



Regional development studies

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# Development prospects of the central Mediterranean regions (Mezzogiorno-Greece)





European Union

Regional policy and cohesion

Regional development studies

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# Development prospects of the central Mediterranean regions (Mezzogiorno-Greece)

European Commission

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Cataloguing data can be found at the end of this publication

Luxembourg: Office for Official Publications of the European Communities, 1995

ISBN 92-826-8789-9

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Printed in Germany

## Preface

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Each year, the Directorate-General for Regional Policy and Cohesion of the European Commission launches a number of studies in the field of regional policy and regional planning. These studies mainly aim at providing a basis for policy formulation internally, as well as the preparation of programmes and initiatives and a basis for analysing the impact of current or planned activities. The most interesting or innovative of these are published in a series entitled *Regional development studies*.

With this series, the Directorate-General hopes to stimulate discussion and action in a wider sphere on the research results received. The publication of the studies is addressed to politicians and decision-makers at European, regional and local level, as well as to academics and experts in the broad fields of issues covered.

It is hoped that by publicizing research results the Commission will enrich and stimulate public debate and promote a further exchange of knowledge and opinions on the issues which are considered important for the economic and social cohesion of the Union and therefore for the future of Europe.

Readers should bear in mind that the study reports do not necessarily reflect the official position of the Commission but first and foremost express the opinion of those responsible for carrying out the study.



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## PART I – SUMMARIES

### Executive summary

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#### **The central Mediterranean area: a peripheral zone in a region undergoing significant and wide-ranging transformations**

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The central Mediterranean area has and will be at the centre of a wide range of transformations over the next decades.

The main feature of the central Mediterranean area is its incomplete, and apparently blocked, process of transformation and industrialization. The region can be considered as a 'crisis area', although it has undergone major changes in the past decades in the direction of a modern society and it has immense potential yet to be exploited in terms of endogenous development capacity.

These changes that will take place over the coming decades relate in the first instance to the geopolitical context of the surrounding area. This is influenced by two key political factors: the fall of the Berlin Wall and conflicts in the Middle East. To these must be added a third factor, one of the greatest demographic disparities between two neighbouring regions in history: Europe and North Africa.

The impact on the transformations that these factors will have along the frontiers of the central Mediterranean area is far from certain and presents additional risks for the region; however, at the same time, it constitutes an opportunity for development and for integration that is essential for a take-off of the central Mediterranean region.

The quality and direction of foreign policy and of cooperation implemented by the Community and by the Member States over the coming years will therefore be the determining factor for the future stability of the area, and for its potential development.

#### **Integration and the recovery of an economy lagging in development: the divide between the dynamics of society and the productive system**

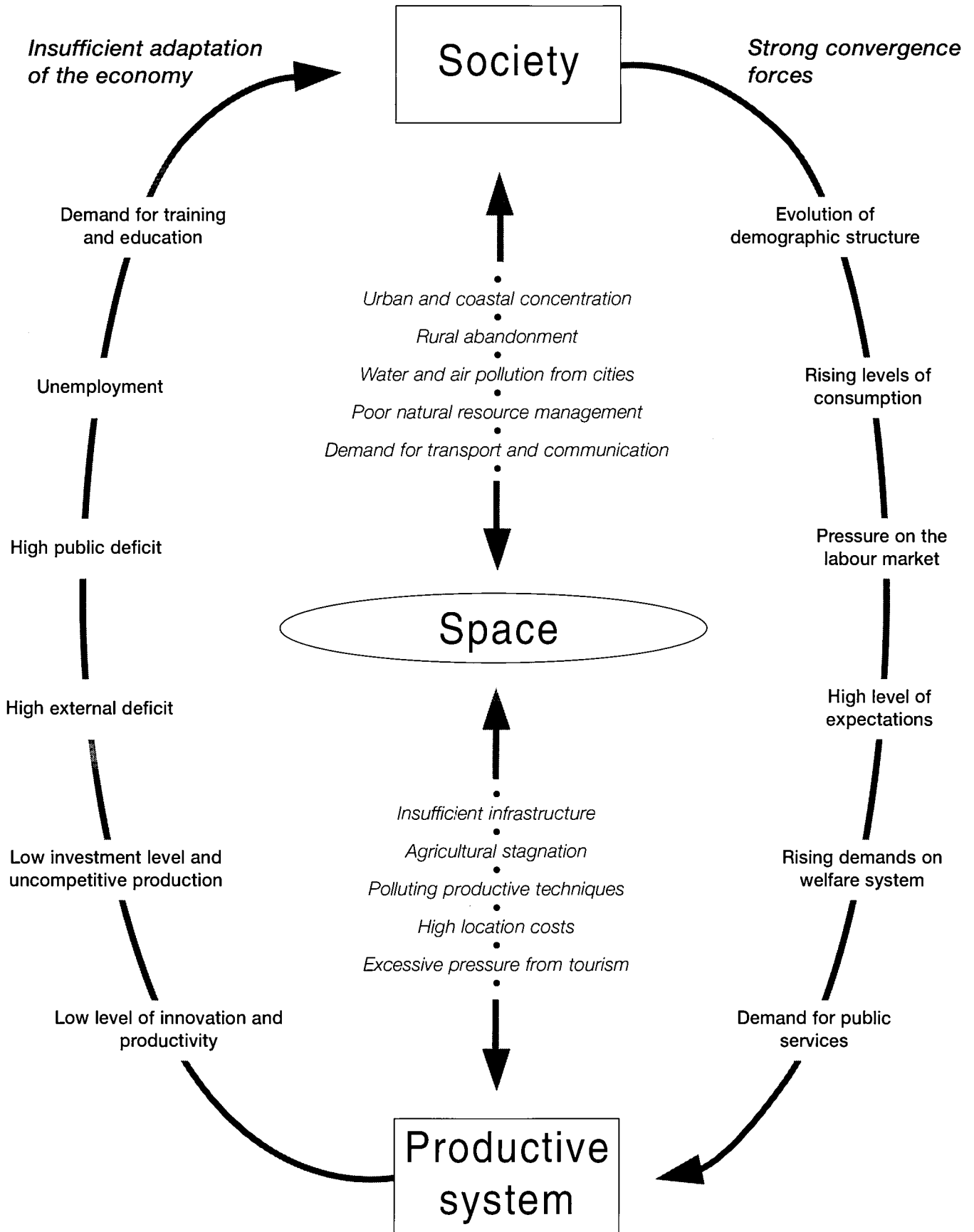
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The central Mediterranean area has undergone many changes in the as yet, incomplete passage from a rural and relatively closed economy to an open economy in which services absorb the largest share of the labour force.

The phenomenon of catching up with the more advanced regions of Europe in terms of GDP per capita has, for the lagging areas within the EC, been more pronounced in periods of rapid growth, and slower during periods of general recession. In the 1980s, a period of general high growth in Europe, this trend continued in Spain and Portugal, but not in the central Mediterranean, which stalled in its efforts to catch up with its northern neighbours, and since 1985 its relative position has, in fact, become worse.<sup>1</sup>

<sup>1</sup> In the central Mediterranean area, GDP per capita rose from 47% of the Community average in 1960 to a maximum of 66.5% in 1985. From 1985 onwards, however, the catch-up phenomenon disappeared, with GDP per capita decreasing to 62.3% of the EC average by 1990.

The divide between the dynamics of society and the productive system in the central Mediterranean area



In this study, we have underlined many times the peculiar nature and negative consequences of the way in which the process of catching up and modernization has been implemented in the central Mediterranean. This, above all, has led to the emergence of severe problems that today cause major problems for the future development of the area.

The most serious of these difficulties is the divide between social behaviour, viewed in terms of the consumption and expectation patterns, and the productive base that is too narrow and lagging in development.

The conflict that has arisen here is attributable to several external factors, linked to technological evolution and to communication technologies, which have produced a mismatch between expectations and the actual pace of development.

In the past, in peripheral and rural economies and societies that are relatively closed, economic activity and the social relationships stemming from it were the main factors in the determination of aspirations and social behaviour.

During the last two decades, access to communication, the diffusion of television, the permeability of the most isolated local markets to imported products and the accessibility of the large metropolitan periphery and of the masses of the urban proletariat to consumerism, have disrupted the relationship between society and the economic system in the central Mediterranean.

An external system of modern attributes and values has thus been adopted, with a resulting loss of the protective constraints on the pattern of social and economic development provided by an indigenous value system.

This conflicts with the slower pace of development of the productive base, producing deficits and other imbalances.

State policies have also contributed to aspirations of a standard of living that is too high, importing social standards from neighbouring regions in Europe, and to the sustaining of an affluent level of consumption in the central Mediterranean without increasing, and sometimes actually worsening, the autonomous capacity of production of the whole area.

The fast improvement of social and economic conditions in the central Mediterranean has somewhat paradoxically been overtaken by an even faster rise of

expectations and demands on the State. This has worsened the general macroeconomic conditions and brought to a halt the process of catching up.

We can conclude that the fundamental problem for the central Mediterranean is to close this gap between the productive capacity of the economy and welfare and consumption expectations by reducing consumption levels and widening the productive base of the local economy. This implies and requires the development of a work culture that is autonomous with respect to external intervention and responsive to the competitiveness of global markets.

This pattern of development of social behaviour and aspirations, not only in the large metropolitan centres but also in smaller towns and rural areas, stems from the speed of social transformation of our time.

The most important development constraint now lies, therefore, in the weakness of the productive base of the central Mediterranean economy and, above all, in the inadequate level of manufacturing activity.

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## Development patterns of the central Mediterranean area

### Demography and work: faster harmonization of social patterns overwhelms the economy

The central Mediterranean area possesses roughly 9.5% of the population of the EC. By 2020, this share will increase to 10%. From then on, the central Mediterranean population will continue to decrease in absolute terms as in the rest of the EC.

The evolution of demography and the labour force in the central Mediterranean area is a striking example of the social adaptation to the standards of the post-industrial society.

In the last decade, birth rates have fallen drastically, by one third from 15.7 to 10%, with the growth rate of the population thus falling from 5.6% at the beginning of the 1980s to 0.9% in the second half of the decade.

The ageing of the population is also fast reaching EC average levels. By 2020, the share of the population over 65 years will have increased from 15 to 20%, while the share under 15 years will have fallen from the current 20% to 15%.

Firstly, external migratory flows, which have been a phenomenon of fundamental re-equilibrium for both income levels and for the labour-market, will virtually cease in the 1990s. At the same time extra-EC immigration will continue to rise and will reach very high levels.

Falling emigration and the growth of extra-EC immigration are also important phenomena.

This process of 'cohesion' of social patterns concerns the fundamental social phenomena of birth rates, which are now lower than many socially mature countries, and participation rates for women, whose rapid rise is constrained only by the ability of the productive system to absorb additional labour.

### The disequilibrium of the labour-market

The rapid changes in demographic trends affect the labour-market in the long term. The supply of labour, however, will not be influenced by the demographic transformations that have and will take place for some years to come. The central Mediterranean will therefore, for the next decade, remain one of the regions with the most rapidly growing labour force in the Community, with unemployment rates in some parts, especially among young people, among the highest in Europe.

Activity rates will continue to increase, especially for women, though these are still some 9 percentage points below the European average.

Activity rates do in fact reflect one of the principal differences between the central Mediterranean and the rest of Europe and explain the lower relative level of income. In fact, in 1990, only 33 people per 100 were employed in the central Mediterranean as against 41 in the Community as a whole.

The prospect for the next decade, if current activity rate trends remain, is an increase of 900 000 units in the size of the labour force; this increase is almost equal to that projected for the Community as a whole over the same period (960 000 units).

Unemployment levels vary significantly across the central Mediterranean. In the Mezzogiorno, the unemployment rate is among the highest in the Community at 20%. In Greece, on the other hand, unemployment remains low (7.5%), due to the prevailing traditional structure of the labour-market, with low productivity agriculture occupying a high share of potential unemployment.

This position of agriculture in the central Mediterranean economy as a relatively large employer does in fact represent a significant disequilibrium in the labour-market, due mainly to the incomplete restructuring of the agricultural sector, which is hampered by the insufficient absorptive capacity of industry and related activities.

The inadequate number of jobs in the private sector, and specifically in modern manufacturing, and low productivity levels have for over a decade blocked the traditional mechanism of catching up, based on the movement of employees away from low productivity sectors (handicrafts and agriculture) as the development proceeds.

As a result of these changes in demographic patterns and in the structure of the labour force, there are additional developments in the society such as the longer average period of training and a longer wait among young people before entering the labour-market, and a strong increase in the demand for public services such as education and health.

Somewhat perversely in the central Mediterranean area, there has been an incomplete movement from low pro-

**TABLE 1. Labour-force growth, 1990-2005: constant activity rates**

	Greece	Mezzogiorno	Centre-north	EUR 12
Absolute variation	130 000	900 000	- 1 060 000	960 000
Yearly average	10 000	60 000	- 71 000	64 000

Source: Eurostat.

ductivity employment in agriculture to other low productivity activities such as public services and retail operations.

The central Mediterranean is not equipped to compete in global markets and finds in the new developing economies a powerful and currently unbeatable competitor for labour-intensive products.

### Main sectoral development

The pattern of development in the two regions of the central Mediterranean area presents some common distinctive features:

- (i) the difficulty of building an extensive and competitive industrial system;
- (ii) the difficulty of transforming agriculture into a modern and efficient sector;
- (iii) a disproportionate increase in the importance of the service sector;
- (iv) a pervading role of the State in sustaining income and employment through the growth of employment in the public administration, and in a plethora of other publicly financed activities.

In the Mezzogiorno, productivity levels rose in the 1980s as a result of a drastic reduction in employment, which mainly hit the base chemical, iron and steel sectors.

These sectors were created in the Mezzogiorno by State-owned holdings, or substantially financed by large State aid, during the 1960s and 1970s.

In Greece the responsibilities of public intervention are of a somewhat different nature. During the 1980s, as a result of assistance from public funds, productivity in manufacturing decreased at a rate of 0.21%.

The rapid growth of tertiary employment in both Greece and the Mezzogiorno is the spectacular consequence of the failure of these industrial policies.

Mass transfers and growing public deficits have artificially sustained the growth of employment in public administration and in other services mainly financed by public demand. By the same token the growth of income and private consumption has sustained the growth of other private services.

The absorption of the tertiary sector in terms of resources and skilled people has had the very negative impact of crowding out in the manufacturing sector.

### The squeezing of the industrial sector

To conclude, the industrial structure of the central Mediterranean is compressed, on the one hand, by the strength of the rest of the Community and, on the other, by the developing countries that offer lower costs in traditional activities, and also sometimes a higher level of infrastructural provision and services.

**TABLE 2. Annual average of the rate of growth of employment in services, 1981-90**

	Services		Agriculture	Manufacturing
	Private	Public		
Mezzogiorno	3.60	2.01	- 2.37	- 1.24
Greece	3.36	3.37	- 0.86	1.38
Central Mediterranean region	3.54	2.47	- 1.73	- 0.03
EUR 7 <sup>1</sup>	1.90	1.21	- 2.34	- 1.75

NB: The Mezzogiorno includes Sardinia.

<sup>1</sup> EUR 7= B, DK, D, F, I, NL, UK; 1980-89.

Sources: Eurostat; ISTAT; Svimez; National accounts of Greece; Labour force survey of Greece.

The various factors contributing to this stagnation of the manufacturing sector can be divided into two main groups.

Market factors concern all the efficiency elements which contribute to the reduction of the competitiveness of the manufacturing firms of the region.

These factors can be summed up by the unduly small size of firms and their insufficient specialization, which has impeded increasing returns, and in the pattern of development of interindustrial trade, which was one of the main factors increasing productivity over the last decades.

The system of wage determination and thus the level of labour costs is virtually independent from the competitiveness of firms, responding instead to the logic of a closed economy and, in the case of the Mezzogiorno, to prevailing national wage levels which are linked to the high-productivity regions in the north of Italy.

In the course of time, the manufacturing base of the central Mediterranean has become specialized in traditional sectors, which are labour-intensive and must now compete with the low labour costs of the newly industrialized countries of the developing world and not with the advanced capitalistic economies.

Spatial organization relates to the interaction between the economy and the space, and is influenced by the low level of competitiveness of the spatial system of the central Mediterranean, both in terms of the endowment of infrastructure and in terms of its organization and management.

The weak functionality of the metropolitan areas and intermediate centres are another important element of the low attractiveness of the central Mediterranean for the location of external investments. This is, moreover, aggravated by the natural peripherality of the region with respect to the centre of Europe.

All these constraints of a micro- and macro-nature have rendered the central Mediterranean area unattractive for innovative and high-technology production and its related advanced services.

Against the background of these constraints, the positive characteristics of the central Mediterranean, such as the large supply of labour, favourable climatic condi-

tions, and a reasonable level of social welfare, have not been exploited sufficiently in order to overcome the difficulties and to encourage the economic development of the area.

### **Agriculture: a dual sector**

The agricultural sector is caught between abandonment and restructuring. The reduction of cultivable land is in fact manifested in the abandonment of hills and mountainous areas which cover a significant part of the central Mediterranean territory.

The share of the agricultural sector remains relatively high, at 20% of employment and 15% of value-added, while productivity is only 54% of that of EUR 7.<sup>1</sup>

The slow pace of modernization in agriculture is due to:

- (i) the persistence of unproductive agricultural areas;
- (ii) a low diffusion of pluriactivity, where agriculture is combined with other activities;
- (iii) in Greece the lack of reform of existing complex land property rights, which hinders the growth of farm size.

These structural elements are often accompanied by Community policies that are not able to support many productive activities.

In the last decade the total cultivable land area in the EC remained virtually constant, whereas in the Mezzogiorno there was a loss of 4.5%. This abandonment is not yet dealt with adequately in terms of environmental protection.

Another negative signal is the decrease in investment during the 1980s, which was remarkable in Greece at 3.7% a year, and high in the Mezzogiorno at 1.7% a year.

The most important difference between the central Mediterranean and the rest of the Community in the various uses of cultivable land is in the types of permanent crops grown, which are typical of the Mediterranean regions (fruit, grapes, olives, etc.).

<sup>1</sup> EUR 7 = Belgium, Denmark, Germany, France, Italy, Netherlands, United Kingdom.

This is compensated for by a smaller percentage of permanent grassland.

In the last decade there have been no major changes in the types of crops cultivated in the central Mediterranean area. The number of farm holdings has, however, decreased by 4.5%. The total average amount of cultivated land per holding is 4.8 ha, as compared with the Community average of 14.7 ha; in France and Germany this value increases to 28.6 ha and 30.2 ha respectively.

