrento peninsula, while Ischia, Vivara and Procida are linked to the southwestern section of the Phlegrean Fields and have sheer walls of rock rising straight up out of the sea or fringed with narrow beaches.

Between the lowest part of Campania and the highest part of Calabria is a wedge of coastline about 20 km in length that belongs to the region of Basilicata; this is mainly in the form of high rocky cliffs broken only by a few quite unusable ravines, except for the little inlet of Maratea. From the borderline between Basilicata and Calabria, however, the coastline broadens out at the mouth of the River Castrocucco (the end of the River Noce) and thenceforth becomes the Calabrian seaboard.

This seaboard is 780 kilometres in length, making Calabria the region with the longest coastline on the Italian mainland. It consists mainly of a narrow coastal strip dividing the line of steep mountains from the sea and providing only a very small number of natural landing-places. The largest of these are Vibo Valentia on the Tyrrhenian coast and Crotone on the Ionian sea.

Taken as a whole, the Calabrian coast includes four great bays: the bays of Sant'Eufemia, Gioia Tauro, Squillace and Sibari (on the western side of the Gulf of Taranto).

Although the Campanian coastline is less than half the length of Calabria's, it boasts a far greater number of ports. The leading ports for the fishing industry are Bacoli, Baia, Pozzuoli, Naples (Mergellina, Santa Lucia and San Giovanni), Ischia, Procida, Capri, Portici, Torre del Greco, Torre Annunziata, Castellammare di Stabia, Sorrento, Massalubrense, Amalfi, Cetara, Vietri sul Mare, Salerno, Agropoli, Santa Maria di Castellabate, San Marco di Castellabate, Acciaroli and Sapri. The main ports in Calabria are Cetraro, Vibo Valentia Marina, Villa San Giovanni, Reggio Calabria and Crotone.

These are all true ports provided with at least minimal facilities in the form of breakwaters, wharves, bollards, slipways, lifting tackle, etc. In addition, small fishing boats often find shelter and, in some cases,

berthing facilities at the outlets of the principal rivers (the Garigliano, Volturno and Sele) or, in the right season, in small but reasonably sheltered inlets. In other cases, they be drawn up onto a beach. Nevertheless, this shortage of ports is obviously a severe restraint on the introduction of more large fishing vessels, the only craft that are capable of fishing in distant waters instead of the impoverished inshore fishing grounds.

The quayside and harbour facilities provided by the principal ports in the regions (including those not used exclusively by the fishing fleets) may be briefly described as follows.

Ischia - Taking the island as a whole, the two main - though small - fishing ports are Ischia Ponte and Forio. The harbour at Ischia Porto accommodates many fishing boats but is chiefly used for ferries carrying passengers and freight. It does include a small dockyard, used mainly for repairs and maintenance. A large number of trawlers and motor boats, as well as rowing and sailing boats, use Ischia in general as a base.

Procida - This important marine centre harbours the largest fleet of trawlers within the maritime district of Naples. Both the island's ports are used by the fishing fleet. The larger is also used as a base for passenger and cargo ferries, while the smaller (known as Marina della Chiaiolella) is used mainly by fishermen and, in summer months, by yachts and pleasure craft.

Pozzuoli - The depth of the harbour is 6 metres in places so that ships displacing up to 4,000 tonnes can come alongside. Unlike many other ports, Pozzuoli has purpose-built facilities for the fishing industry such as a basin, slipways, jetties and warehousing.

Bagnoli - Special facilities have been created at Bagnoli because it serves the Italsider plant. Fishing is carried out from the natural haven of Coroglio and from the very short jetty connecting Coroglio beach to Nisida, an island reserved for exclusive use by military installations (belonging to NATO headquarters and the Italian Air Force cadet school).

Naples - The city's large commercial port obviously has little connection with the fishing industry except insofar as it is used to unload dried and frozen fish. The fishing industry uses the small harbours - mainly yacht marinas - at Mergellina, Santa Lucia and Molosiglio to the west of the commercial port and Vigliena to the east.

Portici - Although this is the smallest port in the Naples maritime district, its facilities far exceed the normal requirements of a fishing port, built as it was to serve the former Montecatini chemical works producing superphosphates. The harbour is also used by the important marine centre of Herculaneum and accommodates large numbers of pleasure craft.

Torre del Greco - Possibly the best known fishing port in the whole of the lower Tyrrhenian coast, it is the base for the traditional fishing and coral-working industries and it has always been famous for supplying a high percentage of the seamen working on merchant and passenger ships. The port is also important because of its group of boatyards, which do substantial business in the building, repair and maintenance of fishing and pleasure craft.

Torre Annunziata - Until a few decades ago, this port was important because of the busy trade done by its pasta-making and flour-milling industries. Its continuing importance today is due mainly to the construction of huge grain silos and to the landing of high-grade timber in log form. The port can accommodate a limited number of fishing boats and a good deal of trading activity.

Castellammare di Stabia - This is a major shipbuilding town and its port facilities basically serve that activity and the not inconsiderable number of ferries taking passengers to Capri. The area of the port allocated to the fishing industry, however, is more than sufficient to meet requirements, especially as it is used mainly by boats engaged in the type of small-scale fishing characteristic of the Sorrento peninsula as a whole.

Cetara - A historic fishing port that has long been the centre of fishing for the Amalfi coast, Cetara has recently acquired great importance in providing a haven, if only occasionally, for the largest fleet of tuna fishing vessels in Italy.

Salerno - The port of Salerno is currently being expanded to accommodate vessels displacing up to 30,000 tonnes and it is likely to become a focal point for the fishing industry, since a large fish market is now being built here to serve a hinterland so large as to attract vessels based in other regions. From Salerno to Sapri there stretches a line of little fishing ports. With the recent developments in the tourist industry along the coast, these ports now aim to provide more facilities for local fishing.

Vibo Valentia - After Sapri, this is the first reasonably large port along the Tyrrhenian coast, with the exception of the new port of Cetraro, built primarily for the benefit of holiday-makers. The water here is deep enough for ships displacing up to 16,000 tonnes to berth. With the existing facilities, it should be easy to expand fishing activity; even now, those facilities seem to be under-used.

Reggio Calabria - This is undoubtedly the largest port on the Tyrrhenian coast of Calabria. Most of the fishing fleet in the maritime district, the biggest in the region, is based in Reggio Calabria, which is also well known for its commercial traffic with Sicily.

Crotone - The only true port on the Ionian coast of Calabria, Crotone is important because of the trade created by the large industrial plants, especially the Montedison complex.

When considering the relative merits of these ports in planning the most rational structure of the fishing industry, one major factor is the existence of communications between the port facilities and the hinterland. Good communications make it easier for the fish landed at the ports to reach the consumer markets and processing plants, and they place the port itself in a far broader territorial context. In the region of Campania, for instance, there are quite a few ports unable to play an efficient role in promoting the industry they were originally built to support because they are difficult of access.

Some idea of the current situation in Campania may be gained from the following general comments on the communications network linking the main ports in the region.

The ports of call that are capable of playing a reasonably important role in the movement of freight along the coastline of Campania are Baia, Pozzuoli, Naples, Portici, Torre del Greco, Torre Annunziata, Castellammare di Stabia and Salerno.

a. The harbour at Baia, in the municipality of Bacoli, is linked to the 7(iv) highway - the *Domiziana* - by a 4 km connecting road: a narrow, winding provincial road carrying heavy traffic, particularly in the summer months. The port has no railway line and no such facilities are planned.

b. The port of Pozzuoli is surrounded by the buildings which form the heart of this little town. To reach the *Domiziana*, lorries must go through a kilometre stretch of town streets and join the provincial road at one of its most congested junctions. Access by other routes is not much easier. This severely restricts access to the port, and it

is not thought to be technically feasible to build a new link road. Like Baia, the port of Pozzuoli has no rail siding of its own and none is envisaged, at least within the State railway network.

c. The port of Naples now has a direct road link with the regional and national motorway systems as well as with the network of through-roads and ring-roads serving the city, a state of affairs that gives it an undoubted advantage over other ports in the area of Naples. Nevertheless, this is a port of major importance to the fishing industry, not because of its own activity but because it is used for offloading and sorting imported fish - especially the dried and frozen varieties.

d. A little to the south lies the smallest port in this group, Portici. Like all those lying at the foot of Vesuvius, the port is surrounded by residential buildings and no expansion is foreseeable. It has no rail siding of any sort and its only access to Highway 18 and the motorway is along a single steeply rising street. Traffic in the town is extremely heavy and it would be quite out of the question, for technical reasons, to build a new connecting road, as private buildings line the very edges of the extremely small wharf.

e. The state of affairs in Torre Annunziata is slightly more favourable. The port area is backed by a strip of land with only a few buildings, the strip being bounded on the landward side by the embankment of the Naples-Salerno railway line. At the present time, vehicles can reach Highway 18 and the motorway only by passing through narrow, winding and steep streets which are very difficult - in some cases impossible - for a heavy vehicle to negotiate. Technically, however, it would be possible to build an exit route linking the port with the national road system. The port also has a 1.1 km branch line running from Torre del Greco central station to the Torre Annunziata harbour terminus, which in turn is the terminal for industrial sidings serving factories and warehouses located on the quayside or in its immediate vicinity.

f. The port of Castellammare di Stabia can be reached via the town road network, which is narrow and always congested, or via the coast road that passes through the northern industrial area and eventually connects with the urban system along the waterfront. This is the most readily accessible of all the ports along the Vesuvian coast, and it could be made even more accessible were link roads to be built to connect the industrial road with the Naples-Salerno motorway junction. The port also has a very long railway siding linking Castellammare central station and the Italcantieri di Castellammare shipyards, as well as the central station and the National Salt Monopoly Authority's warehouse.

g. At Salerno, work on a viaduct linking the port area with the Naples-Reggio Calabria motorway - via Highway 18, which is on a higher level - is nearing completion. The viaduct will be 800 m long and 7.50 m wide at its widest point plus two 1.50 metre verges, with a continuous gradient of approximately 1:18. It is an ambitious project and one that should go a long way towards solving some of the present problems faced by the port. One problem, however, remains unsolved: the rail connection is no more than a single-track line built back in 1919 running right through the town, along the waterfront and through some of the boatyards before reaching the old habour basin. There are plans for a link between the commercial port and the tourist harbour, with fast road and rail connections, a project that will use the whole stretch of water in front of the town. A jetty will be built parallel to the sea front and the space between will be filled in.

3.2 Servicing facilities for fishing vessels

The organization of facilities to serve the fishing industry along the whole of the Campania-Calabria seaboard leaves much to be desired. The facilities amount to no more than a few refuelling points at which fuel and lubricants are sold (in almost every case under private enterprise), a few slipways, almost always located near boatyards or their workshops, winches for beaching vessels and, in exceptional cases, a swivelling crane to hoist boats. Even so, the situation today is a marked improvement by comparison with a few decades ago, due entirely to the development in pleasure boating in Campania and Calabria, as elsewhere, over the past two years. The facilities mentioned are chiefly to be found in the tourist and holiday boating centres.

The situation regarding fuel and lubricant distribution points is as shown in the following list.

Maritime district	Location	No.
Naples	Pozzuoli	2
	Baia	3
	Ischia	2
	Procida	3
	Naples	3
Torre del Greco	Torre del Greco	2
	Portici	2
Castellammare di Stabia	Torre Annunziata	1
	Castel. di Stabia	1
	Piano di Sorrento	2
Salerno	Salerno	3
Vibo Valentia	Vibc Valentia	2
	Acquappesa	1
	Cetraro	1
Reggio Calabria	Reggio Calabria	2
	Bagnara Calabra	3

3.3 Boatyards

The number and location of boatyards and workshops availailable for the building and repair of fishing vessels are totally inadequate in view of the requirements in Calabria and Campania, except in the case of small boats. Most engine-powered trawlers are built in the shipyards in Viareggio, while their engines come from Northern Italy or are manufactured by foreign companies, mainly Japanese, British, French, Scandinavian, etc.

The 1971 Census of Industry and Trade gave the number of boatyards in the two regions and their labour force as follows.

Region and province	Boatyards building timber vessels		Boatyards building metal vessels and engaged in scrapping	
	No. of yards	Labour force	No. of yards	Labour force
Naples	36	439	23	2 978
Salerno	6	29	2	47
CAMPANIA	42	468	25	3 025
Cosenza	4	5	-	-
Catanzaro	4	5	-	-
Reggio Calabria	6	12		
CALABRIA	14	22		

The following is an outline of the current boatyard situation in the individual maritime districts.

Naples - The district as a whole has 15 boatyards, two of which are in Naples, two in Procida, one in Ischia and eight in Baia, plus 27 repair workshops of which seven are in Naples, four in Pozzuoli, five in Procida, two in Ischia and eight in Baia. Capri has only one small mechanical workshop for the repair and overhaul of ships' engines.

Most of these boatyards are engaged in the building or repair of timber-built motor fishing boats displacing up to 50 g.r.t. The only yards qualified to build plastic boats are the eight in Baia; three of these have mobile slipways, five fixed slipways.

Torre del Greco - No fewer than 16 boatyards are operational in this district, i.e. two in Portici and 14 in Torre del Greco. All are equipped to build timber boats and have slipways for boats of up to 200 g.r.t. One only is equipped for vessels of up to 500 g.r.t.

The district boasts the greatest number of yards fitted out for the building of large vessels, for the reason that Torre del Greco has traditionally been the home base for Italy's biggest coral-fishing fleet. Coral fishing has stimulated a flourishing business in the working and marketing of coral in the town.

In 1977, 40 motor boats and one trawler were launched from the boatyards, totalling 353.32 g.r.t.

Castellammare di Stabia - This district has no boatyard that specializes in fishing vessels, but there are a total of 20 shipwrights in Castellammare di Stabia, Meta di Sorrento, Piano di Sorrento and Sorrento who are engaged almost exclusively in the building of rowing boats and small motor boats (4 to 5 g.r.t.) of modest length (7 or 8 metres, the maximum being 12 metres).

There is also a workshop in Sant'Agnello di Sorrento that specializes in the repair and assembly of marine engines. It is now officially recognized as a workshop providing vocational training for diplomas. Other bases in the district, however, offer no more than machine shops that are occasionally prepared to repair marine engines.

Salerno - This district has only three yards, all in the city of Salerno, for the maintenance and construction of timber boats, although they will send out specialist personnel on request to undertake work on other types of craft. In 1977, these three yards carried out maintenance work only.

Vibo Valentia - This district, like others, has no true boatyards but only shipwrights for maintenance work on timber craft.

Reggio Calabria - The boatyards in this maritime district have remained basically the same as those mentioned in the 1971 Census. They work mainly on maintenance and the building of low tonnage motor boats.

Crotone - This district has a total of six yards for the building and maintenance of low tonnage motor boats. Three are located at Cariati, one at Ciro Marino and one each at Catanzaro Lido and Crotone, the latter having its own slipway. In 1977, they launched 21 motor boats with a total tonnage of 132 g.r.t.

3.4 Classification according to type of boatbuilding

As has been pointed out, almost all the boatyards in Campania and Calabria are fitted out mainly for the building and maintenance of timber vessels; very often they are not so much boatyards as workshops manned by shipwrights engaged in this kind of work.

The only yards specifically fitted out for the building of larger boats and trawlers are some of those located in Baia and Torre del Greco.

4. SUPPLIES OF FISHING GEAR AND MATERIALS

As it is structured in Campania and Calabria, the fishing industry has not generated large-scale industrial and commercial activity in the field of fishing equipment. The only exception is the production of rope, which is manufactured from both natural and synthetic fibres by the specialist firms with long-standing tradition that are to be found in Campania and that are famous throughout Italy.

Even the largest fishing centres have only small craftsmen and retailers who are perfectly able to cope with the demands of local fishermen for fish boxes or the small items needed in routine maintenance work on the equipment on board.

There are no net factories in the two regions, most of the nets in use coming from San Benedetto del Tronto (in the Marches) or Manfredonia (in Apulia).

5. MARKETING STRUCTURES

5.1 The organization of markets and their hinterland

In the two regions under study there are no fewer than 72 fishing centres: 35 in Campania (48.6%) and 37 in Calabria (51.4%). Of these, 63 are situated on the Tyrrhenian coast (87.5%) and 9 on the Ionian coast (11.5%). Most of the catch comes from the Tyrrhenian because of the larger number of bases on that coast. Only a very few of those centres have their own fish markets and not one of the fish markets that do exist is adequate in any way - in structure, organization, etc. - to perform the task for which they were created, from the viewpoints of either producer or consumer. No distinction is made between the wholesale side of the market, serving the producer, and the retail side, serving the consumer, in any of these fish markets, except in Naples and Mugnana (both of which are used solely as collection centres and consumer markets).

A review of the situation in the largest fish markets will suffice. All of these markets are in Campania, handling over three quarters of the catch landed in the two regions.

Pozzuoli market - Set up in 1950 and still the largest fish market on the lower Tyrrhenian coast, Pozzuoli has a 400 m^2 covered area. Due to expansion and work on the sanitation, however, trading has taken place in the open on the quayside since May 1974, to the serious detriment of hygiene and sanitation.

Fish caught off the islands of Ischia and Procida as well as part of the catch from Gaeta also come to Pozzuoli market, which is run by the local authority. Accounting and banking services are provided by the local council's financial department itself.

The market in Bacoli also lies within the jurisdiction of the Pozzuoli maritime district office, but it is far smaller than Pozzuoli and, like Pozzuoli, has no purpose-built market facilities.

Naples market - The market building was constructed 41 years ago and consists of a basement, a large sales hall on the ground floor and premises on the first floor. The basement contains tanks suitable for live fish and other rooms which could be fitted out for different purposes. This market deals almost exclusively with the retailers.

For several years, however, the building has been unused due to deterioration and subsidence as a result of lack of maintenance. A few years ago, a complex refrigeration system was installed for the storage of fresh and frozen fish. It consists of 15 cold chambers, each measuring 24.30 m^3, with storage capacity of 500 kg per chamber. It also has antechambers, a refrigerator producing 2,000 kg ice in a 24-hour day and a cold room to store that ice, as well as an automatic defrosting plant and a central automatic device for maintaining the pre-set temperature in each individual chamber.

The Naples local authority, which supervises the running of the market, has for some years now been studying plans for building a new, modern market in a different place that would be better suited to present-day needs.

Banking and accounting services in the market are provided by the Bank of Naples. The service charges levied on the value of the merchandise going through the market are 4.0% as agency commission (to include the supply of fish boxes and ice) and 1.60% porterage.

Market opening hours for negotiations between dealers and direct sales to consumers are as follows:

	1 May - 30 Sep	1 Oct - 30 Apr
Opening hours	3 - 11 a.m.	4 - 12 noon
Wholesale dealing	4 - 8 a.m.	5 - 9 a.m.
Direct sales to the consumer	8.30 - 10 a.m.	9.30 - 11 a.m.

Mugnano market - At the present time, this is the largest retail market within the boundaries of Naples and its surroundings, although it acts only as a major distribution centre for fresh and frozen fish from various ports inside and outside Italy. With its existing facilities, the market is not suitable for the proper conduct of marketing transactions.

The *Società Meridionale Pesca* has been appointed to run the market, while a cooperative body provides porterage services.

Torre Annunziata market - This is no more than a centre for the collection and distribution of landings, all of its work taking place in the open. The few refrigerators at its disposal are privately owned.

Salerno market - The building is small and most trading takes place in the open. It provides a trading place for both fishermen bringing in their catch and the consumers.

The two privately owned refrigeration plants with which the market is equipped are only small and are only just adequate to cope with local requirements.

Calabria's only fish market is in Reggio Calabria. Located in the port area, is serves almost exclusively as a distribution point. Here again, it has only low capacity refrigeration plant.

The fishing centres in the maritime district, on the other hand, boast 19 collection centres between them, most of them located on the premises of fishermen's cooperative societies. The breakdown is as follows: San Ferdinando di Rosarno, Gioia Tauro, Scilla, Villa San Giovanni, Porto Salvo, Brancaleone, Bianco, Bovalino, Roccella Jonica and Monasterace Marina all have one collection centre each; Palmi, Bova Marina and Siderno Marina have two; and Pellaro has three.

The maritime districts of Vibo Valentia and Crotone have no marketing facilities whatsoever.

5.2 Storage and processing facilities

The lack of fish storage capacity is even more serious than the shortage of fish markets, while neither Campania nor Calabria has any fish processing capacity at all. The following are the details of the situation in the larger fishing centres.

Pozzuoli - This port has no cold store. Two ice-making factories are in operation, each with production capacity of 260 blocks per day (a block weighs 35 kg). There are no refrigerated vehicles to transport fish from Pozzuoli to the interior.

Procida, Ischia and Capri - None of these islands has a cold store. Ischia alone has a small ice factory, although this cannot even cope with local requirements.

Naples - The only refrigerators suitable for storing fish are located within the port area and the newly commissioned refrigerators in the fish market, which are quite inadequate to meet demand. The former are used solely by importers, the latter by commission agents.
On the other hand, there are various ice-making factories in existence which are well able to satisfy demand both in Naples and in its hinterland.

Torre del Greco - In the whole of this maritime district there is only one ice factory, located near the port of Torre del Greco. It also supplies trawlers with their ice.

Castellammare di Stabia - This maritime district contains no fish refrigeration plant or facilities for the storage of fish in ice or under refrigeration in sizeable quantities, although there are small ice-cooled and refrigerated stores for smaller quantities.

No vehicles exist fitted with a refrigeration system or equipment that would make them suitable for the transportation of fish.

There is a small ice-making factory in Castellammare di Stabia.

Salerno - Apart from the two privately owned refrigeration units used solely for commercial purposes, as mentioned above, Salerno has no fish storage capacity. In Sapri, however, there is a low capacity refrigeration plant, while a fishermen's cooperative in Santa Maria di Castellabate owns a unit no more than 10 m^3 in volume.

Vibo Valentia - Here there are five cold stores, all under private ownership, which are not always capable of meeting local demand.

Reggio Calabria - Apart from one small refrigeration plant attached to the fish market, there is only one unit in the whole of this maritime district. Used to refrigerate fish for storage and shipment, the unit is located in Reggio Calabria and is owned by "La Reggina" fishermen's cooperative.

Crotone - Only one ice-making plant exists to serve the whole of this maritime district. Situated in Crotone, it is altogether inadequate for the needs of the fishing bases concerned.

6. MARKETING ARRANGEMENTS

6.1 Species of fish

Fatty fish apart, almost the entire catch is gutted and packed on board the fishing vessel. Once the catch is landed, therefore, it goes straight from the fisherman to the wholesaler or retailer or even - when the quantities are small and especially in holiday resorts - direct to the consumer. In the more fortunate cases in which cooperative bodies have their own collection centres, particularly those with refrigeration facilities, there can be a true process of bargaining between the producer and the wholesale dealer. In the absence of marketing and storage facilities and when producers are badly organized, the large and medium-sized dealers and even the smaller retailers are in a stronger bargaining position and can impose their own prices.

Generally speaking, the purchase price for different species is never negotiated by the wholesaler in advance. The only exception is with tunny: the prices are specified by agreements between the producer (the trawler) and the purchaser before each fishing season starts, with the buyer undertaking to accept the whole catch at a preset price based on an average output for each month.

6.2 End use of fish

The catch is generally sold for consumption as wet fish, except for small quantities of fatty fish. Even the tunny caught by the Salerno fleet, the biggest in Italy, finds its way to the fresh fish market, particularly in Japan, where the bluefin is highly prized.

The marketing arrangements for different species, therefore, are comparable, whatever their end use. The marketing chain may be described as having two or more links, depending on the quality of the catch and the way in which the producers are organized: producer-consumer; producer-retailer-consumer; producer-wholesaler-retailer-consumer; producer-commission agent-wholesaler-retailer-consumer, etc.

7. DESTINATION OF CATCH

7.1 The market inside and outside the regions

Too little fish is caught to meet demand within the regions, and Capania and Calabria has to import some of its fresh, dried and frozen fish. The only product which is exported, especially by Campania, to other regions and to foreign markets is tunny. The reason is that 95.4% of the vessels in Italy fishing for tunny with drift nets (21 out of 22) are concentrated in Campania. The tunny caught is a highly prized species and is in great demand among Japanese consumers in particular.

The absence of statistics makes it impossible to estimate the extent of inter-regional trade in fish products. The information available on landings at the ports and fish passing through airports does not give a reliable picture of the true volume of trade with other regions in Italy or with foreign countries, for various reasons:

a) The ports and airports, especially in Campania, handle fish products on their way to markets in other regions as well and to processing plants.

b) There is a growing tendency to transport both fresh and preserved fish originating in other regions or outside Italy by refrigerated vehicles from the Italian ports and airports of arrival, so that no records are kept of its movement.

In the light of ISTAT data, it appears that total consumption of fish by the two regions is 95,632.6 tonnes, in other words about three times the quantity produced.

Table 4 - Procurement of fishery products

	Campania	Calabria	Total
Per capita consumption, kg	13.3	11.7	12.9
Population at 31.12.77	5,380,000	2,058,000	7,438,000
Total consumption, kg	71,554,000	24,078,600	95,632,600
Production, kg	18,008,000	5,903,000	23,911,000
Production minus consumption, kg	- 53,546.000	- 18,175,600	- 71,721,600
Imports as % of consumption	74.8	75.4	74.9

7.2 Storage and processing

In the two regions under discussion, only a negligible portion of each catch is sent for processing; most of the fish that is processed in the regions is imported (tunny, fatty fish and molluscs).

8. PROCESSING FACILITIES

8.1 Number of plants and their siting

The 1971 Census of Industry and Trade listed a total of 26 processing and storage plants in Campania and Calabria handling fish for human consumption, employing a total of 251 people. The breakdown for the two regions was quoted as follows.

Region and province	No. of units	No. of employees
Naples	8	85
Salerno	7	102
CAMPANIA	15	187
Cosenza	3	7
Catanzaro	7	50
Reggio Calabria	1	7
CALABRIA	11	64

It is apparent from this table that most of the maritime districts in the regions were without any industrial processing capacity at the time of the Census.

Today the only provinces with plant for the preparation and processing of fish on a reasonable scale are Salerno, Naples and Catanzaro. There are eleven such plants in the province of Salerno: six in Cava dei Tirreni, two in Baronissi and one each in Sarno, Sessa Cilento and Santa Maria di Castellabate (the last-mentioned is in the process of completion). The province of Naples has eight units, the largest being in the city of Naples and Torre Annunziata, while the province of Catanzaro has only one plant (in Pizzo Calabro).

8.2 Scale of plant - breakdown by type of processing work

In Calabria and Campania, the six plants with sufficient capacity to prepare and process large quantities of fish are:

STAR and SAFICA	tunny preserved in oil
CIRIO, CETAL and ITTICAL	anchovies and sardines in oil
AMPAPESCA	packaging frozen fish

STAR and SAFICA are two of the largest tunny processors in Italy, together handling an average of 20,000 tonnes, i.e. one third, of the catch bought in by all industrial concerns in Italy (approximately 70,000 tonnes).

Almost the entire output of these firms (approximately 98%) is sold on the Italian market, only a minute quantity (2%) finding its way to foreign markets, mainly in Africa.

The firms produce fish meal as a by-product of tunny processing.

Of the three firms processing fatty fish, CETAL and ITTICAL are to become operational during the current year. Once they have been opened, Campania will have fairly substantial facilities for the processing of sardines, anchovies and mackerel although they will still fall short of requirements on the market for processed fish.

AMPAPESCA will provide the region with large-scale facilities for the packaging of frozen fish. It consists of a group of cold stores with capacity of over 6,000 m^3 and a workshop in which about 20 tonnes of fish can be packed in a seven-hour day once the plant is operating at full capacity. Nevertheless, it is due to be commissioned in 1979.

9. WORK FORCE

9.1 Numbers

According to the information available on the two regions for 1977, the number of people employed in the fishing industry was 19,263, with 12,685 (65.8%) in Campania and 6,578 (34.2%) in Calabria. The lower Tyrrhenian seaboard, which does not include the maritime district of Crotone, accounted for 17,741 people, in other words 92.1% of the total.

In Campania, the leading maritime district is Naples, providing employment for 48.2% of those working in the fishing industry in the region (6,118) and 31.8% of fishing industry workers in Campania and Calabria combined. In second place comes the district of Torre del Greco with 3,242 workers (25.5%). In Calabria, the maritime district of Vibo Valentia employed 2,743 people, 41.6% of those working in the Calabrian fishing industry and no less than 54.2% of those employed on the Tyrrhenian side of Calabria. The maritime district of Crotone on the Ionian side employed as many as 1,512 people, 23.1% of the total in Calabria.

Of the total number of persons working in the fishing industry in the two regions, 18,143 (94.2%) were directly engaged in fishing, while 1,120 (5.8%) were employed on subsidiary shore jobs. In the former group, it is estimated that fishing was the main occupation of an average of 77.8%, although the maximum percentage of 98.7% occurred in the district of Salerno, the minimum of 63.4% in the maritime district of Vibo Valentia.

Taken overall, the ratio between those working at sea and those employed on shore jobs is 16.1:1, or 12.6:1 if one counts those for whom fishing is the primary occupation.

9.2 Breakdown of work force by fishing method

Over the area as a whole, only 1,625 (9%) of the total work force of 18,143 worked on trawlers; of these, 1,201 men (6.6%) work aboard vessels with gross registered tonnage of over 10 tonnes and with over 12 HP engine power; no fewer than 91.0% (16,518 men) were employed on smaller motor boats and on rowing or sailing boats. In other words, a very large majority of those employed in the fishing industry are engaged in small-scale inshore fishing and only a small number devote themselves to distant water fishing.

Even the engine-powered boats are used mainly for inshore fishing. In Campania and Calabria, the fishing methods most commonly used by those boats are based on gill nets and long-lines. These two methods are the most popular throughout the regions (except in the maritime district of Vibo Valentia), ranging from a minimum of 37.0% in Reggio Calabria to a maximum of 76.4% in Torre del Greco. The least common fishing method, in terms of the number of vessels using the method, is trawling, ranging from a minimum of 1.8% in Naples to a maximum of 19.8% in Torre del Greco. Taking Calabria and Campania as a whole, only 5.3% of the engine-powered vessels engage in trawling. The maritime district with the largest number of vessels using trawling methods (43) in Salerno, explained by the fact that the district harbours by far the largest port of the Italian fleet fishing fortunny with drift nets.

The largest number of deep sea fishermen are from the districts of Salerno and Torre del Greco, where they account for 15.5% and 12.0% of all fishermen respectively. The smallest proportion is to be found in Vibo Valentia and Reggio Calabria: 1.3%. Most of the deep sea fishermen, however are in the maritime district of Salerno: 396, 36.0% of all those operating from the lower Tyrrhenian and 33.0% those in the two regions of Campania and Calabria. On the other side of the picture, the percentage of men engaged in inshore fishing from motor, rowing and sailing boats is highest in Naples, 32.4% (5,351) and lowest in Castellammare di Stabia, 3.3% (543).

The total number of those employed by the fishing industry on the Tyrrhenian coast of the two regions under study is 16,693.

In the areas considered, no record was found of any seamen employed on ocean fishing.

The techniques of inshore fishing - the most common form of fishing in Campania and Calabria - are still the traditional methods: trammel nets, with or without sails; the *menaide* (a rectangular drift net with the ground line weighted and the head line fringed with cork, used at different depths for fishing sardine and anchovy); the *sciabica* (a trawl net used for shallow depths); long-lines and gill nets. The outstanding innovation has been the motorization of almost all vessels, even the small boats. Those engaged in inshore fishing have not been able to take full advantage of this innovation because of the restrictions imposed by articles 107 and 111 of Law 963, 14 July 1965, on the use of purse-seine and trawled nets within three miles of the coast from a depth of 50 metres or more. The 50 metre depth line is, on the average, 200 metres from the shore along the whole length of the Campanian and part of the Calabrian coast and in very many cases it is immediately offshore, as in the Sorrento and Amalfi peninsula.

Fishing for sardine, anchovy and mackerel is to a great extent based in fishing centres in Campania and Calabria, the following types of net being used:

a. Drifting gill nets or entangling nets, consisting of a long wall of nets suspended in the water at varying depths, although never very far below the surface. Shoals of sardine and anchovy on the move frequently become entangled in these nets during the night. They are called by different names, depending on mesh size and the type of fishing for which they are used.

The method is entirely passive and involves waiting for the fish: it is restricted to the positioning of a sort of net barrier into which the fish may or may not swim. It is gradually being replaced by the ring net method, using nets known as the *lampara, agugliara* and *castardellara* and various types of purse-seine.

b. Another type of net is the *rete volante*, the "flying net", a sort of purse-seine half submerged in the water that consists of a large bag-shaped net with a rectangular opening trawled by two trawlers at a depth that can be adjusted by the tackle on board.

Returning to the subject of ring nets, it is of interest that they have been going through a period of change and are gradually becoming more mechanized. The ring net in use today, called a *cianciolo* or *saccavela*, is a length of netting 300 to 400 metres long and up to 50 or 100 metres at its widest point. The head-line, known as the *relinga*, has a row of plastic floats, their number being carefully worked out to ensure that they will keep the whole system afloat. The ground-line, known as the *lima di piombo*, is weighted with lead weights to stretch out the net in the water. A number of metal rings is attached to the ground-line through which is run a purse-line, the ends of which are attached to a device on board. The net is cast in a ring shape around the shoal of fish and the two purse-line ends hauled in with a winch. This pulls and closes up the rings so that the net can be hoisted in on one side of the trawler.

The advantage of the *cianciolo* over the nets previously used (such as the *lampara*) is that a larger area can be encircled, greater depths can be fished and the manoeuvres of casting and closing the nets can be effected more quickly. With the *lampara*, the casting process is slower because it is almost always done from rowing boats. Even when engine-powered boats are used to work faster, the nets are always closed and recovered by hand - an operation that takes more time and makes it impossible to use very large, heavy nets.

Even if the larger *lampara* nets are used, measuring up to 300 metres in length and encircling a fairly substantial area of water, the fish usually manage to escape below the net right up to the time when both ends are hauled in on board. The great advantage of the *cianciolo* is its speed of closure, this being achieved by closing up the rings with the cable. The mechanized process takes no more than four or five minutes.

Due to the lack of reliable information, it is impossible to estimate the number of days worked by each fisherman. The only figures available are those furnished by the Cassa Marittima, the health insurance scheme for seamen, regarding distant water trawlers. These show that fishermen working on distant water vessels are employed throughout the year and are at sea for a fairly lengthy period. They work from a minimum of 252 days a year in the maritime district of Reggio Calabria to a maximum of 337 days a year in the maritime district of Castellammare di Stabia.

Table 5 - Numbers engaged in fishing and subsidiary occupations in Campania and Calabria (as of 31.13.1977)

Maritime district	SEA-GOING PERSONNEL						all sea-going personnel	PERSONNEL WITH SUBSIDIARY SHORE JOBS	GENERAL TOTAL
	Main occupation			Secondary occupation					
	Cat. 1	Cat.2	Total	Cat.1	Cat.2	Total			
	a) number								
Naples	664	3 897	4 561	295	847	1 142	5 703	415	6 118
Torre del Greco	1 400	850	2 250	240	575	815	3 065	177	3 242
Castellammare di S.	140	410	550	26	18	44	594	20	614
Salerno	746	1 781	2 527	10	23	33	2 560	151	2 711
Vibo Valentia	611	1.084	1 695	344	631	975	2 670	73	2 743
Reggio Calabria	587	963	1 550	285	266	551	2 101	212	2.313
LOWER TYRRHENIAN	4 148	8 985	13 133	1.200	2 360	3 560	16 693	1 048	17 741
Crotone	374	616	990	190	270	460	1 450	72	1 522
CALABRIA AND CAMPANIA	4 522	9 601	14 123	1.390	2 630	4.020	18.143	1.120	19 263
	b) % composition								
Naples	10.9	63,7	74,6	4,8	13.8	18,6	93,2	6.8	100,0
Torre del Greco	43,2	26,2	69,4	7,4	17,7	25.1	94.5	5,5	100.0
Castellammare di S.	22,8	66,8	89,6	4,2	2.9	7,1	96.7	3,3	100,0
Salerno	27,5	65,7	93,2	0,4	0.8	1,2	94,4	5,6	100,0
Vibo Valentia	22,3	39,5	61,8	12,5	23,0	35,5	97.3	2.7	100,0
Reggio Calabria	25.4	41,6	67.0	12,3	11.5	23,8	90,8	9,2	100,0
LOWER TYRRHENIAN	23,4	50,6	74,0	6,8	13,3	20,1	94,1	5,9	100.0
Crotone	24,6	40,5	65.1	12,5	17,7	30,2	95,3	4,7	100.0
CALABRIA AND CAMPANIA	23,5	49,8	73.3	7,2	13,7	20,9	94,2	5,8	100.0
	c) percentage								
Naples	14,7	40,6	32,3	21,2	32,2	28.4	31,4	37,1	31,8
Torre del Greco	30,9	8,8	15,9	17,3	21,8	20,3	16.9	15.8	16.8
Castellammare di S.	3,1	4,3	3,9	1,9	0,7	1.1	3.3	1.8	3,2
Salerno	16,5	18,6	17,9	0,7	0,9	0,8	14.1	13,5	14,1
Vibo Valentia	13,5	11,3	12,0	24,7	24,0	24.3	14,7	6.5	14,2
Reggio Calabria	13,0	10,0	11.0	20,5	10,1	13,7	11,6	18.9	12,0
LOWER TYRRHENIAN	91,7	93,6	93,0	86,3	89,7	88,6	92.0	93.6	92,1
Crotone	8,3	6,4	7,0	13,7	10,3	11,4	8,0	6,4	7,9
CALABRIA AND CAMPANIA	100,0	100,0	100,0	100.0	100,0	100,0	100.0	100.0	100,0

Table 6 - Breakdown of fishermen by type of vessel and by maritime district in 1977

Maritime district	SEA-GOING PERSONNEL			TOTAL
	trawler crews		motor, rowing and sailing boat crews	
	Total	incl. crews on ≥ 10 grt trawlers		
	a) absolute figures			
Naples	352	234	5 351	5 703
Torre del Greco	476	366	2 589	3 065
Castellammare di S.	51	42	543	594
Salerno	457	396	2 103	2 560
Vibo Valentia	97	35	2 573	2 670
Reggio Calabria	36	27	2 065	2 101
LOWER TYRRHENIAN	1 469	1 100	15 222	16 693
Crotone	156	101	1 294	1 450
CALABRIA/CAMPANIA	1 625	1 201	16 518	18 143
	b) % composition			
Naples	6.2	4.1	93,8	100,0
Torre del Greco	15.5	12,0	84,5	100.0
Castellammare di S.	8.6	7.1	91,4	100.0
Salerno	17.9	15.5	82,1	100,0
Vibo Valentia	3.6	1,3	96.4	100.0
Reggio Calabria	1.7	1.3	98,3	100.0
LOWER TYRRHENIAN	8.8	6,6	91,2	100.0
Crotone	10.8	7.0	89,2	100.0
CALABRIA/CAMPANIA	9.0	6,6	91,0	100,0

Table 7 - Fishing methods practised by engine-powered fishing vessels (at 31.12.1977)

Maritime district	Trawling	Ring net fishing	Gill net or long-line	Other methods	Total
		a) number			
Naples	27	289	868	338	1 522
Torre del Greco	68	-	262	13	343
Castellammare di S.	-	86	137	135	358
Salerno	43	119	281	229	672
Vibo Valentia	8	148	107	70	333
Reggio Calabria	26	173	204	148	551
LOWER TYRRHENIAN	172	815	1.859	933	3 779
Crotone	70	185	482	35	772
CAMPANIA/CALABRIA	242	1 000	2.341	968	4 551
		b) % composition			
Naples	1,8	19,0	57,0	22,2	100.0
Torre del Greco	19,8	-	76,4	3.8	100 0
Castellammare di S.	-	24,0	38.3	37,7	100.0
Salerno	6.4	17.7	41,8	34,1	100.0
Vibo Valentia	2.4	44,5	32.1	21.0	100.0
Reggio Calabria	4.7	31.4	37.0	26.9	100.0
LOWER TYRRHENIAN	4.5	21.6	49.2	24.7	100.0
Crotone	9,1	24,0	62.4	4,5	100.0
CAMPANIA/CALABRIA	5.3	22,0	51.4	21,3	100.0
		c) percentages			
Naples	11.2	28.9	37.1	35.0	33.4
Torre del Greco	28.1	-	11.2	1.3	7.5
Castellammare di S.	-	8,6	5.8	13.9	7,9
Salerno	17.8	11,9	12.0	23.7	14.8
Vibo Valentia	3.3	14,8	4.6	7.2	7.3
Reggio Calabria	10.7	17.3	8.7	15.3	12.1
LOWER TYRRHENIAN	71.1	81.5	79.4	96.4	83.0
Crotone	28.9	18.5	20.6	3.6	17.0
CAMPANIA/CALABRIA	100.0	100.0	100.0	100.0	100.0

Table 8 - Fishing vessels and crews insured with the Cassa Marittima Meridionale in Campania and Calabria - breakdown by maritime district*

1977

Maritime district	Total no. of vessels	No. of men	No. of days worked	No. of days per man
Castellammare di Stabia	10	42	14 141	337
Naples	66	234	68 665	293
Salerno	60	396	123 815	313
Torre del Greco	89	366	109 807	300
CAMPANIA	225	1 038	316 431	305
Crotone	22	101	28 515	282
Reggio Calabria	10	27	6 811	252
Vibo Valentia	11	35	11 597	331
CALABRIA	43	163	46 923	288
CAMPANIA/CALABRIA	268	1 201	363 354	302

* no. of men working as crews on trawlers with gross registered tonnage of 10 tonnes and over and with engine rating of over 12 HP

Source: Cassa Marittima Meridionale

9.3 The organization of work on board

The tough life of a fisherman has no attractions for the younger generation even though the application of modern technologies to the vessels and their equipment has considerably lessened the discomfort and hardship of work on board. This is the reason why the average fisherman is an older man, particularly where inshore fishing is concerned - a sector in which the very great majority of fishermen are employed. It is also the reason why self-employed fishermen have to live at a mere subsistence level, especially as the inshore stretches of water have been overfished and a reasonable income cannot be obtained from them.

The crew pattern differs depending on the type of fishing boat and the fishing method. Over the past few years, boats have tended to be undermanned now that the number of craft has increased disproportionately while the number of young men coming into the fishing industry has fallen. This undermanning has aggravated conditions of work on board.

On the subject of job security and stability of income, the contracts of employment for crew members are normally for an indefinite period, except in specific cases when the period of employment may be based on the fishing season. In other words, no regulation exists guaranteeing continuity of employment.

Except in a few special cases, the fisherman's sole income depends on his share of the proceeds; he has no guaranteed minimum wage.

An out-of-work fisherman who has previously been in employment is paid the standard unemployment benefit prescribed by general legislation, plus family allowances for his dependents, for seven months. Fishermen attending vocational training courses receive no such benefit. All fishermen, self-employed or in other people's employ, whether engaged in distant-water, middle-water, near-water or local fishing, are

insured against sickness, accident and disablement and are members of pension schemes, as required by law. Fishermen in other people's employ are insured with the social security scheme for seamen, a body that supplements the statutory insurance scheme. Self-employed fishermen are insured with the statutory scheme only. This means that there are differences in the contributions payable by the two types of insured and their respective benefits.

Medical treatment and allowances after accidents are the responsibility of the Cassa Marittima, with the employer paying the whole of the contribution.

Men in paid employment contribute one third of the payments to the pension fund, the boat owner two thirds. These contributions are based on a conventional wage which is revised each year in accordance with a sliding scale. Medical or hospital treatment may be claimed over a period of twelve months, but in the event of a man being unable to work he will receive sick pay - equivalent to 75% of the conventional wage - only for six months.

To lay down regulations governing this complex subject, a national collective contract of employment has recently been approved for crews employed on trawling vessels used for fishing in the Straits. The full text of this contract is appended to this report.

10. PRODUCTIVITY

10.1 Volume of production - composition

Between 1975 and 1977, the value of production by the fishing industry rose - in terms of current prices - by 74.4% (from Lit.9,500 million to approximately Lit.16,600 million) in Campania and by 26.9% (from Lit.5,100 million to Lit.6,500 million) in Calabria.

To an appreciable extent, the differences in the growth rates in the two regions were due to the fact that the improvements in prices were confined to Campania. In that region, the value of landings rose by 74.4% and their quantity by 61.4%, a 13.0 point improvement. In Calabria, the improvement was no more than 0.4 point (26.9% and 26.5% respectively).

Not all species, however, appreciated in value to the same extent: there were considerable variations in the composition of fish production in both regions during the period under review. For example, there was a marked decline in the value of landings coming under the heading of "fish": from 74.5% to 70.6% in Campania and from 70.3% to 63.5% in Calabria. Virtually the only reason for this trend was the lower proportion of "other fish", a category that includes all the high grade species (cod, red mullet, sole, sea bass, etc.); landings of "other fish" as a percentage of the value of all landings fell from 49.3% to 44.1% in Campania and from 59.0% to 50.1% in Calabria. In both regions, the percentage of tunny rose.

The "fatty fish" pattern differed in that this category declined in Campania (- 1.0 point) but increased (+ 1.6 points) in Calabria.

There was an average 3 point rise in the "molluscs" category: from 12.3% to 15.5% in Campania and from 15.0% to 18.0% in Calabria, with an increase in every species coming under the heading (squid, octopus, cuttlefish, mussels, etc.). Finally, there was a slight increase in "crustaceans" in Campania (+ 0.7) and a marked increase in Calabria (+ 3.8).

10.2 Productivity and income per fisherman, according to job category

In the absence of official estimates or statistics on the number of people employed in the fishing industry as a whole and by occupational category, to give some idea of per capita productivity we have decided to formulate our own estimate by dividing the value of production by the number of men employed on board (based on the figures furnished by the harbour offices). Taking the figures available for 1977, we have calculated that *per capita* productivity is Lit.1,395,000 in Campania and Lit.1,039,000 in Calabria.

If we then go on to exclude part-timers for whom fishing is a secondary occupation - on the grounds that it is difficult to categorize these workers and that they are not so intimately linked with the economic fortunes of the fishing industry - and assume that the whole value of landings has been achieved by those for whom fishing is the primary occupation, the figures for productivity may be estimated as Lit.1,682,000 in Campania and Lit.1,526,000 in Calabria. These figures are undoubtedly more realistic, especially as the formal estimates of production are probably on the low side and those of the numbers employed in the fishing industry are on the high side. Even so, they clearly show how precarious is the future for the fishing industry, fully justifying the diffidence displayed by the younger generation.

Bearing in mind that the figures are estimates of average productivity, not of average income, an even clearer picture is conveyed of the very low economic return that can be offered by the fishing industry. If we take a different approach and divide the fishing industry's net output (saleable output minus bought-in materials and services) by the number employed in the industry, the figure is Lit.913,000 in Campania, Lit.1,175,000 in Calabria. This revenue, which can be assumed to be the same as earnings from employment, is 46.0% lower than the average productivity per man in Campania, 23.0% lower in Calabria. In other words, *per capita* income in Campania, which accounts for over two thirds of the number employed in the fishing industry of the two regions, is lower than in Calabria because the type of fishing in which Campania fishermen are forced to engage incurs higher costs - basically because resources have become even more impoverished in their region.

The figures for the very great majority of those working in the fishing industry, those engaged in small-scale inshore fishing, are even lower when one deducts the earnings of trawlermen, who are paid at the union rates, from the overall net output. In Campania, for instance, the earnings of the majority are Lit.736,000, one fifth lower than the general average; in Calabria, they are Lit.1,071,000, one third lower.

The low incomes earned by full-time fishermen, a result of their lack of organization and unionization, mean that they do not have the bargaining power to win fair prices for their product and have made it easy for the dealers and middlemen to take a large portion of the added value for themselves. Many fishermen have now banded together as cooperatives: by 1977, there were 75 cooperatives whose membership included over a quarter (3,635) of those whose main occupation is in the fishing industry. In most cases, however, they are not so much cooperatives as production and labour combines with very little capital, being based on the principle of pooling of resources. Welfare and mutual aid are their predominating concern, almost to the exclusion of production activities.

Table 9 - Value and composition of fish landings, 1975 and 1977

Species	CAMPANIA		CALABRIA	
	Lit.1000	%	Lit.1000	%
	a) 1975			
FISH	7 108	74.5	3 581	70.3
Anchovy, sardine and mackerel	1 460	15,3	530	10,4
Tunny	944	9.9	46	0.9
Other fish	4 704	49.3	3 005	59.0
MOLLUSCS	1 174	12.3	764	15.0
Squid, octopus, cuttlefish	964	10,1	535	10.5
Other molluscs	210	2.2	229	4.5
CRUSTACEANS	1 259	13.2	749	14.7
TOTAL	9 541	100.0	5 094	100.0
	b) 1977			
FISH	11 747	70.6	4 105	63,5
Anchovy, sardine and mackerel	2 387	14.3	776	12,0
Tunny	2 023	12.2	92	1,4
Other fish	7 337	44.1	3 237	50.1
MOLLUSCS	2 582	15.5	1 167	18 0
Squid, octopus, cuttlefish	2 084	12.5	867	13.4
Other molluscs	498	3.0	300	4.6
CRUSTACEANS	2 308	13.9	1 192	18.9
TOTAL	16 637	100.0	6 464	100.0

Table 10 - Breakdown of fishermen's cooperatives by maritime districts at 31.12.1977

Maritime district	Cooperatives		Members	
	no.	%	no.	%
Naples	20	26.7	1 294	35.6
Torre del Greco	3	4.0	279	7.7
Castellammare di Stabia	5	6.7	237	6.5
Salerno	11	14.7	670	18.5
Vibo Valentia	7	9.3	165	4.5
Reggio Calabria	19	25.3	510	14.0
LOWER TYRRHENIAN	65	86 7	3 155	86.8
Crotone	10	13,3	480	13.2
CAMPANIA/CALABRIA	75	100.0	3 535	100.0

Table 11 - Fishermen's cooperatives, at 31.12.1977

Maritime district	Based in:	Name	No.of members
Naples	Naples	S. Gennaro	100
	Naples	S. Lucia	78
	Naples	Mergellina	225
	Naples	Mitilicoltori S. Lucia	36
	Naples	Rastrellari del Porto di Napoli	25
	Naples	Pescatori del "Tirreno" - Lavoratori della pesca	35
	Naples	Golfo di Pozzuoli	36
	Pozzuoli	La Marinara	173
	Pozzuoli	S. Marco	151
	Naples	La Flegrea	183
	Mondragone	S. Rufino	45
	Ischia	S. Giuseppe della Croce	101
	Forio d'Ischia	S. Vito	25
	Baia	Mitilmare Baia	10
	Baia		9
	Bacoli	Elisea	9
	Naples	S. Caterina	13
	Procida	Rinascita	18
	Pozzuoli	S.Pietro	6
	Pozzuoli	La Puteolana	16
Torre d.Greco	Ercolano	Coop.Mediterr.Ind.le Pesca	32
	Portici	Stella di Mare	112
	Torre d. Greco	Maria Immacolata	135
Castel.Stabia	Castel. Stabia	S. Catello	33
	Torre Ann.ta	S. Francesco d'Assisi	115
	Torre Ann.ta	S. Lucia	20
	Sorrento	S. Antonio	43
	Massalubrense	S. Cataldo	26
Salerno	Salerno	S. Andrea	250
	Amalfi	S. Maria Maddalena	170
	Minori	S. Trofilmena	20
	Ascea Marina	Coop.Pescatori del B. Tirr.	150
	Cetara	S. Luigi	10
	Cetara	S. Pietro Apostolo	16

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Table 11 (continued)

Maritime	Based in:	Name	No. of members
Salerno	Cetara	S. Raffaele	12
	Cetara	S. Alfonso	12
	Cetara	Montecristo	9
	Cetara	La Tonnara	9
	Cetara	La Cetarese	12
Vibo Valentia	Nicotera marina	Coop. I figli del mare	18
	Acquappesa	S. Francesco di Paola	61
	Vibo Marina	S. Andrea	20
	Fuscaldo	S. Filomena	21
	Amantea	S. Francesco	10
	Tropea	C. Bagnato	24
	Briatico	V. Grasso	11
Reggio Calabria	S. Ferdinando di Rosarno	SS. Immacolata	16
	Gioia Tauro	G. Garibaldi	63
	Palmi	Fortezza	12
	Palmi	Madonna dell'altomare	35
	Bagnara Calabra	Cristoforo Colombo	21
	Bagnara Calabra	Fondacaro	74
	Villa S. Giovanni	S. Caterina	28
	San Gregorio	Concordio	6
	Reggio Calabria	La regina	35
	Melito Porto Salvo	G. Tringali	59
	Brancaleone	A. Romano	56
	Bova Marina	N. Salerno	10
	Palizzi Marina	G. Gordona	7
	Bianco	G. Spinelli	12
	Bovalino	F. Laganà	9
	Locri	S. Barbara	10
	Siderno Marina	S. Antonio da Padova	8
	Marina di Gioiosa	D. Cento	17
	Roccella Jonica	N. Pellizzeri	32
Crotone	Crotone	Luigi Rizzo	31
	Catanzaro Lido	A. Lazzaro	14
	Soverato	Cristoforo Colombo	34
	Cariati Marina	S. Cataldo	44
	Cariati Marina	S. Leonardo	45
	S.Angelo di Ross.	S. Angelo di Rossano	32
	Mirto Crosia	Centofontane	23

11. VOCATIONAL, ADMINISTRATIVE AND RESEARCH FACILITIES

11.1 Vocational training

In Campania there are state technical colleges for sea-going occupations (*Istituti Professionali di Stato per le Attività Marinare* - IPSIAM) in Naples and Salerno, as well as state-run maritime technical colleges in Naples, Procida, Piano di Sorrento, Maiori and Amalfi. Calabria has a state maritime technical college in Pizzo Calabro.