On the whole, the ongoing process of reorganization of the agricultural sector has not in fact brought about an improvement in efficiency. The gap in this respect with north European countries thus remains very large indeed.

### **The service sector: an excess of low-productivity businesses**

The central Mediterranean has been characterized by an anomalous growth of the tertiary sector with respect to the narrow industrial base and to the extremely low level of its efficiency and competitiveness.

The service sector is very heterogeneous, composed of various branches which play a different role in the dynamics of the economic system. Some branches, such as shipping and tourism, contribute directly to the external balance.

Other branches are more protected and mainly provide services to the population. They play an important role but must grow in line with the tradable sector.

Contrary to this requirement, in the central Mediterranean area, employment growth in the service sector has been supported largely by external transfers, by the small size of firms in the distribution system, and by the supply of social infrastructure and services by the State. It is thus expanding quite independently from the growth of the tradable sector. There is indeed a negative correlation between the growth of manufacturing and services to production.

In the Mezzogiorno this phenomenon is particularly pronounced; the employment share of the service sector has reached 43% for private services and 22% for public services.

It should be clear that an economic system with 65% of employment in low-productivity services and only 13% in the manufacturing sector can sustain itself only with a continuous inflow of external resources.

An excessively high contribution to the growth of services has been given by the increasing presence of the State in the economy, through its direct intervention and through its role in the distribution of resources.

The legitimate ambition to reduce economic and social gaps between the central Mediterranean regions and other European areas has produced serious imbalances for two reasons.

Firstly, an increase of public expenditure that is out of line with increases in revenue is bound to produce a fiscal crisis for the State. This is exactly what has occurred in the central Mediterranean.

Secondly, the success of State intervention depends crucially on the efficiency of public administration. Unfortunately, the efficiency in the use of public resources has been low in the central Mediterranean, and the quality of services has been unsatisfactory even when expenditure levels were adequate.

### **Tourism: a need for stimulating diversification and an increase in professionalism**

For quite some time tourism was considered as a possible leverage for growth of income and employment in the central Mediterranean, and as a substitute for sustained manufacturing development.

Nowadays, this idea can be considered as an illusion, especially for the Mezzogiorno and for the larger cities of the area.

The expansion of tourism in the central Mediterranean has thus far favoured, but cannot sustain, the diffusion of economic development.

The main problem with tourism in the central Mediterranean is that the high growth in demand for tourism in the 1970s and at the beginning of the 1980s was met by an inefficient and unplanned supply. This was not organized to meet the slower pace of the off-season which would have created an increase in quality and competitiveness.

During the 1980s there was a considerable erosion in competitiveness of the central Mediterranean tourist supply which showed little capacity to adapt to the changing patterns of tourist demand.

There is an excessive concentration of tourist facilities and of the periods of the year in which they are used.

Despite the high potential for differentiated supply (mountain, artistic, historic, etc.), tourism has strongly identified itself with the sun and sea package holiday, where masses of people invade coastal areas for short periods, using unsophisticated services, and producing a significant degree of environmental degradation.

Nowadays the demand for tourism in general has been evolving towards a much greater segmentation in terms of holiday types, requiring a greater sophistication of services, and increasing attention to the quality of natural resources.

The supply of tourism in the central Mediterranean has not been able to satisfy these changing conditions.

There are also further shortcomings:

- (i) the presence of only a limited number of tourist centres offering a complete array of services of an international standard;
- (ii) the lack of a territorially integrated tourist network;
- (iii) the crisis of tourism in the large metropolitan areas;
- (iv) the inadequacy of the transport infrastructure and of the provision of public services.

### **Small and medium-sized enterprises: too small and precarious to be beautiful**

The central Mediterranean area is characterized by the presence of a small and decreasing number of large-scale enterprises and a large number of micro-enterprises. This characteristic is common to all sectors and all regions of the central Mediterranean, and constitutes a structural element of fundamental importance in the formulation of any future policy aimed at fostering economic restructuring.

Micro-enterprises in Greece represent almost 93% of the total number of enterprises, though they absorb only 19% of the work-force, against 24% in the Mezzogiorno. In the Mezzogiorno, they primarily produce under a regime of subcontracting with larger units located mainly outside the region. Those that are not connected with larger extraregional firms produce mainly for the regional market.

An interesting development in the Mezzogiorno is the growing share of the 11 to 99 employees size class. This

was the result of a movement of consolidation and reduction in the micro-class of firms.

These developments in the central Mediterranean brought many analysts to consider a high birth rate among small locally owned units as the main vehicle for industrial take-off in the area.

More recently, as a result of tighter competition and credit conditions, and of the increasing openness of markets, there has been a high mortality rate among small firms, leading to a reconsideration of the insubstitutable function of large firms as a base for regional development.

The problems encountered by small firms in the Mezzogiorno are useful in developing a picture of the likely patterns of growth of these sectors in Greece in the coming years.

## **Spatial organization**

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### **A natural fragmentation of the spaces**

The territorial configuration of the central Mediterranean area, with very developed mountain ranges, large hill areas, and small flat regions, creates a natural fragmentation of the regional framework.

The mountainous nature of the territory has increased the cost of large-scale communication infrastructures and this has contributed, until recently, to the fragmentation of the central Mediterranean space. Historical factors have also contributed to the delay in the construction of some basic connections (such as the connections across the Apennines which are fundamental in order to develop east-west relations within the Mezzogiorno, and the similar east-west connections required in Greece to spatially integrate it at both the national and EC level).

The spatial isolation of Greece is one of the most pressing issues for the spatial development of the central Mediterranean area. This is exacerbated by the instability in the Balkan peninsula which now means that the only viable connection for Greece with the rest of the EC is across the Adriatic Sea and through Italy, especially through the Mezzogiorno. Connections on this axis are very weak and the strengthening of both sea and land connections is vital if the geographical isolation of Greece is to be overcome.



## Environmental fragility

Environmental fragility is a characteristic of the Mediterranean area. The combination of unstable soil with a dry climate has produced a precarious equilibrium, which is strongly influenced by excessive agricultural exploitation in some areas, by the abandonment of agriculture in others and by the aggressive onslaught of unplanned tourist development, and the diffusion of illegal housing in coastal areas and in urban centres.

Since ancient times, the intervention of man has of necessity required that special care and attention be paid to the environment. Every time that this requirement was neglected, the environmental consequences were very serious.

The environment is currently suffering a lengthy period of neglect and urgently requires protective initiatives. These initiatives are all the more necessary, as long as the rich quality of the environment remains.

Environmental protection can be considered a good opportunity for developing the quality of public management, for creating new highly skilled jobs and for increasing the overall productivity of the spatial organization.

A characteristic problem in the central Mediterranean area is the widespread diffusion of seismic risk, which affects the entire Mezzogiorno (with the exception of Puglia) and the whole of Greece. Few other Community regions are subject to a seismic risk of similar scope and intensity.

To this we must add the large areas affected by volcanic risk. This is augmented by the high population density in the proximity of the principal volcanoes. Many of these areas are also in the islands, increasing the difficulty of intervention.

This frequency of seismic events is negatively reflected in the endowment of physical infrastructures, which are burdened by higher construction costs and frequent replacements.

### **The scarcity of water and high risks of pollution**

Due to the prevailing climatic conditions, there is a significant problem of water availability: water is scarce in some periods, and its availability is concentrated in a few areas. This problem requires planning for the utiliza-

tion of water resources, storage facilities and distribution networks covering large areas.

In recent years, conflicts between consumption, irrigation and industrial uses of water have arisen, making intervention for the coordination and optimization of water resources in relation to the different uses more and more necessary. This increasing competition and demand for water resources have also significantly increased pollution levels and risks.

Fresh water supply and pollution are not the only difficulties. The rising volume of oil transported in the Mediterranean Sea and the increasing numbers of people living in coastal areas, as well as the diffusion of tourism, have produced a high risk of sea pollution. Protective measures for the sea and coastal areas currently in effect do not ensure an adequate safeguard.

### **To complete the urban network: a precondition for development**

The urban networks of the two subregions of the central Mediterranean are concentrated in coastal areas, forming, despite their limited functional integration, the segmented axis of Rome-Naples-Messina-Palermo in the west, and the 'S'-shaped axis Patras-Athens-Thessaloniki-Kavala in the east.

In addition to the traditional concentration of activity along these two axes, there is evidence of a new emerging axis on the Italian side of the Adriatic (Lecce-Bari-Pescara-L'Aquila). The corresponding set of urban centres on the Ionian Sea in western Greece, however, does not show the same signs. In this region, the urban centres of Ioannina (Agrinio, Patras and Kalamata) form a rather disconnected string of cities, isolated within their intermediate environment. A similar pattern holds in Greece for almost all urban centres that are not very close to the 'S' axis, largely due to the lack of infrastructures.

The most important deficiency of the spatial organization is the incomplete urban network, with an urban structure that is strongly dependent on a few metropolitan areas, which are overburdened both functionally and demographically.

The problems of the large metropolitan areas (Athens, Thessaloniki, Naples, Palermo and Catania) are also particularly important for the management inefficiency of their central and peripheral spaces that is created.

The main poles of the urban network (with the exception of Athens, due to its role as a State capital) suffer from a shortage of strategic sectors, such as advanced industrial services (advertising, marketing, etc.), and of modernizing forces (information networks, decentralization of the national and international functions).

To achieve an efficient and modern spatial organization, the Mezzogiorno and especially Greece lack medium-sized centres capable of acting as directional filters for exogenous stimuli and regional strengths. With the exception of some regions (Puglia, part of Sicily, Crete) medium-sized cities are limited in number, underqualified, and employed chiefly in an administrative role.

There is therefore no alternative location for manufacturing or service businesses other than highly costly and congested metropolitan areas.

Finally, a very particular problem is the safeguarding of historical assets, which are some of the most important in the world. In some of the larger cities (Athens, Naples and Palermo), the continuing use and degradation of the extensive and rich endowment of buildings is coupled with a weak social and economic fabric. In many smaller centres too, there are historical sites of immense value which must be adequately protected and incorporated into a wider network in order to exploit the potential they offer for tourism and for business location.

### **Rural and coastal areas: a contradictory pattern of development**

The abandonment of the internal and mountainous areas is proceeding very quickly (see map 'Demography, urbanization, socioeconomic issues'), weakening the self-protection capacity of these areas and increasing the degradation of their environment. The recovery of tourism in these areas is only beginning in some small zones and it does not seem for the moment to be sufficient to protect the environment.

In some coastal areas the exploitation of tourist potential has been carried out very chaotically, creating a strong negative feedback on the ecosystem, forcing overutilization of infrastructure in peak periods, and creating settlement patterns that cannot easily be integrated into the urban fabric.

The preservation and maintenance of these areas across the central Mediterranean, and the proper framework in order to exploit productively the potential these regions offer, present not only an opportunity for the

area to develop tourism, but also an important potential source of activity for the construction sector and related branches of industry. It is also the only way in which to generate an autonomous source of income in many isolated regions that will help stem abandonment and encourage the dispersion of pluriactivity.

### **The weak potential of the regional spaces**

The regional structure in the central Mediterranean is weak, and the interface of the various regional components with the Community is insufficient. Moreover, integration structures are based on economic functions and physical connections; innovative impulses diffuse with great difficulty, due in part to the weak information networks and low level of scientific know-how.

At the level of the larger urban centres there is a great lack of linkages with international networks. With the exception of Athens, all the other large centres have serious problems of modernization of air and sea transport networks. There are also difficulties in implementing projects of international cooperation in research and development activities (limited development of technological parks).

This space is also weakly connected internally and with the other regions on the southern shore of the Mediterranean (North Africa, Turkey, Middle East). There are also more specific problems such as the inefficient connection of Sicily with the north.

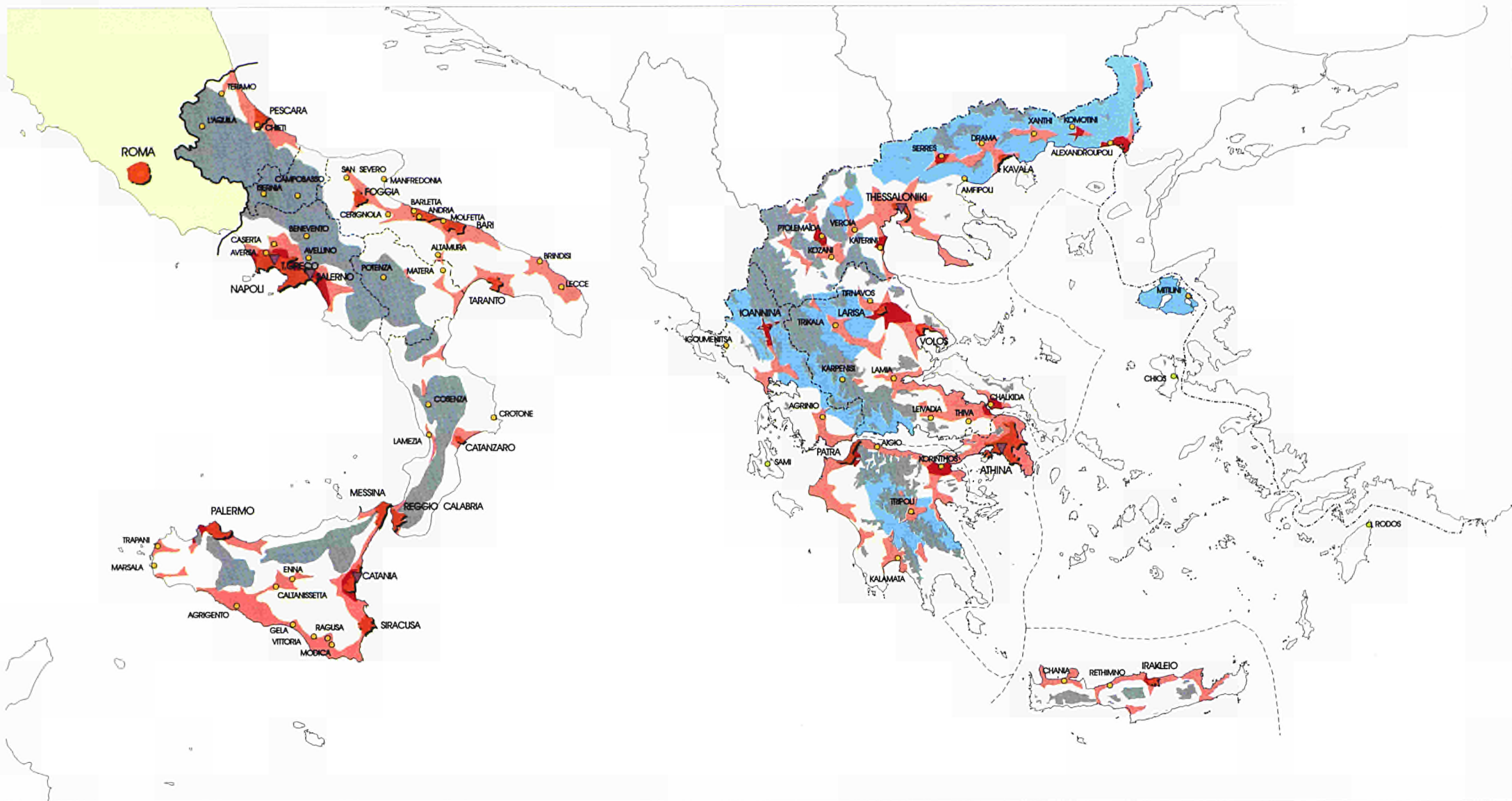
### **An underequipped space**

The lack of functionality and shortage of linkages between cities and between the different spaces (urban, coastal, rural and mountainous) are due not only to the natural fragmentation of the central Mediterranean nor the recent trend of urbanization, but, to a large extent, the weak infrastructural endowment.

In the central Mediterranean, the development of infrastructures has never anticipated social and economic demands, but has followed urgent needs arising from rapid urban growth or, in the Mezzogiorno, from the model of development of the northern regions.<sup>1</sup>

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<sup>1</sup> In Greece one segment of the national road system was constructed in the 1950s and most of the rail network in the 19th century, with no major improvements since. In the 1950s and 1960s the Mezzogiorno benefited from both motorway and rail development within the overall planning of northern Italy.



DEMOGRAPHY, URBANIZATION, SOCIOECONOMIC ISSUES

LEGEND



Mountain areas



Conurbations > 1 000 000 inh.



Cities 100 000 — 1 000 000



Towns < 100 000



Urbanization in progress



Strong population growth



Rural 'deprise'



Accentuated 'deprise'



Inner city decline

0 100 200 km

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The consequences of this shortage of infrastructural planning are:

- (i) a fragmented diffusion of physical infrastructures (centred on a few large cities, incapable either of sustaining internal demand or guaranteeing basic connections with other areas);
- (ii) the absence or the inadequacy of connections with the most important European networks (high-speed rail, motorway, telecommunications, gas distribution);
- (iii) a low standard of functionality and performance of existing infrastructures.

### **An infrastructural endowment that is unbalanced between Greece and the Mezzogiorno**

In broad terms the Mezzogiorno is better equipped in infrastructure than Greece. There are spectacular differences in the road and rail systems, while air and sea transport, conventional communication and energy are on the whole more developed in Greece.

In terms of the level of development and mobility, the two principal criteria influencing infrastructures, Greece is lagging in comparison with the Mezzogiorno. This is due very largely to the strong – if not entirely effective – policy of 'Intervento straordinario',<sup>1</sup> attempting the reduction of inequalities between the Italian north and the Mezzogiorno.

Both the Mezzogiorno and Greece are moving towards a transition period of changing the past policies in an effort to bridge the gap with respect to the rest of the EC. The success of this effort, which is more demanding for Greece, depends on the capability of the local authorities to absorb the available national and EC funds and to produce coherent investment plans.

## **The main components of infrastructure**

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### **Transport**

The transport infrastructures in the central Mediterranean are characterized by an extreme weakness of horizontal linkages. This condition has favoured the birth of a very closed model of local development, which results in an inability to operate in large markets.

<sup>1</sup> Extraordinary intervention for southern Italy.

Within the region, the fragmented nature of the transport system, coupled with weak linkages and ineffective functional interaction of different modes, creates serious inefficiencies. The current development strategy, especially for transport, is directed towards raising the standards closer to EC averages, diminishing the dominance of road transportation and developing a well-functioning and spatially-balanced rail system.

These targets take the form of functional administrative improvements of existing infrastructure for the Mezzogiorno, and major public works of a quantitative nature for Greece.