11.2 Research facilities

In Campania, the only research body at present is the Zoological Station in Naples which is concerned with marine biology but which has no department specifically working on biology as applied to the fishing industry. A body in Salerno conducting research on the exploitation of pelagic fish stocks and improvements in fishing technology would be desirable. Calabria has no research facilities.

11.3 Administration

The tables that follow show how the Merchant Mavy territorial departments are divided in Campania and Calabria.

CAMPANIA

Harbour Office	COASTAL JURISDICTION				Jurisdiction (for maritime purposes) within the provincial areas specified below
	District maritime office	Territorial limits of district maritime office	Local maritime office	Beach delegations	
Naples (with separate section in Bagnoli)	Ischia	Islands of Ischia		Casamicciola Forio d'Ischia Santangelo	Naples, excluding municipalities coming within the jurisdiction of the maritime departments of Torre del Greco and Castellammare di Stabia Caserta
	Procida	Islands of Procida and Vivara			
	Pozzuoli	from Garigliano to Bagnoli (excluded)	Baia	Mondragone Monte di Procida Torre Gaveta	
		From Bagnoli (incl.) to Portici (excl.), including Islands of Nisida and Capri	Capri		
Torre del Greco		From Portici (incl.) to Torre del Greco (incl.)	Portici		Naples, restricted to the municipalities of Portici, Resina, San Giorgio a Cremano and Torre del Greco Benevento

	COASTAL JURISDICTION				Jurisdiction (for maritime purposes) within the provincial areas specified below
	District maritime office	Territorial limits of district maritime office	Local maritime office	Beach delegations	
Castellammare di Stabia	Torre Annunziata	From Torre del Greco (excl.) to River Sarno			Naples, restricted to the following municipalities: Agerola-Boscoreale-Boscotrecase-Casola di Napoli-Castellammare di Stabia-Gragnano-Lettore-Massalubrense-Meta-Piano di Sorrento-Ottaviano-Pimonte-Poggiomarino-Pompei-Sant'Angelo di Sorrento-San Giuseppe Vesuviano-Sant'Antonio Abate-Sorrento-Striano-Terzigno-Torre Annunziata-Vico Equense. Avellino
		From R. Sarno to Positano (excl.)	Meta Sorrento	Vico Equense Piano di Sorrento Massalubrense	
Salerno		From Positano (incl.) to Sapri (incl.)	Amalfi	Positano Maiori Cetara Vietri sul Mare Agropoli S. Maria di Castellabate Agnone Cilento Acciaroli Marina di Pisciotta Palinuro Marina di Camerota Scario(San Giovanni a Piro) Capitello Sapri	Salerno

C A L A B R I A

Harbour Office	COASTAL JURISDICTION				Jurisdiction (for maritime purposes) within the provincial areas specified below
	District maritime office	Territorial limits of district maritime office	Local maritime office	Beach delegations	
Vibo Valentia Marina		From Sapri (excl.) to Nicotera (incl.)	Pireo	Maratea Praia a Mare Scalea Diamante Belvedere Marittimo Cetraro Paola S. Lucido Amantea Gizzeria Lido Tropea Nicotera Marina	(1)

(1) Potenza

Cosenza, restricted to: Acri-Altilia-Aprigliano-Belsito-Bianchi-Bisignano-Carolei-Carpanzano-Casole Bruzio-Castiglione-Cosentino-Castrolibero-Celico-Cellara-Cerisano-Cervicati-Cerzeto-Colosini-Cosenza-Dipignano-Domanico-Fagnano Castello-Figline Vegliaturo-Lappano-Lattarico-Luzzi-Malito-Mangone-Marano Marchesato-Marano Principato-Marzi-Mendicino-Mongrassano-MontaltoUffugo-Panettieri-Parenti-Paternò Calabro-Pedace-Pedivigliano-Piane Crati-Pietrafitta-Rende-Rogiano Gravina-Rogliano-Rose-Rota Greca-Rovito-SanBenedetto Ullano-SanFili-San Giovanni in Fiore-San Marco Argentano-San Martino di Finita-San Pietro in Guarano-S.Stefano di Rogliano-S.Vincenzo Lacosta-Scigliano-Serra Pedace-Spezzano Albanese-Spezzano della Sila-spezzano Piccolo-Torano Castello-Trenta-Zumpano.
Acquappesa-Aiello Calabro-Amantea-Belmonte Calabro- Belvedere Marittimo-Buonvicino Bonifati-Cetraro-Cleto-Diamante-Falconara Albanese-Fiumefreddo Bruzio-Fuscaldo-Grosilia Cipollina-Guardia Piemontese-Lago-Longobardi-Matera-Orsomarso-Paola-Praia a Mare-Scalea-San Lucido-San Gineto-San Nicola Argella-San Pietro in Amantea- Santa Domenica Talao-Serra di Aiello-Verbicaro.
Acquaformosa-Aieta-Altomonte-Castrovillari-Firmo-Frascineto-Laino Borgo-Laino Castello-Lungro-Malvito-Mottafollone-Morano Calabro- Mormanno-Papasidero-Sant'Agata d'Esaro- San Basile-Santa Caterina Albanese- San Donato Ninea-San Lorenzo del Vallo-San Sosti-Saracena-Terranova da Sibari-Tortora.

Catanzaro, restricted to: Acquaro-Arena-Briatico-Brognaturo-Capistrano-Cessaniti-Dasà-Dinami-Drapia-Fabrizia-Filandari-Filogaso-Francica-Gerocarne-Jonadi-Joppolo-Limbadi-Maierato-Mileto-Mongiana-Monterosso Calabro-Nardodipace-Nicotera-Parghelia-Pizzo Calabro-Pizzoni-Ricadi-Rombiolo-San Calogero-San Costantino Calabro-San Gregorio D'Ippona-San Nicola da Crissa-Sant'Onofrio-Serra San Bruno-Simbario-Sorianello-Sociano Calabro-Spadola-Spilinga-Stefanaconi-Tropea-Vallelonga-Vazzano-Vibo Valentia-Zambrone-Zaccanopoli-Zungri.
Carlopoli-Cicala-Confienti-Cortale-Curinga-Decollatura-Falerna-Feroleto Antico-Filadelfia-Francavilla Angitola-Gimigliano-Gizzeria-Jacurso-Lamezia Terme-Maida-Martirano Lombardo-Motta Santa Lucia-Nocera Tirinese-Pianopoli-Platania-Polia-San Mango D'Aquino-San Pietro a Maida-San Pietro Apostolo-Serrastretta-Soveria Mannelli.

CALABRIA

Harbour Office	COASTAL JURISDICTION				Jurisdiction (for maritime purposes) within the provincial areas specifed below
	District maritime	Territorial limits of district maritiem office	Local maritime office	Beach delegations	
Reggio Calabria		From Nicotera (excl.) to mouth of R. Assi (excl.)	Villa San Giovanni Siderno Marina	Gioia Tauro Palmi Bagnara Scilla Pellaro Melito Porto Salvo Bova Marina Brancaleone Bianco Bovalino Roccella Jonica Monasterace Marina	Reggio Calabria
Crotone		From mouth of R. Assi (incl.) to Nova Siri (excl.)		Soverato Catanzaro Marina Cirò Marina Cariati S.Angelo di Rossano Corigliano Calabro Trebisacce Monte Giordano	Catanzaro, restricted to municipalities not coming within the jurisdiction of the Maritime District of Vibo Valentia Marina. Cosenza, restricted to municipalities not within the jurisdiction of the Maritime District of Vibo Valentia Marina

12. NATIONAL AND REGIONAL POLICY

12.1 Public intervention

The Italian fishing industry has never exactly been overburdened by aid from public funds. Bodies concerned with the industry are pressing for a general plan of development covering every phase, from fishing to marketing and processing, from vocational training to welfare services.

The Cassa per il Mezzogiorno - the fund set up to revitalize the South - has funded only a few large-scale projects and has virtually ignored shore facilities serving the fishing industry (harbours, markets, cold stores, etc.) even though these are the most urgent requirements, given the way in which the industry is organized in the South in general and in Campania and Calabria in particular.

The list of legislation on this sector will give a good idea of the scope of public intervention over the past few years.

On the subject of regional policy, it should be pointed out that the regional authorities are not authorized to issue regulations governing sea fishing, as they have been delegated with authority only for fishing in inland waters.

Table 12 - Legislation relating to the fishing industry, 1956 to the present

	Legislative measure (DM - Ministerial Decree; L - Law; DPR - Presidential Decree; LR - Regional Law)		Date issued	Summary of content	Published in Gazzetta Ufficiale	
					issue	date
1.	L	1457	27.12.1956	Establishment of renewable fund for provision of credit to the fishing industry		
2.	L	634	29. 7.1957	Measures in favour of the Mezzogiorno		
3.	L	250	13. 3.1958	Measures to assist fishermen engaged in small-scale inshore and inland water fishing		
4.	L	633	30. 7.1958	Further incentives for medium- and small-scale industrial concerns and crafts		
5.	L	939	23.10.1959	Measures facilitating the granting of credit to inshore fishing concerns, through the *Fondazione Assistenza e Rifornimento della Pesca* (FARP - foundation for assistance and supplies for fisheries)		
6.	DM		19. 2.1964	Trawling activities		
7.	L	77	26. 6.1965	Regulations on Mezzogiorno development intervention (article 17)		
8.	L	963	14. 7.1965	Regulations on sea fishing	203	14. 8.1965
9.	DM		20. 6.1967	Authorization for supplementary courses for class 1 engineeers, to be run by *Istituto Italiano per lo Sviluppo della Pesca e per la Istruzione Professionale dei Pescatori* (Italian institute for the promotion of fishing and for vocational training for fishermen)		
10.	L	1083	31.10.1967	Regulations on measures to promote fishing in the Mezzogiorno	248	29.11.1967
11.	L	479	28. 3.1968	Measures to promote sea fishing	108	29. 4.1968
12.	DPR	1639	2.10.1958	Regulations in pursuance of Law 963, 14.7.1965, pertaining to sea fishing	188	25. 9.1969
13.	L	676	16.10.1973	Measures to promote sea fishing		
14.	L	8	29. 1.1974	The construction of shellfish breeding installations, with grant from regional funds, in bays on the Campania coastline		
15.	LR	13	1. 4.1975	Regulations governing wholesale markets		
16.	L	389	14. 5.1976	Measures for the promotion of sea fishing		
17.	L	192	2. 5.1977	Health and hygiene regulations applicable to the production and sale of bivalve molluscs	132	17. 5.1977
18.	L	984	27.12.1977	National agricultural plan for 1978 - section on aquaculture - Lit.5,000 million grant to the regional authorities for the implementation of a plan for the sector in 1978		

12.2 Vocational training

Vocational training in fishing activities is provided by the secondary education technical schools in some of the larger fishing towns, but they cannot be said to have done their job thoroughly as the majority of young people obtaining their diplomas do not go on to work in the fishing industry.

Almost all the courses available outside the school - very often run by the unions or by bodies within the industry - are designed to train young people for specific qualifications (engineer on board vessels, etc.) and are unlikely to give them the impetus they need to enter the fishing industry, although it must be admitted that the life of hardship faced by fisherman has a good deal of bearing on the lack of enthusiasm among the younger generation. It is a well known fact that fishing, especially small-scale fishing, is "an old man's job". All the surveys conducted in the fishing towns in Calabria and Campania have shown that young men engaged in fishing look on the job as only temporary and occasional; the obvious implication is that they will leave the industry as soon as they can find some other job opportunity.

12.3 Union policy

As is obvious, the unions see it as their overwhelming concern to press for better conditions for their members who are in paid employment. They are only marginally interested in "small-scale local fishing", as almost every fisherman in this sector is self-employed, providing "lump labour". His main objective will be to negotiate a fair agreement covering the work he does on board the fishing boat. As a general rule, the only union action to assist the "small fishermen" is to encourage the creation of cooperatives so that they can run their own marketing and processing facilities or own their own boats and other tools of the trade. This policy is having some beneficial effects, with cooperatives launching ventures involving the management of landing stages, markets, etc., and creating companies with joint public and private capital to building large trading centres.

PART 2

PROBLEMS IN THE FISHING INDUSTRY

FOREWORD

In this part of the report, we return to some of the basic factors discussed in Part One and, by considering them in greater depth, we attempt to clarify the problems that have a direct bearing on life in the fishing industry. We have found that the situation in the two regions under survey, and in the maritime districts within those regions, is almost the same. This has made it feasible and advisable to describe and illustrate the position found in direct investigation of one particular area, one of the places in which fishing plays an important economic role and whose growth rate over the past few years has been buoyant.

Our findings not only reflect the day-to-day reality of the fishing industry in the area investigated but can also be used in arriving at a more realistic assessment of the position of all fishing centres in both regions. In other words, the conclusions derived from an analytical examination of the problems arising in the fishing centres taken as our reference - all of which are located in the maritime district of Salerno - will throw light on the most pressing problems faced by the small- and large-scale fisheries, the problems that must be solved if new life is to be injected into the industry in Campania and Calabria, the problems that must be considered by the regional, national and European Community authorities. The legislative and financial measures adopted by those authorities - a subject that will be discussed more specifically in Part Three - must be designed to tackle those problems.

1. RESOURCES

In investigating the fishing industry in the two regions, we have compiled figures on total landings and on landings per unit of fishing effort over the past ten years. In estimating the actual state of fish resources, it is helpful to find out the trends in the quantity of fish caught by comparison with the engine power of vessels used to catch that fish (catch per unit of effort - CPUE - in terms of tonnes of fish per HP).

Table 13 - Quantity of landings by comparison with engine power of fishing vessels (tonnes per HP)

	Calabria	Campania
1967	43.2	17.9
1968	36.5	16.4
1969	28.8	14.7
1970	33.8	15.8
1971	29.8	17.2
1972	27.5	19.2
1973	14.7	15.8
1974	14.7	11.2
1975	18.6	10.8
1976	19.9	11.5
1977	19.1	13.0

The table shows that there is a decreasing ratio between the total quantity of fish caught and the total fishing effort deployed to catch that fish, a trend that is more marked in Calabria than in Campania. In Calabria, the ratio fell from 43.2 tonnes of fish per HP in 1967 to 19.1 tonnes in 1977 (- 55.8%), while in Calabria it fell from 17.9 tonnes to 1.30 tonnes over the same period (- 27.4%). The reason for the decline has been the marked increase in fishing effort, with engine power rising one and a half times over the decade in both regions.

To arrive at an approximate estimate of production in the fishing grounds taken into account within the twenty-mile limit, we have taken the yields of demersal and nektobenthonic species* per square mile (i.e. excluding pelagic species and tunny) during the ten year period 1967-77.

Tables 14 and 15 set out the quantities of the species listed, in tonnes, and the ratio betweeen those quantity and the estimated fishing grounds (1,700 square miles in the case of Calabria, 1,300 square miles in the case of Campania).

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* *The demersal species taken into account are: picarel, cod, bronze bream, blue whiting, angler fish, skate, turbot, sole, red mullet, octopus, cuttlefish, curled octopus* (Eledone cirrosa), *white prawn,* Penaeus kerathurus, *red prawn* (Aristeus antennatus), *mantis shrimp and Dublin Bay prawns.*

Table 14 - Landings of demersal and nektobenthonic species in Campania

Year	Tonnage	Tonnes/sq.mile
1967	4978.6	3.83
1968	4831.7	3.71
1969	4444.8	3.42
1970	5114.9	3.93
1971	7011.6	5.39
1972	7010.2	5.39
1973	6516.4	5.01
1974	5126.4	3.94
1975	5350.0	4.11
1976	9098.0	6.99
1977	9299.0	7.15

Table 15 - Landings of demersal and nektobenthonic species in Calabria

Year	Tonnage	Tonnes/sq.mile
1967	4332.0	2.55
1968	4138.6	2.43
1969	3954.6	2.32
1970	4490.1	2.64
1971	4537.3	2.67
1972	4364.7	2.57
1973	2185.8	1.28
1974	2551.7	1.50
1975	3432.0	2.02
1976	3944.0	2.32
1977	4339.0	2.55

2. PRODUCTION

To obtain a more detailed picture of the fishing industry in the two regions, visits were paid to the main maritime districts and information and statistics on local fishing were compiled.

The information related to the maritime districts of Naples, Torre del Greco, Salerno and Vibo Valentia. One point that should be made is that the local records appear to be more reliable than the official ISTAT overall figures, especially on tunny fishing and special forms of fishing in general, as it is easier to check the catch or landing figures. For example, the tunny fishing fleet in the Salerno area, which also uses Vibo Valentia as a base, has been expanding over the past few years, and its outstanding record in increasing its catch is well known. According to local statistics, the annual quantity of tun caught in the maritime district of Salerno is 2,104 tonnes, in Vibo Valentia over 2,000 tonnes; the official statistics for those items quote a figure of 359 tonnes in the region of Campania in 1977, 61 tonnes for the whole of the region of Calabria.

It is more difficult to compare the local figures and the official ISTAT figures for other categories of fish, since the fleets are fragmented and the species for which they fish are so diverse.

On the subject of the composition of catches, these can be divided into two main categories: pelagic species (tunny, anchovy, sardine and mackerel), and demersal species (other fish, molluscs and crustaceans). According to ISTAT figures for 1977, pelagic species accounted for 26.5% of the catch in Calabria, 48.4% in Campania. According to the maritime district records, on the other hand, the percentages are quite different. In Naples, for instance, pelagic species accounted for 64.5% of the total, in the maritime district of Salerno, 82.6%.

The figures in individual maritime districts and in individual regions point to a specific pattern of fishing, and indirectly a pattern of consumption, that emphasizes the importance and potential development and use of pelagic resources, both tunny and fatty fish in general.

In the maritime district of Vibo Valentia in particular, apart from the output recorded by ISTAT, substantial quantities of swordfish are caught, and these are usually not declared to the authorities. The recorded landings of tunny are also very much lower than actual landings, since a large portion of the Salerno tunny fishing fleet operates in the maritime district waters during the summer and sells its catch in Palermo. Another factor is that large Japanese factory ships operating outside the territorial waters of the maritime district have also been buying local tunny since 1973.

Careful records of trawling output are kept in general.

3. THE FISHING FLEET AND THE ORGANIZATION OF LABOUR

3.1 Trends in the size of the fishing fleet, 1968-77

To obtain a picture of the changes that have been occurring in the fishing fleet over the ten year period from 1968 to 1977, we have compared two parameters, gross registered tonnage and the engine rating of trawlers and motor boats in commission in the two regions. The changes found are as follows: in Campania, an 18.7% increase in power rating per unit of gross registered tonnage (rising from 4.37 HP to 5.19 HP/g.r.t.) in the case of trawlers, and a 16.4% fall in the case of motor boats (from 10.0 to 8.36 HP); in Calabria, there was an increase in the case of both types of vessel of + 13.1% (4.1 to 4.65 HP) for trawlers and + 9.5% (from 6.52 to 7.14 HP) for motor boats.

In other words, the engine power per gross registered tonne of motor boats is markedly higher than that of trawlers, in both regions, an obvious sign of an aggravation of the problems faced by the "small-scale fisheries". This is particularly evident when one considers that the increase in engine capacity is not matched by a proportional increase in the size of landings (indeed, in many cases landings have been growing smaller) and that higher engine ratings mean higher running costs. The spiralling rise in the price of fuel has added to the already high expense.

One reason why the engine capacity of motor boats as a ratio of tonnage has increased faster in Calabria than in Campania is the fact that the ratio was lower at the start (approximately two thirds of the ratio in Campania); another is that Calabrian fishermen need to seek their fishing grounds at an increasing distance from the coastline.

Table 16 - Trends in the fishing fleet in commission, 1968-77 - CAMPANIA

	Trawlers			Motor boats		
	HP	g.r.t.	N°	HP	g.r.t.	N°
1968	24582	5630	181	46425	4644	1779
1969	28026	7805	189	50037	4895	1803
1970	29466	6328	197	50651	4969	1806
1971	31907	6843	205	51931	5204	1813
1972	33596	7843	207	53446	5210	1820
1973	37852	7724	217	57395	6708	1838
1974	37729	7651	217	59278	6961	1860
1975	42894	8500	225	60263	7051	1870
1976	45183	8894	245	59709	7001	1871
1977	49555	9547	236	58448	6994	1825

Table 17 - Trends in the fishing fleet in commission, 1968-77 - CALABRIA

	Trawlers			Motor boats		
	HP	g.r.t.	N°	HP	g.r.t.	N°
1968	3017	733	35	16656	2555	966
1969	3177	767	36	17057	2589	981
1970	3177	767	36	17242	2625	989
1971	3682	902	39	17731	2686	1015
1972	3482	851	38	18464	2883	1022
1973	3989	952	41	18902	2907	1024
1974	3953	930	42	19801	2964	1030
1975	5349	1187	47	19781	2884	1037
1976	6530	1391	54	20509	2918	1041
1977	7045	1515	54	21253	2978	1053

3.2 Specific problems associated with fishing

As described in detail in Part One of this report, small-scale inshore fishing is the main form of fishing of concern to Calabria and Campania, especially in terms of the number of men employed in the fishing industry. Essentially this is due to environmental factors such as the characteristic configuration of the coastline that has led to extreme fragmentation of fishing and the absence of efficient organizational facilities upstream and downstream from the fishery itself. The economic and employment conditions in the two regions have obviously played their part in relegating fishing to the role of a precarious, subsistence-level industry. With the massive expansion of tourism along almost the whole length of the coast in both regions, fishing has become a part-time activity, and this has certainly not helped to bring about any pressure for restructuring and reorganization.

In fact the complex problems bedevilling the fishing industry in the two regions fall into two categories, one affecting small-scale inshore fisheries and the other affecting large-scale fisheries.

To take a more searching look at the two sets of problems, a detailed survey was conducted of fishermen working in an area selected as a sample because of the importance of fishing and above all because it has been an area of lively growth in recent years. The area is in the maritime district of Salerno and, with regard to the problems of small-scale fishing, the stretch of coast from Positano to Salerno, where there is a centuries-old tradition of seamanship and which is more advanced than other areas, even though they are all engaged both in fishing and in tourism to a greater or less extent.

A. Problems associated with small-scale fishing

All coastal towns and villages in Campania and Calabria have their own little fleet engaged in small-scale fishing; the reason why the fleets have not expanded to a satisfactory degree is the lack of adequate harbour structures. It is impossible to achieve the levels of production and income that are considered as reasonable in these days, especially by the younger generation - thus preventing the normal transition from one generation to the next.

The only reason for the stability in the number of people working in the fishing industry is the high unemployment rate in general. The most common form of production unit is the family-run non-industrial fishing business.

The survey conducted in the reference area specifically covered the organizational models of fisheries and those structural shortcomings that act as a direct deterrent to growth in the fishing industry. The most relevant points emerging in the course of the survey on individual fishing centres are set out below.