### **Sea transport**

In the region as a whole, but particularly in Greece, the sea transportation system has played an important role and is expected to dominate in certain regions and provide linkages within complex geographical configurations.

The harbour system, both in the Mezzogiorno and Greece, is related to the evolution of the urban network, where major urban infrastructure development occurs in the spatial sense in relation to the metropolitan centres, as well as some dynamic secondary centres, producing a rather highly centralized and often congested system. Although these central harbours will never lose their hierarchical dominance, current planning has as its main target a process of decentralization through the creation of a strategically located chain of secondary harbours, that are well integrated with land transport nodes and linked in all directions with the Mediterranean and Balkan Sea.

A dynamic component affecting the harbour system is the increasing importance of activities connected to tourism and recreation facilities.

In Greece, in particular, the emerging harbour system gives special emphasis to infrastructural development in western Greece, where the harbours of Patras and Igoumenitsa, linked with the corresponding Adriatic harbour chain in the Mezzogiorno and central Italy, could form a potentially strong transportation and recreational axis.

A similar development of the northern Aegean harbour system (Thessaloniki, Amphipolis, Kavala, Alexandroupolis) provides a strategic linkage for all Balkan countries, as well as the Black Sea, in anticipation of the integration of this area within a wider European framework.

Thus, the existing centralized Aegean system, of mostly domestic function, could play a more dynamic role of an extraregional nature.

### **Air transportation**

The air transportation system of the region strongly follows the spatial distribution of the major concentrations, with a few exceptions in the fairly well-developed system servicing the islands and strong seasonal fluctuations of traffic, relating to tourism and the specialized charter flight service system. The network functions as a segment of a wider European and international network, forming a triangle with three main poles: Milan and Rome airports, both outside the central Mediterranean, and Athens airport, the weaker pole. This system does not seem to change in spatial configuration terms, while increasing demand and weakness in land facilities require modernization of almost all existing airports within the area.

In the Mezzogiorno, expansion is planned for Naples airport, located at the northernmost end of the central Mediterranean, in order to relieve congestion at Rome airport and function as a major node at the southernmost end of the European high-speed train network. In Greece, a major new airport is planned in Attica to replace the highly inadequate existing airport. Current airport planning includes improvements for almost all other small and medium-sized airports as well.

### **Telecommunications**

The telecommunications system is undergoing complete renovation in the entire region, strengthened by the introduction of advanced information systems. Although there are low regional disparities in existing conventional services, the spread of new technology networks is initially expected to cover central urban areas or special locations of higher education and research institutions.

### **Energy**

In both the Mezzogiorno and Greece, energy production and distribution suffer from the problem of scarcity of resources and a constant trend of increasing demand. The major characteristic of the system is oil dependency, with negative implications both in economic and environmental terms due to both industrial refinery installations (in Sicily and Attica) and the risks related to oil transport within a highly sensitive coastal configuration.

Answers to this problem could be provided through the development of renewable sources of energy, of which geothermal might have the most potential. However, increasing demand cannot be met solely either by those sources or by the hydroelectric system, which is still developing in both regions as a by-product of a more efficient water management and conservation effort. The effective restructuring of the 'energy balance sheet' will thus depend heavily on the interconnection of the area with transregional systems based on gas.

Current plans for Greece include the widespread use of gas transferred from former Soviet Union regions, conversion of the 'dirty energy plants' of lignite and an exchange connection between the western Greek coast and Puglia by electrical submarine cable.

### **The reorientation of spatial policies**

The close relationship between the process of economic development and the location of productive activity (axes of development, urban centres) and the negative effects of abandonment of extensive parts of the territory demonstrate clearly that policy for economic development must become responsive to spatial integration issues.

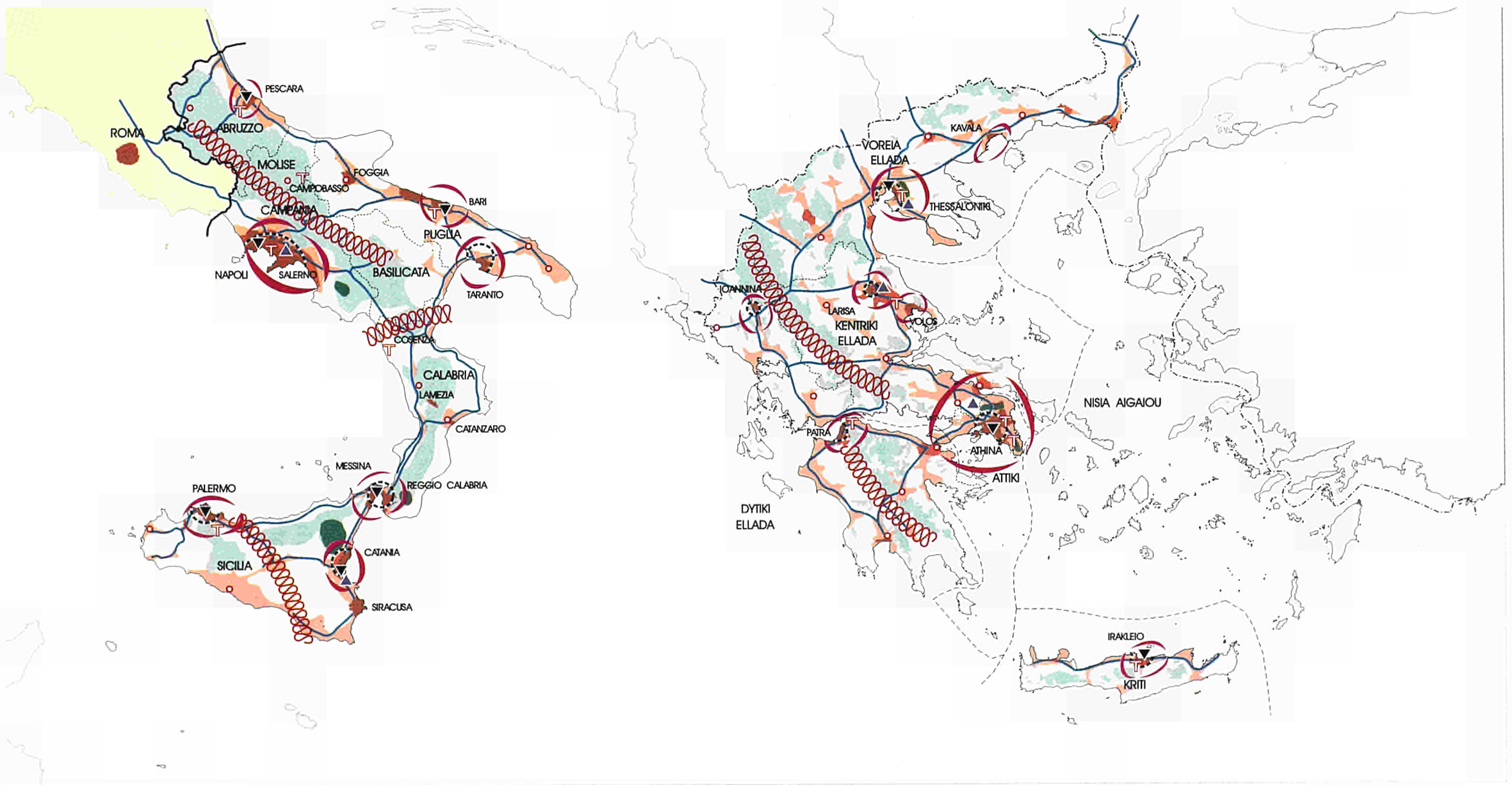
Past policies controlling or directing economic and urban development have failed — along with lagging infrastructure development — to reverse the trend of constant environmental degradation in all areas of productive activity. A reorientation of spatial policies is necessary if present trends are to be reversed.

Increasing infrastructural endowment and the recovery of urban networks are part of an integrated development policy, in which direct support for productive activities is strongly linked with the spatial restructuring. The necessity of intervention programmes for productive activities that are able to act on a small scale (local entrepreneurial, SME support and networking, adaptation of the training system to the local needs) requires a physical infrastructure that is able to receive and spread growth and development impulses over a wider area, at the regional, national and European level.






### **The guidelines for the spatial recovery of the central Mediterranean**

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It is a basic necessity to insert cohesion elements in the regional framework and to favour greater interconnec-








POLICIES AND PLANNING CONCEPTS

-  Urbanization in progress
-  Strong population growth
-  Rural 'deprise'
-  Accentuated 'deprise'
-  Mountain areas

-  Development prospects (positive / negative)
-  Constraints to development (Green Belt)
-  Main urban centres
-  Road Network

LEGEND

-  Urban concentrations in need of urban controls
-  Nodal point
-  Risk of major spatial fragmentation
-  Major urban pole
-  Projected technological parks

0 100 200 km

tion to overcome the risks of major spatial fragmentation (see map 'Policies and planning concepts'). To this end, existing connections must be reinforced and the priority axes for connections identified.

On the east-west axes, it is necessary to reinforce:

- (i) the connections between Rome-Naples-Bari-Brindisi-Igoumenitsa-Thessaloniki and Patras, activating a strong communication line capable of assuming strategic importance in the south-east of the Community. This axis requires an extension of the planned high-speed rail beyond Naples and an increase in fast communications (road and rail) on the Greek side;
- (ii) the rail connection of Trapani-Palermo-Messina-Syracuse-Ragusa in Sicily, with sea linkages to Greece (Patras, Crete) capable of extending tourist flows and providing transport alternatives.

On the north-south axes, it is necessary to reinforce:

- (i) the linkage between Calabria and Sicily, relaunching the plans to construct a bridge across the Straits of Messina;
- (ii) the functionality and speed of communications between Thessaloniki, Athens and Patras and to enlarge the branches from this main axis to the peripheral centres.

Other interventions are necessary to improve the intermodality of transport and to strengthen some principal harbours (Naples, Palermo, Bari, Brindisi, Patras, Thessaloniki, Kavala, Alexandroupolis) and airports (Naples, Palermo, Bari, in the Greek islands and the construction of the second airport in Athens).

It is necessary to requalify the poles of the urban network, through the development of their productive fabric, the promotion of initiatives for demographic decongestion, and the reduction of pollution risks.

This objective has two requirements: the strengthening of intermediate cities and the recovery of the metropolitan areas. These elements have a fundamental synergy, and their parallel improvement will guarantee increasing returns.

The recovery of the metropolitan areas requires:

- (i) improvement of urban transport (underground railway, public transport, more efficient management of transport systems and companies);
- (ii) recovery of the historical centres with special programmes for Naples, Palermo, Bari and Athens;
- (iii) support of adequate initiatives for technological parks and international research centres in Naples, Bari, Catania, Palermo, Athens, Thessaloniki and Patras;
- (iv) strengthening of the role of the main central Mediterranean centres in diplomatic and business relationships in the Europe-Mediterranean area.

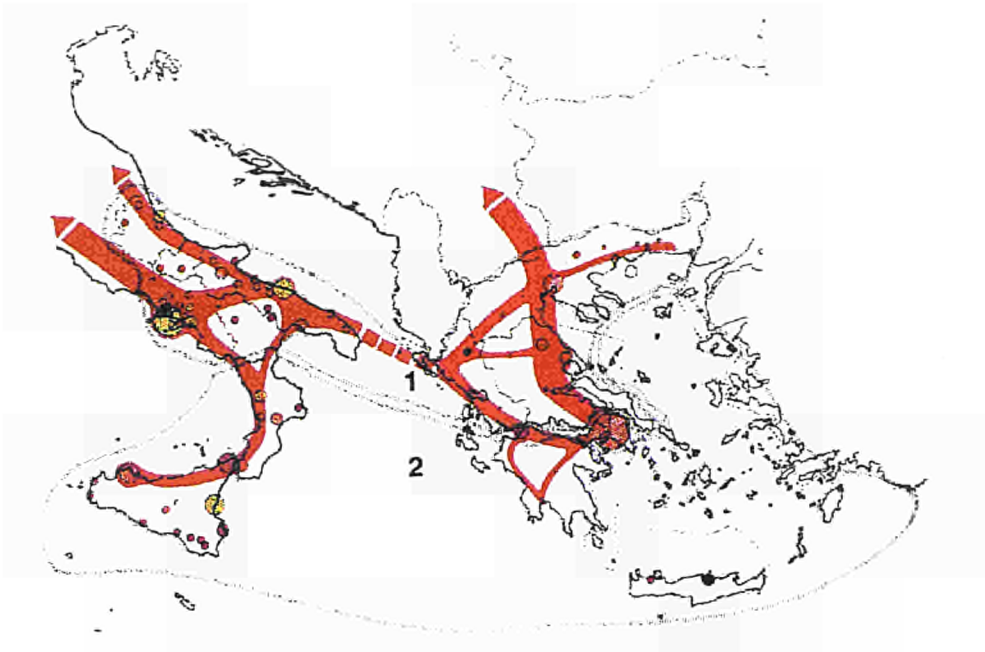
The reinforcement of the intermediate cities requires:

- (i) improvement of the building stock and its supply conditions to favour decongestion in the large cities;
- (ii) improvement of social services and the supply of high-quality training and education connections with cultural, research and development networks;
- (iii) support for the decentralization of administrative functions from the larger cities.

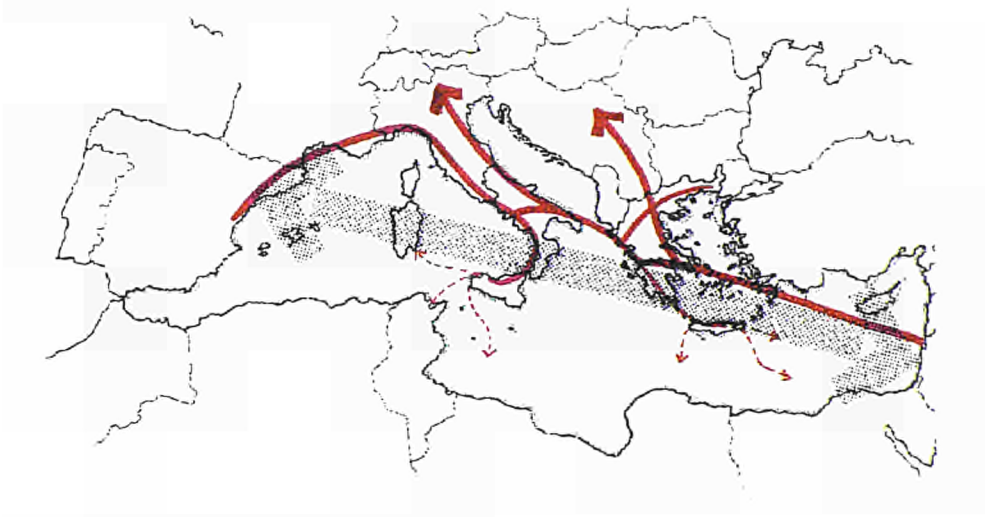
In the Mezzogiorno, on the west-east axis, the principal interventions must be in Avellino, Foggia, Brindisi and Lecce; on the internal axis in Campobasso, Benevento, Potenza, Cosenza, and on the western Sicilian axis in Trapani, Agrigento and Ragusa. Reggio di Calabria and Messina represent a point of crisis due to the failure of the project for a bridge over the straits.

In Greece along the south-north axis the principal interventions must be in Kalamata, Patras, Volos and Larissa; along the west-east axis in Igoumenitsa, Ioannina, Kozani and Kavala. Specific interventions could be directed to the reorganization of new settlements along the western coast and along the internal 'string' from Thessaloniki to Alexandroupolis (Serres, Drama, Xanthi, Komotini). In the islands, the intermediate centres requiring reinforcement are Iraklion and Rodi, but the interventions here must be planned in order to promote recovery of the whole island network.

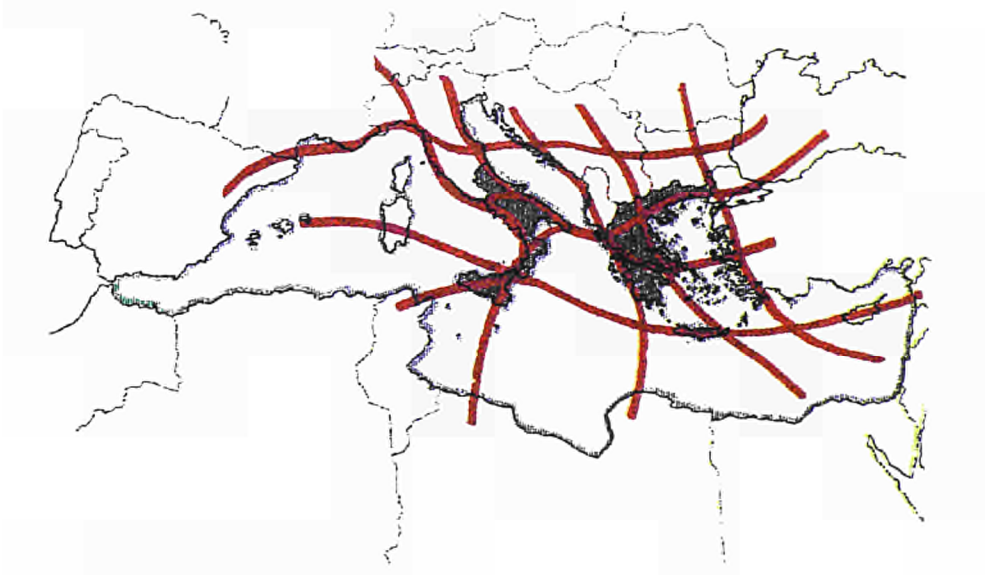
The water shortage emergency must be addressed with a 'water plan' for all the Community Mediterranean countries, defining a balanced utilization of water resources for irrigation and drinking, and avoiding competition between uses or between countries. All local



POTENTIAL AXES OF DEVELOPMENT



MEDITERRANEAN SPATIAL CONTEXT



POTENTIAL GENERALIZED GRID

AXES OF DEVELOPMENT



interventions must be coherent with this general framework.

It is necessary to safeguard the internal spaces of the central Mediterranean through adequate interventions on their vocational activities and the promotion of complementary activities, and through a systematic recovery of their natural resources through a more widespread natural park system.

It is necessary to create a real compatibility between the environment and tourism, especially in coastal areas.

Tourist expansion, which is largely spontaneous, must become coherent with the local and regional urban fabric, completing the social and physical infrastructures in these areas. The environmental protection of the coasts must be favoured by the creation of many marine parks.

It is necessary to improve and complete the monitoring network of seismic and volcanic activity. This basic intervention must be accompanied by measures to diminish settlement intensity in volcanic areas (Naples, Etna), and by civil protection plans to face emergency situations, especially for the islands.

## Scenarios

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The scenario development framework for the prospective evolution of the central Mediterranean region is determined 'externally' by EC policy for economic and social cohesion as well as by extra-EC policies for the surrounding territories such as Eastern Europe, the Black Sea, and the southern Mediterranean. The central Mediterranean region seen as an extension of the 'Latin arc' (western Mediterranean) consists of border regions that can play a positive role in the process of development of a new European environment (see map 'Axes of development').

Given the weakness of the industrial structure in the central Mediterranean and the dependency this has brought to the area on external transfers, it is unlikely that the central Mediterranean can develop without continuing support from the rest of the EC. It thus seems that a concrete policy must be developed, defining a positive stance within the EC towards north-south integration. Such a policy is expected in the long run to bring significant benefits to the entire EC.

In addition to the 'external' factors, the scenario generation mechanism includes alternative directions and evolution of the following:

- (i) national policies, institutions and administrative structures;
- (ii) demographic dynamics and pressures on the labour-market;
- (iii) investment in social and economic infrastructures.

Positive evolution of all external and internal factors is highly influenced by political events in neighbouring territories, where the current unstable situation raises critical doubts for optimism in the near future.

### First scenario: fragmentation

The central Mediterranean region is surrounded by conflicts in neighbouring countries that limit to a bare minimum any economic cooperation with these areas. At the same time, Greece and the Mezzogiorno are subject to strong demographic pressures.

The single market leads to a transitional restructuring of the productive patterns within the EC, while the competitiveness of the central Mediterranean region remains very low, thus increasing disparities between the central Mediterranean and the EC. The central Mediterranean economy thus continues to depend on external transfer payments.

The economy does not show signs of restructuring and remains stagnant, with high inflation levels. Regional policies remain weak and unable to adapt in an organized and decisive manner to an increasingly complex economic environment.

The spatial characteristics of this scenario encompass increasing fragmentation, maximization of activity within some areas and abandonment or desolation for the remainder of the territory.

Except for a few traditional existing nodes and linkages, the region as a whole is lacking in interconnections and interrelations. Despite some progress in infrastructural development, fragmentation, which is more extreme in Greece than in the Mezzogiorno, is accompanied by increasing disparities and worsening environmental degradation.

The existing segmented 'axes of development' remain isolated. Both the Adriatic and Tyrrhenian axes remain underequipped, though the Adriatic is in a slightly better position in this respect. In Greece, regional disparities and fragmentation remain between the 'S' axis and the rest of the territory, and within the 'S' itself. Western Greece, the border areas and the island regions participate only superficially in the development process.

### **Second scenario: potential for recovery**

An emerging positive geopolitical environment allows a certain reversal of the isolation of Greece and improved integration of the Mezzogiorno within the international commercial network. This in turn leads to a gradual integration of the whole central Mediterranean region into the EC economy and an increase in economic trade with North Africa.

Economic regeneration is developed only within specific pockets. Agricultural modernization, with progressive rationalization of activities and increasing specialization, leads to the transformation of this sector into one with dynamic growth potential.

Stabilization within the former Yugoslavia leads to an increase in tourist activity, especially for the northern Greek regions, and also to increasing competition within this sector.

Within the emerging pockets of development, some industrial expansion takes place, but this cannot dynamically affect the overall development of the central Mediterranean. The industrial structure continues to display the well-known weaknesses of the past, the administrative structure remains unable to generate any rapid development processes, while the employment market is suffering from serious fluctuations.

All the above developments have a positive decentralization effect, though this is restricted along the dynamic axes. Linkages between the major poles of activity remain very weak. Infrastructure, although developing, still remains deficient, while there is negative pressure on almost all environmental components. Urban management and improvements in the quality of life and of services within the major urban centres remain an open question.

The level of the inequalities and disparities between the dynamic areas and the rest of the region is increasing, while interrelationships and the organization of functional networks between different regions and nodal points remain weak and discontinuous.

The Adriatic axis still dominates southern Italy, while the institutional impasse on the Tyrrhenian axis continues.

The established 'S' in Greece gains in dynamism but suffers from discontinuities. Its northern segment, for example, begins to evolve more intensively. Peripherality characterizes the remaining continental, border and island areas, though there are some distinct exceptions, such as Crete, where tourist activity is combined successfully with the development of other productive sectors.

### **Third scenario: integration**

The EC develops economic relationships with the non-EC countries that surround the central Mediterranean region at an increasing pace, within a climate of resolution of political and military conflicts. As a result, there is a degree of demographic stabilization within the wider European area.

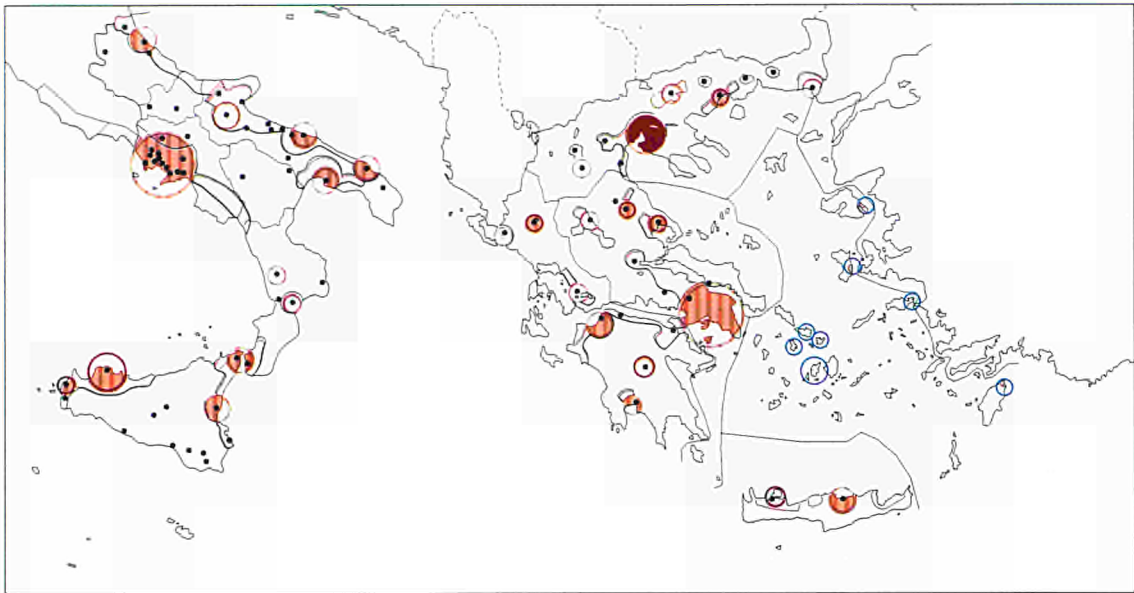
A new and dynamic EC policy develops with a 'Mediterranean' orientation. The central Mediterranean thus becomes a central pole, increasing its relations with the non-EC Mediterranean countries.

Technical and social infrastructural development, telecommunications, education and training and research and development (R&D) become the levers of a modernization process, and the driving forces behind a subsequent increase in the level of private sector investment.

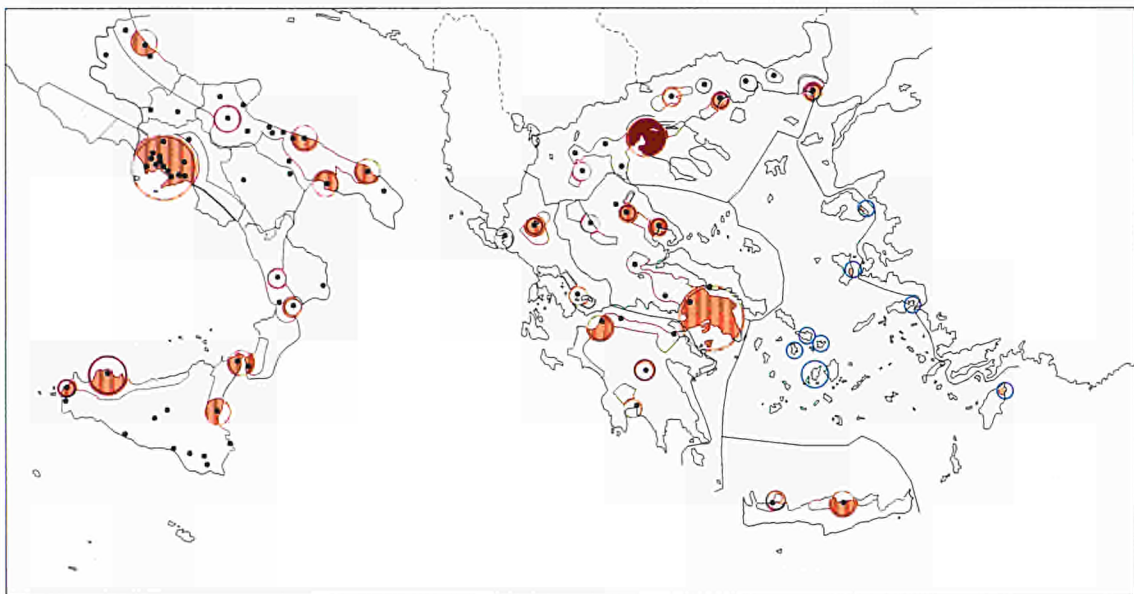
Changing macroeconomic conditions at the EC level give greater autonomy to the central Mediterranean in interventions for structural adjustment, enabling economic transformation and productive restructuring.

These factors enable a steady reduction in the level of dependency on external transfers as the public sector gains in efficiency and effectiveness, both in its administrative and investment roles.

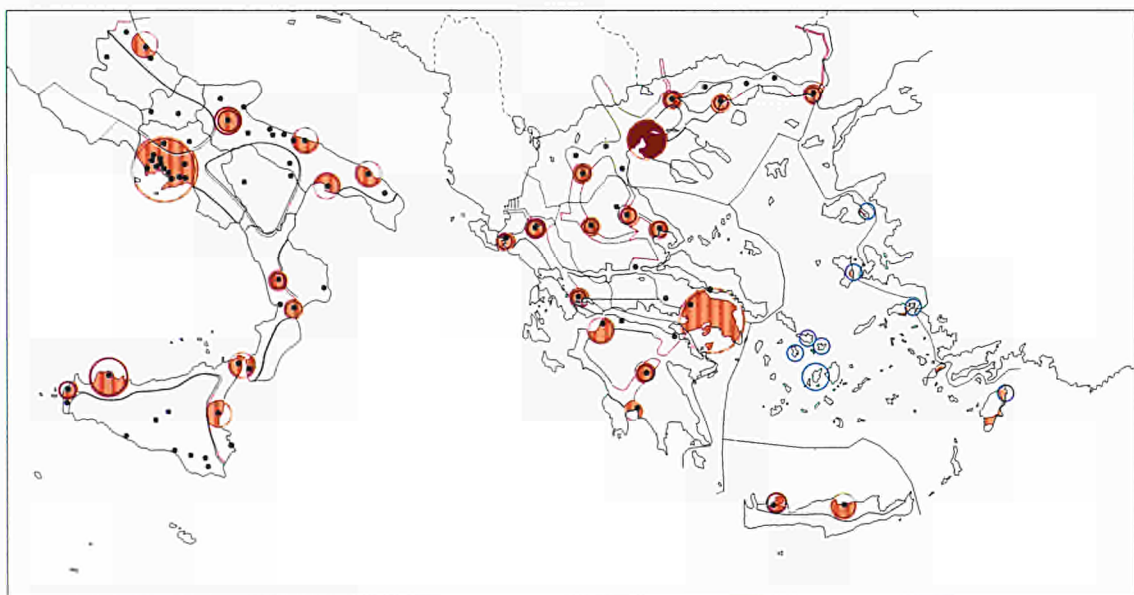
The picture of fragmentation and isolation, weak industrial structure and external dependency is thus gradually transformed into one of spatial and economic integra-



FIRST SCENARIO : FRAGMENTATION



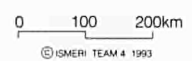
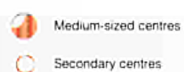
SECOND SCENARIO : POTENTIAL FOR RECOVERY



THIRD SCENARIO : INTEGRATION

## SCENARIOS

### LEGEND



tion, with autonomous capacity for growth, and a position of international centrality within the Mediterranean basin and Eastern Europe.

A strengthened industrial structure is oriented in a dual manner towards both selected traditional sectors and new dynamic, technologically advanced sectors, with small and medium-sized enterprises the main protagonists of this evolution.

Agriculture is transformed within the context of the common agricultural policy (CAP), and with environmental sustainability provisions, tourism is adapting to new patterns of activity, remaining an important and dynamic sector, especially in Greece.

The key fact is that development is diffused, though some isolated backward areas are still left in a marginalized state.

Spatial fragmentation is reduced significantly along with a parallel reduction of regional disparities. Infrastructure is developing, providing internal and external linkages between urban and industrial centres. A new dimension

of Mediterranean orientation successfully adapts environmental policies to meet the specific needs of the central Mediterranean region. The cooperation of all administrative levels and bodies provides the necessary support to sustain and promote this pattern of development.

Diffusion and decentralization occurs in close connection with the emergence of transverse axes (Naples-Bari, Thessaloniki-Igoumenitsa). The Adriatic axis is unified across the whole of Italy, while the Tyrrhenian axis follows the evolution and growth patterns of its large urban centres.

The 'S' axis in Greece is evolving into an integrated spatial system. Successful decentralization gives a new and dynamic role to the string of urban centres in northern Greece (Thessaloniki, Kavala, Alexandroupolis).

The western axis and the secondary axis in the interior display a dynamic evolution to a lesser degree. Island and border regions integrate within the context of the continental areas and become linking 'bridges' to the surrounding Mediterranean and Balkan countries.

## Résumé

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### **Région méditerranéenne centrale: partie périphérique d'une région qui connaît de profondes mutations**

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La région méditerranéenne centrale a connu et continuera de connaître toute une série de transformations au cours des prochaines décennies.

Cette région se caractérise principalement par le caractère incomplet et par l'apparent blocage de son processus de transformation et d'industrialisation; elle peut être considérée comme «en crise», bien qu'elle ait subi de grands changements pendant la dernière décennie dans la voie d'une modernisation de la société et qu'elle dispose encore d'un considérable potentiel de développement endogène.

Ces changements qui s'accompliront pendant les décennies à venir se rapportent, en premier lieu, au contexte géopolitique de la zone environnante, lequel est lui-même tributaire de deux facteurs politiques déterminants, à savoir la chute du mur de Berlin et les conflits du Proche-Orient. Il convient d'y ajouter un troisième facteur, constitué par une des plus importantes disparités démographiques que l'on ait pu observer dans l'histoire entre deux régions voisines, l'Europe et l'Afrique du Nord.

On ne sait pas grand-chose sur les effets que les facteurs précités auront sur les transformations en cours le long des frontières de la région méditerranéenne centrale, sinon qu'il y a là des risques supplémentaires, mais en même temps une chance de développement et d'intégration qu'il est essentiel de saisir pour assurer le décollage de la région.

La qualité et l'orientation de la politique que mèneront la Communauté et les États membres à l'égard des autres

pays en matière de coopération pour les années à venir exerceront en conséquence une influence déterminante sur la future stabilité de la zone considérée et sur son évolution ultérieure.

### **Intégration et rétablissement d'une économie accusant un retard de développement: distinction entre dynamique sociale et système de production**

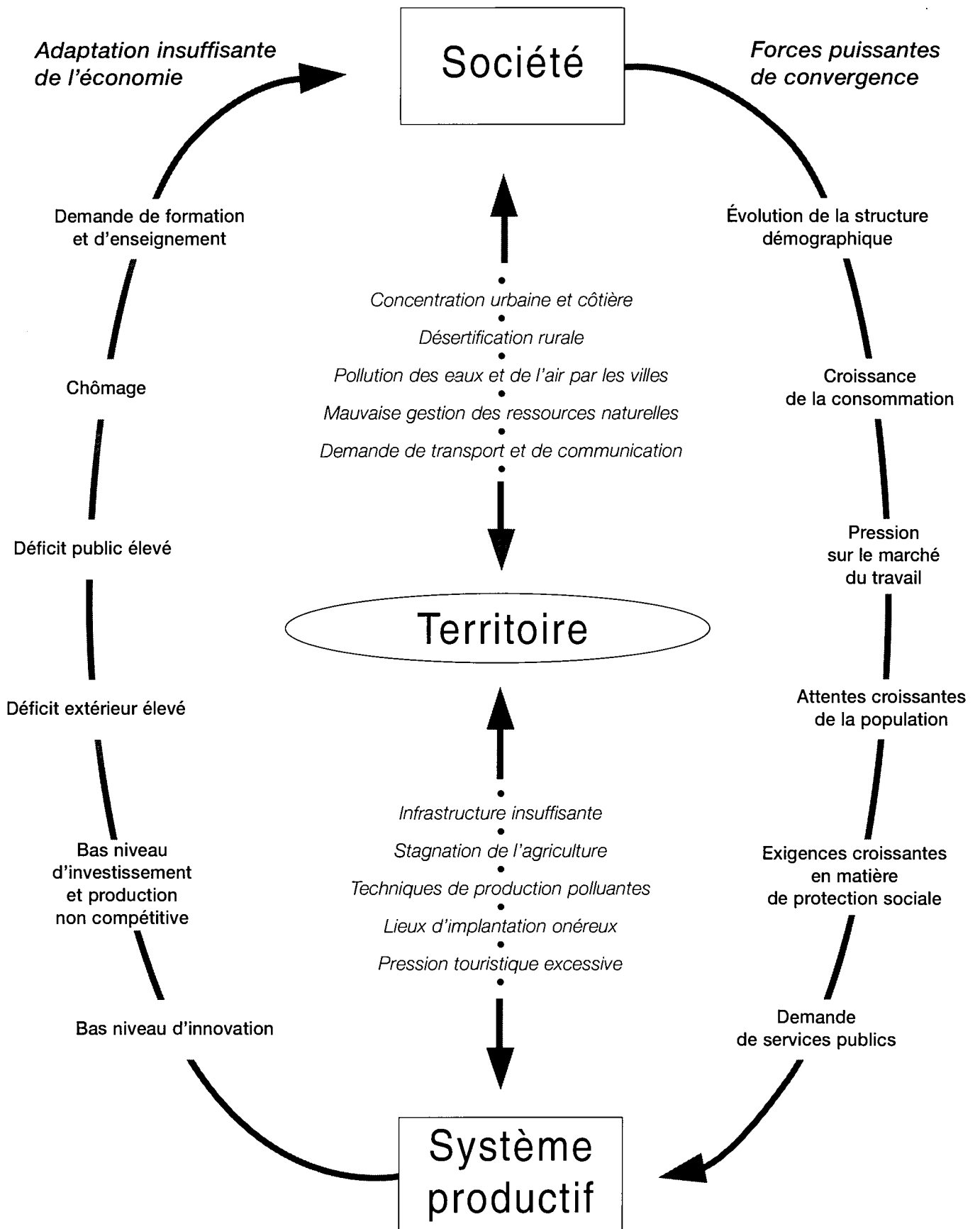
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La région méditerranéenne centrale a connu bien des mutations à la faveur du processus encore inachevé de passage d'une économie rurale et relativement fermée à une économie ouverte dans laquelle les salariés du secteur tertiaire sont les plus nombreux.