Positano - A small fleet of boats operates from Positano, 10 tons being the larges The absence of any harbour facilities - not even provision for shelter - makes it quite impossible for fishing to expand. In addition, Positano attracts large numbers of holiday-makers over a long season and provides plenty of opportunities for attractive and well paid employment as an alternative to fishing. Even today, almost all of the fish landed goes straight to the local restaurants and hotels; only rarely is it sold to local dealers, and even then only in winter and when the catch is plentiful.

Amalfi - Although Amalfi does have a busy harbour, the prospects for an expansion of fishing activities are not bright because of the strong pressure of competition from the tourist trade, which is particularly attractive to the younger generation.

Amalfi's fishing fleet consists of low tonnage boats used for dragging methods of fishing, mainly close in to the shore. This gives rise to many problems, since it helps to destroy the marine fauna and flora that have already been seriously affected, and it also damages underwater structures such as sewers and cables.

The fish landed is disposed of on the local market; only when the catch is particularly plentiful is it sent to the larger fish markets in the region.

Maiori and Minori - The absence of a port is a serious obstacle to growth in the fishing industry. If there were adequate facilities, fishermen here would be prepared to throw themselves into the work more wholeheartedly. The two villages number about 150 men engaged in fishing, although they alternate their fishing with work in the tourist trade.

A boatyard building timber boats serves the two villages; its workload is normally below capacity, especially in terms of the tonnage of boats being built.

The fish landed is usually sold to the consumer straight off the boat.

Salerno - Since Salerno has good port facilities and ample provision for disposing of landings, it should be assured of a healthy and expanding fishing industry over the years to come. Here again, however, the difficulty lies in the reluctance of young people to enter the industry and in the lack of well organized facilities on shore to promote marketing of the fishery products.

To conclude this brief description of the findings of the survey in the towns and villages listed, it can be said that the basic obstacles to the development of small-scale fishing are:

a. the absence of port facilities or even - in the majority of cases - minimal shelter for boats;

b. a low propensity among young people to take up fishing as a living, one of the reasons being the counter-attraction of employment in the tourist trade, which offers better working conditions and a higher income;

c. the absence of organized structures for the marketing and processing of fishery products, which would safeguard the meagre incomes currently earned in the fishing industry (since earnings are dependent not only on the quantity of landings and the unforeseeable contingencies that arise but also - and above all - on the prices obtained for the catch in different seasons of the year);

d. the deleterious effects of pollution and clandestine fishing, which are not only causing the marine fauna resources to dwindle but also discourage people who might otherwise take up fishing as a living, there being no valid plans or programmes to protect the resources of the sea and promote restocking;

e. the non-existence of any arrangements to support fishing by providing technical assistance or help with funding during periods of involuntary inactivity.

B. Problems associated with large-scale fishing

There is no tradition of distant water fishing in Calabria and Campania, except for coral fishing, based solely in Torre del Greco, and swordfish fishing, almost all of which is based in the maritime districts of Salerno and Reggio Calabria. In our sample area, only in recent years has a deep sea trawling fleet been created; this has now become one of Italy's major fleets, and is based in Cetara and Salerno. It consists of no fewer than 23 trawlers, basically fishing tunny and banded together as a single association. Even so, the association has not yet organized itself well enough to exploit the full potential of the monopoly it is creating. The reasons are the lack of port, boatyard and market facilities and also the fact that the venture is run on non-industrial/family lines, making it difficult to achieve the economic scale that will match the fleet's substantial production potential. Each vessel is owned by a fishermen's

cooperative that has availed itself of the capital grants offered by the *Cassa per il Mezzogiorno* to fit it out with technical equipment (such as radar and sonar) and with fishing nets; in many cases, however, the vessel is over-equipped for the kind of work on which it is normally engaged.

The number of fishermen on each trawler is 15 or 16, all of whom are employed in the complex work of handling the nets. What is missing is the specialist technical crew required by law. The fishermen who are the members of the cooperatives refused to employ specialists such as telecommunications operators, radar operators, marine engineers, etc., because they feel that they can be self-sufficient and because they are determined not to allow specialists to obtain the on-the-job qualifications they need, as they would otherwise be entitled to be listed in the register of those seeking employment. To obtain such qualifications, a man must have been a member of a crew for at least 18 months. The fishermen can avoid complying with the law requiring such personnel to be employed on board since they are able to prove that no such qualified men are to be found on the labour market. This creates a vicious circle: men who have completed courses giving them paper qualifications in specialist areas but must acquire practical experience before they can be fully qualified; by refusing them jobs on board, the fishermen prevent them from being fully qualified.

The prospects for growth in distant water fishing seem to depend on whether the fish resources in the Mezzogiorno continue to decline. Some of the fishermen are thinking about extending their radius of action to ocean waters. In recent times, the Cetara-Salerno fleet has acquired a new 64 metre trawler, to be used mainly for ocean fishing. Most fishermen, however, are reluctant to leave their traditional fishing grounds, partly because they are unwilling to accept greater risks and partly because they do not want to alter the existing structure of their fleet. Although the specialist skills needed in ocean fishing exist in the area, it is unlikely that this will become common, at least in the near future. The technical training college specializing in maritime courses has introduced specialist courses in refrigeration engineering, etc., with a view to future needs when ocean fishing becomes a reality.

On vessels engaged in large-scale fishing, work is governed on the whole by "share contracts", at least in the area surveyed. Nevertheless, it is very common for fishermen working on privately-owned trawlers to leave their jobs before the end of the fishing season because they do not feel they are earning enough. This obviously causes considerable difficulties for the entrepreneurs, who cope by taking on more people than they need at the beginning of the season. This inevitably leads to contradictions.

The basic problems that arise in "large-scale fishing" can be adequately solved only by a switch from the family-type concern to a business run on industrial lines and by a radical change in entrenched attitudes. One of the purposes in so doing is to resolve the difficulty of disposing of the fish at a fair price. Marketing is one of the main reasons for the low earnings in the industry that are the rule, despite the fact that demand easily outstrips supply.

The plan for a new port in Salerno which is now being implemented by the building of a wholesale fish market with cold stores, etc. (see enclosure to this report) will certainly be a step in this direction, but it will not be enough in itself. The fishermen and/or their cooperatives must be able to organize themselves more efficiently so that they can take full advantage of those facilities. In other words, the facilities will perform their functions efficiently only if they are directly managed by the producers.

To give some idea of the actual earnings of both owners and crew members, we have drawn up "balance sheets" typical of the kind of fishing concerns that are common in Calabria and Campania. They are four in number: one for a family-type business operating mainly in the Bay of Naples with one 4.5 tonne motor boat; a small-scale concern with a 20 tonne trawler operating within the 20-mile limit in the Tyrrhenian; one for the same type of concern with a 99 tonne trawler operating within the same fishing grounds; and the last for an industrial-scale fishery with a 420 tonne vessel fishing in the Mediterranean.

Maritime District of Naples

Balance sheet for a fishing concern with an engine-driven fishing boat, maximum power rating 50 HP, max. displacement 10 g.r.t.

1.	Nature of fishing vessel	
	Gross registered tonnage	4.5 tonnes
	Length	7.5 metres
	Year built	1976
	Current cost if new	Lit.7,000,000
2.	Nature of engine	
	Power rating	25 HP
	Year of manufacture	1976
	Current cost if new	Lit.4,500,000
3.	Radio and electrical equipment	
	Current cost if new	-
4.	Fishing gear	
	Current cost if new	Lit.7,500,000
5.	Nature of fishing	
	Fishing method (one or more)	gill nets and encircling
	Main fishing grounds	Bay of Naples
	Months in commission	Seven
	Main species fished	Molluscs and other fish
	Size of crew	Three men
6.	Method of apportioning the value of the catch	
	Operating expenses deducted from gross proceeds:	
	Percentage of net proceeds retained by owner:	
	Percentage of net proceeds assigned to crew:	
	Number of shares into which the crew's net proceeds are divided:	

Operating account

A.	Saleable catch	
A.1	Quantity of fish landed - breakdown by species group	
	Fatty fish	6,000 kg
	Other fish	900 kg
	Molluscs	600 kg
	Crustaceans	300 kg
A.2	Value of catch - breakdown by species group	
	Fatty fish	Lit.2,100,000
	Other fish	4,500,000
	Molluscs	1,800,000
	Crustaceans	900,000
	Total value of catch	Lit.9,300,000
B.	Outgoings	
B.1	Expenses to be deducted from total earnings	
	Food on board	
	Fuel (3.4 tonnes)	Lit. 884,000
	Lubricants (0.2 tonne)	Lit. 220,000
	Ice	30,000
	Fish boxes, paper, twine, prawn additives, etc.	30,000
	Coolant and gas or firewood for cooking	
	Radio services for fishing, repairs of electronic equipment	
	Forwarding agent for supplies	
	Remuneration paid to net hand for maintenance/repair	
	Fishing permits	
	Other expenses	
	Total expenses to be deducted from the gross	Lit.1,164,000
B.2	Net proceeds	Lit.8,136,000
	Assigned to owner (.....%)	

B.3	Expenses borne by the owner	
	Maintenance of boat	Lit. 500,000
	Maintenance of engine	300,000
	Maintenance and repair of fishing gear	300,000
	Provision for depreciation of boat (life 20 years)	250,000
	Provision for depreciation of engine (life 10 years)	300,000
	Provision for depreciation of other equipment	
	Insurance on boat	
	Marketing costs	
	Payments to the crew for holidays, rest days and Christmas bonus (unless otherwise deducted)	
	Interest on loans	
	Other expenses	

Summary

A.	Incomings	Lit.9,300,000
B.	Operating expenses	
	Fuel	884,000
	Lubricants	220,000
	Other expenses	60,000
C.	Maintenance and replacement	
	Boat	500,000
	Engine	300,000
	Fishing gear	300,000
D.	Insurance and tax	
	Insurance of boat	
	Marketing expenses and dues	
E.	Labour	
	Share assigned to crew	
	Other labour expenses	
F.	Financing	
	Provision for depreciation of boat	250,000
	Provision for depreciation of engine	300,000
	Interest on loans	

The crew

Crew's share in value of catch	Lit.6,486,000
Holidays, rest days and Christmas bonus	
Food on board	
Other payments and end-of-trip bonuses	
Total	Lit.6,486,000
Number of crew members	3
Number of days worked	200
Annual earnings	Lit.2,162,000
Earnings per day	Lit. 10,810

Maritime district of Salerno

Balance sheet for a fishing concern with an engine-driven fishing boat, maximum power rating 300 HP, maximum displacement 20 g.r.t.

1.	Nature of fishing vessel	
	Gross registered tonnage	20 tonnes
	Length	14.90 metres
	Year built	1969
	Current cost if new	Lit.30,000,000
2.	Nature of engine	
	Power rating	250 HP
	Year of manufacture	1969
	Current cost if new	Lit.15,000,000
3.	Radio and electrical equipment	
	Current cost if new	Lit. 5,000,000
4.	Fishing gear	
	Current cost if new	Lit.60,000,000
5.	Nature of fishing	
	Fishing method (one or more)	encircling
	Main fishing grounds	within 20-mile limit - Tyrrhenian
	Months in commission	9
	Main species fished	anchovy
	Size of crew	8 men
6.	Method of apportioning the value of the catch	
	Operating expenses deducted from gross proceeds	Lit. 8,500,000
	Percentage of net proceeds retained by the owner	50%
	Percentage of net proceeds assigned to the crew	50%
	Number of shares into which crew's net proceeds are divided	8

Operating account

A.	Saleable catch	
A.1	Quantity of fish landed - breakdown by species group	
	Fatty fish	200,000 kg
	Other fish	-
	Molluscs	-
	Crustaceans	-
A.2	Value of catch - breakdown by species group	
	Fatty fish	Lit.60,000,000
	Other fish	-
	Molluscs	-
	Crustaceans	-
	Total value of catch	Lit.60,000,000
B.	Outgoings	
B.1	Expenses to be deducted from total earnings	
	Food on board	-
	Fuel (32 tonnes)	Lit. 6,400,000
	Lubricants (2% of 32 tonnes)	300,000
	Ice	300,000
	Fish boxes, paper, twine, prawn additives, etc.	800,000
	Coolant gas and gas or wood for cooking	-
	Radio services for fishing, repairs of electronic equipment	200,000
	Forwarding agent for supply services	100,000
	Remuneration to net hand for maintenance/repairs	-
	Fishing permits	100,000
	Other expenses	300,000
	Total expenses to be deducted from the gross	Lit. 8,500,000
	Net proceeds	Lit.51,500,000
	Assigned to owner (50%)	25,750,000
B.3	Expenses borne by the owner	
	Maintenance of boat	Lit. 1,500,000
	Maintenance of engine	500,000
	Maintenance and replacement of fishing gear	3,000,000
	Provision for depreciation of boat (20 years)	1,500,000
	Provision for depreciation of engine (10 years)	1,500,000
	Provision for depreciation of other equipment	500,000
	Insurance of vessel	1,500,000
	Marketing costs	2,000,000
	Payments to crew - holidays, rest days and Christmas bonus (unless otherwise deducted)	
	Interest on loans	400,000
	Other expenses (social security contributions)	7,500,000
	Total	Lit.19,500,000

Summary

A.	Incomings	Lit.60,000,000
B.	Operating expenses	
	Fuel	6,400,000
	Lubricants	300,000
	Other expenses	1,800,000
		Lit. 8,500,000
C.	Maintenance and replacement	
	Boat	1,500,000
	Engine	500,000
	Fishing gear	3,000,000
		Lit. 5,000,000
D.	Insurance and tax	
	Insurance of boat	1,500,000
	Marketing expenses and dues	2,000,000
		Lit. 3,500,000
E.	Labour	
	Share assigned to crew	25,750,000
	Other labour expenses (pension scheme)	7,500,000
		Lit.33,250,000
F.	Financing	
	Provision for depreciation of boat	Lit. 1,500,000
	Provision for depreciation of engine	1,500,000
	Interest on loans	400,000
	Provision for depreciation of equipment	500,000
		Lit. 3,900,000
	Profit	Lit. 5,850,000

The crew

Crew's share in value of catch	Lit.25,750,000
Holidays, rest days and Christmas bonus	-
Food on board	-
Other payments and end-of-trip bonuses	-
Total	Lit.25,750,000
Number of crew members	8
Number of days worked	200/220
Annual earnings	Lit. 3,200,000
Earnings per day: 220 days work -	Lit. 14,500
312 days work -	Lit. 10,256

Maritime District of Salerno

Balance sheet for a fishing concern with an engine-driven fishing boat, maximum power rating 500 HP, max. displacement 100 g.r.t.

1.	Nature of fishing vessel	
	Gross registered tonnage	99 tonnes
	Length	26 metres
	Year built	1970
	Current cost if new	Lit.55,000,000
2.	Nature of engine	
	Power rating	470 HP
	Year of manufacture	1970
	Current cost if new	Lit.30,000,000
3.	Radio and electrical equipment	
	Current cost if new	Lit. 5,000,000
4.	Fishing gear	
	Current cost if new	Lit.70,000,000
5.	Nature of fishing	
	Fishing method (one or more)	encircling
	Main fishing grounds	within 20-mile limit - Tyrrhenian
	Months in commission during the year	9
	Main species fished	anchovy
	Size of crew	10 men
6.	Method of apportioning the value of the catch	
	Operating expenses deducted from gross proceeds	Lit.21,850,000
	Percentage of net proceeds retained by the owner	50%
	Percentage of net proceeds assigned to the crew	50%
	Number of shares in which crew's net proceeds are divided	10

Operating account

A.	Saleable catch		
A.1	Quantity of fish landed - breakdown by species group		
	Fatty fish	350,000 kg	
	Other fish	-	
	Molluscs	-	
	Crustaceans	-	
A.2	Value of catch - breakdown by species group		
	Fatty fish	Lit.100,000,000	
	Other fish	-	
	Molluscs	-	
	Crustaceans	-	
	Total value of catch	Lit.100,000,000	
B.	Outgoings		
B.1	Expenses to be deducted from total earnings		
	Food on board	Lit. 3,000,000	
	Fuel	13,000,000	
	Lubricants	1,000,000	
	Ice (200 tonnes x Lit.1,000)	2,000,000	
	Fish boxes, paper, twine, prawn additives, etc.	1,600,000	
	Coolant gas and gas or wood for cooking	250,000	
	Radio services for fishing, electronic equipment repairs	300,000	
	Forwarding agent for supply services	100,000	
	Remuneration to net-hand for maintenance/repairs	-	
	Fishing permits	100,000	
	Other expenses	500,000	
	Total expenses to be deducted from the gross	Lit. 21,850,000	
B.2	Net proceeds	Lit. 78,150,000	
	Assigned to owner (50%)	Lit. 39,075,000	
B.3	Expenses borne by the owner		
	Maintenance of boat	Lit. 2,000,000	
	Maintenance of engine	1,000,000	
	Maintenance and replacement of fishing gear	3,000,000	
	Provision for depreciation of boat (20 years)	3,000,000	
	Provision for depreciation of engine (10 years)	3,000,000	
	Provision for depreciation of other equipment	500,000	
	Insurance of vessel	2,250,000	
	Marketing costs	3,000,000	
	Payments to crew - holidays, rest days and Christmas bonus (unless otherwise deducted)	-	
	Interest on loans	900,000	
	Other expenses (social security contributions)	10,000,000	
	Total	Lit. 28,650,000	
	Profit	Lit. 10,425,000	

Summary

A.	Incomings		Lit.100,000,000
B.	Operating expenses		
	Fuel		13,000,000
	Lubricants		1,000,000
	Other expenses		7,850,000
			Lit. 21,850,000
C.	Maintenance and replacement		
	Boat		2,000,000
	Engine		1,000,000
	Fishing gear		3,000,000
			Lit. 6,000,000
D.	Insurance and tax		
	Insurance of boat		2,250,000
	Marketing expenses and dues		3,000,000
			Lit. 5,250,000
E.	Labour		
	Share assigned to crew		39,075,000
	Other labour costs (social security contributions)		10,000,000
			Lit. 49,075,000
F.	Financing		
	Provision for depreciation of boat		3,000,000
	Provision for depreciation of engine		3,000,000
	Interest on loans		900,000
	Provision for depreciation of equipment		500,000
			Lit. 7,400,000
	Profit		Lit. 10,425,000

The crew

Crew's share in value of catch		39,075,000
Holidays, rest days and Christmas bonus		-
Food on board		3,000,000
Other payments and end-of-trip bonuses		-
Total	Lit.	42,075,000
Number of crew members		10
Number of days worked		220
Annual earnings	Lit.	3,907,500
Earnings per day 220 days work	Lit.	17,761
312 days work	Lit.	12,740

Maritime District of Salerno

Balance sheet for a fishing concern with an engine-driven fishing vessel, maximum power rating 1500 HP, displacement up to 1,500 HP.

1.	Nature of fishing vessel	
	Gross registered tonnage	420 tonnes
	Length	42.5 metres
	Year built	1977
	Current cost if new	Lit.600,000,000
2.	Nature of engine	
	Power rating	1,470 HP
	Year of manufacture	1977
	Current cost if new	Lit.150,000,000
3.	Radio and electrical equipment	
	Current cost if new	Lit. 28,000,000
4.	Fishing gear	
	Current cost if new	Lit.130,000,000
5.	Nature of fishing	
	Fishing method	encircling
	Main fishing grounds	Mediterranean
	Months in commission during the year	9/10
	Main species fished	tunny - anchovy
	Size of crew	15 men
6.	Method of apportioning the value of the catch	
	Operating expenses deducted from gross proceeds	Lit. 32,750,000
	Percentage of net proceeds retained by the owner	50%
	Percentage of net proceeds assigned to the crew	50%
	Number of shares in which crew's net proceeds are divided	18
	including: to the skipper	2
	to the fishing master	2
	to the chief engineer	2

Operating account

A.	Saleable catch	
A.1	Quantity of fish landed - breakdown by species group	
	Fatty fish	300.000 kg
	Other fish (tunny)	300,000 kg
	Molluscs	-
	Crustaceans	-
A.2	Value of catch - breakdown by species group	
	Fatty fish	Lit. 80,000,000
	Other fish (tunny)	240,000,000
	Molluscs	-
	Crustaceans	-
	Total value of cach	Lit.320,000,000
B.	Outgoings	
B.1	Expenses to be deducted from total earnings	
	Food on board	Lit. 4,500,000
	Fuel	23,000,000
	Lubricants	1,500,000
	Ice	-
	Fish boxes, paper, twine, prawn additives, etc.	1,500,000
	Coolant gas and gas or wood for cooking	500,000
	Radio services for fishing, electronic equipment repairs	500,000
	Forwarding agent for supply services	150,000
	Remuneration to net-hand for maintenance/repairs	-
	Fishing permits	100,000
	Total expenses to be deducted from the gross	Lit. 32,750,000
B.2	Net proceeds	Lit.287,250,000
	Assigned to owner (50%)	Lit.143,625,000
B.3	Expenses borne by the owner	
	Maintenance of boat	Lit. 4,000,000
	Maintenance of engine	2,000,000
	Maintenance and replacement of fishing gear	8,000,000
	Provision for depreciation of boat (20 years)	30,000,000
	Provision for depreciation of engine (10 years)	15,000,000
	Provision for depreciation of other equipment	3,000,000
	Insurance of vessel	11,250,000
	Marketing costs	2,500,000
	Payments to crew - holidays, rest days and Christmas bonus (unless otherwise deducted)	-
	Interest on loans	21,000,000
	Other expenses (social security contributions)	15,000,000
	Total	Lit.111,750,000
	Profit	Lit. 31,875,000

Summary

A.	Incomings		Lit.320,000,000
B.	Operating expenses		
	Fuel		23,000,000
	Lubricants		1,500,000
	Other expenses		8,250,000
			Lit. 32,750,000
C.	Maintenance and replacement		
	Boat		4,000,000
	Engine		2,000,000
	Fishing gear		8,000,000
			Lit. 14,000,000
D.	Insurance and tax		
	Insurance of boat		11,250,000
	Marketing expenses and dues		2,500,000
			Lit. 13,750,000
E.	Labour		
	Share assigned to crew		143,625,000
	Other labour costs		15,000,000
			Lit.158,625,000
F.	Financing		
	Provision for depreciation of boat		30,000,000
	Provision for depreciation of engine		15,000,000
	Interest on loans		21,000,000
	Provision for depreciation of equipment		3,000,000
			Lit. 69,000,000
	Profit		Lit. 31,875,000

The crew

Crew's share in value of catch		Lit.143,625,000
Holidays, rest days and Christmas bonus		-
Food on board		4,500,000
Other payments and end-of-trip bonuses		-
Total		Lit.148,125,000
Number of crew members		15
Number of days worked		220
Annual earnings		Lit. 9,575,000
Earnings per day	220 days work	Lit. 43,523
	312 days work	Lit. 30,689

3.3 Facilities serving the fishing industry

One of the major problems faced by the fishing industry is undoubtedly the shortage and inadequacy of fishing harbours over the whole length of the Campanian and Calabrian coast, although the problem is particularly acute in Calabria where no such facilities exist at all.

There is also a growing need for a range of services if those employed in the fishing industry, and especially the younger men, are to achieve a financial return closer to their aspirations. Those services are not to be found today even in the best equipped fishing centres.

The kind of services that are needed to help convert the fishing industry from its archaic, subsistence-level condition to a more highly skilled and businesslike status are those provided by public bodies: information ranging from meteorological forecasts and market data to the more technological information on fishing grounds, optimum fishing periods and methods, etc.

It could be argued that most of the information of this nature has been gradually built up through the experience of the older generations, but it should be improved and in many cases corrected, something that can be done without great difficulty by the use of sophisticated instruments. There is a growing awareness of the need for such information, for two reasons: the irrational exploitation of resources due to scanty knowledge of marine biology and over-fishing; and the damage caused by the pollution that has totally disrupted the marine equilibrium, especially in the coastal strip where inshore fishing is concentrated, the most common type of fishing in both regions in terms of number of people employed.

The most obvious shortcoming is the lack of technological information - partly because of the low level of appropriate applied research, partly because the findings of the few research projects that do exist are not widely publicized - but both types of information are of great value

to fishermen; the data that are in fact in greatest demand are the meteorological and market data, because they have a greater impact on safety at sea and on livelihoods. A few years ago there was tragic loss of life off the Ionian coast of Calabria and there are continuing dangers and difficulties because timely information is not given on changes in the weather. Italy does have a comprehensive network providing information on meteorological conditions but fishermen do not always receive that information or take appropriate action. Another problem that has been pointed out for a long time, one that has a very specific effect on life in the industry, is that the market is not transparent; in other words, there is no information of any kind on the price levels for fishery products. This places a very serious obstacle in the way of improvements in the industry, since it affects the earnings of fishermen and young people's decision as to whether to enter; and continue in, the industry.

These brief considerations show how unlikely it is that the fishing industry will expand and help the local population to supply more of their needs out of their own resources, despite the high level of unemployment among young people, unless at least minimal services are organized. In their absence, it would be useless even to formulate plans for improving the facilities for the storage and promotion of fishery products.

There are many services that could be provided in addition to the ones described, such as a sea rescue service and health facilities on shore, mechanical facilities to haul in boats, shelters and storage space for equipment. The greatest need, however, is for the services discussed at greater length.