Dans les régions à la traîne de la Communauté européenne, le phénomène de rattrapage par rapport aux régions mieux placées en termes de PIB par habitant a été plus marqué pendant les périodes de croissance rapide et plus lent dans les phases de récession générale. Dans les années 80, période où l'Europe a enregistré une forte croissance, cette tendance a persisté en Espagne et au Portugal, mais pas dans la région méditerranéenne centrale, qui a relâché son effort en matière de rattrapage de ses voisins septentrionaux et qui, de fait, a vu à cet égard sa situation se dégrader depuis 1985<sup>(1)</sup>.

(1) Dans la région méditerranéenne centrale, le PIB par habitant est passé de 47 % de la moyenne communautaire en 1960 à 66,5 % (pic de la courbe) en 1985. À partir de 1985, il n'y a plus de rattrapage, et le PIB par habitant ne représente plus, en 1990, que 62,3 % de la moyenne communautaire.

La ligne de partage entre le mouvement de la société  
et le système productif dans la région méditerranéenne centrale



Dans la présente étude, nous avons souligné à de nombreuses reprises la spécificité et les conséquences négatives de la manière dont s'est opéré le processus de rattrapage et de modernisation dans la région méditerranéenne centrale. Il y a surtout lieu de déplorer l'apparition de graves difficultés qui, aujourd'hui, hypothèquent lourdement le développement ultérieur de la région.

La plus grave de ces difficultés réside dans la contradiction existant entre un comportement social inhérent au type de consommation et aux attentes de la population et une base productive trop étroite et trop peu développée.

Les divers facteurs exogènes responsables de cette situation sont liés à l'évolution des techniques et de la communication, qui a eu pour corollaire un écart croissant entre les attentes de la population et le rythme effectif du développement.

Dans les économies et les sociétés rurales relativement fermées des régions excentrées, l'activité économique et les relations sociales qui en découlent constituaient autrefois le principal facteur des aspirations et des comportements sociaux.

Pendant les deux dernières décennies, l'accès à la communication, la diffusion de la télévision, l'arrivée d'une quantité croissante de produits importés sur les marchés locaux les plus isolés ainsi que l'irruption de la consommation moderne dans les grandes agglomérations et dans le prolétariat urbain ont détruit le lien qui existait entre la société et le système économique dans la région méditerranéenne centrale.

Ce processus a débouché sur l'adoption d'un système externe de valeurs caractéristique de la modernité, minant un type de développement social et économique engendré par un système de valeurs «indigène».

Étant donné le faible rythme de développement de la base productive, il y a là une source de déficits et autres déséquilibres.

Les mesures prises par les pouvoirs publics ont, elles aussi, contribué à faire naître une aspiration à un niveau de vie trop élevé, à susciter un désir d'alignement sur les conditions de vie propres à des régions européennes voisines et à accroître considérablement la consommation dans la région méditerranéenne centrale, dont la capacité de production propre ne progressait pas et parfois même se dégradait.

Aussi paradoxal que cela puisse paraître, l'amélioration rapide des conditions sociales et économiques dans la région méditerranéenne centrale a accru les frustrations, car les exigences, notamment vis-à-vis de l'État, augmentaient encore plus vite, d'où une dégradation des conditions macroéconomiques générales et un blocage du processus de rattrapage.

En conclusion, le problème fondamental qui se pose à la région méditerranéenne centrale est de combler ce fossé entre la capacité de production de l'économie et les attentes en matière de bien-être et de consommation et, à cet effet, de réduire les niveaux de consommation et d'élargir la base productive de l'économie locale. Autrement dit, il faut créer une «culture de travail» qui sache s'affranchir des interventions extérieures et affronter la concurrence sur le marché.

L'évolution des aspirations et des comportements sociaux, non seulement dans les grandes métropoles, mais aussi dans les villes moyennes et dans les zones rurales, dépend du rythme de transformation sociale de notre époque.

Ainsi, le principal obstacle au développement réside aujourd'hui dans la faiblesse de la base productive de l'économie de la région méditerranéenne centrale et surtout dans le niveau insuffisant des activités de transformation.

## Structure du développement de la région méditerranéenne centrale

### Démographie et emploi: une économie surtout caractérisée par un alignement rapide sur le modèle dominant

La région méditerranéenne centrale compte approximativement 9,5 % de la population de la Communauté européenne. D'ici à 2020, cette proportion devrait passer à 10 %. Au-delà de cette échéance, la population de la région méditerranéenne centrale continuera à diminuer en valeur absolue, comme dans le reste de la Communauté européenne.

L'évolution caractérisant la démographie et la main-d'œuvre dans la région méditerranéenne centrale constitue un exemple frappant d'adaptation aux normes de la société postindustrielle.

Pendant la dernière décennie, le taux de natalité s'est effondré; il a diminué d'un tiers, tombant de 15,7 à

10 %, de sorte que le taux de croissance de la population a régressé lui aussi, tombant de 5,6 % au début des années 80 à 0,9 % dans la seconde moitié de la décennie.

Le vieillissement de la population a tendance, lui aussi, à s'aligner rapidement sur les niveaux moyens enregistrés dans la Communauté européenne. D'ici à 2020, la part des plus de 65 ans dans la population passera de 15 à 20 %, celle des moins de 15 ans tombant à 15 %, contre 20 % actuellement.

On peut remarquer que les flux migratoires vers l'étranger, qui ont constitué un facteur essentiel de rééquilibrage, tant pour les niveaux de revenus que pour le marché du travail, deviendront pratiquement nuls dans les années 90, tandis que l'immigration en provenance des pays tiers continuera d'augmenter et atteindra des niveaux très élevés.

Cette baisse de l'émigration et l'afflux d'immigrés non communautaires sont des phénomènes qui revêtent une importance considérable.

On observe un processus d'«homogénéisation», trait dominant de la société, attesté par des données essentielles telles que les taux de natalité, à présent inférieurs à ceux enregistrés dans bon nombre de pays développés, ainsi que les taux de participation des femmes au marché du travail, dont la rapide augmentation n'est freinée que par la capacité d'absorption du système productif.

### Déséquilibre du marché de l'emploi

Les transformations rapides qui s'opèrent en matière de tendances démographiques retentissent sur le marché de l'emploi à longue échéance. Le volume de la main-d'œuvre disponible ne sera cependant pas influencé

pendant les quelques années à venir par les évolutions démographiques passées et présentes. La région méditerranéenne centrale restera donc caractérisée pendant les dix années à venir par une croissance de la population active, dont la rapidité sera sans égale dans la Communauté, et ici et là par des taux de chômage, en particulier chez les jeunes, figurant parmi les plus élevés d'Europe.

Les taux d'activité continueront d'augmenter, en particulier pour les femmes, dont le pourcentage de participation au marché de l'emploi demeure toutefois inférieur d'environ 9 points à la moyenne européenne.

Les taux d'activité reflètent, en réalité, une des principales différences entre la région méditerranéenne centrale et le reste de l'Europe, et ils expliquent un niveau de revenu comparativement plus bas. De fait, seuls 33 % de la population avaient un emploi dans la région méditerranéenne centrale, contre 41 % dans l'ensemble de la Communauté.

Si les tendances actuelles en matière de taux d'activité subsistent, il est permis d'escompter, pour les dix ans à venir, 900 000 personnes de plus au travail, soit presque autant que l'accroissement prévu pour la Communauté dans son ensemble pour la même période (+ 960 000 personnes).

Les taux de chômage accusent de grandes différences dans la région méditerranéenne centrale. Dans le Mezzogiorno, le taux de chômage (20 %) figure parmi les plus élevés de la Communauté. Mais il demeure bas en Grèce (7,5 %), où la structure du marché de l'emploi est encore très traditionnelle, une agriculture peu productive occupant bon nombre de chômeurs en puissance.

La place de l'agriculture, en tant que secteur employant des effectifs relativement importants dans l'économie de la région méditerranéenne centrale, est effectivement

**TABLEAU 1 — Croissance de la population active de 1990 à 2005, taux d'activité constants**

	Grèce	Mezzogiorno	Centre-Nord	EUR 12
Variation absolue	130 000	900 000	- 1 060 000	960 000
Moyenne annuelle	10 000	60 000	- 71 000	64 000

Source: Eurostat.



le signe d'un grave déséquilibre du marché de l'emploi, phénomène tenant principalement au caractère incomplet de la restructuration de l'agriculture, dont la modernisation est entravée par l'insuffisance des débouchés qu'offrent l'industrie et les activités connexes.

L'insuffisance du nombre des emplois offerts par le secteur privé et, singulièrement, par les industries de transformation moderne, mais aussi les bas niveaux de productivité ont bloqué depuis plus de dix ans le mécanisme classique du rattrapage, fondé sur l'abandon de secteurs à faible productivité (artisanat et agriculture) au profit de secteurs en développement.

Ces transformations structurelles en matière de démographie et de population active entraînent à leur tour des changements sociaux tels que l'allongement de la durée de formation moyenne et, chez les jeunes, l'élévation de l'âge d'accès au marché du travail, ainsi qu'une forte progression de la demande de services publics, par exemple dans les domaines de l'enseignement et de la santé.

La région méditerranéenne centrale a connu une évolution quelque peu perverse en ce sens qu'elle a vu s'amorcer un processus de délaissement d'une agriculture peu productive au profit d'autres activités, elles aussi peu productives, comme les services publics et le commerce de détail.

La région méditerranéenne centrale n'est pas armée pour se battre sur les marchés mondiaux et les pays émergents lui imposent une rude concurrence actuellement imbattable en ce qui concerne les produits à forte intensité de main-d'œuvre.

## Principales évolutions sectorielles

Dans les deux régions constituant la zone méditerranéenne centrale, on observe des structures de développement présentant un certain nombre de traits communs:

- la difficulté de créer un vaste système industriel compétitif;
- la difficulté de faire de l'agriculture un secteur moderne et efficace;
- le développement disproportionné du secteur public;
- le poids écrasant de l'État dans le soutien des revenus et de l'emploi à travers l'accroissement des effectifs de l'administration et la multiplication d'autres activités financées par des fonds publics.

Dans le Mezzogiorno, l'élévation des niveaux de productivité enregistrée dans les années 80 résultait de réductions massives d'effectifs ayant notamment frappé les secteurs de la chimie, de la métallurgie et de la sidérurgie.

Il s'agit là de secteurs que de grands groupes publics, ou largement financés par des fonds publics, avaient implantés dans le Mezzogiorno pendant les années 60 et 70.

En Grèce, l'intervention du secteur public est de nature un peu différente. Pendant les années 80, l'aide sur

**TABLEAU 2 — Moyenne annuelle du taux de croissance de l'emploi dans les services entre 1981 et 1990**

	Services		Agriculture	Industrie de transformation
	Secteur privé	Secteur public		
Mezzogiorno	3,60	2,01	- 2,37	- 1,24
Grèce	3,36	3,37	- 0,86	1,38
Région méditerranéenne centrale	3,54	2,47	- 1,73	- 0,03
EUR 7 (*)	1,90	1,21	- 2,34	- 1,75

NB: Le Mezzogiorno inclut la Sardaigne.

Sources: Eurostat, ISTAT, Svimez, *Comptes nationaux de la Grèce, enquête grecque sur la main-d'œuvre*.

(\*) EUR 7= Belgique, Danemark, Allemagne, France, Italie, Pays-Bas et Royaume-Uni; 1980-1989.

fonds publics s'est soldée, dans l'industrie de transformation, par une baisse de la productivité (au taux de 0,21 %).

Le développement rapide des effectifs du secteur tertiaire, tant en Grèce que dans le Mezzogiorno, illustre de manière spectaculaire l'échec des politiques industrielles respectives.

C'est au prix de transferts financiers massifs et de déficits publics aggravés que l'on a artificiellement soutenu la croissance de l'emploi dans l'administration publique et dans d'autres services à financement public prépondérant. La progression du revenu et de la consommation des particuliers a eu, à son tour, un effet d'entraînement sur la croissance de divers services assurés par le secteur privé.

La ponction opérée par le secteur tertiaire en termes de ressources et de compétences a eu des conséquences très fâcheuses en ce sens que l'emploi a considérablement régressé dans le secteur industriel.

### **Asphyxie du secteur industriel**

En conclusion, la structure industrielle de la région méditerranéenne centrale pâtit tant de la force du reste de la Communauté que de la concurrence imposée par des pays en voie de développement qui bénéficient de coûts moins élevés en matière d'activités traditionnelles et qui, parfois, offrent des infrastructures et des services de meilleure qualité.

Les divers facteurs concourant à la stagnation de l'industrie de transformation peuvent être subdivisés en deux grandes catégories.

Les facteurs liés au marché intègrent tous les éléments spécifiques de l'efficacité, éléments qui contribuent à réduire la compétitivité des entreprises industrielles de la région.

Ces facteurs se résument essentiellement à l'insuffisance de la taille et de la spécialisation des entreprises, handicap en matière d'accroissement de la rentabilité, ainsi qu'à la structure du développement des échanges intersectoriels, lequel a constitué l'un des principaux moteurs des gains de productivité pendant les dernières décennies.

Le système de détermination des salaires et, par là même, le niveau du coût de la main-d'œuvre sont en quelque sorte indépendants de la compétitivité des

entreprises et relèvent plutôt de la logique d'une économie fermée; dans le cas du Mezzogiorno, ils sont tirés vers le haut par le niveau élevé des rémunérations à l'échelon national, elles-mêmes liées à la forte productivité du nord de l'Italie.

La base industrielle de la région méditerranéenne centrale a été, au fil des temps, de plus en plus confinée dans les secteurs traditionnels à forte intensité de main-d'œuvre, lesquels sont aujourd'hui confrontés à la concurrence des nouveaux pays industriels du tiers monde à faibles coûts salariaux et non pas aux économies capitalistes modernes.

L'organisation du territoire, liée à l'interaction entre l'économie et la géographie, est influencée par la faible compétitivité caractérisant, à cet égard, la région méditerranéenne centrale, qu'il s'agisse des infrastructures ou de l'organisation et de la gestion.

Le caractère peu fonctionnel des grandes agglomérations et des villes moyennes explique aussi, dans une large mesure, le fait que la région méditerranéenne centrale soit peu attirante pour les investissements extérieurs, phénomène encore aggravé par la périphéricité de la région par rapport au cœur de l'Europe.

Tous les éléments précités d'ordre microéconomique ou macroéconomique ont fait de la région méditerranéenne centrale une zone peu attrayante pour les productions innovantes et de haute technologie ainsi que pour les services connexes.

Étant donné ces éléments défavorables, les avantages de la région méditerranéenne centrale — abondance de la main-d'œuvre disponible, conditions climatiques favorables, niveau raisonnable de bien-être social, etc. — n'ont pas été suffisamment mis à profit pour surmonter les difficultés et pour favoriser le développement économique local.

### **Agriculture: un secteur dual**

Le secteur agricole est écartelé entre l'abandon et la restructuration. La réduction des superficies cultivables se manifeste effectivement par l'abandon des zones de colline et de montagne, qui représentent une partie non négligeable du territoire de la région méditerranéenne centrale.

La part du secteur agricole dans l'économie demeure relativement élevée, s'établissant à 20 % de l'emploi et à 15 % de la valeur ajoutée, tandis que la productivité ne

dépasse pas 54 % de la moyenne enregistrée pour l'agrégat EUR 7 <sup>(1)</sup>.

La lenteur de la modernisation de l'agriculture tient à trois raisons:

- il existe toujours des terres agricoles improductives;
- la pluriactivité, c'est-à-dire la combinaison de l'agriculture avec d'autres activités, est peu répandue;
- en Grèce, le régime de la propriété foncière, particulièrement complexe, n'a toujours pas été réformé, ce qui entrave l'accroissement de la taille d'exploitation.

Ces éléments structurels vont souvent de pair avec des mesures communautaires inadéquates pour le soutien de bon nombre d'activités productives.

Pendant les dix années écoulées, la superficie cultivée totale est demeurée à peu près inchangée dans la Communauté européenne, tandis que l'on enregistrait une diminution de 4,5 % dans le Mezzogiorno. Cet abandon de l'activité agricole pose, en matière de protection de l'environnement, des problèmes auxquels on n'a pas encore apporté de solution appropriée.

Un autre signe préoccupant est la diminution de l'investissement pendant les années 80, à raison d'un taux annuel impressionnant en Grèce et élevé dans le Mezzogiorno (respectivement 3,7 et 1,7 %).

La différence essentielle entre la région méditerranéenne centrale et le reste de la Communauté, en ce qui concerne l'utilisation des terres cultivables, réside dans les cultures permanentes, typiques dans le cas des régions méditerranéennes (fruits, vignes, olives, etc.).

Le pourcentage de prairies permanentes est en revanche plus faible.

Pendant les dix dernières années, il ne s'est pas produit de grands changements dans la région méditerranéenne centrale en ce qui concerne les types de culture: le nombre d'exploitations agricoles a toutefois diminué de 4,5 %. La superficie moyenne totale cultivée s'établit à 4,8 hectares par exploitation, contre 14,7 hectares pour l'ensemble de la Communauté, 28,6 hectares pour la France et 30,2 hectares pour l'Allemagne.

(1) EUR 7 = Belgique, Danemark, Allemagne, France, Italie, Pays-Bas et Royaume-Uni.

Au total, le processus de réorganisation en cours dans le secteur agricole n'a pas eu pour effet d'accroître l'efficacité. L'écart à cet égard par rapport aux pays d'Europe du Nord demeure considérable.

### **Secteur des services: trop d'entreprises à faible productivité**

Dans la région méditerranéenne centrale, le secteur tertiaire, au demeurant caractérisé par un très bas niveau d'efficacité et de compétitivité, a connu une croissance disproportionnée si l'on considère l'étroitesse de la base industrielle locale.