4. MARKETING METHODS AND THE MARKETS

4.1 Marketing methods

In the fish industry, methods of marketing range widely, reflecting profoundly differing economic and social situations. In the area under review, for instance, there are as many methods as there are types of fishery product marketed (fatty fish, tunny, swordfish, etc.) and as there are fishing methods (small- or large-scale).

a) Fatty fish

Two different procedures are used, depending on the size of the fishing centres. In smaller places (Amalfi, Maiori, Minori and many of the villages along the Cilentana riviera), where most of the fish landed is consumed locally, there are no distribution problems as the fish is sold direct to the fish retailers. In larger fishing bases such as Santa Maria di Castellabate and Acciaroli, the fish is sold on the landing wharves where the dealers and wholesalers will wait for the boats to come in. In Salerno, on the other hand, where fairly large quantities of fish are landed - sometimes more than 200 tonnes a day - the problem of how to dispose of the fish arises. As a general rule, the catch is taken (in the light of information transmitted by radio) to the markets that are in short supply at the time within the region: Alerno, Torre Annunziata, Naples or Pozzuoli. Nevertheless, the times at which those markets are open for dealing cause serious problems to the producers. Opening hours are from 4 or 5 a.m. to 10 a.m., reducing the (overnight) fishing period to about four or five hours. This prevents the fishing boats from taking larger catches, as they are forced to return as early as possible to obtain the highest prices for the fish.

The deals are usually struck between the fishermen and those running the fish market, the prices being determined by an auction system. An exception to the rule is the type of negotiation done by fishermen from Cetara, who deal with a transportation cooperative which, in turn, arranges for the fish to be distributed to the best markets. There is no legal contract between the parties, however, and the fishermen are free to make their own arrangements to sell their fish on whichever market they feel will give the best prices.

b) Tunny

Tunny is marketed in a completely different way from fatty fish. There is only one purchaser who takes over all the fish caught. This means that the fishermen could look on themselves as "employees" of that buying firm, which also operates in Palermo. They are almost entirely dependent on the firm, since it has also contributed towards the purchase of some of the vessels and has thereby become a partner, and since the contracts of sale are arrived at annually, the prices for each month being determined in advance, based on fishing seasons. The situation is aggravated by the lack of other purchasers able to handle fresh tunny, especially the larger fish which may weigh more than 300 kg each. One positive aspect of the method is that the arrangements for collecting the catch are highly streamlined; the fish can be unloaded at any port and picked up by the purchaser's own road vehicles.

As soon as the tunny is collected it is processed and frozen for shipment outside Italy, one of the main clients being Japan. The tunny processors operating in the two regions, on the other hand, use as their raw materials the frozen tunny imported from foreign markets (mainly from Japan), paying a lower price because the fish is smaller and of lower quality.*

The marketing method described places stringent restrictions upon tunny fishing: the fishermen have to plan their work to fit in with the capacity of the purchaser to take up their catch. It is not uncommon for boats to have to stop fishing and return to port because too much fish has been caught.

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* *In 1978, 1,065,200 kg of frozen tunny was unloaded in the port of Salerno. The monthly breakdown was as follows:*

January	*73,400 kg*	*July*	*49,600 kg*
February	*151,800*	*August*	*52,000*
March	*110,000*	*September*	*81,300*
April	*95,800*	*October*	*60,000*
May	*114,500*	*November*	*83,000*
June	*25,000*	*December*	*16,800*

c) Swordfish

As in the case of tunny, swordfish is marketed on the basis of seasonal contracts between the producers and the dealers, although the price is based on the first catch of the season. The dealers arrange for the catch to be collected from the wharf when the boats return.

Because of the lack of storage facilities, especially in the leading fishing centres for swordfish (Santa Maria di Castellabate, Acciaroli and Marina di Camerota), it is difficult for the fishermen to negotiate better prices for their catch and they are forced to sell in the quantities required by the dealers.

4.2 Market organization

The fish market in the town of Salerno is the only one in the whole of the province of Salerno. Created by a fishermen's cooperative, the market has gradually become more and more of a private enterprise. The dealers who obtain a licence from the local authority to operate on the market virtually monopolize local production. Officially they are paid 5% of the value of the fish handled for their services, on top of which comes a further 5% for miscellaneous costs, but in practice they take a total percentage of 13% to 14%.

The profit margins taken by the retailers are far higher, in many cases as much as 300% of the original value. The general line taken by the retailers is to charge a consistent selling price whatever the cost price. In so doing, they manage to add to their already substantial earnings; combined with the lack of facilities, this has a marked impact on fishing activity. Production is also affected by the lack of cold storage, with the cold rooms that do exist being available only to the market commission agents. Many of the problems will obviously be solved once the new fish market, run on a consortium basis by local bodies and dealers, has been built in Salerno. Complete with cold stores, a scientific research station, a centre providing aid to the fishing industry, etc., this market will become a major focal point for all the activities of the fishing industry. It will even have a section to coordinate fish farming, both in fresh and in salt water.

5. PROCESSING

5.1 Plant

There is a good deal of fishery product processing in Calabria and Campania, but essentially it takes two forms: the processing of fatty fish (anchovies and sardines) and the processing of tunny. The former is more widely distributed through the regions and is usually carried out in small concerns, almost always on a non-industrial scale and as a family basis. Basically, it takes the form of canning the fish in oil or salt. Tunny processing - in this case the canning of tunny in oil - is carried out, on the other hand, by two major industrial concerns, one in the province of Salerno (Sarno) and the other in the province of Catanzaro (Pizzo Calabro).

The fatty fish processing industry, a feature of which is the low level of capitalization per person employed, provides a natural outlet for surpluses when the catch is plentiful and for the catch landed in minor fishing centres with only small population, especially when the communications with the leading consumer centres are poor.

The relatively large number of fatty fish processors is a sign that business is reasonably buoyant, especially as the supply is not quite enough to meet internal and external demand. It should not, however, be interpreted as meaning that the sector is dynamic: at present it is governed by a series of restraints, the main conditioning factors being the cost of labour and marketing costs.

High labour costs are a prime consideration for those contemplating the creation of plant on a larger scale, the kind of plant that can make a greater impact on the market, since it implies an obligation to comply with contractual regulations relating to the labour force as is normal in industrial concerns and in more economically advanced countries.

All the processors working in this sector keep their labour force down to 25 to 35 people so that they can evade union regulations. In practice, this often means that the wages paid are below the minimum rates laid down by collective contracts.

The ratio between capitalization and the labour force is extrmely low: investment is Lit.6 million to Lit.7 million per employee in the anchovy processing industry, Lit.10 million to Lit.12 million in the sardine processing industry.

The other fundamental restraint is the keenness of competition on the market. There is strong competition from Spain, Portugal and the emerging nations (especially Morocco and Algeria), which can supply products at low prices, since the prices move more slowly in those countries than does the cost of the factors of production. Some of the foreign products, especially those from Spain, are of higher quality than their Italian counterparts and Italian manufacturers are forced to keep their prices down to the minimum.

Another way in which the processors attempt to keep down their labour costs is to concentrate several compatible forms of production in a single plant. As a general rule, fatty fish is processed in plants which also handle agricultural products to be preserved in salt, oil, vinegar, etc. (such as artichokes, aubergines and olives). This helps to make better use of the installations and makes production more flexible and able to adapt to market requirements, as well as achieving a degree of continuity of employemnt for the labour force.

Apart from the small family businesses which sell their products to the consumer director or to small retailers, most processors take the form of multi-purpose plants that rarely employ more than 20 people, 80%-85% of whom work on fish and the remaining 15%-20% of whom work on agricultural products. In almost every case, wages are below the rates laid down in industry-wide agreements between management and the unions.

The concerns that process tunny, on the other hand, pay the full union rates, since they employ the number of people that makes it compulsory for the unions to be represented and for the employers to abide by all the regulations and agreements set out in the national labour contracts. The tunny processors do not find this to be an undue constraint, however, as the production work is highly mechanized and automated.

According to the tunny processing concern in the reference area, the main problem today is the lack of adequate refrigeration facilities in the ports, which means that it has to provide its own facilities on a larger scale than is necessary for its routine processing requirements and that it cannot take advantage of good opportunities that arise on the market.

Another negative aspect, again one that concerns the procurement of supplies, is the reluctance displayed by the porterage cooperatives in Salerno (the main port of unloading imported tunny) to unload the goods. The concern has threatened to close down its plant if its raw materials were to be landed at other ports, since the cost of transporting the tunny from those ports would be prohibitive. Even today, these difficulties make it difficult to achieve production levels close to the plant's potential - in fact, its capacity is 30% to 40% greater than is currently used.

Essentially, the type of work on which the tunny processors are engaged is the canning of tunny in oil, almost all output going to the domestic market (approximately 98%) and only a tiny proportion going to export markets, mainly in Africa. The main by-product is fish meal for livestock breeding purposes.

5.2 Organization

Depending on their production potential, plants processing fatty fish obtain their raw materials directly from individual fishermen or cooperative groups of fishermen operating in the hinterland of the fishing centres, or from the transportation firms or cooperatives which buy the fish, in some cases from markets at a fair distance.

The agricultural products processed in multi-purpose plants are usually acquired in the semi-processed state; in other words, all that is done is to bottle or can the products, adding oil, vinegar or water as appropriate.

The main method of selling products is to go through middlemen who go out and get the orders; in a sense, it can be said that the processors work to order. Only a few of the larger plants have their own representatives. The main export markets, to which a substantial portion of the output of individual processors (up to 50%) is channelled, are in France and Germany.

As is obvious, the tunny processors obtain their supplies of raw materials and distribute the finished product in a completely different way, on far more industrial lines. The size of the plant and the resulting problems in procurement of supplies and disposing of output make it essential to have specific structures; without them, the production side could not be operated smoothly.

Raw materials in the form of frozen tunny - especially the yellowfin - are usually purchased from the large Japanese, French, Spanis, Korean and other fishing fleets operating in the Gulf of Guinea, Gulf of Panama, Indian Ocean, the Australian seas, etc. Purchases are staggered fairly evenly over the year. There are no peak buying times because neither the processors nor the ports of unloading have sufficient storage space.

Sales of the end product are also reasonably steady throughout the year, although there are minor peak periods in April, May and June when the holiday season starts.

Almost all the items required in production (tins and bottles, cartons, labels, etc.) are purchased from local manufacturers.

6. PORT AND BOATYARD FACILITIES

In the area under review the shortage of adequate port and boatyard facilities is one of the main problems affecting the growth and life of the fishing industry.

Ahtough the structural shortcomings in the harbours do not constitute a very serious obstacle to the small-scale fishermen they are of vital concern to the large-scale fishing industry which plays such a major role in the area we have taken as our sample. Even for the inshore fishermen, however, the growing competition from yachts and pleasure craft is adding to their difficulties because it deprives them of space and facilities. It is not unusual for fishermen not to find a mooring place when they return to port, especially during the summer, and they often have to wait a long time for access to the wharf while passenger boats are turning.

Another major problem, especially for the large-scale fishery, is the lack of mechanical facilities to assist with loading and unloading on the wharves. Difficulties are also reported with health and hygiene because the wharves are not washed down throroughly enough or promptly enough after unloading.

Even in the minor ports along the Cilento coast where there is no special shortage of mooring places for small boats, one of the difficulties is the lack of equipment for loading and unloading and, above all, the lack of mechanical workshops.

The situation in the port of Cetrara is typical: although it is used as a home base by various tunny-fishing cooperatives, they are forced to use the port of Salerno because there is nowhere to berth their vessels in Cetara,

There are few boatyards in the sample area and users are forced to go to boatyards in other maritime districts, above all in Torre del Greco and Naples or, in the case of distant-water fishing boats, yards outside the region.

All this has an obvious effect on running costs and places an additional burden on the fishermen, who are forced to use their boats for longer periods than they should. In the maritime district under review there is a single yard, operating inside the port of Salerno, which can haul boats of up to 250 tonnes into dry dock and carry out specialist work. The yard has very little space, however, and it cannot cope with the needs of the fishermen in the area efficient. What is more serious is that this boatyard has long ago applied to the authorities for a concession on a larger space within the new port of Salerno now being constructed. Its application has not yet been approved because no space has been allocated to boatyard work within the new port. This is obviously a grave error, especially when one considers that the investment which the boatyard would like to make would not only rationalize the whole system of docking and working on boats but would also increase the number of jobs it could provide from the current level of 50 to about 300.

The three other boatyards in Salerno have for a long time been engaged solely in the building of lesiure craft. The entrepreneurs have reduced the number of employees to the minimum in spite of sustained demand because they are unwilling to expand to a size which would force them to admit union representation into their firms.

7. TRAINING

In the maritime district of Salerno there are three state-run vocational training centres: two vocational colleges (Salerno and Santa Maria di Castellabate) which train young people for qualifications as "masters", "ship's mechanics" and radio operators, and one in Maiori - a department of the Sorrento nautical college - which provides training for merchant captains (holding the equivalent of the extra master's ticket) and engineers. In numerical terms, the existing training centres are reasonably adequate and could meet the needs of the population in the maritime district. One criticism might be their siting in the very large area of the maritime district concerned, although it should be pointed out that most of the municipal areas along the coast involved in fishing have a small population.

The major problem in the field of training is the equivocal situation in which fishermen working in the industry very often lack any theoretical knowledge (in some cases they are quite unable to plot a route) while young men have acquired that knowledge but are unable to enter the industry. The main factors that have created this situation are:

a. Fishermen look on themselves as self-sufficient and will not accept any innovation;

b. Although the law states that qualified personnel must be employed (radio operator, engineer, etc.), it allows departures from the rule if there is no such personnel available; furthermore, even those who have obtained the requisite academic diplomas must work at sea for at least 18 months before they are fully qualified so that, by preventing them from obtaining jobs on board, the fishermen can stop them achieving those qualifications;

c. Fishermen also feel that it would be too heavy a financial burden to take on qualified personnel.

When one day the fishing fleet is expanded, especially if it is expanded by increasing the size of vessels, the entrepreneurs will have a technical need and therefore an obligation to hire personnel with specific qualifications. For this reason, emphasis should be placed on restructuring training activities and its importance to the future of the fishing industry. Only by bringing in more highly qualified personnel can fisheries be run on more economic lines avoiding the errors that add to the time, cost and the risk of fishing.

There is pressure for training and refresher courses from the industry itself, but the courses held last year were not very successful. The basic problem lies in the running of the courses. The dichotomy between theory and practice is too great at present for the different needs to be reconciled. If, for example, the school authorities are asked to arrange the courses, the people in the fishing industry do not take an active part because they look on the courses as wholly theoretical and as of little practical value. If, on the other hand, they are run by organizations within the fishing industry, the courses often end up by being no more than a form of subsidy for out-of-work fishermen.

The whole problem might be solved by assigning responsibility for the courses to public bodies with special interest in the fishing industry.

PART THREE

OBJECTIVES TO BE PURSUED AND INTERVENTION REQUIRED

FOREWORD

By analysing the organizational structure of the fishing industry and identifying its main problems in the regions of Calabria and Campania, a fairly realistic chart can be mapped out of the measures that should be implemented if the industry is to be able to fulfil the not inconsiderable part that it is called upon to play.

In this third part of the report, the intention has been to predict the impact of EEC policy on fishing and to delineate the steps that should be taken to ensure that the impact is least damaging and that it can revitalize the industry's economy as a whole.

In considering intervention measures, once again we have decided to pay special attention to the kind of measures that would deal with the problems that have become apparent in our analysis of a sample area, in so far as Campania is concerned, and to the measures that should be taken in the region of Calabria as a whole. We did not think it appropriate to specify specific measures applicable to the Naples area, as almost all the area comes under the *Consorzio Autonomo del Porto di Napoli* - the Port of Naples autonomous consortium, which is obviously responsible for planning. Since the various Neapolitan ports have to perform so many functions and serve an extensive hinterland, that planning will be particularly complex.

These considerations are very significant, especially in view of the town planning situation which - as described in Part One - places great difficulties in the way of improving communications and restructuring the ports. In the space of this report it is impossible to deal with the whole set of problems that arise, even though many of them are associated with growth in the fishing industry, nor can we suggest solutions to all. Our suggestions as to the measures that might be applied to other areas in Campania, however, may be generally relevant to the fisheries that operate along the Neapolitan coastline.

1. EEC POLICY AND ITS IMPACT ON THE REGIONS

Of the various EEC policies relating to the fishing industry that have already been brought into being, those most affecting Calabria and Campania were set out in Regulation No 355/77 of 15.2.1977 (common action to improve the conditions of processing and marketing agricultural products) and in Regulation No 1852/78 of 25 July 1978 (amended by Regulation No 592/79 of 26.3.1979) introducing an interim common measure for restructuring the inshore fishing industry.

The policy introduced by Regulation No 355/77 was important because it made it possible, especially in Campania, to launch the process of restructuring and developing two important activities, processing and marketing, which have a great bearing on life in the sector.

The policy outlined in Regulation 1852/78 was important because it sparked off planning in both regions with a view to major aquaculture projects. It is likely that there will be more such projects in the future because they meet the specific needs of many coastal and inland areas and correspond to their potential.

Regulation 1852/78 should also have beneficial effects on the modernization of the fleet, At present more than 75% of the boats in Campania and 65% of those in Calabria are more than ten years old, and only about 25% of the total engine-powered fleet in both regions engage in trawling and purse-seining. In view of the large numbers of very low tonnage motor boats (with boats displacing less than 20 g.r.t. accounting for 94% of the total in Campania, 97% in Calabria), the Regulation may well be applied. Article 3, paragraph 2, states that the financial incentives provided by the Fund may also be given to smaller vessels (from six metres - 20 foot - in length or 10 gross registered tonnes) provided that they are used for other than trawling or purse-seining

Campania and Calabria did not in fact avail themselves of the "financial compensation" paid out through AIMA (*Azienda Statale per gli Interventi sul Mercato Agricolo* - the body through which the State intervenes in the agricultural market) when surplus products are withdrawn from the market - based on the prices established by the EEC annually in furtherance of Regulation No 100/76 of 19.1.1976 (common organization of the market in fishery products) - since the situation did not arise; indeed, the producers' organizations have never intervened in the market to withdraw fishery products as of this date.

The directive on certain immediate action to adapt capacity in the fishing industry is also likely to have very little impact. This action is the granting of premiums for temporarily laying up vessels, for their sale to third countries or for their use for purposes other than fishing, the payment of compensation to members of the crew of the vessels laid up and the creation of a scheme to encourage fishermen aged between 50 and 65 to give up work. The reason for its lack of impact is that there are very few men who work on trawlers of 10 tonnes and over (6.6% in both regions) and also very few trawlers of this size (less than 6% in Campania and less than 2.5% in Calabria). An additional factor is that any jobs released by the older men would not be filled by young men, quite apart from the fact that the former would have little inducement to leave their work when there is so little alternative employment available, especially with the large numbers of young people seeking their first jobs in the two regions.

2. OBJECTIVES

Apart from the difficulty of determining the time scale for objectives - short-, medium- or long-term - and their territorial scope - regional, national or Community - the main problem is to ensure that these objectives are consonant with a planned, coordinated and consistent vision of the end goals and of the instruments, methods and efforts that must be deployed to attain those goals.

2.1 The long-term objectives

The most vital of the long-term objectives is still to shift the emphasis in food policy and to broaden the market. A demand must be created for fishery products (fresh, preserved or processed) that is in line with the ecological resources of the sea and that is diversified so that it can respond to the situation in terms of the potential and existing stocks, not vice versa.

To achieve this objective, priority should be given to the interests of the community (both consumer microeconomies and the macroeconomy of the country's balance of trade) rather than to the interests of this or that industrial sector and producers' pressure groups, as has sometimes been the case up to now.

The objectives will take a long time to implement and steps must be taken without delay to coordinate the short- and medium-term policies of the regional, national and EEC authorities.

2.2 The medium-term objectives

These include:

a) rational management of resources;

b) development of the land/sea interface of the coast in the light of careful territorial planning;

c) rationalization of marketing and distribution;

d) coordinated expansion of plant for the storage, preserving and processing of fishery products;

e) improvement in the fishermen's vocational skills and their socio-economic and organizational status;

f) creation of instruments for communication, decision-making and planning in matters of regional, national and EEC policy (resource management committees), and a qualitative and quantitative increase on the executive side;

g) creation of and addition to a store of information, statistics and applied research; provision of general and specialist training for senior technical staff; and establishment of university-level structures upstream from the research facilities.

2.3 The short-term objectives

Defined as objectives that could be achieved within a period of a few years, these are:

a) restructuring of the fishing fleet; preventing growth in the trawling fishing effort; creation of a system of licences for the building of new fishing vessels and provision of scrapping premiums; diversion of some of the existing fishing effort towards pelagic and special fishing;

b) ventures to promote the coastal strip and increase production (aquaculture, offshore fish farming and artificial barriers, marine parks, etc.);

c) concentration of incentives for the creation and better use of shore facilities;

d) ventures designed to introduce new consumer sectors to fishery products and the creation of sales outlets and marketing centres (local authorities, cooperatives) for fish caught in large quantities, especially fatty fish;

e) publicity and promotion to boost sales of fish caught in large quantities, especially fatty fish;

f) updating of fishing regulations.

3. PRODUCTION MEASURES

Production measures include all those forms of intervention designed to increase production - while preserving the biological balance - and reconstitute stocks (when resources are depleted), defend and make better use of marine environments and raise the productivity of fishing concerns (above all by reducing production costs).

In essence, these are the short- and medium-term measures to which reference is made above. Nevertheless, one vital form of action that must precede all the other measures listed is to expand and reinforce the facilities for research applied to fishing. It is quite unthinkable to embark on any planning for the fishing industry or on the rational management of resources without developing our research potential.
In the two regions with which we are concerned, consideration should be given to the following projects:

a) the creation of a research facility in Salerno, directed mainly to solving the problems that arise in fishing for tunny and Scombridae type fish in general, above all because of the fast growth in the fleet engaged in tunny fishing. This facility can make a substantial contribution towards reducing the contingencies associated with fishing, containing production costs and outlining rational ways of managing resources, which are in danger of being overfished. The *Consorzio Ittico Tirrenico* (C.I.T.) in Salerno, which represents the tunny fishing fleet, has applied to the *Cassa per il Mezzogiorno* for assistance with setting up a research facility of this kind (see proposal attached).

b) a broad-ranging multiannual research programme enbracing those aspects of oceanography, biology and technology linked with tunny fishing in the Lower Tyrrhenian.

c) a plant for the storage and processing of fishery products caught on a large scale, especially fatty fish, to be sited within Campania.

d) intervention to promote the coastal strip, to restock the seas by "artificial barriers", to introduce fish farming ventures and biological protection areas, especially in Campania (Agropoli, Castellabate, etc.).

e) reinforcement and modernization of the fish market, structurally, in terms of facilities and operationally.

4. STRUCTURAL MEASURES

4.1 Port organization

The fishing industry could potentially provide an incentive for the economic and social development of the coastal area in both regions, being a "natural" part of the life and work of the resident populations.

The port should be a link and at the same time a coordination centre for the activities upstream and downstream from fishery production. In practice, however, the principle is not borne out. There are clear signs of indifference to, if not rejection of, the possible policies for the development and integration of those activities that are directly or indirectly related to port activity. One instance is the lack of operational links between two sectors, agriculture and the fisheries, that could well use the same port facilities with an obvious saving in costs.

Any intervention policy intended to improve the port structures should obviously be based on the creation of a system that will help to develop the existing economic fabric.

As far as the fishing industry is concerned, in most cases it has no prospects for developing organizational structures other than the non-industrial structure.

Those operating in Salerno and Cetara are an exception to this rule, having started to move away from the small-scale fishing concern to the industrial-scale business for some time now.

The fact that it is impossible to bring about radical changes in a short period of time does not imply that there is any lack of measures designed to assist production as it exists today. The port system needs urgent action in almost every centre. In the sample area in particular, the measures listed below are considered as vital.

Positano - A comprehensive harbour unit is necessary, serving both the fishing vessels and the sizeable flow of tourist traffic. As in all other small resorts along the coast, it should be borne in mind that small-scale fishing is unlikely to expand very fast because of the many opportunities for alternative employment for the residents.

Amalfi - Although Amalfi has a port that meets the needs of local producers, there is no pressure from fishermen themselves for growth in the sector. The factors restraining expansion in the fishing industry are to be sought in the large number of tourists and holiday-makers visiting Amalfi, providing plentiful opportunities for employment, and the lack of shore facilities which might otherwise act as incentives for higher production. The type of intervention needed is to augment the mechanical and refrigeration facilities that help to implement a sound marketing policy and to guarantee a higher and more reliable income to fishermen.

Maiori and Minori - The considerations that arise regarding Positano also apply to these two small towns and the same measures should be adopted.

Cetara - Two factors to be borne in mind is that the existing port system is small and that the port of Salerno is very close. The large-scale production capacity of this little fishing village is out of all proportion to the harbour area. It is not thought desirable that the tunny fishing for which Cetara, together with Salerno, provides the only base on a national scale should be integrated with the rest of Cetara's economy. Any intervention measures should be separated, according to whether they deal with industrial or non-industrial activities. As in the case of all other coastal bases, better harbour, mechanical and refrigeration facilities are needed for the non-industrial fisheries. The industrial fisheries, on the other hand, with their high production levels must, by necessity, use the port of Salerno where there are structures large enough to handle loading and unloading requirements and satisfy the need for refrigeration and marketing facilities.

Salerno - The fishing industry is of primary importance in the port of Salerno in terms of volume of traffic and product quality, but most of the fish unloaded is imported frozen fish rather than fish caught by local vessels.

In the last few years, landings have been as high as 12,000 tonnes of frozen tunny and 8,000 tonnes of other frozen fish. This import business could well contribute to local growth if a storage system were to be created, but it has come up against a wall of indifference from local fisheries. One of the main reasons is the absence of a refrigeration and marketing centre which has at the same time prevented growth in direct production.

Once the plan for the new port is brought into being - and work is at an advanced stage - these shortcomings will be eliminated. Work is also due to start on a very large capacity refrigeration centre in the near future. The applications to the *Cassa per il Mezzogiorno* for funding for the project have already been approved. The installations have been listed under the heading of "public works", a sign of the commitment on the part of the authorities to press for consistent development in the fishing industry as a whole.