Le secteur des services, extrêmement hétérogène, se compose de diverses branches, dont chacune joue un rôle qui lui est propre quant à la dynamique du système économique; certaines d'entre elles, par exemple le transport maritime et le tourisme, contribuent directement à un rééquilibrage de la balance extérieure.

Il y a d'autres branches plus protégées, dont l'activité principale consiste à fournir des services à la population; elles jouent un rôle important, mais leur croissance ne doit pas être supérieure à celle du secteur marchand.

En dépit de l'exigence précitée, la croissance des effectifs du secteur tertiaire dans la région méditerranéenne centrale tient, pour beaucoup, à des transferts extérieurs, à la petite taille des entreprises du système de distribution ainsi qu'aux infrastructures et aux services sociaux assurés par l'État. Ainsi, l'expansion du secteur des services est largement indépendante de la croissance du secteur marchand et l'on peut dire qu'il y a une corrélation négative entre la croissance de l'industrie, d'une part, et les services orientés vers la production, d'autre part.

Le phénomène qui vient d'être évoqué est particulièrement net dans le Mezzogiorno, où les services assurent 43 % de l'emploi dans le secteur privé et 22 % dans le secteur public.

Il est bien évident qu'un système économique dans lequel des services à faible productivité assurent 65 % de l'emploi et le secteur industriel seulement 13 % ne peut subsister sans un apport permanent de ressources extérieures.

De plus en plus présent dans l'économie à travers ses interventions directes et son rôle dans la distribution des ressources, l'État a contribué de manière excessive à la croissance des services.

L'ambition légitime de réduire les écarts économiques et sociaux entre la région méditerranéenne centrale et le reste de l'Europe a provoqué de graves déséquilibres, pour deux raisons:

- en premier lieu, une hausse des dépenses publiques sans commune mesure avec la progression du revenu peut provoquer une crise fiscale pour l'État, scénario qui s'est d'ailleurs concrétisé en tous points dans la région méditerranéenne centrale;
- en second lieu, le succès de l'intervention de l'État dépend, dans une mesure décisive, de l'efficacité de l'administration publique; or, il se trouve malheureusement que cette efficacité s'est révélée médiocre dans la région méditerranéenne centrale et que la qualité des services rendus était déficiente même lorsque les niveaux de dépenses étaient adéquats.

### **Tourisme: nécessité de stimuler la diversification et d'améliorer le professionnalisme**

Le tourisme a été considéré, pendant tout un temps, comme un secteur susceptible d'accroître le revenu et de créer des emplois dans la région méditerranéenne centrale et de compenser l'absence de développement dans le secteur industriel.

Pareille conception peut aujourd'hui être tenue pour illusoire, surtout en ce qui concerne le Mezzogiorno et les grandes villes de la zone concernée.

L'expansion du tourisme dans la région méditerranéenne centrale a certes favorisé jusqu'à présent la diffusion du développement économique, mais elle ne peut en assurer la pérennité.

Le principal problème du tourisme dans la région méditerranéenne centrale réside dans l'inefficacité et dans le manque de préparation caractérisant l'offre suscitée par la forte croissance de la demande dans ce secteur pendant les années 70 et au début des années 80; faute d'avoir tenu compte du rythme moins soutenu inhérent à la morte-saison, les responsables n'ont pas opté pour le type d'organisation qui aurait permis d'améliorer la qualité et la compétitivité.

Les années 80 ont été marquées par une forte baisse de la compétitivité de l'offre en matière de tourisme dans la région méditerranéenne centrale et il est apparu que cette offre n'était guère capable de s'adapter à l'évolution de la demande.

On observe une concentration excessive des équipements touristiques, ainsi que des périodes de l'année pendant lesquelles ceux-ci sont utilisés.

Malgré un potentiel touristique très diversifié (paysages de montagne, patrimoine artistique et historique, etc.), le tourisme s'est fortement identifié au binôme mer-soleil, de sorte que l'on voit, pendant de brèves périodes, des foules considérables investir les zones côtières, utilisant des services assez frustes et provoquant une dégradation non négligeable de l'environnement.

En général, la demande en matière touristique évolue actuellement vers une plus grande spécificité des différents types de vacances, processus qui requiert des services plus élaborés et une plus grande attention à la qualité des ressources naturelles.

Dans la région méditerranéenne centrale, les prestations touristiques offertes n'ont pas permis de répondre correctement à cette évolution.

D'autres insuffisances sont à déplorer:

- peu nombreux sont les «centres touristiques» qui offrent une gamme complète de services de niveau international;
- le réseau d'équipements touristiques ne couvre pas la totalité du territoire;
- il y a une crise du tourisme dans les grandes métropoles;
- l'infrastructure de transport et les services publics offerts sont inadéquats.

### **Petites et moyennes entreprises: trop petites et trop fragiles**

La région méditerranéenne centrale se caractérise par la présence d'un petit nombre — d'ailleurs décroissant — de grandes entreprises et par celle d'un grand nombre de microentreprises, trait commun à tous les secteurs et à toutes les zones de ladite région et élément structurel d'une importance capitale pour l'élaboration de toute politique future visant à promouvoir la restructuration économique.

Les microentreprises représentent, en Grèce, près de 93 % du nombre total des entreprises, mais elles n'emploient que 19 % de la main-d'œuvre, contre 24 %

dans le Mezzogiorno, où elles font surtout de la sous-traitance pour le compte d'entreprises de plus grande taille dont la plupart sont établies hors de la région; les autres produisent essentiellement pour le marché régional.

Un phénomène intéressant dans le Mezzogiorno est la progression relative des entreprises employant de 11 à 99 salariés, progression imputable à un processus de consolidation des microentreprises et de réduction de leur nombre.

Les évolutions ainsi observées dans la région méditerranéenne centrale ont amené bon nombre d'analystes à considérer un taux de natalité élevé comme le principal facteur de décollage industriel pour les petites unités de production dont les propriétaires sont des gens de la région.

Plus récemment, l'âpreté croissante de la concurrence, le durcissement des conditions de crédit ainsi que le caractère de plus en plus ouvert des marchés ont provoqué un taux de faillite élevé parmi les petites entreprises, ce qui a remis en question la thèse selon laquelle les grandes entreprises seraient la base incontournable du développement régional.

Il est bon de se référer aux problèmes que connaissent les petites entreprises dans le Mezzogiorno si l'on souhaite imaginer comment les entreprises de ce type pourraient évoluer en Grèce pendant les années à venir.

## Aménagement du territoire

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### Des espaces naturellement cloisonnés

Avec ses massifs montagneux très diversifiés, ses vastes zones collinaires et ses plaines étroites, la région méditerranéenne centrale se caractérise par une compartimentation naturelle de son territoire.

Le caractère montagneux du territoire a entraîné l'enchérissement des grandes infrastructures de transport, d'où, jusqu'à une date récente, la compartimentation de l'espace de la région méditerranéenne centrale. Certains facteurs historiques ont eux aussi contribué au retard pris dans la construction de certaines liaisons essentielles (comme les grandes transversales dans les Apennins, indispensables au développement des liaisons est-ouest dans le Mezzogiorno; il en va de même

des liaisons est-ouest à travers la Grèce, nécessaires aux communications nationales et à l'intégration du pays dans la Communauté européenne).

L'enclavement de la Grèce constitue l'un des problèmes les plus cruciaux en ce qui concerne l'aménagement du territoire dans la région méditerranéenne centrale. Les difficultés à surmonter en la matière sont encore aggravées par l'instabilité de la péninsule balkanique, instabilité telle que la seule voie de communication viable entre la Grèce et le reste de la Communauté européenne passe par la mer Adriatique et à travers l'Italie, en particulier par le Mezzogiorno. Le renforcement de ces axes de communication, tant par voie maritime que par voie terrestre, est absolument indispensable si l'on entend remédier à l'isolement géographique de la Grèce.

### Fragilité de l'environnement

La fragilité de l'environnement est une caractéristique de la région méditerranéenne centrale. L'instabilité du sol, combinée avec un climat sec, a engendré un équilibre précaire fortement influencé par une exploitation agricole excessive dans certaines zones, par l'abandon de l'agriculture dans d'autres et par un développement touristique agressif sans planification préalable, ainsi que par la multiplication des constructions illégales dans les zones côtières et dans les centres urbains.

Depuis l'Antiquité, il a toujours fallu que l'activité humaine s'entoure de certaines précautions et qu'elle soit attentive à l'environnement. Chaque fois que cet impératif a été négligé, le milieu naturel en a gravement pâti.

L'environnement souffre actuellement d'avoir été trop longtemps négligé et des mesures de protection s'imposent d'urgence. Les initiatives à prendre à cet effet sont d'autant plus nécessaires lorsqu'un environnement de haute qualité a pu être préservé.

La protection de l'environnement peut être considérée comme un précieux atout pour améliorer la qualité de la gestion publique, créer de nouveaux emplois hautement qualifiés et accroître globalement les effets positifs de l'aménagement du territoire.

Un problème propre à la région méditerranéenne centrale a trait à l'étendue des zones exposées à des risques sismiques, lesquels pèsent sur tout le Mezzogiorno (à l'exception des Pouilles) et sur la totalité de la Grèce. Rares sont les autres régions de la Communauté qui soient, à cet égard, aussi largement soumises à un risque d'une telle intensité.

Il ne faut pas non plus perdre de vue que de vastes superficies sont exposées à un danger d'éruption volcanique, menace encore aggravée par la forte densité de population à proximité des principaux volcans. À noter, en outre, que bon nombre des zones concernées se situent dans les îles, ce qui accroît la difficulté des interventions éventuelles.

La fréquence des secousses telluriques a des conséquences fâcheuses sur les infrastructures, dont le coût est obéré par les normes antisismiques et qu'il faut souvent remplacer.

### **Pénurie d'eau et risques élevés de pollution**

Étant donné les conditions climatiques, un grave problème se pose en matière de disponibilités en eau: l'eau est rare pendant certaines périodes et les ressources en eau sont concentrées dans un petit nombre de zones. C'est pourquoi il est nécessaire de planifier l'utilisation des ressources en eau et de prévoir des moyens de stockage et des réseaux de distribution couvrant des superficies étendues.

Au cours des dernières années, l'eau a fait l'objet de conflits portant sur des utilisations concurrentes de l'eau (consommation, irrigation, usages industriels), de sorte qu'il est devenu de plus en plus nécessaire de coordonner et d'optimiser les ressources en eau pour arbitrer entre les différentes utilisations. L'intensification des besoins en eau s'est traduite de surcroît par un sensible accroissement du degré et des risques de pollution.

Les disponibilités en eau douce et la pollution ne sont qu'un problème parmi d'autres. Les tonnages croissants d'hydrocarbures transportés à travers la Méditerranée ainsi que l'augmentation de la population des zones côtières, sans parler du développement du tourisme, ont aggravé les risques de pollution maritime. Les mesures actuellement en vigueur en mer et dans les zones côtières ne permettent pas d'assurer une protection adéquate.

### **Àchèvement des liaisons interurbaines: une condition du développement**

Les systèmes urbains des deux sous-régions de la région méditerranéenne centrale sont concentrés dans les zones côtières; malgré leur intervention fonctionnelle limitée, ils s'organisent respectivement autour de l'axe Rome-Naples-Messine-Palermo à l'ouest et de la «sinusoïde» Patras-Athènes-Thessalonique-Kavála à l'est.

Indépendamment des traditionnelles concentrations d'activités le long des deux axes précités, on voit se dessiner un nouvel axe sur les rivages italiens de l'Adriatique (Lecce-Bari-Pescara-L'Aquila). Tel n'est pas le cas en ce qui concerne le chapelet de villes de Grèce occidentale qui s'égrènent au bord de la mer Ionienne. Dans cette région, les centres urbains (Ioánnina, Aghrinion, Patras et Kalamáta) sont plutôt mal reliés, ce qui les isole des zones intermédiaires. Si l'on observe en Grèce une situation analogue pour la quasi-totalité des centres urbains qui ne sont pas très proches de la «sinusoïde» susmentionnée, c'est surtout faute d'infrastructures adéquates.

La carence la plus grave en matière d'aménagement du territoire tient à l'inachèvement des liaisons interurbaines dans le cadre d'un système fortement tributaire d'un petit nombre de zones métropolitaines accablées de difficultés tant dans le domaine du fonctionnement que sur le plan de la démographie.

Les problèmes inhérents aux grandes métropoles (Athènes, Thessalonique, Naples, Palermo et Catane) revêtent également une importance particulière en ce sens qu'ils rendent inefficaces la gestion du centre et de la périphérie des agglomérations.

Les pôles principaux du système urbain (sauf à Athènes, qui bénéficie de son rôle de capitale nationale) souffrent d'une pénurie de secteurs stratégiques «pointus» (publicité, commercialisation, etc.) et d'atouts propres à la modernisation (réseaux d'information et de communication, décentralisation des fonctions nationales et internationales).

Un aménagement efficace et moderne du territoire est entravé dans le Mezzogiorno et tout particulièrement en Grèce par l'absence de villes moyennes qui puissent catalyser les stimuli exogènes et les forces régionales. À quelques exceptions près (les Pouilles, une partie de la Sicile, la Crète), les villes moyennes sont rares, manquent de personnel qualifié et sont surtout cantonnées dans un rôle administratif.

C'est pourquoi, en ce qui concerne l'implantation des entreprises industrielles ou de services, il n'y a pas d'autre choix possible que celui des grandes métropoles, onéreuses et congestionnées.

Il faut enfin mentionner un problème très particulier, qui est celui que pose la sauvegarde d'un patrimoine historique qui compte parmi les plus importants au monde.

Dans quelques-unes des plus grandes villes (Athènes, Naples et Palerme), l'utilisation et la dégradation incessante d'un vaste et précieux parc immobilier s'inscrivent dans un contexte d'affaiblissement du tissu social et économique. Nombreuses sont aussi les villes de moindre importance où il existe des sites historiques de très grande valeur qu'il convient de protéger convenablement et d'intégrer dans un réseau qui permette d'en exploiter le potentiel tant à des fins touristiques que pour les implantations d'entreprises.

### **Zones rurales et côtières: des évolutions contraires**

À l'intérieur des terres et dans les zones montagneuses, le processus d'abandon se poursuit à un rythme très rapide (voir la carte «Démographie, urbanisation, problèmes socioéconomiques»), d'où une moindre capacité d'autoprotection des zones concernées et une dégradation de leur environnement.

Le redressement du tourisme ne concerne qu'un petit nombre de zones peu étendues et semble actuellement insuffisant pour protéger l'environnement.

Dans certaines zones côtières, l'exploitation anarchique du potentiel touristique a eu des conséquences très fâcheuses pour l'environnement, l'infrastructure étant nécessairement surutilisée en période de pointe, et elle a donné lieu à des constructions qu'il est difficile d'intégrer dans le tissu urbain.

La préservation et la sauvegarde des zones en question à travers la région méditerranéenne centrale et le cadre à établir pour en valoriser le potentiel constituent non seulement une chance de développement touristique, mais aussi une importante source d'activités en puissance pour la construction et les secteurs connexes. C'est, en outre, le seul moyen de créer dans bon nombre de régions isolées une source de revenus autonomes qui contribuera à enrayer le processus d'abandon et qui favorisera le développement de la pluriactivité.

### **Faible potentiel des espaces régionaux**

La région méditerranéenne centrale est structurellement faible et souffre, à différents égards, d'un déficit d'interface avec la Communauté. En outre, les structures d'intégration sont fondées sur des fonctions économiques et sur des connexions physiques; or, il est très difficile d'obtenir les résultats escomptés des impulsions innovantes, en raison notamment de la faiblesse des réseaux d'information et du bas niveau de savoir-faire scientifique.

Les grands centres urbains sont très mal reliés aux réseaux internationaux. À l'exception d'Athènes, toutes les autres grandes agglomérations sont confrontées à de graves problèmes concernant la modernisation des réseaux de transports aériens et maritimes. Il y a également des difficultés dans la mise en œuvre de projets de coopération internationale en ce qui concerne la recherche et le développement (retards en matière de «parcs technologiques»).

Les liaisons internes sont insuffisantes, de même que les liaisons avec d'autres régions par rapport à la Méditerranée (Afrique du Nord, Turquie, Proche-Orient). Il convient aussi de mentionner divers problèmes plus spécifiques tels que l'insuffisance des liaisons entre la Sicile et le Nord.

### **Un espace sous-équipé**

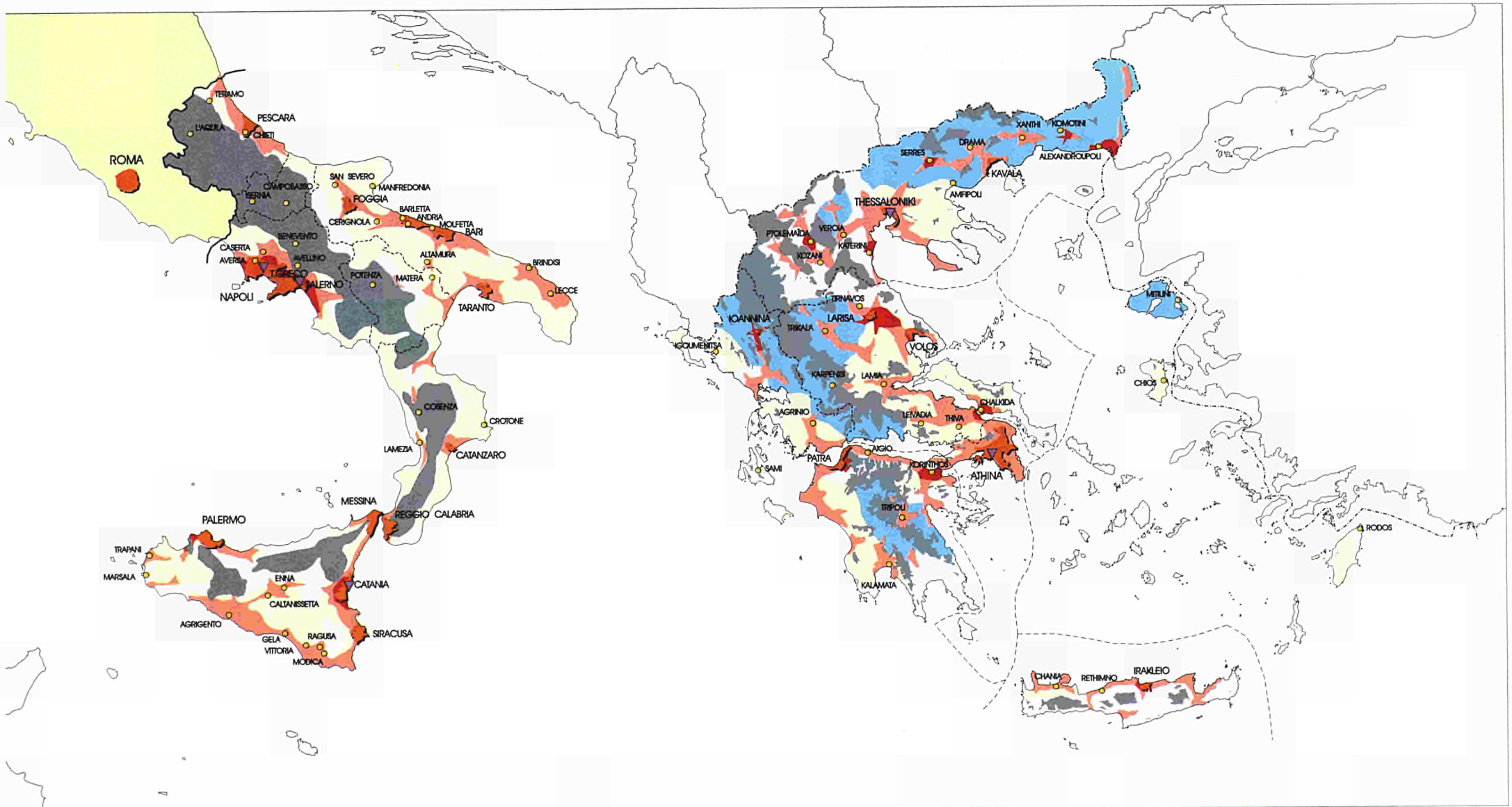
Le manque de fonctionnalité et l'insuffisance des liaisons entre les villes et entre les diverses zones (urbaines, côtières, rurales et montagneuses) s'expliquent non seulement par la compartimentation naturelle de la région méditerranéenne centrale ainsi par les tendances récentes en matière d'urbanisation, mais aussi, dans une large mesure, par la faiblesse de l'infrastructure.