When the work has been completed, there will be refrigeration capacity for the tunny caught by local fishermen as well. The whole tunny catch can finally be landed in the port area of Salerno; at present, this is 8,000 to 10,000 tonnes a year.

It should be borne in mind that this substantial flow of traffic, which is capable of generating a volume of business of about Lit.10,000 million, makes no contribution to Salerno's economy as things stand today. The tunny is fished in the Tyrrhenian and unloaded at other ports that have adequate facilities for handling the incoming fish and for processing it after landing.

The smallness of the port areas concerned is very obvious if the allocation of 48.5 hectares within the port for open yards and embankments is compared with the 2,500-3,000 hectares recommended by European regulations as the minimum for any "ZIP" (industrial port zone) before it can be classified as a port with an international role. Even more significant is a comparison with the Japanese regulations, which state that both the ZIP and the MIDA (Maritime Industrial Development Area) must be no less than 4,000 hectares.

Cilento coast ports - Fishing off the Cilento coast is on a small-scale and it is to be found along its whole length. In the absence of growth in the fishing industry, the existing port system is not a serious obstacle to production. Nevertheless, the quantities of fish landed are substantial and difficulties do arise as a result of the widespread shortage of harbour facilities for loading and unloading.

Under the development plan formulated by the *Consorzio Ittico Tirreno*, Santa Maria di Castellabate is to be the location for a new plant capable of processing all future production, i.e. approximately 3,000 tonnes of fish a year. This will undoubtedly boost production throughout the area and it is likely that the process of conversion of the fishing fleet will be speeded up in the near future. There is an urgent need to create a chain of cold stores which will make this process of modernization and expansion in the area more efficient.

Calabria - In formulating a development policy for the port system in Calabria, both on the Tyrrhenian and on the Ionian side, we should not base ourselves on the existing levels of fishing, because they are affected by the almost total lack of facilities. The only ports which are engaged in any activity associated with fishing are Pizzo Calabro and Vibo Valentia on the Tyrrhenian Coast and Crotone on the Ionian coast. Although Reggio Calabria does have its own infrastructure, it is main a focal point for the Sicilian economy.

On the Ionian coast, the port of Sibari, now being completed, will have no facilities specifically assigned to the fishing industry, nor will it have a wharf that can be used by local firms dealing in fishery products. This state of neglect is inexcusable in view of the substantial volume of fish landed in the area by local and extra-regional fishermen, the latter in particular being very numerous.

In none of the ports is there any refrigeration centre that might assist the fishermen in their work. As things stand, they have to dispose of their catch immediately to the middlemen who then sell it to various buyers, usually in Naples and Salerno, who make large profits because they have better facilities. What is needed is practical and immediate intervention to rationalize the whole Calabrian port system.

Any action must be designed to expand existing infrastructure and to provide support by creating cold storage facilities and a network of collection points along the coast to assist fishermen in their work.

As of this time, there can be no plans for the building of other ports since the existing ports suffice; on the other hand, a network of cold storage units can be brought into being which will organize the wide-scale non-industrial production that takes place along the whole length of the coast and convey the fishery products to the four existing ports, which should then act as focal points for regional development.

4.2 Boatyards and other facilities

The shortcomings reported in the field of boatyards also act as obstacles to further growth in the fishing industry.

Provision for the maintenance and repair of fishing vessels is quite inadequate, in view of the needs of local fishermen having boats exceeding 8 or 10 metres in length.

It is a fairly complex matter to reach a solution to the problem, because of the range of interests in play. In the port of Salerno, for instance, the continuing difficulty of lack of space has sparked off conflict between the port workers, who want to run the space within the port, and those working in the boatyards who obviously need greater space for their work. Unless the authorities take firm action the problem is likely to become gradually more acute, but they are reluctant to add fuel to the flame by taking political decisions which would inevitably favour one side over the other.

It would not be possible to transfer boat repairs and maintenance to the eastern zone, outside the port area, because of insurmountable practical difficulties. Although difficult, it might be possible to revive boatbuilding through decentralization in the eastern zone, under the industrialization plan for the zone that has been in existence for some years.

The difficulties are not so great in developing boatyard activity in the smaller fishing towns and villages along the Salerno coast, and intervention to encourage the creation of workshops and maintenance centres is certainly to be desired. The shortage of such facilities makes it far harder to maintain the level of employment among fishermen. The long periods of enforced idleness due to this shortage are a concrete disincentive to fishermen to remain in the industry.

Although the absolute lack of organization in the provision of services backing up the fishing industry is a matter of great regret, it must be admitted that it fades in significance by comparison with the scale of other problems. The authorities must be made more aware of the situation so that most of the problems can be overcome.

In Calabria, the boatyard situation is equally inadequate, in terms of both boatbuilding and maintenance. Small workshops engaged in routine maintenance work on small boats do exist but there are far too few, acting as a practical disincentive to the future of the fishing industry.

Boats operating from home bases on the Ionian coast are forced to go to boatyards in Molfetta, while those on the Tyrrhenian side go to boatyards as far north as Viareggio or Livorno.

In Crotone, there are plans for the inclusion of a maintenance and repair centre within the port area in the near future, but it is unlikely to be adequate to cope with the demand from the many boats operating locally.

At least one well equipped boatyard in each existing port is considered vital for the development of the region as a whole, and the port of Sibari in particular should be substantially altered to promote expansion at every level of the fishing industry.

4.3 Marketing centres

The marketing system has an important part to play and can make a marked contribution towards the growth of the fishing industry. If it is efficient and clearly separates the two phases of production and sale, it can be used to achieve many objectives, above all guaranteeing a fair income to the fishermen who will no longer be dependent upon weather and the fluctuations of their market.

If steps are taken to rationalize the marketing system, two further effects can be achieved:

1. Production can be increased. Fishermen would not be tied to specific dealing times and could fish in waters more distance from the coast, where fish are far more plentiful. In particular, larger anchovies could be caught and supplied to the processing industry which now has to import its raw materials from markets outside the region.

2. It will be possible to implement a policy stabilizing the prices at levels providing a good return to the fisheries, one of the ways being management of stocks to regulate the flow of fishery products to both the consumer and the processor market.

A side effect that could be achieved if the fish market satisfies these requirements is the creation of one or more regulated sales outlets to help to fix prices at official rates, especially in the case of retail sales.

This aim may seem of minor importance by comparison with the overall problem, but its achievement would have a marked effect on consumer trends, given the promotional effectiveness of such activity.

The objectives listed obviously cannot be attained unless there is a network of cold stores in the ports of unloading, the activities of each refrigeration unit being coordinated and consistent with the work of the fish market that it serves.

In view of the limitations on production in the coastal strip to the north of Salerno, it would not be easy to create a fish market to back up marketing. It would be enough to provide cold stores to be used as fish collection points once local demand has been met. Any surpluses would be sent on to the fish market in Salerno which will be able to coordinate the work of the various refrigeration units without detracting from their independence.

The Salerno fish market, which will be able to take up large quantities of fish, will act as a coordination and sorting centre for both the surpluses from the coastal towns and villages and for the sizeable landings by local fishermen, as well as the considerable volume of imported fish; at present, because of the shortage of cold storage, the latter plays only a marginal role by comparison with the total quantities unloaded and processed.

With this in mind, any project that might accelerate completion of the new port within whose area the new fish market is to be established should be encouraged. One good point is that work is due to start on building a cold store unit in the next few days.

As in the area north of Salerno, a network of refrigeration units should be created along the Cilento coast, and these should be large enough to handle the potential production of the individual fishing centres. In Santa Maria di Castellabate,where a plant capable of processing 3,000 tonnes of fatty fish is to be built, a second fish market should be created with the function of storage and coordination on behalf of the units with which it is linked in the area.

Calabria has no organized marketing structures and no overall plan for the fishing industry.

In view of the features of the Calabrian coastline along which small-scale fishing is a very common activity, it would be even more important to have a network of refrigeration units whose work should be coordinated by a few fish markets. This network must of necessity differ from a network serving Salerno because of the length of the coast. In Salerno, the units would have only two functions: to act as collection centres for landings and to forward the fish to the fish market. In Calabria, they should help to minimize costs and transportation times, since there is only one properly equipped port in Calabria - Vibo Valentia - that could be the focal point for the whole industry. This implies that the network should terminate at this port, which is not at the centre of the lengthy coastline. It would be necessary to site collection and sorting centres at intermediate points; although they would not be fish markets, they would take over some of their functions. The Ionian coast has essentially the same features as the Tyrrhenian except that it has two ports, Crotone and Sibari, making it easier to create a linking system.

It is no coincidence that a large number of boats come into the fishing grounds off the coast from other regions, further impoverishing the local stocks of fish.

4.4 Processing and storage facilities

From the findings of the survey on those operating in the fishing industry, we have pinpointed two factors that place a brake upon growth in the industry: labour costs and the highly competitive international market.

It should be borne in mind that these factors occur in a market where demand outstrips production capacity. The many firms operating in the Salerno area are all of the same type: in other words they are on a small scale and employ 25 to 35 people. This implies that the production structures are absolutely homogeneous and are prepared to take advantage of any improvements that may occur - in other words, were the obstacles described to be removed, there could well be immediate expansion in the whole of the sector.

The problems are mainly associated with the fact that the labour force in general is underpaid and competition on international markets usually takes the form of lowering prices. It is desirable, therefore, that labour relations in the sector should be overhauled to put the firms in question on a competitive footing and to help eliminate the irregularities to be found on the labour market.

One justification for measures of this kind is that fish processing is a highly labour-intensive occupation and any incentives for growth in the sector would have undoubted social benefits, easing the tension in this area of the South of Italy.

It should also be borne in mind that the concerns in question have been able to hold up against competition from other countries because of the prudent national monetary policy of a sliding devaluation in the exchange rate. Once Italy enters the European Monetary System, this manoeuvre will no longer be permitted. The implication is that if the concerns are only on the fringes of the international market there is a serious risk of exports falling in the near future unless internal inflation can be halted, an unlikely event.

One last factor that should not be overlooked is the absence of a link between the processing units and local producers. The anchovies caught off the Salerno coast, for instance, are rarely large enough to be processed and supplies have to be procured from markets outside the region. One of the results of rationalizing the marketing process would be that fishermen could sail to fishing grounds much further away from the coast and demand for fishery products could be diverted towards local producers.

As things stand, there is no processing capacity in Calabria except for a tunny canning plant in Pizzo Calabro. It would be wiser to wait for the first-stage activities to develop, however, before going on to the industrialization phase, although when it does occur it should be centred in the areas of Vibo Valentia, Crotone and Sibari.

5. ORGANIZATIONAL MEASURES

5.1 Production structures

Since the switch from non-industrial to industrial production cannot be made over a short period, or even involve all those involved in the fishing industry today, organizational measures must be the most suitable instruments for implementing a transition position in the short term.

The priority should be to organize and modernize the existing fleet, eliminating the use of small boats for fishing and, by creating cooperatives, to acquire boats large enough for middle and distant water fishing. If the fleet were to be restructured along these lines, both the quantity and the quality of the catch would be improved and pressure would undoubtedly be exerted to implement the structural measures planned. A vital step, then, is to reinforce associations and cooperatives, and incentives should be offered for more advanced forms of collective management as will become necessary during the phase in which marketing expands.

Measures should also be adopted to increase fishermen's skills. The equipment used on board calls for more and more specialist knowledge and experience is not always a substitute. Something can be achieved by introducing courses in specialist skills, with attendance being made compulsory for those applying for financial aid in acquiring larger boats.

There should also be special incentives for young people embarking upon their working life in the fishing industry. It is common for young men to leave the fishing industry after a few years because they are unable to earn a reasonable living and because they prefer to take up a more profitable and less demanding job. This is particularly true of Calabria, as demonstrated by the virtual non-existence of fishermen in the 18 to 30 age bracket. Once again, then, the instrument of guaranteeing earnings should be used to prevent the outflow of young people from the industry.

5.2 Marketing structures

Because of the shortage of marketing structures, at this time it is possible to embark upon training of personnel who will be employed in refrigeration units and, at the same time, conduct research on the optimum location of decentralized units. This is the phase in which incentives should be provided for the formation of marketing associations which should then form consortia with producers' associations.

Further research should be conducted on the most appropriate methods of distribution, a point that we shall be discussing later.

5.3 Processing structures

In Campania, apart from the structural problems arising in the processing stage there are difficulties associated with the production policies that should be adopted to make fishery products more competitive. This objective can be achieved by implementing distribution policies designed to acquire new consumer sectors that are not being served at present. One of the ways in which this can be done is to expand the facilities that process imported fresh and frozen fish.

In Calabria, efforts should be made to develop the basic structures. Research on projects that would help to make the best possible use of marine resources - including aquaculture - would speed up the process of industrialization, although this will undoubtedly take a long time.

6. FINANCIAL MEASURES

In this phase, it is extremely difficult to suggest financial measures that would really achieve the desired effects of development throughout the fishing industry. A review of the application of EEC policies points to the conclusion that financial intervention designed to improve structures may lead to tangible results only if a substantial percentage of the investment outlay is funded. The main reason is that the level of productivity in the sector is not so high as to offset high costs and give an adequate return on the various factors of production. This is particularly true of the regions under review, where the very great majority of fisheries are on a non-industrial scale, do not have adequate basic facilities (boatyards, harbours, processing, marketing, etc.) and are exposed to every contingency, both production and commercial. In Campania and Calabria, what is needed is to launch the fishing industry on more rational and up-to-date bases; even today, it is exploited in an irrational manner by organized groups, most of which are from other regions.

Only be making substantial non-returnable grants and giving low-interest medium- and long-term loans will it be possible to remove the traditional obstacles that have prevented growth in the industry, or to bring about the conditions that are essential for the economic and social recovery of the industry over the relatively short term.

It is also obvious that to create structures is not enough: it is even more important to ensure that they are managed economically in order to provide impetus to the industry. One of the errors that is often committed, especially in areas in which there is no firmly based experience of the sound management of public production facilities, is the lack of attention devoted to this difficult subject. The fairly frequent reports on the way in which installations created in the Mezzogiorno are being badly used must be attributed to a lack of proper management.

In the specific case of fishing, a sector that in many ways is even more vulnerable than other industries, simultaneous - if not priority - arrangements must be made for the creation of management bodies capable of ensuring that good economic use is being made of the structures. This need is also applicable to privately owned facilities brought into being by individuals or groups; indeed, they will probably to a great extent determine whether the public facilities can be put to better use. To ensure that efficient operating plans can take concrete shape, financial aid should not be confined to the creation of projects but must also be given in the management phase. It is by taking advantage of loans at concessionary rates that ventures can achieve sound results and at the same time act as an incentive for growth in the industry as a whole.

7. LEGISLATIVE MEASURES

The crisis from which the fishing industry has been suffering for years is due to many factors, as we have had the occasion to point out in various parts of this report. One of the main factors is the departure of young people from the industry as they feel that fishing does not provide an adequate living and that the type of work does not match up with the aspirations towards a life-style more consonant with our modern times. This is particularly true of small-scale fishing, the most common form in Calabria and Campania, which is still governed - on the fields of social security and welfare - by Law 250 of 1958. Although the law extends the right to sickness and accident insurance, pensions and, provided that they are members of cooperatives, family allowances to workers in the fishing industry, it does not give them an entitlement to sickness or unemployment benefits. This is certainly a form of discrimination against fishermen by comparison with other workers, and it makes young people unwilling to devote themselves to fishing. What is even more important, however, is the level of the pension granted to a man employed in small-scale fishing: after forty years of work and of paying contributions, he is entitled to no more than the minimum rate from the age of 60.

The situation is even more confused and anomalous in the case of fishermen employed on the other types of fishing: middle and distant water, and ocean fishing. In so far as sickness and accidents are concerned, they are ensured with the "maritime insurance funds" on the basis of a monthly wage specified by a ministerial decree issued in 1947, confirmed in 1952 and in the years thereafter, but still far too low and without any relation to the level of wages that are currently being paid to other categories of workers.

The contradictory nature of this situation, aggravated by the crisis facing the fishing industry, and the consequence of making it necessary to pay ever larger contributions, have recently induced the law-makers to tackle the problem by extending the right to hospital treatment to these workers and their dependants and by paying a more acceptable sickness benefit, in other words a benefit not related to the minimum guaranteed wage.

Up to a few years ago, the pension situation was even more paradoxical. To save a few pennies on their pension contributions, owners used to take an arbitrary decision to hire a crew "on the permanent establishment" or "under licence". Men on the "permanent establishment" would come under the seamen's insurance scheme, while those working "under licence" would be entitled to INPS pensions (*Istituto Nazionale della Previdenza Sociale*). The difference was that men insured under the seamen's scheme were entitled to pensions related to a more realistic conventional wage, whereas INPS pensions were based on a conventional wage specified by the maritime health schemes. After a forty-year working life and after forty years of paying out contributions, these workers never exceeded the minimum pension levels to which any other worker is entitled after 25 year of paying contributions. Law 27 issued in February 1973 finally declared that crews on boats are entitled to the seamen's insurance scheme pension, whether they are "on the permanent establishment" or "under licence".

All this has certainly not acted as an incentive to young people to take up fishing as a livelihood, nor has it attracted potential boatowners, who forsee great difficulties in finding crews. A clear-cut manifestation of the general reluctance has been the widespread recourse to "the lump" and to seamen from other regions and from other countries.

This is only one, if perhaps the most important, problem; there are many others as well that must be tackled and solved by legislation coordinated at the different levels of responsibility: regional, national and Community. Unless the world of employment can be made secure and tranquil, it would be unrealistic to hope for smooth development in the sector. Even in the two regions with which we are concerned, which are well known to be those most seriously afflicted by unemployment in the Mezzogiorno, the younger generations do not favour this type of work. It is out of the question for the fishing industry to be launched and placed on a sound footing in the 1980s unless those working in the industry can be sure of an income, social security and a life-style that provide a valid alternative to those offered by other sectors of employment. This, perhaps even more than the production and marketing structures, is the prerequisite for a revival of the fishing industry in the short term.

8. PROMOTIONAL MEASURES

8.1 Improving the marine environment

The marine environment is well known to have deteriorated, both because of the high level of pollution, aggravated by the fact that the inlet to the Mediterranean is too small for the water to be changed and renewed, and because of the way in which the fishermen have devastated the sea bed by trawling within the three mile limit - a practice that has not only caused damage to underwater structures serving the community but has also markedly altered the natural habitat.

On the latter point, it should be borne in mind that the laws governing fishing activity exist but are sometimes infringed for lack of policing.

On the subject of pollution, the conference of states bordering on the Mediterranean has already embarked on its work, although it has not yet achieved any practical results.

As things stand, efforts should be made to coordinate national policies to restrict the damage caused by ships discharging into the sea.

Other ventures should be launched at local level, both to ensure that the laws are enforced and to prevent pollution from urban sewage by the widespread installation of treatment installations.

The problem of fish production should be viewed jointly with the problem of public health in terms of the quality of the fish intended for human consumption - the fish that is affected by marine pollution - and in terms of the rapid spread of infectious diseasesthat can be attributed to contact with polluted water.

Another problem is the gradual impoverishment of Tyrrhenian waters, which has a very adverse effect on the prospects not just for expanding but even for maintaining production levels.

The creation of the Punta Licosa National Park in Campania is a first step in this direction, foreshadowing other measures to protect the natural environment. It is designed to help repopulate the sea with marine life.

The complete absence of research on stocks of existing fish and signs of more plentiful stocks makes it impossible to carry out any sound policy to protect existing species; there would be no difficulty in conducting research of this nature.

To place temporary restrictions on fishing or to make legislative decisions on the mesh size of nets would be no more than individual efforts unless they are part of a broader, carefully planned policy. It is obvious that, as things stand, they will not lead to the desired effects because of the complete lack of information.

8.2 Consumer guidance

Up to now, promotional campaigns designed to increase consumption of fatty fish has achieved little, partly because of mistakes in the promotional techniques used - the message being beamed at the whole consumer sector without making any differentiation - and partly, and to a greater extent, because it takes a very long time to change eating habits.

The deduction is that promotional efforts to expand sales and guide consumers must be directed towards sectors of society that have not been habitual consumers of the products in question. Sales and distribution policies which will help to channel fishery products towards sectors that have not been very much aware of such products before may well be more successful.

Differentiating measures are needed during the marketing and processing phase, in an effort to extend the range of products being processed so as to attract buyers in different consumer sectors, and during the phase of gaining a preliminary foothold on new markets, with special effort being devoted to introducing fishery products to the many community catering bodies that now take their supplies from firms providing products requiring the minimum preparation and cooking times. Marketing centres working in cooperation with the fish markets would be able to conduct intensive local campaigns and would also help to guide consumer trends to fit in with production.

A wide variety of ventures could well be introduced to achieve these aims, and studies and research are needed; this is not the place to go into the research in detail, but it should be pointed out that distribution is one of the priority issues to be tackled as part of any policy of production growth. In many ways, distribution is still unexplored terrain.

8.3 Vocational options for young people

Young people's diffident attitude towards fishing is one of the most serious problems affecting the industry. The main reasons are the absence of a guaranteed, steady income and the sacrifices which workers in the industry are called upon to make. Another reason is the lack of social status arising from the separation of those working in the industry from other sectors of society.

In essence, all these factors are associated with the precarious nature of the work at this time, its non-industrial nature and the lack of coordination between individual phases of the fishing industry as a whole.

Two of the incentives that are feasible are to guarantee an adequate livelihood and to introduce vertical coordination between sectors by a system of cooperatives and consortia allowing greater mobility of those employed in the industry.

Nevertheless, the main effort should be to rationalize the fishing industry by conversion from a non-industrial to an industrial scale, since this will lead to higher production and a better return for the arduous work which fishing entails.

All the measures proposed in this report are designed to achieve this end. The creation of marketing facilities managed by fishermen's consortia, public bodies and private concerns and entrepreneurs may make a practical contribution and persuade young people not to turn their backs on the fishing industry.

9. INTEGRATED MEASURES

9.1 Location

In Campania, in addition to the measures already described, whose purpose is to breathe fresh life into the traditional production, processing and marketing structures, an intensive programme for the expansion of fish production can be conducted through the widespread introduction of fish rearing installations both in sea water and in fresh water, located not only on the coast but also inland.

A development policy along these lines would help to site such projects throughout the territory and to create a large number of production centres in the whole of the hinterland, without the social trauma normally caused by the introduction of industry into the economic context of the two regions.

Under the fishing industry plan considered by the *Consorzio Ittico Tirreno*, six possible locations have been identified in areas adjacent to the rivers Tanagro, Calore, Busento and Sele and the underground lakes of Pertosa and Capodifiume. Measures designed to exploit marine resources have been sited in areas close to the mouths of the rivers Mingardo, Alento, Busento and Sele and the rocky areas of Punta degli Infreschi and Punta Licosa.

These activities could be integrated with the marketing centre in Santa Maria di Castellabate now being constructed, the distribution network that will be set up and a zoological station with a research centre attached (part of the special applied research project funded by the *Cassa per il Mezzogiorno*) to make up a single, homogeneous production network that could act as a vital focus for other ventures inside and outside the regions. The marine fish farming centre that is to be set up at Santa Maria di Castellabate can also be an integral part of the overall plan, acting as a point of reference for the vocational training of young people intending to come into this sector.

Although Calabria has no waterways that are particularly well suited to freshwater fish farming, its coast provides good potential for the development of a chain of installations for rearing young fish in sea water. One project is already being implemented in the Rossano Calabro area but there could be many others along the coast. As things now stand, there is no integrated plan for such projects. Practical steps could be taken in the plain of Sibari, in the Crotone area and on the Tyrrhenian coast of Calabria, and these could be integrated with the other ventures proposed in the region.

9.2 Scale and organization

From the economic viewpoint, the demand for fishery products outstrips the supply on a national level. This, together with the breakdown of demand, indicates that large fish rearing units would be viable provided that they comply with the technical requirements for specific measures.

In the light of current technological information, the species that are easiest to catch are sea bass, gilt-head bream and eels, three species for which demand is particularly heavy.* The deduction is that no problems should arise in increasing production, and therefore that there is no limit on the size of rearing installations.

To our knowledge, there are no specific limits in terms of minimum and maximum size or economies of scale associated with fish farming. It is known that costs decrease markedly as investment outlay increases. Nevertheless, one requirement is that the personnel employed should have specific skills because fish farming is a technologically sophisticated method, but this should not be an insurmountable obstacle. Courses could be arranged at the concerns and research centres already operational in this sector.

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* *Species* — *current production (tonnes)* — *current demand (tonnes)*

Species	*current production (tonnes)*	*current demand (tonnes)*
sea bass	*2,000*	*3,000/4,000*
gilt-head bream	*1,500*	*2,500/3,500*
eels	*1,500*	*9,000/11,000*
	5,000	*14,500/18,500*

One restriction is the problem of acquiring the capital for projects, which entail an outlay of about Lit.300 million per 100 tonnes of eel production or about Lit.800 million per 100 tonnes of sea bass. The profit derived from the units, however, are very high; the gross return is about 34%, the working return about 27% or 28%. The break-even point is about 49% in the case of eels and 55% in the case of sea bass.

From the technical point of view, one absolute restraint on freshwater fish farming is the quantity of water to be found in the territory, i.e. the main watercourses and the water-bearing strata that can be used. The average output that can be achieved with an intensive installation is 10 tonnes per year per cubic metre flow (based on a single project per waterway). It should be borne in mind, however, that the route and location of a river often make it possible to distribute several installations within the basins that it forms.

In Calabria, only sea water fish farms can be created because of the low flow levels of its waterways. There are nonetheless good prospects for intervention along these lines provided that the public bodies, private concerns and producers' organizations are made aware of the potential.

9.3 Forms of management

Given the complementary nature and interdependence of the projects described, there is a manifest need for cooperative and group forms of management at the different levels and in the different sectors to ensure that the projects can be economically run.

Special encouragement should be given to associations set up by local bodies and authorities, producers' and workers' cooperatives and private concerns and entrepreneurs, as well as trade associations.

CONCLUSIONS

The picture of the fishing industry in Campania and Calabria, as it emerges from the survey, is typical of an industry in which fish production is organized along non-industrial lines.

The main reason for lack of development in the industry is the absence of commitment on the part of the authorities, whose main emphasis since the early days of post-war reconstruction has been on growth in the industrial sector.

The prejudice caused by the absence of policies designed to meet the needs of the fishing industry has brought about a stalemate; in practical terms, this means that over 190,000 tonnes of fishery products - 56% of the quantity produced locally - are imported. Translated into balance of trade figures, these imports represent a deficit of Lit.194,400 million.

The picture is certainly not improved when one takes a closer look at production facilities. The fishing fleet is old, fishing boats are far too small and there is a worrying drift away from the fishing industry by young people. No rational marketing system exists. Distribution is in the hands of large numbers of small private operators. Where it exists, the processing industry has no links with the production phase. Even today, no remedy has been found for the gradual impoverishment of fish resources and water pollution. Finally, no information system has been created which might survey the stocks of fish in the fishing grounds or give even the most elementary guidance as to where fish might be most plentiful.

Given this alarming picture, there is an urgent need for clear-cut policies, to be pursued by intervention within the industry to eliminate the structural obstacles that stand in the way of systematic development of the fishing industry.

In discussing practical ways of implementing the development plans, it should be borne in mind that the geographical and production differences between Campania and Calabria suggest the need to adopt different policies for each region. Because of the relatively greater number of infrastructure projects and installations in Campania and the integrated plan of intervention now being carried out in the Salerno area, it is recommended that incentives be provided for more activity in centres along the whole length of the coast, the projects being integrated both horizontally and vertically. Fishery production is less concentrated in Calabria because of the great length of its coastline; as a result, it is recommended that priority be given to those areas having a minimum amount of facilities. At a later date, these can be expanded by measures spread out over the territory as a whole.

The separation of production from marketing is a priority in achieving the objective of providing real guarantees of a steady and fair income to fishermen with a view to bringing back young people to the industry.

Further benefits might ensue if there can be substantial increases in the level of production, both in quantity and quality. Fishermen would be freed from the restraints of having to return to the fish markets during their opening hours. The pursuit of production autonomy would be a sound incentive and its effects would contribute towards the development of the industry as a whole.

Before any practical steps can be taken to separate the two phases, production and marketing, a network of local cold stores must be set up so that all the fish landed can be stored after local needs have been satisfied. This will regulate the flow of fish to the markets and stabilize prices at remunerative levels. The local cold stores will form an integral part of the trading channel, the fish markets having their own sizeable cold storage installations run by collective bodies, with all the necessary coordination between the various units.

Another vital phase in the development of the fishing industry is the creation of processing plants where these do not exist and expansion of their production where they are already in operation.

Measures to assist the processing industry could be brought to bear on the traditional production facilities, ususally based on a single type of product, or they could be directed towards promoting new plants with a range of different products, designed to win over segments of the consumer public that have been overlooked until now.

In the former case, structural obstacles created by the specific nature of the market will have to be eliminated by appropriate union policy to place employer/employee relationships on a proper footing.

In the latter case, plans should be based on substantial additional production. There is a vital need for distribution and promotion policies which will help to channel different products towards old and new consumers, because of the aggressiveness of the competition.

The implementation of plans that are integrated with facilities that are already in being or that are being constructed will substantially boost development in the industry as a whole.

One specific project that will serve as a point of reference for all the activities to be gradually developed inside and outside Campania will be the joint aquaculture project planned by the Salerno Biological Research Centre and the Santa Maria di Castellabate Marketing Centre and Sea Farming Centre, which will come into being with the help of funds injected by the *Cassa per il Mezzogiorno*.

ENCLOSURES

Appendix 1 - Fish production in Campania and Calabria, 1968-77

(Tonnes)

	Tonnes	Anchovy Sardine, Mackerel	Other fish	Molluscs	Crustaceans	Total
			a) Campania			
1968	126.2	6 729.4	3 341.1	1 161,1	329.5	11 687,3
1972	785.8	8 916.8	3 308.8	3 314,1	387,3	16 712.8
1976	191.0	6 557,0	6 694.0	1 802.0	602,0	15 846.0
1977	359,0	8 350,0	6 908.0	1 501.0	890,0	18 008.0
			b) Calabria			
1968	72.1	2 966.8	3 278.4	534.2	326,0	7 177.5
1972	48,7	1 640,5	3 340.3	640.0	384,4	6 053.9
1976	47,0	1 415.0	2 735.0	837.0	372,0	5 406.0
1977	61.0	1 503.0	2 976.0	917.0	446.0	5 903.0

Appendix 2 - Monthly distribution of landings in Campania and Calabria
(tonnes)

	Campania				Calabria			
	1968	1972	1976	1977	1968	1972	1976	1978
Jan	631.14	549.26	572.0	794.0	259.94	328.53	316.0	370.0
Feb	671.32	676.78	577.0	807.0	316.41	308.51	289.0	366.0
Mar	1 048.92	1 232,66	692.0	1 204.0	747.67	354.18	391.0	409.0
Apr	1 113.92	1 129.32	701.0	1 197.0	1 104.55	425.89	428.0	434.0
May	1 095.75	1 664.93	712.0	1 556.0	939.27	549.94	437.0	521.0
June	1 301.98	1 908.38	1 801.0	1 798.0	943.14	702.75	523.0	532.0
July	1 135.41	1 895.06	1 086.0	1 831.0	780.85	730,76	517.0	508.0
Aug	1 056.69	2 549,80	1 700.0	1 661.0	535.26	707.47	585.0	541.0
Sep	1 064.71	1 722.21	1 523.0	1.445.0	468.49	574,41	572,0	542.0
Oct	1 154.05	1 115.93	1 101.0	1 452.0	469.35	678,30	495,0	590.0
Nov	778.62	1 080.90	2.131,0	1 873.0	352.93	375,21	394.0	540.0
Dec	634.31	1 187.54	3 250,0	2 390.0	293.12	330.06	459.0	550.0

Appendix 3 - Size of the engine-powered fishing fleet in commission, 1968-77

(number of vessels)

Maritime district	1968	1972	1976	1977
Naples	1 069	1 111	1 173	1 135
Torre del Greco	280	294	302	315
Castell. di Stabia	188	185	160	150
Salerno	423	437	464	461
CAMPANIA	1 960	2 027	2 099	2 061
Vibo Valentia	169	192	229	235
Reggio Calabria	643	667	648	653
Crotone	189	201	218	219
CALABRIA	1 001	1.060	1 095	909
CAMPANIA AND CALABRIA	2 961	3 087	3 194	2 970

- Appendix 4 - Breakdown of fishing fleet by type of vessel (number)

Maritime district	Trawlers				Motor boats			
	1968	1972	1976	1977	1968	1972	1976	1977
Naples	67	69	73	72	1 002	1 049	1 100	1 063
Torre del Greco	88	93	90	99	192	201	212	216
Castell.di Stabia	10	12	12	13	178	173	148	137
Salerno	16	33	53	52	407	404	411	409
CAMPANIA	181	207	228	236	1 779	1 820	1 871	1 825
Vibo Valentia	11	14	17	17	158	178	212	218
Reggio Calabria	6	5	6	7	637	662	642	646
Crotone	18	19	31	30	171	182	187	189
CALABRIA	35	38	54	54	966	1 022	1 041	1 053

Appendix 5 - Engine-powered fishing fleet - breakdown by maritime district and gross registered tonnage, 1968-77

aritime district	up to 20 t		21-50 t		51-100 t		over 100 t	
	N°	g.r.t.	N°	g.r.t.	N°	g.r.t.	N°	g.r.t.
	a) 1968							
aples	1 462	4 585	28	781	3	212	3	1 104
rre del Greco	255	795	73	2 341	2	189	-	-
stell.di Stabia	264	1 036	7	234	1	67	-	-
lerno	482	1 225	8	226	1	70	-	-
CAMPANIA	2 463	7 641	116	3 582	7	538	3	1 104
%	95.1	59.4	4.5	27.8	0.3	4.2	0,1	8.6
bo Valentia	167	414	6	186	1	53	-	-
ggio Calabria	697	1 838	1	49	-	-	-	-
otone	189	699	8	273	-	-	-	-
CALABRIA	1 053	2 951	15	508	1	53	-	-
%	98.5	84.0	1.4	14.5	0,1	1.5		
	b) 1972							
aples	1 483	4 690	30	896	2	149	4	3 568
rre del Greco	260	820	81	2 766	2	191	3	556
stell.di Stabia	294	986	5	172	3	194	-	-
lerno	519	1 580	18	555	3	296	3	415
CAMPANIA	2 556	8 076	134	4 389	10	830	10	4 535
%	94,3	45.3	4.9	24.6	0.4	4.7	0.4	25.4
bo Valentia	192	532	7	220	2	115	-	-
ggio Calabria	721	1 929	1	49	1	92	-	-
otone	204	731	10	433	-	-	-	-
CALABRIA	1 117	3 192	18	702	3	207	-	-
%	98.1	77.8	1.6	17.1	0.3	5.1		

Appendix 5 - continued

Maritime district	up to 20 t		21-50 t		51-100 t		over 100 t	
	N°	g.r.t.	N°	g.r.t.	N°	g.r.t.	N°	g.r.t.
	c) 1976							
Naples	1 547	4 863	39	1 186	3	217	5	3.757
Torre del Greco	273	892	75	2.540	7	542	3	556
Castell.di Stabia	272	950	6	201	6	383	-	-
Salerno	542	1 740	10	458	3	190	12	2.122
CAMPANIA	2 634	8 445	130	4 385	19	1 332	20	6 435
%	94.0	41.0	4.6	21.3	0.7	6.5	0.7	31,2
Vibo Valentia	231	700	9	267	2	115	-	-
Reggio Calabria	709	1 893	2	70	1	73	-	-
Crotone	225	886	13	429	2	154	1	110
CALABRIA	1 165	3 479	24	766	5	342	1	110
%	97.5	74.1	2.0	16.3	0.4	7.3	0.1	2.3
	d) 1977							
Naples	1 506	4 781	42	1 272	4	297	5	3 757
Torre del Greco	278	933	81	2.746	9	678	4	699
Castell.di Stabia	260	934	5	179	6	383	-	-
Salerno	543	1.729	25	723	3	190	13	2.372
CAMPANIA	2 587	8 377	153	4 920	22	1 548	22	6 828
%	93.2	38.7	5.4	22,7	0,7	7,1	0.7	31,5
Vibo Valentia	239	728	9	267	2	115	-	-
Reggio Calabria	713	1 897	3	93	2	135	-	-
Crotone	233	893	11	359	3	253	1	11(
CALABRIA	1 185	3 518	23	719	7	503	1	11(
%	97.6	72.6	1.8	14.8	0.5	10.3	0.1	2.:

Appendix 6 - Breakdown of engine-powered fishing fleet by maritime district and power rating, 1968-77

Maritime district	1-109 HP	110-149 HP	150-249 HP	over 250 HP
		a) 1968		
Naples	1 446	20	24	6
Torre del Greco	278	37	8	7
Castell.di Stabia	260	3	9	1
Salerno	481	4	6	1
CAMPANIA	2 465	64	47	15
%	95.1	2.5	1.8	0.6
Vibo Valentia	169	3	2	-
Reggio Calabria	696	1	1	-
Crotone	192	4	1	-
CALABRIA	1 057	8	4	-
%	98.9	0.7	0.4	-
		b) 1972		
Naples	1 466	17	28	8
Torre del Greco	272	41	19	14
Castell.di Stabia	289	1	8	4
Salerno	513	11	13	6
CAMPANIA	2 540	70	68	32
%	93.7	2.6	2.5	1.2
Vibo Valentia	193	4	4	-
Reggio Calabria	722	-	1	-
Crotone	207	5	2	-
CALABRIA	1 122	9	7	-
%	98.6	0.8	0.6	-

Appendix 6 - continued

Maritime district	1-109 HP	110-149 HP	150-249 HP	over 250 HP
	c) 1976			
Naples	1 497	34	49	14
Torre del Greco	274	32	36	16
Castell. di Stabia	232	13	31	8
Salerno	516	21	30	17
CAMPANIA	2.519	100	146	55
%	89.3	3.5	5.2	1.9
Vibo Valentia	229	6	7	-
Reggio Calabria	701	5	5	1
Crotone	228	8	7	2
CALABRIA	1 158	19	19	3
%	96.6	1.6	1.6	0.2
	d) 1977			
Naples	1 456	34	50	17
Torre del Greco	277	30	42	23
Castell. di Stabia	219	14	30	8
Salerno	518	20	28	18
CAMPANIA	2 470	98	150	66
%	88.9	3.5	5.3	2,6
Vibo Valentia	237	6	7	-
Reggio Calabria	705	4	7	2
Crotone	232	7	6	3
CALABRIA	1 174	17	20	5
%	96.7	1.3	1.6	0,4

Appendix 7 - Breakdown of engine-powered fishing fleet by maritime district and fishing method, 1968-77

Maritime district	Trawling		Encircling		Long-line or gill nets		Other methods		Multiple methods	
	N°	g.r.t.	N°	g.r.t.	N°	g.r.t.	N°	g.r.t.	N°	g.r.t.
	a) 1968									
Naples	14	355	177	1 134	1 107	3 359	168	1 670	29	174
Torre del Greco	76	2 369	1	2	219	531	16	205	18	218
Castell. di Stabia	1	138	12	308	168	535	49	94	43	136
Salerno	3	54	46	445	155	517	25	80	19	69
CAMPANIA	94	2 916	236	1 889	1 649	4 942	258	2.049	109	597
%	4.0	23.5	10.1	15.2	70.3	39.9	11.0	16.5	4.6	4.8
Vibo Valentia	8	244	5	40	38	66	5	13	118	290
Reggio Calabria	29	111	44	138	103	226	143	412	379	1 000
Crotone	12	272	27	148	119	420	33	120	6	12
CALABRIA	49	627	76	326	260	712	181	545	503	1 302
%	4.6	17.8	7.1	9.3	24.3	20.3	16.9	15.5	47.0	37.0

Appendix 7 - continued

Maritime district	Trawling		Encircling		Long-line or gill nets		Other methods		Multiple methods	
	N°	g.r.t.	N°	g.r.t.	N°	g.r.t.	N°	g.r.t.	N°	g.r.t.
	b) 1972									
Naples	19	2 372	175	1 222	1 112	3 314	181	2 206	32	228
Torre del Greco	91	3 401	2	5	222	577	12	135	19	215
Castell. di Stabia	3	77	15	295	199	690	41	84	44	201
Salerno	10	328	52	671	426	1 120	25	82	27	389
CAMPANIA	123	6 178	244	2 193	1 959	5 701	259	2 642	122	1 033
%	4,5	34.8	9.0	12.3	72.4	32.1	9,6	14.9	4,5	5.9
Vibo Valentia	8	245	5	69	44	115	7	25	137	413
Reggio Calabria	30	205	42	132	117	247	141	418	393	1.070
Crotone	14	306	31	199	119	408	39	136	11	23
CALABRIA	52	756	78	400	280	770	187	579	541	1.134
%	4.6	20.8	6.8	11.0	24.6	21,1	16.4	15.9	47.5	31.2

Appendix 7 - continued

Maritime district	Trawling		Encircling		Long-line or gill nets		Other methods		Multiple methods	
	N.°	g.r.t.	N°	g.r.t.	N°	g.r.t.	N °	g.r.t.	N°	g.r.t.
	c) 1976									
Naples	21	2 535	183	1.373	1.146	3.456	207	2.300	37	359
Torre del Greco	90	3 448	2	5	239	629	15	230	12	168
Castell. di Stabia	4	90	12	317	175	653	49	184	44	290
Salerno	25	935	60	2.042	437	1.177	30	129	32	558
CAMPANIA	140	7 008	257	3.737	1 997	5 915	301	2.843	125	1 375
%	5.0	38.6	9.1	17.9	70.8	28,3	10.7	13.6	4.4	6.6
Vibo Valentia	9	259	7	113	61	191	8	26	157	493
Reggio Calabria	29	115	35	96	119	238	145	410	384	1 177
Crotone	27	697	31	229	122	421	40	137	25	95
CALABRIA	45	1 071	73	438	302	850	113	573	566	1 765
%	4.0	22.8	6.6	9.3	27.5	18.0	10.3	12.2	51.5	37.6

Appendix 7 - continued

Maritime district	Trawling		Encircling		Long-line or gill nets		Other methods		Multiple methods	
	N°	g.r.t.	N°	g.r.t.	N°	g.r.t.	N°	g.r.t.	N.°	g.r.t.
	d) 1977									
Naples	24	2 653	163	1 319	1 114	3 412	218	2.342	38	381
Torre del Greco	98	3 934	2	5	240	639	19	354	13	124
Castell. di Stabia	6	114	13	327	162	607	50	187	40	261
Salerno	22	875	59	2.265	441	1 184	30	129	32	561
CAMPANIA	150	7 576	237	3 916	1 957	5 842	317	3 012	123	1 327
%	5.4	35.0	8.5	18.1	70.3	26.9	11.4	13.9	4.4	6.1
Vibo Valentia	9	259	8	114	69	221	7	15	157	501
Reggio Calabria	30	177	36	106	119	234	147	412	386	1 196
Crotone	27	768	30	187	123	412	40	137	28	111
CALABRIA	66	1 204	74	407	311	867	194	564	571	1 808
%	5.4	24.8	6.1	8.4	25.6	17.9	16.0	11.6	46.9	37.3

Appendix 8 - Breakdown of engine-powered fishing fleet by maritime district and age of boat, 1968/77

Maritime district	up to 5 years			6-10 years			11-20 years			over 21 years			Age unknown		
	N°	g.r.t.	HP	N°	g.r.t	HP	No	g.r.t.	HP	N°	g.r.t.	HP	N°	g.r.t.	HP
	a) 1968														
Naples	154	848	5328	335	2523	13609	445	1369	17676	549	1743	19695	13	38	594
Torre d.Greco	44	593	2949	65	379	1469	75	890	5122	151	1451	10744	5	10	284
C. d. Stabia	42	272	1597	105	408	2989	83	257	2852	42	273	1451	1	1	50
Salerno	75	508	2925	194	579	3051	211	303	1842	98	240	1405	1	1	4
CAMPANIA	315	2221	12799	699	3889	21118	814	2819	27492	840	3709	33295	20	50	932
%	11.7	17.5	13.4	26.0	30.7	22.0	30.3	22.2	28.8	31.3	29.2	34.8	0,7	0.4	10.0
V. Valentia	24	79	538	63	161	854	59	195	782	27	217	877	1	1	6
R. Calabria	129	327	727	196	537	2955	225	611	3933	140	384	3744	8	28	353
Crotone	40	200	1587	71	222	1338	62	383	1477	24	167	538	-	-	-
CALABRIA	193	606	2852	330	920	5147	346	1189	5492	191	768	5159	9	29	359
%	180	17.2	15.0	30.8	26.2	27.1	32.5	33.9	28.9	17.9	21,9	27,1	0.8	0.8	1.9

Appendix 8 - continued

Maritime district	up to 5 years			6-11 years			11-20 years			21 yrs and over			Age unknown		
	N°	g.r.t.	HP	N°	g.r.t.	HP	N°	g.r.t.	HP	N°	g.r.t.	HP	N°	g.r.t.	HP
	b) 1972														
Naples	87	1690	4372	205	1001	6260	479	2649	21150	735	3926	27604	13	37	594
Torre d.Greco	27	1053	4605	49	572	2518	75	947	3898	191	1753	15173	4	8	230
C.d. Stabia	35	357	3069	69	394	2870	141	415	5770	56	180	2521	1	1	50
Salerno	69	1071	5914	97	474	3170	231	735	4214	146	488	3415	-	-	-
CAMPANIA	218	4171	17960	420	2441	14818	926	4746	35032	1128	6347	48713	18	46	874
%	8.0	23.5	15.3	15.5	13.7	12.6	34.2	26.8	29.8	41.6	35.8	41.6	0.7	0.2	0.7
V. Valentia	25	138	650	31	133	851	110	338	1650	34	257	1055	1	1	6
R. Calabria	74	361	2079	155	347	1999	301	837	4993	186	502	4490	7	23	283
Crotone	16	94	557	46	197	1423	114	377	2727	38	212	715	-	-	-
CALABRIA	115	593	3286	232	677	4273	525	1552	9370	258	971	6260	8	24	289
%	10.1	15.5	14.0	20.4	17.7	18.2	46.1	40.8	39.9	22.7	25.4	26.7	0.7	0.6	1.2

Appendix 8 - continued

Maritime district	up to 5 years			6-10 years			11-20 years			21 yrs and over			Age unknown		
	N°	g.r.t	HP	N°	g.r.t.	HP	N°	g.r.t.	HP	N°	g.r.t	HP	N°	g.r.t.	HP
	c) 1976														
Naples	153	2255	8644	181	922	5937	498	2768	22408	750	4043	28300	12	35	552
Torre d.Greco	45	903	4310	34	777	3367	84	969	4390	191	1823	15982	4	8	230
C.d. Stabia	53	524	4885	48	328	2195	139	559	6215	43	122	1975	1	1	50
Salerno	79	2489	13488	87	708	4334	262	913	5273	155	728	4865	1	10	160
CAMPANIA	330	6164	31327	350	2735	15833	983	5209	38286	1139	6716	51122	18	54	992
%	11.7	29.6	22.8	12.4	13.1	11.5	34.8	24.9	27.8	40.5	32.2	37.2	0.6	0.2	0.7
V. Valentia	33	174	1135	49	232	1714	115	359	1768	43	314	1483	2	3	12
R. Calabria	104	440	3237	139	345	2151	282	743	4683	180	485	4439	7	23	283
Crotone	36	396	2906	53	428	2837	113	532	2633	43	223	794	-	-	-
CALABRIA	173	614	6978	241	1005	6702	510	1634	9084	266	1022	6716	9	26	295
%	14.4	14.3	23.4	20.1	23.3	22.5	42.6	38.0	30.5	22.2	23.8	22.5	0.7	0.6	1.1

Appendix 8 - continued

Maritime district	up to 5 years			6-10 years			11-20 years			21 yrs and over			Age unknown		
	N°	g.r.t.	HP	N°	g.r.t.	HP	N°	g.r.t.	HP	N°	g.r.t.	HP	N°	g.r.t	HP
	d) 1977														
Naples	122	874	6876	133	1996	6432	453	2696	17392	837	4506	34493	12	35	552
Torre d.Greco	29	526	2291	37	1147	5253	91	1170	5274	211	2205	18468	4	8	230
C.d. Stabia	33	327	3291	35	373	2530	132	565	5285	70	230	3668	1	1	50
Salerno	33	1755	10139	90	1468	7616	280	1026	6320	180	755	4840	1	10	160
CAMPANIA	217	3482	22597	295	4984	19301	956	5457	34271	1298	7696	61469	18	54	992
%	7.8	16.1	16.3	10.6	23.0	13.9	34.3	25.2	24.7	46.6	35.5	44.3	0.7	0.2	0.8
V. Valentia	21	77	762	40	250	1605	123	354	2132	63	423	1893	3	6	27
R. Calabria	67	300	2548	97	357	2347	322	839	4925	224	596	5483	8	33	313
Crotone	27	312	2525	36	339	1948	124	531	3061	61	373	1334	-	-	-
CALABRIA	115	689	5835	173	946	5900	569	1724	10118	348	1392	8710	11	39	340
%	9.5	14,4	18.9	14.2	19.7	19.1	46.8	36.0	32.7	28.6	29.1	28.2	0.9	0.8	1.1

Appendix 9 - Breakdown of engine-powered fishing fleet with fish storage capacity by maritime district

Maritime district	Refrigeration			Ice chest			Refrigeration and ice chest			No equipment		
	N.°	g.r.t.	HP	N°	g.r.t.	HP	N°	g.r.t.	HP	N °	g.r.t.	HP
	a) Campania											
Naples	14	4 009	6 848	45	1 037	6 462	2	237	1 736	1 496	4 824	50 699
Torre d. Greco	14	868	3 636	32	802	3 748	54	2 256	10 707	272	1 130	13 425
C.d. Stabia	6	356	2 565	4	119	880	1	5	49	260	1 016	11 330
Salerno	14	1 404	6 950	23	561	3 542	10	1 220	5 969	537	1 829	12 614
CAMPANIA	48	6 637	19 999	104	2.519	14.632	67	3 718	18 461	2 565	8 799	88 068
%	1.7	30.6	14,2	3.7	11.6	10.4	2.4	17.1	13.1	92.2	40.7	62.3
	b) Calabria											
V. Valentia	3	82	305	13	348	1 551	-	-	-	234	680	4.581
R. Calabria	3	136	756	2	15	54	1	49	160	712	1 925	14 646
Crotone	8	361	1 187	13	379	1 945	1	35	215	225	830	5.401
CALABRIA	14	579	2 248	28	742	3 550	2	84	375	1 171	3 435	24 628
%	1,1	12,0	7.3	2.3	15.3	11.5	0,2	1,7	1,2	96,4	71.0	80.0

Appendix 10 - Engine-powered fishing vessels with subsidiary navigation and fishing equipment (1) (1977)

Maritime district	Number of items of equipment				Other equipment	No equipment
	1	2	3	4		
	a) Campania					
Naples	22	7	2	2	36	1 488
Torre del Greco	34	42	12	1	7	276
Castell.di Stabia	4	6	5	-	2	254
Salerno	25	10	12	1	25	511
CAMPANIA	85	65	31	4	70	2 529
%	3.1	2.3	1.1	0 1	2.5	90.9
	b) Calabria					
Vibo Valentia	6	4	-	-	8	232
Reggio Calabria	4	-	1	-	25	687
Crotone	5	4	1	-	15	223
CALABRIA	15	8	2	-	48	1 142
%	1 2	0 7	0.2	-	4.0	93.9

(1) Radar, radio telephone, echo sounder, icthyoscope

NATIONAL COLLECTIVE CONTRACT OF EMPLOYMENT FOR THE CREWS OF TRAWLERS ENGAGED IN FISHING IN THE MEDITERRANEAN

Article 1 - Definition of the contract

This contract governs the relationship of employment for an indefinite period of the crews of trawlers fitted out for fishing in the Straits.