Dans la région méditerranéenne centrale, le développement de l'infrastructure n'a jamais précédé les besoins économiques et sociaux; il s'est opéré a posteriori, en fonction de besoins urgents nés d'une croissance urbaine accélérée ou, dans le Mezzogiorno, selon le modèle de développement propre aux régions septentrionales (1).

Les conséquences de cette planification insuffisante des infrastructures sont les suivantes:

- des solutions de continuité (les infrastructures étant concentrées dans un petit nombre de grandes agglomérations, elles ne sont aptes ni à soutenir la demande intérieure ni à assurer valablement les liaisons essentielles avec les autres zones);
- une absence ou un caractère inadéquat des connexions avec les réseaux européens les plus importants (train à grande vitesse, autoroutes, télécommunications, distribution de gaz);

(1) En Grèce, où une partie du réseau de routes nationales remonte aux années 50 et où l'essentiel du réseau ferroviaire date du XIX<sup>e</sup> siècle, il n'y a pas eu de grandes améliorations depuis lors. Dans les années 50 et 60, le Mezzogiorno a bénéficié d'un développement des réseaux routiers et ferroviaires initialement planifiés pour l'Italie du Nord.



ÉMOGRAPHIE, URBANISATION, PROBLÈMES SOCIO-ÉCONOMIQUES



0 100 200 km



- une fonctionnalité et un rendement médiocres des infrastructures existantes.

## Déséquilibre entre la Grèce et le Mezzogiorno dans le domaine des infrastructures

Le Mezzogiorno est, dans l'ensemble, mieux pourvu que la Grèce en infrastructures. Les différences sont spectaculaires en ce qui concerne les réseaux routier et ferroviaire; en revanche, pour ce qui est des transports aérien et maritime, des réseaux de communication classiques et de l'énergie, la Grèce apparaît globalement mieux lotie.

Sous le rapport du niveau de développement et de la mobilité, les deux critères principaux en matière d'infrastructure, la Grèce accuse un retard par rapport au Mezzogiorno, situation qui s'explique dans une très large mesure par la mise en œuvre d'une politique énergique — sinon totalement efficace — dite «*Intervento straordinario*», visant à réduire les inégalités entre le nord de l'Italie et le Mezzogiorno.

Le Mezzogiorno et la Grèce sont tous deux engagés dans une période de transition pendant laquelle les politiques antérieures doivent faire place à une action tendant à combler l'écart qui existe vis-à-vis du reste de la Communauté européenne. La réussite de cette action, qui exigera de la Grèce un effort plus soutenu, est liée à la capacité des autorités locales d'absorber les crédits nationaux et communautaires disponibles et d'élaborer des plans d'investissement cohérents.

## Principaux éléments constitutifs de l'infrastructure

### Transport

Les infrastructures de transport dans la région méditerranéenne centrale se caractérisent par une extrême faiblesse des liaisons «horizontales», ce qui a favorisé l'apparition d'un modèle très fermé de développement local et, partant, une incapacité d'opérer sur de grands marchés.

Dans la région, le cloisonnement du système de transport, qui va de pair avec des liaisons insuffisamment développées et une mauvaise interaction fonctionnelle de différents modes de transport, est à l'origine d'un grave manque d'efficacité. L'actuelle stratégie de déve-

loppement, en particulier dans les transports, a pour objet de relever les normes afin qu'elles se rapprochent des moyennes communautaires, de réduire la prédominance du transport routier et de développer un système ferroviaire qui fonctionne bien et qui irrigue convenablement le territoire.

Les objectifs précités se présentent sous la forme d'améliorations administratives fonctionnelles de l'infrastructure existante pour le Mezzogiorno et de grands travaux publics de nature quantitative pour la Grèce.

### Transport maritime

Dans l'ensemble de la région, mais surtout en Grèce, le système de transport maritime a joué un rôle important; il semble même appelé à prédominer dans certaines régions et à assurer des liaisons dans des configurations géographiques complexes.

Tant dans le Mezzogiorno qu'en Grèce, le système portuaire est lié à l'évolution des réseaux urbains, dont le développement infrastructurel est lui-même tributaire de l'aménagement du territoire en fonction des grandes agglomérations, ainsi qu'au rôle joué par des centres secondaires dynamiques, ce qui engendre un système assez fortement centralisé et des problèmes de congestion. S'il est vrai que ces grands ports ne perdront jamais leur prédominance, la planification actuelle vise néanmoins à déclencher un processus de décentralisation qui passe par la création d'un réseau de ports secondaires implantés en des lieux stratégiques, bien desservis par des infrastructures routières assurant les liaisons dans toutes les directions avec la Méditerranée et les Balkans.

L'importante croissance des activités liées au tourisme et aux loisirs constitue un facteur de dynamisme pour le système portuaire.

En Grèce notamment, le système portuaire qui se dessine met l'accent sur le développement des infrastructures dans la partie occidentale du pays, où les ports de Patras et d'Ighoumenitsa, reliés aux ports correspondants de la façade adriatique du Mezzogiorno et de l'Italie centrale, pourraient susciter un axe de communication important dans le secteur des transports et des loisirs.

Un développement analogue du système portuaire de l'Égée Nord (Thessalonique, Amphipolis, Kavála, Alexandroupolis) crée des liaisons stratégiques avec

tous les pays balkaniques, avec des prolongements en puissance en direction de la mer Noire à la faveur de l'intégration de cette zone dans un cadre européen élargi. Le système égéen centralisé existant, dont l'activité est surtout de caractère national, serait ainsi appelé à jouer un rôle plus dynamique dépassant la région en cause.

### Transport aérien

Le système de transport aérien de la région est largement calqué sur la répartition géographique des grandes agglomérations, à quelques exceptions près, liées à la bonne desserte des îles et au système de vols nolisés en période de pointe du trafic touristique. Le réseau constitue un sous-ensemble d'un réseau européen et international plus vaste qui se présente comme un triangle dont les trois sommets sont les aéroports de Milan et de Rome, tous deux situés hors de la région méditerranéenne centrale, et l'aéroport d'Athènes, pôle moins développé que les deux autres. Cette configuration ne devrait guère changer, mais l'accroissement de la demande et l'insuffisance des installations au sol imposent une modernisation de la plupart des aéroports de la région.

Dans le Mezzogiorno est prévue l'extension de l'aéroport de Naples, situé à la pointe nord de la région méditerranéenne centrale; cette opération a pour but de soulager l'aéroport de Rome et de créer un pôle puissant à l'extrémité méridionale du réseau européen de trains à grande vitesse. En Grèce, il est prévu de créer de toute pièce, en Attique, un grand aéroport destiné à remplacer celui qui existe aujourd'hui, devenu tout à fait inadéquat. Le programme actuel prévoit également diverses améliorations pour la quasi-totalité des autres aéroports, qu'il s'agisse de moyens ou de petits aéroports.

### Télécommunications

Sur tout le territoire de la région, la modernisation complète actuellement en cours des télécommunications fait appel aux systèmes d'information les plus avancés. Il existe assurément de légères disparités régionales dans le domaine des services conventionnels existants, mais les nouvelles techniques devraient, dans un premier temps, se généraliser dans les zones urbaines centrales et là où sont implantés les établissements d'enseignement supérieur et de recherche.

### Énergie

Dans le Mezzogiorno, comme en Grèce, la production et la distribution de l'énergie pâtissent de la pénurie des

ressources et d'une constante augmentation tendancielle de la demande. Le secteur de l'énergie est lourdement tributaire des hydrocarbures, ce qui ne va pas sans inconvénients d'ordre économique et environnemental liés tant aux installations de raffinage (en Sicile et en Attique) qu'aux risques inhérents aux transports de pétrole à travers des zones littorales particulièrement sensibles.

Un certain nombre de solutions sont envisageables, par exemple le développement de sources d'énergie renouvelable, dont la plus prometteuse pourrait être la géothermie. Le problème posé par l'augmentation de la demande ne saurait toutefois être entièrement résolu par les énergies de ce type ni par l'hydroélectricité, secteur qui est toutefois en progrès dans les autres régions grâce à une meilleure efficacité de l'effort accompli pour gérer et pour préserver les ressources en eau. Une restructuration effective du «bilan énergétique» passe donc, dans une large mesure, par l'interconnexion de la zone concernée avec des systèmes transrégionaux fondés sur le gaz naturel.

Les plans grecs actuels prévoient un large recours au gaz naturel en provenance de l'ex-Union soviétique, la reconversion des centrales au lignite, très polluantes, ainsi que des échanges d'électricité entre la côte occidentale de la Grèce et les Pouilles par câble sous-marin de transport.

### Nouveau cap de l'aménagement du territoire

En raison de l'étroite corrélation existant entre le processus de développement économique et la localisation de l'activité productive (axes de développement, centres urbains) ainsi que des effets négatifs inhérents à l'abandon de vastes parties du territoire, il est clair que la politique de développement économique doit tenir compte des questions relatives à l'aménagement du territoire.

Les mesures passées visant à maîtriser ou à infléchir le développement économique et urbain — dans un contexte caractérisé par des retards en matière d'infrastructure — n'ont pas permis d'inverser la tendance à la dégradation permanente de l'environnement dans tous les domaines de l'activité productive. Il est nécessaire de réorienter la politique d'aménagement du territoire si l'on entend sortir de cette impasse.

L'amélioration des infrastructures et des réseaux urbains sont deux des éléments d'une politique intégrée de développement dans laquelle le soutien direct des activités productives est étroitement lié à une politique

renovée d'aménagement du territoire. Il est nécessaire d'établir des programmes d'intervention en matière d'activités productives efficaces à petite échelle (entreprises locales, aides aux PME et liaisons interentreprises, adaptation du système de formation aux besoins locaux), ce qui requiert une infrastructure matérielle qui permette de bénéficier des fruits de la croissance et des efforts de développement dans un contexte plus vaste aux niveaux régional, national et européen.

## **Orientations en matière d'aménagement du territoire de la région méditerranéenne centrale**

Il est essentiel d'inclure des éléments de cohésion dans le cadre régional et de progresser dans le domaine de l'interconnexion pour écarter les principaux risques inhérents à la compartimentation (voir carte «Politique d'aménagement du territoire et concepts de planification»). Il convient, à cet effet, de renforcer les connexions existantes après avoir identifié les axes prioritaires à cet égard.

Pour les axes est-ouest:

- il faut renforcer les liaisons Rome-Naples-Bari-Brindisi-Ighoumenítsa-Thessalonique-Patras, qui sont d'une importance stratégique pour le sud-est de la Communauté. Il est nécessaire, en l'espèce, de prolonger la ligne TGV au-delà de Naples et de renforcer les liaisons rapides (routières et ferroviaires) du côté grec;
- il faut aussi renforcer l'axe ferroviaire Trapani-Palermo-Messine-Syracuse-Raguse en Sicile, en établissant des liaisons maritimes avec la Grèce (Patras, Crète) permettant d'augmenter la capacité de transport de touristes et d'offrir des alternatives de transport.

Pour les axes nord-sud:

- il importe de renforcer la liaison entre la Calabre et la Sicile et de relancer le projet de construction d'un pont permettant de franchir le détroit de Messine;
- il est également nécessaire de rendre plus fonctionnelles et plus rapides les communications entre Thessalonique, Athènes et Patras et d'accroître la capacité des embranchements de cet axe principal assurant la desserte des centres périphériques.

D'autres interventions s'imposent pour améliorer l'intermodalité des transports et pour renforcer quelques-uns des principaux ports (Naples, Palerme, Bari-Brindisi, Patras, Thessalonique, Kavála, Alexandroupolis) et aéroports (Naples, Palerme, Bari); des améliorations sont également à prévoir dans les îles grecques, ainsi que la construction du second aéroport d'Athènes.

Il est nécessaire de régénérer les pôles de la croissance urbaine en y développant le tissu d'activités productives, en y encourageant les initiatives visant à les décongestionner ainsi qu'en y réduisant les risques de pollution.

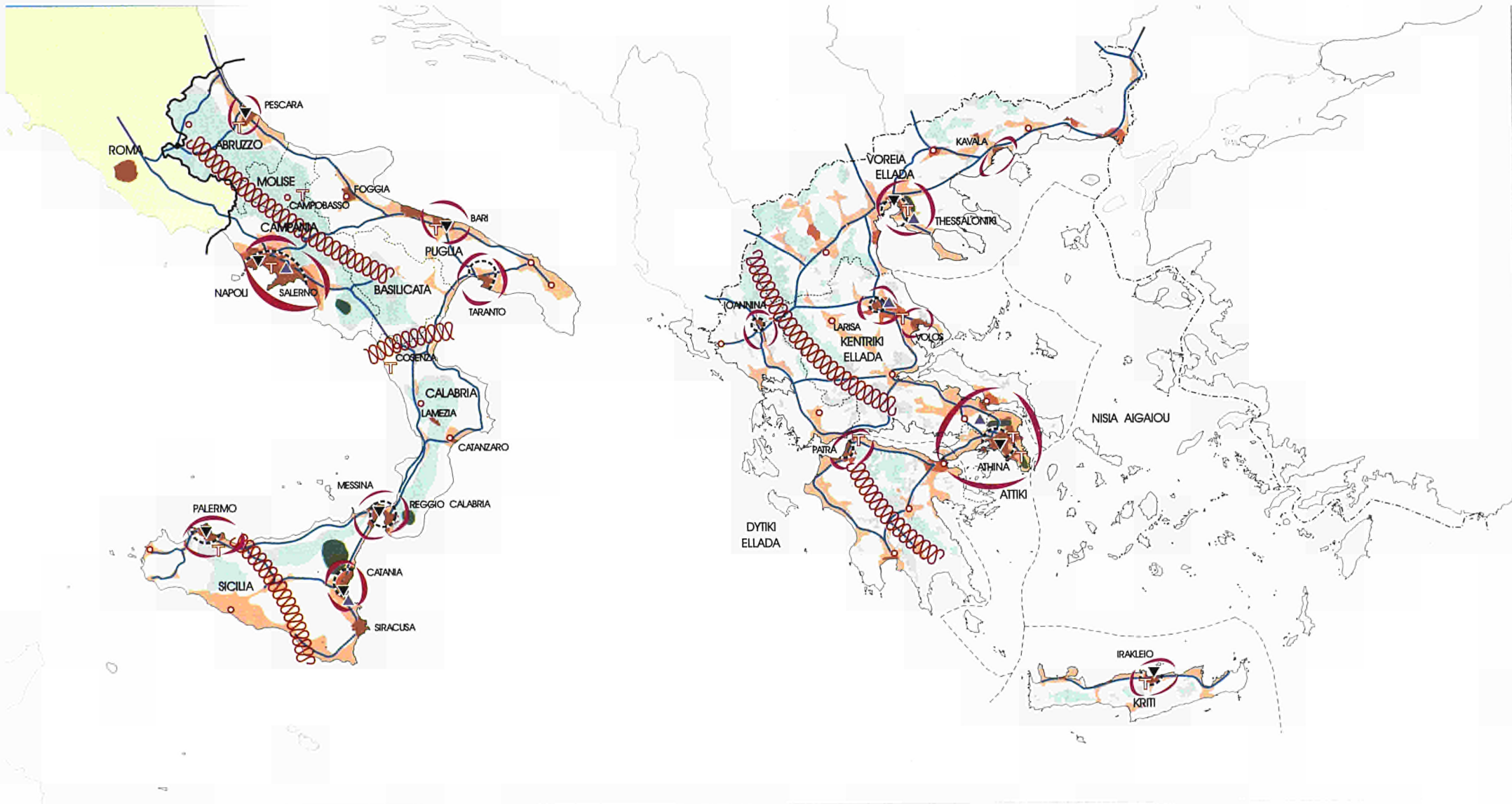
La réalisation de cet objectif suppose, d'une part, le renforcement des villes intermédiaires et, d'autre part, la régénération des zones métropolitaines. La synergie revêt une importance capitale en la matière; c'est en agissant de front dans les deux domaines que l'on obtiendra les meilleurs résultats.

La régénération des zones métropolitaines passe par:

- de meilleurs transports urbains (métro, transports publics, gestion plus efficace des systèmes et des entreprises de transport);
- une action ciblée dans les centres historiques, avec des programmes spécifiques pour Naples, pour Palerme, pour Bari et pour Athènes;
- l'encouragement d'initiatives adéquates pour les parcs technologiques et les centres de recherche internationaux à Naples, à Bari, à Catane, à Palerme, à Athènes, à Thessalonique et à Patras;
- le renforcement du rôle des plus grandes villes de la région méditerranéenne centrale en ce qui concerne les relations diplomatiques et commerciales dans la zone Europe-Méditerranée.