Article 2 - Type of embarkation convention

The embarkation convention, to be agreed before the maritime authority as provided by law, shall be worded in the manner set out in the standard form attached hereto (enclosure 1).

Article 3 - Equipment tables

The tables on the minimum equipment for each type of craft and fishing shall be agreed by the owner's representatives and the union representatives[1] in the presence of the local maritime authority, with due allowance for the regulations on navigation safety.

Article 4 - Remuneration

The crew shall be remunerated on a share basis by the assignment of a percentage of the proceeds from fish production.

By "production" is meant:

a) fishery products caught and marketed;

b) any materials that may be recovered from the surface of the water or from the sea bed;

c) any insurance bonuses granted as a result of the salvage of other vessels.

The proceeds from the above shall, after the expenses listed in article 7 have been deducted, be shared out between the owner and the crew in the percentages laid down locally for each type of fishing by joint agreement between the parties signing this contract.

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(1) *Wherever the term "union representatives" is used, this is deemed to refer to the organizations stipulating and signing this contract.*

Article 5 - Minimum guaranteed earnings

If the remuneration over the period of one year or the special fishing season to which article 4 above refers does not give the fisherman a basic monthly level of earnings at least equal to the guaranteed minimum, the owner shall pay each individual member of the crew the difference between the amount assigned as his share of the proceeds and the amount specified in the table of minimum guaranteed earnings (Table 1).

For the purpose of calculating the minimum guaranteed earnings per day, the amount is equivalent to one twenty-sixth part of the remuneration described in the preceding paragraph.

The parties shall meet every two years to revise the minimum guaranteed earnings.

Article 6 - Subdivision of the share of the proceeds assigned to the crew

Local agreement shall be reached on the manner in which the share of the proceeds assigned to the crew is to be subdivided, depending on the types of fishing carried out; that agreement shall be reached between the owner and the union representatives, allowing for local usage and custom.

During the period of validity of this contract, the parties undertake to standardize this practice on a regional basis.

Article 7 - Expenditure

Total expenditure shall be deemed to be the following:

a) actual consumption of Diesel fuel and lubricants (oil and grease);

b) food consumed on board;

c) ice and paper as required in storing the product (excluding maintenance of refrigeration units);

d) fish boxes and non-returnable packaging;

e) unloading, transportation and sale of the catch (inclusive of market dues).

If a permit is to be obtained against payment before fishing can be carried out in the waters of other countries, the cost of the permit shall form part of the expenditure and shall be spread out in monthly instalments over the period of concession of that permit.

All the expenses listed above will be recorded and vouched for by the owner.

Expenses not listed in this article shall be borne by the owner.

Article 8 - Crew representative

Each crew shall appoint one of its members to audit the expenses incurred and the proceeds from the sale of the catch. This office may be held by all members of the crew in rotation.

Article 9 - Hours of work on shore

If the crew is asked to render its services on shore during work in dock, the normal working day shall consist of eight hours with one hour's break for meals.

If the vessel is laid up for work for less than eight days, the whole crew shall be deemed to be employed on board for all purposes.

If the work is carried out in a boatyard by tradesmen from the boatyard itself, fishermen assisting with the work shall receive the same financial return as those tradesemen, the following being deemed to be equivalent:

skipper or	engineer	skilled worker
seaman		semi-skilled worker
deck hand		labourer

If the work is carried out at the wharf by the crew members alone, remuneration per day's work shall be no less than one-twenty sixth part of the guaranteed minimum.

No remuneration shall be paid for the routine work of restocking with the supplies needed in fishing.

Meals during the period of work shall be provided by the owner at his own expense.

Article 10 - Overtime worked on shore

Work done on shore outside the normal working hours described in article 9 shall be deemed to be overtime.

The daily rate shall be determined by dividing the minimum guaranteed earnings specified in article by a factor of 200 (Table 2).

Article 11 - Conventional food allowance

a) If, due to *force majeure*, it is impossible to take a meal during work done on shore, the daily allowance paid in lieu shall be Lit.2,500 per crew member.

b) If the food allowance is to be calculated as a coefficient of remuneration (allowance in lieu of notice, allowance payable on termination of employment, Christmas bonus, etc.), the value of that allowance shall be the following monthly rate:

Lit.24,000 for all categories of workers.

The daily value of the conventional food allowance shall correspond to one-twenty sixth part.

Article 12 - Holidays

For each year or fraction of a year worked in the employment of a given owner, the fisherman shall be granted a period of paid holidays equivalent to 24 days a year (two days per month of service).

Each day's holiday shall be paid at the rate of one-twenty sixth part of the remuneration shown in the table, as described in article 5, plus the daily food allowance described in article 11 a) (Table 3) (see Article 23).

Article 13 - Christmas bonus

A fisherman having completed one year's service on board will be granted an amount equivalent to one month's minimum guaranteed earnings plus the value of the conventional food allowance (Article 11 b) - see Table 3), payable at Christmas. The owner shall bear the full cost of this Christmas bonus. A fisherman who has not completed a full year's service in the owner's employment will be paid as many twelfth parts of the bonus as the number of months he has worked (see Article 23).

Article 14 - Weekly day of rest

Each fisherman shall be given a 24 hour rest period during the week, to coincide with Sundays. When the trawlers return to port they shall come in before 10 a.m. on Saturdays, and they shall sail no earlier than 7 a.m. on Mondays.

On Saturdays, fishermen may remain at the owner's disposal, but no later than midday. On their weekly day of rest, fishermen are exempted from the obligation to perform any duties.

As a departure from this article, however, the parties shall reach agreement as to different arrangements for rest days if required by specific fishing conditions.

Article 15 - Official holidays

The following shall be deemed to be official holidays:

a) every Sunday;

b) 25 April and 1 May;

c) 1 January, 15 August, 1 November, 8 December, 24 to 26 December and the local saint's feast day.

If the official holidays occur while the trawler is at sea, the owner shall pay an allowance of one-twenty sixth part of the guaranteed minimum earnings specified in article 5, in addition to the share of the proceeds.

The fisherman shall be entitled to remuneration as specified above for the two national holidays stated in b) above, even if he does not work on those holidays; if the holidays are spent at sea, the allowance shall be doubled.

Article 16 - Termination of employment

Either of the parties to the contract of employment for an indefinite period may terminate that contract at any time by giving eight days' notice, whatever the rank or category of the person concerned.

A contract of embarkation for an indefinite period may be terminated on good grounds, as that term is defined in article 2119 of the Civil Code, or for a justifiable reason.

Termination "on good grounds" - termination for a reason making it possible for employment to continue even for a temporary period;

Termination for a justifiable reason - termination due to serious infringement of contractual obligations or reasons inherent in production work, the organization of labour or the proper conduct of the work.

The parties shall be entitled to pay compensation in lieu of notice, equivalent to a given number of days' guaranteed minimum earnings plus the conventional food allowance and the proportional part of the Christmas bonus (Table 4), equivalent to the number of days' notice not given.

Article 17 - Length-of-service allowance

For each year's or (in proportion) fraction of a year's service, 24 days' pay shall be granted as an allowance to skippers and chief engineers, 18 days' pay to other members of the crew (Table 3).

Length of service shall be calculated by adding up the periods actually worked by a fisherman in the employment of the same owner. even if he has served on different trawlers. Fractions of a year shall be calculated in proportion, without counting fractions of a month (See Article 23).

Article 18 - Sickness and accident insurance

All members of the crew shall be insured against sickness and accident as provided by law.

The regulations on medical treatment, pharmaceuticals and hospital care laid down by law shall apply to members of the fisherman's family living with him or who are his dependants.

The agreement of 6 February 1978 on supplementing the daily benefit payable in the event of sickness or accident shall form an integral part of this contract and any revisions thereto shall be considered by the parties if there are good grounds therefor.

Article 19 - Insurance against disability - retirement insurance

All members of the crew shall have disability and retirement insurance in accordance with the provisions of law applicable.

The contributions shall be shared between the owner and the crew members, the percentages being as laid down by the general social security regulations.

Any tax rebates in this respect shall be shared out between the owner and the workers in the same proportion.

Article 20 - Family allowances

Family allowances shall be paid to the members of the crews at the rates and according to the procedures laid down by law.

Article 21 - Local allowance ("*muccigna*")

This contractual practice shall be delegated to local level, since the arrangements differ in individual fishing centres.

Article 22 - Union dues

The amounts retained from pay and paid over to the union shall be deducted on board at the rate determined by the workers.

The amount collected shall be paid by the owner to the union selected by each worker.

Article 23 - Statutory tables of remuneration

In view of the specific nature of management of trawlers to which this contract refers, it has been agreed that tables shall be compiled setting out the monthly value of the allowances described in articles 12, 13 and 17 of the contract, to be paid to the crew members by the owner each month. These tables shall be drawn up again in the light of the two-yearly revision of the minimum guaranteed earnings to which reference is made in article 5.

In the course of local negotiations, the allocation of proceeds shall be reapportioned in view of the costs incurred as a result of the aforesaid articles of the contract (12, 13 and 17), to achieve a fair balance between the remuneration paid by each individual fishing centre.

Article 24 - "Most favourable conditions"

Where more appropriate regulations exist, based on local usage, whichever are the most favourable conditions shall prevail.

Article 25 - Validity and duration of contract

This contract shall run from 1 January 1980 and shall apply until 31 December 1982, on the understanding that it shall be renewed by tacit agreement at the end of each year if neither of the parties withdraws herefrom by giving notice at least two months before the end of each period.

Table 1

TABLE OF GUARANTEED MINIMUM EARNINGS

	Monthly	1/26
	Lire	
Local inshore fishing within 6 mile limit		
Skipper, engineer, fishing master	300,000	11,500
Seaman	275,000	10,600
Deck hand	210,000	8,100
Near water fishing within 20 mile limit		
Skipper, engineer, fishing master	375,000	14,500
Seaman	320,000	12,300
Deck hand	230,000	9,000
Mediterranean middle water fishing beyond 20 mile limit		
Skipper	450,000	17,300
Seaman	360,000	13,200
Deck hand	230,000	9,000

Table 2

VALUE OF ONE HOUR'S OVERTIME (Lire)

Local inshore fishing within 6 mile limit	
Skipper, engineer, fishing master	1,500
Seaman	1,400
Deck hand	1,050
Near water fishing within 20 mile limit	
Skipper, engineer, fishing master	1,875
Seaman	1,600
Deck hand	1,150
Mediterranean middle water fishing beyond 20 mile limit	
Skipper, engineer, fishing master	2,250
Seaman	1,800
Deck hand	1,150

Table 3

MONTHLY ALLOWANCES: HOLIDAYS (Art. 12) - CHRISTMAS BONUS (Art. 13) - LENGTH OF SERVICE (Art. 17)

Local inshore fishing within 6 mile limit	Holidays	Christmas bonus	Length of service	Monthly total
Skipper, engineer, fishing master	28,000	27,000	25,000	80,000
Seaman	26,200	25,000	17,250	68,450
Deck hand	21,200	19,500	13,500	54,200
Near water fishing within 20 mile limit				
Skipper, engineer, fishing master	34,000	33,250	30,700	97,950
Seaman	29,600	28,700	19,900	78,200
Deck hand	23,000	21,200	14,700	58,900
Mediterranean middle water fishing beyond 20 mile limit				
Skipper, engineer, fishing master	39,600	39,500	36,500	115,600
Seaman	32,600	32,000	22,200	86,800
Deckhand	23,000	21,200	14,700	58,900

Table 4

PAYMENT IN LIEU OF NOTICE (daily)

(Lire)

Local inshore fishing within 6 mile limit	
Skipper, engineer, fishing master	13,600
Seaman	12,500
Deck hand	9,750
Near water fishing within 20 mile limit	
Skipper, engineer, fishing master	16,650
Seaman	14,350
Deck hand	10,600
Mediterranean middle water fishing beyond 20 mile limit	
Skipper, engineer, fishing master	19,750
Seaman	16,000
Deck hand	10,600

CONSORZIO ITTICO TIRRENO[1]

(TYRRHENIAN FISHING CONSORTIUM)

FISHING PROJECT

SALERNO

The Consortium's objectives are:

a) to build a new wholesale fish market with cold store installations and cold rooms attached, in the port are of Salerno, and to run wholesale fish markets and collection centres for fishery products, organizing and improving all the facilities associated therewith to include, if necessary, the banking section.

b) to contribute towards the development of the fishing industry by coordinating the production, sale and distribution of fishery products in order to augment and improve production, arranging for disposal of those products.

c) to agree to conventions or contracts, to include the reaching of fishing agreements with bodies and associations, both Italian and foreign.

d) to acquire, build, establish or manage factories, plants, workshops and ordinary and refrigerated warehouses in furtherance of the consortium's activities; to acquire and take or grant leases on sites, including port areas, and on water, including publicly owned water, machinery and vessels, vehicles, including refrigerated vehicles, equipment, buildings to be used as the head office or representative offices, vocational training centres or centres of research and scientific enquiry.

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(1) *The members at the time of forming the consortium were: the Salerno Chamber of Commerce; Associazione Produttori Tonnieri del Tirreno S.r.l. (Tyrrhenian tunny producers' association); Società Cooperativa Pescatori "La tonnara" S.r.l. (tunny fishermen's cooperative); Cooperativa Provinciale Pescatori, Società Cooperative Pescatori del Basso Tirreno and Società Cooperative Pescatori "La Cetarese" (local fishermen's cooperatives).*

Those entitled to be members of the consortium are local boards, local authorities, fishermen's cooperatives, fishing vessel owners, associations of entrepreneurs, fishing entrepreneurs and public and private bodies.

e) to formulate plans for technical improvements to the fishing fleet, fishing methods and systems and facilities for the marketing and storage of the catch, one of the ways being recourse to any measures and financial aid, including EEC grants, that may be available.

f) to formulate plans regulating the storage, handling, processing and marketing of fishery products, providing the appropriate technical facilities, constructing plant and using installations which may be the property of public or private boards or other operators, by special agreement.

g) to acquire concessions for public water areas, inside or outside port areas, organize logistics, to include fuel and lubricant distribution points, boat repair and construction yards, paint works and net manufacturers, warehousing, fishing facilities, etc.

h) to organize and take over hydraulic reclamation projects and the maintenance of those projects when they relate to the reclamation and protection of fishery preserves entrusted to the Consortium.

i) to carry out any other work associated with or related to the objectives indicated above.

STUDY AND RESEARCH PROJECTS

The programme is divided into two fundamental phases:

A. The formulation of a three-year research project covering:
   a. a technical, scientific and economic analysis of fatty fish in general and of tunny fishing by drift methods;
   b. a technical, scientific and economic analysis of fish farming.

B. The establishment of a permanent research centre under the Consortium, to be l nked with the project described in A. This centre will consist of a zoological station, a laboratory for technological research on fishing and a research centre for market analyses. Along the same lines as structures already set up in other countries, the research centre will act as a basis of reference and will support those operating in the industry as a whole.

1. Research themes

Research should be conducted on two main production sectors:

maritime fishing;

fish farming.

1.1 Outline information on the sectors concerned.

1.2 Main centres for applied research in the field.

1.3 Main international production centres.

1.4 Investigation into the nature of protection and technologies.

1.5 Production: research on international and domestic markets.

1.6 Analysis of the main channels of distribution and marketing centres for fishery products.

1.7 Research on international and domestic demand for fishery products.

2. Operating and organizational procedures

2.1 The research agency will have the following personnel working in different sectors:

2.1.1 Director of research

2.1.2 Operational secretariat with one coordinator

2.1.3 Operational secretariat with one senior executive

2.1.4 Economist

2.1.5 Biologist

2.1.6 Computer specialist

2.1.7 Expert in international law.

2.2 The temporary operations headquarters will have:

2.2.1 premises in the Consortium building in Salerno

2.2.2 an information centre and library

2.2.3 standard equipment for the premises

2.2.4 special equipment

2.3 Ten bursaries will be established, and on-site vocational training will be provided.

2.4 Mobile units will be brought into being for applied research:

2.4.1 a vessel will be fitted out for applied research

2.4.2 operational missions

2.5 Data processing and publication.

3. Survey on the nature of the marine environment

3.1 Three-year programme.

3.1.1 Definition and development of equipment (probes and computers to build up ecological maps).

3.1.2 Construction and development of a mobile ecology station on a research vessel.

3.1.3 Making of primary level ecological maps (physical and biological).

3.1.4 Development of a fixed ecology station and a mobile experimental mini-station.

4. Establishment of a permanent research centre at the Consortium premises

4.1 Projected Consortium centre for research on ecosystems.

4.1.1 Study of the marine ecosystem.

4.1.2 Creation of fixed ecology mini-stations at focal points in the primary level ecological maps.

4.1.3 Calculation of time and space trends in the maps.

4.1.4 Installation of permanent ecology mini-stations.
Creation of mobile experimental mini-stations to determine the influence of the ecological maps on fish migration.

MARKETING STRUCTURES

The total area of the site is approximately 20,000 m^2; it is located near the root of the trapezoid-shaped projection of the port.

The following are the essential functions of the new installation:

a. collection and marketing of high grade species of fatty fish;

b. collection, storage and marketing of fatty fish (anchovy, sardine, tunny);

c. general services.

The installation consists of a single complex divided into three main interconnected wingsand an internal pedestrian walkway at the height of 4.50 metres above sea level. To the east of the zone, with easier access to the urban road network, is the wholesale fish market. To the west, the refrigerated warehouses are located in the terminal section. The central zone houses the general service areas. Other services and technical plant are located in the inland area.

The main entrance is close to the road now being constructed which will serve the port area. It leads onto ample open space where vehicles can be parked.

WHOLESALE FISH MARKET

The complexity of fish marketing - due both to the tax system, in the board sense, applicable and to the special nature of the product being handled - means that a modern fish market must not only act as a focal point for the various buying and selling operations that take place but must also be a centre providing all sorts of services, not just the conventional tertiary sector services but the most up-to-date data processing services as well.

The pressure for such services comes not only from the fishermen and wholesalers, the main protagonists, but also from the community at large which has come to recognize the need for and the value of planning in an area so socially important to a country such as Italy as is the exploitation of the fish resources of the seas surrounding its coastline.

The costs of a fishing concern are incurred at sea, in the form of expendable materials and wear and tear on equipment and gear at the time of fishing. Its income is earned both at sea from its fishing yield and on shore, through market prices for the fish it has caught. Marketing, then, is the phase that can enhance the value of fishery products and that will determine whether or not the running costs can be recouped.

Since the smooth running of a fish market depends in the final analysis on its structure and development planning, the range of equipment with which it is endowed, the technical and administrative efficiency of its staff and services and a whole set of different factors, these are the aspects which should be examined if we wish to have an efficient and rational market. They will decide whether the wholesale market can play a valid role in achieving an optimum balance between supply and demand in terms of both space and time.

This is generally true and it is especially true of the fishing industry, since it is concerned with a product with specific marketing features sush as rapid perishability, a wide range of types and grades, its own special seasons and the different natural environments in which fish reproduces and is harvested.

The wholesale fish market will have a spacious forecourt, part of which will be covered, providing access for the fish unloaded from the fishing vessels. There will be space for the preparation, choice and stacking of consignments. During this phase, the fish will be inspected by the market officials who will grade it and make the necessary health checks. It will then be taken to the auction room.

This room is the place where all the bidding and dealing takes place. It will be equipped with special items such as an automatic weighing machine linked with a conveyor belt for the fish, an illuminated display board, etc. The fish will then be taken to the departure yard for all the final operations.

On the ground floor there will also be a room for washing, chlorinating and storing the containers, premises fitted out for the destruction of any products found to be unfit, service rooms for personnel and storage premises.

Buyers and the general public will have acces from a special forecourt with ample car parking space.

There will be a check point at the entrance and a rest area with a small coffee bar and telephones. A ramp will lead up to the first floor, where there will be a spactious central hall looking down onto the auction room, with reserved seats for bidders. There will also be the market offices, including the management and veterinary offices, as well as office space for the accountants and administrators and for the bank, and service areas for the public and employees.

Agents and dealers will be allocated storage rooms with cold chambers as well as small offices with their own access from the outside, as well as from the internal pedestrian walkway. Finally, there will be a sheet ice-making plant with silos serving both the fish market and the refrigerated warehouses and fishing vessels.

REFRIGERATED WAREHOUSES

The purpose of these warehouses is to promote the marketing of fatty fish and tunny caught in the Mediterranean by the modern fleet of trawlers, equipped for immediate freezing of the catch and for storage of the frozen fish at 0°C. This means that the fish reaches the port in optimum condition at a temperature estimated at about 10°C.

The tunny is gutted and the heads removed before being taken to the deep-freezer. From here it is taken to the low temperature storage chambers, or it may be re-iced in palleted containers and taken to the 0°C cold chambers until it is sold or deep-frozen.

The incoming quantities expected at peak periods are 1,000 tunny per day, producing approximately 250 tonnes round weight.

For deep-freezing, there will be an automatic self-propelled freezer on tracks, capable of freezing 500 to 600 tunny in a 24 hour period, equivalent to 100-120 tonnes. On peak days, the surplus catch will be conveyed to the storage chambers where it can easily be kept for five or six days.

There will be a large storage chamber for deep-frozen fish, maintained at a temperature of - 30°C. Measuring 45 x 30 metres, its storage capacity will be 1,750 palleted containers with fixed gates, each one containing four tunny, equivalent to 800 kg, the maximum being a total of 7,000 tunny, equivalent to 1,400 tonnes.

The chamber for cool storage will be maintained at a temperature of 0°C and will be used for storing fish before marketing or deep-freezing. It will have room for 250 palleted container with gates that can be opened, each containing four tunny; its total capacity will be 1,000 tunny, equivalent to 200 tonnes.

There are also plans for a chamber for the deep-freezing of fatty fish and other special fishery products, plus a chamber for storage at a temperature of - 45°C, the operating system being multi-purpose, depending on the species of fish being handled.

The sheet ice-making factory mentioned above will also serve the refrigerated warehouses, with a special plant for taking the ice direct from the depot (silos). This will be fully automated.

Within the referigerated warehouse area will be service areas for personnel and a few offices closely linked with the central offices by a raised pedestrian walkway.

Finally, there will be an outdoor weighbridge for fish being brought into or out of the complex by vehicle.

DIMENSIONS

	square metres
Total area of site	19,750
Covered area	
Fish market	929.27
Refrigerated warehouses	4,440.00
General service areas	854.80
	6,224.07
Fish market (ground floor)	
Auction room	321.73
Entrance and coffee bar	89.90
Service area	17.02
Wash area for boxes	70.56
Chlorination	11.28
Distribution room	19.84
Depot	35.68
Stairs	20.25
	586.26

Fish market (first floor)	
Director's office	19.74
Waiting room	7.75
Veterinary's office	9.66
Bank	41.80
General services	15.60
Hall	137.40
Stairs and landing	67.98
	299.93

Refrigerated warehouses	square metres	cubic metres
Covered area	4,500	
Processing room	1,650	
45° freezing tunnel	675	3,375
30° storage chamber	1,350	9,650
Trolley type freezers	75	375
45° storage chamber	185	1,350
Cool room	225	1,608
Machine room	190	
Electrical control booth	75	
Services	75	
Office space	75	

General service area (ground floor)	
Boiler room	10.66
Stairs	16.74
Private storage chambers	32.24
Sales outlet	52.50
Personnel department	19.38
Kitchen and depot	42.92
Cafeteria	214.54
Entr ce	7.26
Radio room	13.53
General service area	19.04
Cold storage	140.00
	568.81

General service area (1st floor)	
Visitors' reception area	94.50
General service area	10.40
Agents' office	131.60
Stairs	17.50
	254.00
General service area (2nd floor)	
Custodian's flat	90.00
Depot	10.14
Stairs	16.25
Service area	13.53
Laboratory	23.94
Library	54.24
Corridor - hall	48.07
Kitchen and depot	75.88
Stairs	21.00
	353.05
General service area (3rd floor)	
Service area	16.17
Trade associations	43.35
Meeting room	44.88
Consortium room	61.71
Hall and corridor	90.81
1 cold chamber	12.00
	268.92

Total volumes

General service areas (ground floor)	
646.25 m^2 x 4.60 m	2,972.75 m^3
Fish market (ground floor)	2,262.79 m^3
General service area (1st floor)	
342.06 ^{2} x 3.30 m	1,128.79 m^3
Fish market (1st floor)	1,163.11 m^3
General service area (2nd floor)	
437.06 m^2 x 3.30 m	1,442.29 m^3
General service area (3rd floor)	
297.70 m^2 x 3.30 m	928.41 m^3
Total - general service areas	6,472.24 m^3
Total - fish market	3,425.90 m^3

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