Le renforcement des villes intermédiaires exige:

- l'amélioration du patrimoine immobilier et sa mise à disposition dans des conditions qui permettent de décongestionner les grandes villes;
- l'amélioration des services sociaux, un système de formation et d'éducation de haute qualité ainsi que le raccordement aux réseaux d'institutions culturelles, de recherche et de développement;
- la décentralisation de certaines fonctions administratives exercées par les plus grandes villes.



OLITIQUE D'AMÉNAGEMENT DU TERRITOIRE ET CONCEPTS DE PLANIFICATION



- Urbanisation en progression
- Forte croissance de la population
- Déprise
- Aggravation de la déprise
- Zones de montagne

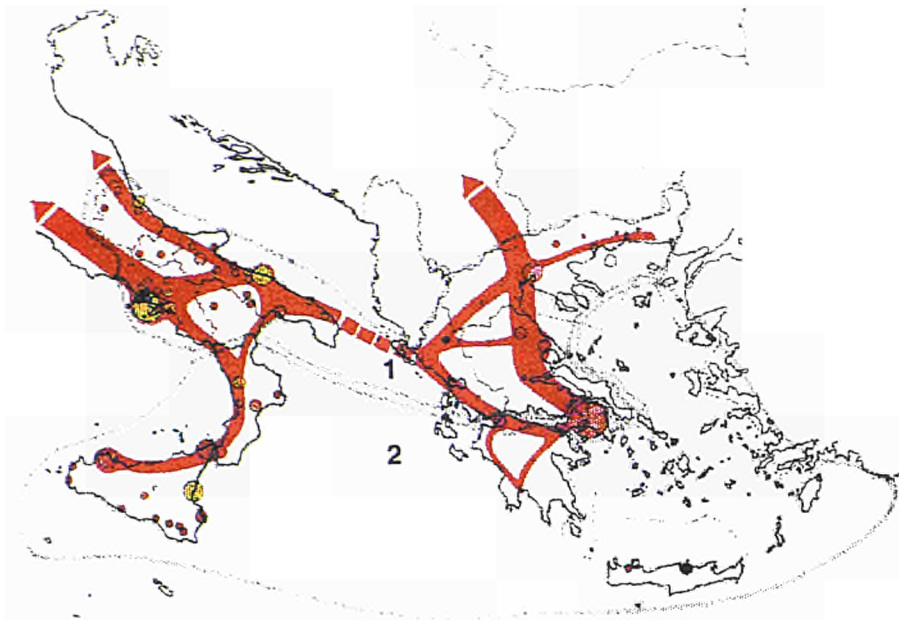


- Perspectives de développement (positives/négatives)
- Obstacles au développement («Ceinture verte»)
- Principaux centres urbains
- Réseau routier

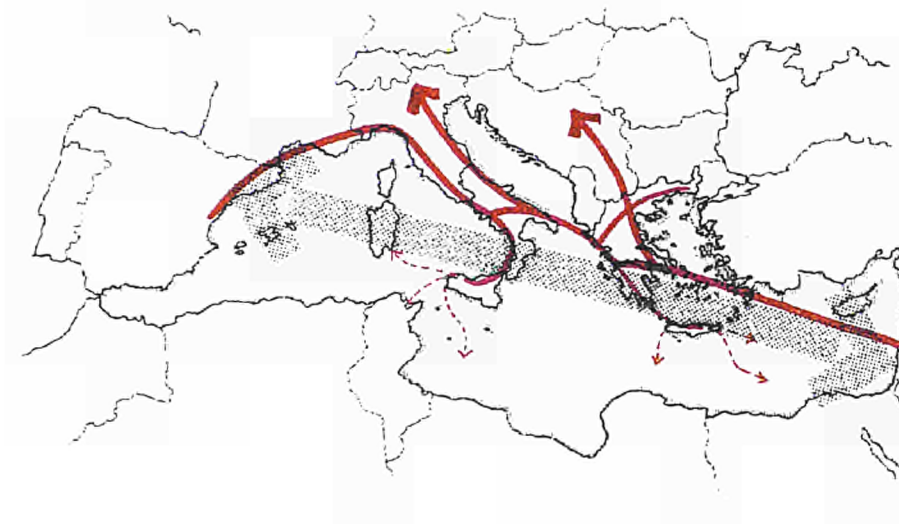
LÉGENDE

- Concentrations urbaines nécessitant des mesures
- Point nodal
- Risque de fragmentation
- Grands pôles urbains
- Parcs technologiques en projet

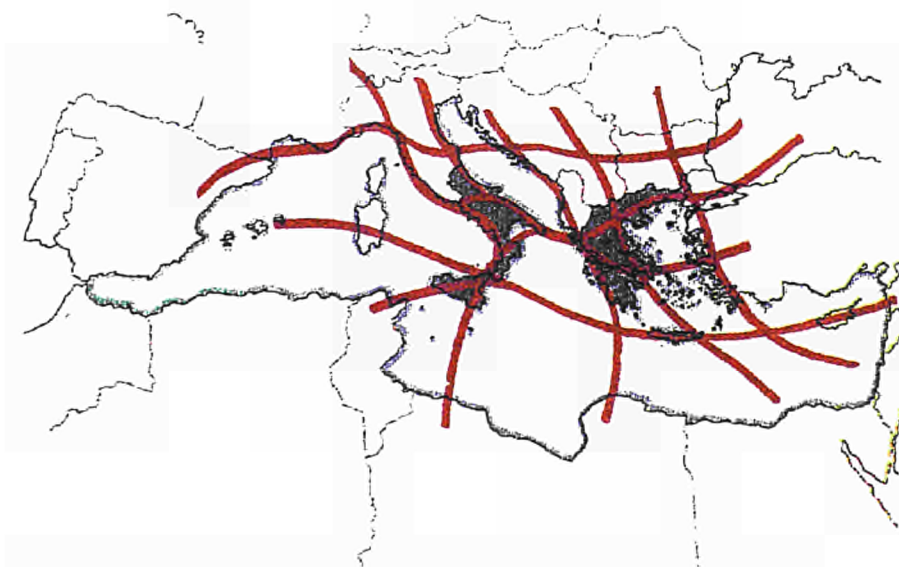
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AXES POTENTIELS DE DÉVELOPPEMENT



«LIGNES DE FORCE» AU NORD DE LA MÉDITERRANÉE



EXTRAPOLATION POSSIBLE SUR LA BASE DU SCHÉMA PRÉCÉDENT

AXES DE DÉVELOPPEMENT

Dans le Mezzogiorno, le long de l'axe ouest-est, l'effort doit porter en priorité sur Avellino, Foggia, Brindisi et Lecce; le long de l'axe intérieur, sur Campobasso, Bénévent, Potenza et Cosenza; le long de l'axe ouest sicilien, sur Trapani, Agrigente et Raguse. Reggio di Calabria et Messine resteront un point critique tant que le projet de pont traversant le détroit n'aura pas abouti.

En Grèce, le long de l'axe nord-sud, les interventions principales doivent porter sur Kalamáta, sur Patras, sur Vólos et sur Larissa; d'ouest en est, sur Ighoumenítsa, sur Ioánnina, sur Kozáni et sur Kavála. Des interventions spécifiques pourraient porter sur la réorganisation des nouvelles zones résidentielles qui ont fait leur apparition sur la côte occidentale et, à l'intérieur des terres, le long d'un axe Thessalonique-Alexandroupolis (Sérrai, Dhrama, Xánthi Komotini). Dans les îles, les centres intermédiaires à renforcer sont Héraklion et Rhodes, étant entendu que la planification des interventions requises à cet effet doit s'insérer dans le contexte insulaire global.

Pour traiter le problème crucial que pose la pénurie d'eau, il faut élaborer, pour tous les pays méditerranéens de la Communauté, un «plan eau» définissant une utilisation équilibrée des ressources en eau pour l'irrigation et pour la consommation humaine et permettant d'éviter la concurrence en la matière entre les différents types d'utilisation ou entre les divers pays. Toutes les interventions locales doivent être incluses dans ce cadre général.

Il est nécessaire de sauvegarder les espaces intérieurs de la région méditerranéenne centrale par des interventions adéquates adaptées à leurs vocations respectives, par la promotion des activités complémentaires et par une reconquête systématique de leurs ressources naturelles à travers l'extension du système des parcs naturels.

Il faut aussi assurer une comptabilité effective entre l'environnement et le tourisme, surtout dans les zones littorales.

Il est impératif que le développement touristique, phénomène largement spontané, s'inscrive harmonieusement dans le tissu urbain local et régional et complète les infrastructures sociales et matérielles dans les zones concernées. La protection de l'environnement des régions côtières passe par la multiplication des «parcs marins».

Il est nécessaire d'améliorer et de compléter le réseau de surveillance de l'activité sismique et volcanique.

Cette initiative fondamentale doit être assortie de mesures visant à diminuer la pression de l'urbanisation dans les zones volcaniques (Naples, Etna) et à renforcer la protection civile par des plans permettant de faire face aux situations d'urgence, en particulier dans les îles.

## Scénarios

Le scénario de développement ultérieur de la région méditerranéenne centrale est déterminé, «au dehors», par la politique communautaire de cohésion économique et sociale ainsi que par les politiques visant les entités adjacentes ou voisines telles que l'Europe orientale, la mer Noire et le sud de la Méditerranée. La région méditerranéenne centrale, considérée comme une extension de l'«Arc latin» (Méditerranée occidentale), est faite de régions frontières susceptibles de jouer un rôle positif dans le processus de développement d'un nouvel environnement européen (voir carte «Axes de développement»).

Étant donné la faiblesse de la structure industrielle propre à la région méditerranéenne centrale, devenue de ce fait tributaire de transferts en provenance de l'extérieur, il est improbable que cette région puisse se développer sans continuer à bénéficier de l'aide du reste de la Communauté, de sorte qu'il est permis de conclure à la nécessité d'élaborer une politique concrète qui définit correctement la place de ladite région dans l'entité européenne, dans la perspective d'une intégration nord-sud. Une telle politique devrait avoir, à longue échéance, des retombées significatives pour l'ensemble de la Communauté européenne.

Parallèlement aux facteurs «externes», le mécanisme déclencheur du scénario inclut des actions dans d'autres directions, visant à infléchir:

- les politiques nationales, les institutions et les structures administratives;
- l'évolution démographique et les pressions qui s'exercent sur le marché du travail;
- l'investissement dans les infrastructures sociales et économiques.

L'évolution éventuellement positive de tous les facteurs externes et internes dépend beaucoup de la conjoncture politique dans les territoires voisins, dont l'actuelle

instabilité ne permet guère d'être optimiste pour le proche avenir.

### Premier scénario: la fragmentation

Aux frontières de la région méditerranéenne centrale, certains pays sont le théâtre de conflits qui limitent à leur plus simple expression la coopération économique avec les zones concernées. Dans le même temps, la Grèce et le Mezzogiorno sont soumis à de fortes pressions démographiques.

Tandis que le marché unique ouvre une phase transitoire de restructuration du modèle de production dans la Communauté européenne, la compétitivité de la région méditerranéenne centrale demeure très faible, ce qui accroît les disparités entre ladite région et la Communauté. C'est pourquoi l'économie de la région méditerranéenne centrale reste tributaire de transferts financiers venant de l'extérieur.

L'économie ne montre pas de signes de restructuration et elle est toujours en stagnation, avec des niveaux d'inflation élevés. Les politiques régionales restent faibles, incapables de s'adapter de manière concertée et décisive à un environnement économique de plus en plus complexe.

Au regard de l'aménagement du territoire, ce scénario débouche sur une fragmentation croissante, certaines zones débordant d'activité et le reste du territoire étant voué à l'abandon ou à la déréliction.

Abstraction faite d'un petit nombre de nœuds de communication et de liaisons bien établis, la région, dans son ensemble, manque d'interconnexions et d'interrelations. Malgré quelques progrès en matière de développement infrastructurel, la fragmentation, phénomène plus accusé en Grèce que dans le Mezzogiorno, s'accompagne de disparités croissantes et d'une dégradation de plus en plus grave de l'environnement.

Les «axes de développement» existants, segmentés, restent isolés. L'axe adriatique et, dans une mesure un peu moindre, l'axe tyrrhénien demeurent sous-équipés. En Grèce, il subsiste des disparités régionales et une solution de continuité entre la «sinusoïde» et le reste du territoire, voire dans la «sinusoïde» elle-même. La Grèce occidentale, les zones frontalières et les îles ne participent au processus de développement que d'une manière superficielle.

### Deuxième scénario: le potentiel de régénération

Un environnement géopolitique qui commence à devenir favorable permet, dans une certaine mesure, de mettre un terme à l'isolement de la Grèce et d'améliorer l'intégration du Mezzogiorno dans le contexte du commerce international, phénomène qui débouche à son tour sur une intégration progressive de toute la région méditerranéenne centrale dans l'économie européenne et qui accroît les échanges économiques avec l'Afrique du Nord.

Il n'y a régénération économique que dans un certain nombre de «poches». Quant à la modernisation de l'agriculture, assortie d'une rationalisation progressive des activités et d'une spécialisation accrue, elle donne à ce secteur un potentiel de croissance dynamique.

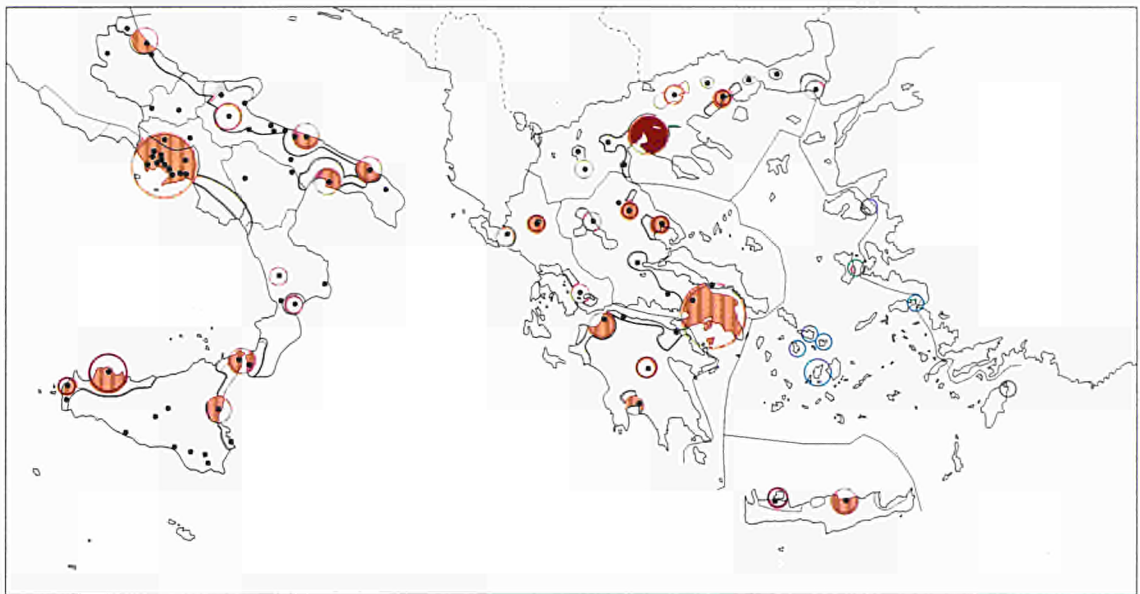
La stabilisation dans l'ex-Yougoslavie permet un développement de l'activité touristique, en particulier dans la région septentrionale de la Grèce, mais favorise également l'intensification de la concurrence dans ce secteur.

Dans les «poches» de développement naissantes s'ébauche une expansion industrielle qui est toutefois insuffisante pour dynamiser l'ensemble de la région méditerranéenne centrale. Les faiblesses bien connues des structures industrielles sont toujours présentes et les structures administratives demeurent inaptes à déclencher quelque processus que ce soit de développement soutenu, tandis que le marché de l'emploi reste très fluctuant.

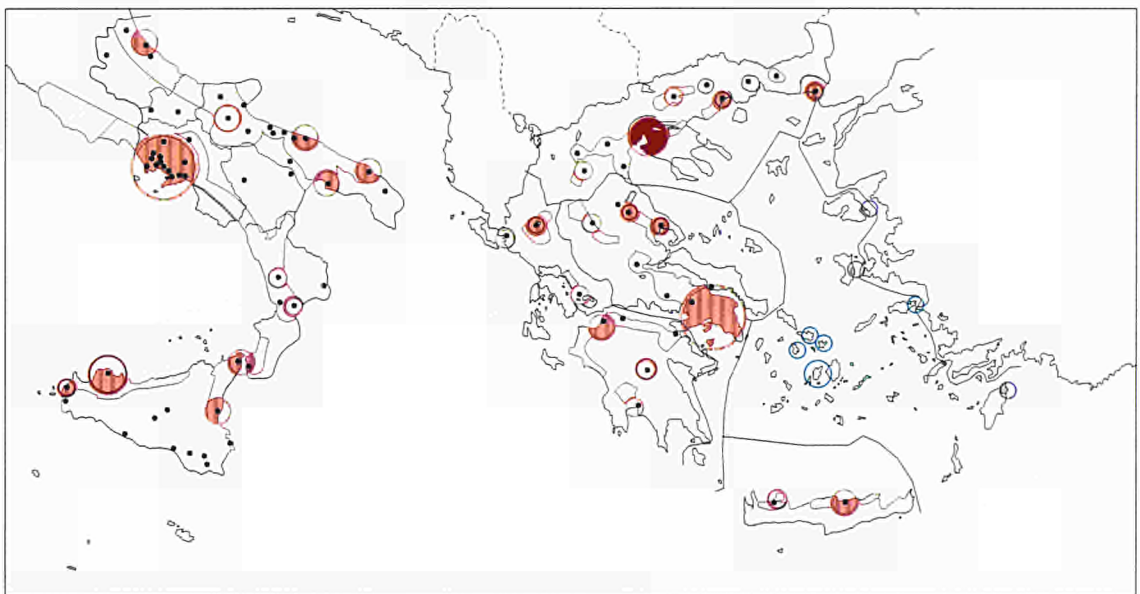
Toutes les évolutions signalées ci-dessus ont été favorables en matière de décentralisation, laquelle reste toutefois limitée aux axes dynamiques. Les liaisons entre les grands pôles d'activité demeurent très faibles. L'infrastructure se développe, mais reste insuffisante, tandis que l'environnement est soumis à toutes sortes de pressions. Les problèmes inhérents à la gestion urbaine ainsi qu'à l'amélioration de la qualité de la vie et des services dans les grands centres urbains ne sont toujours pas résolus.

Les inégalités et les disparités entre les zones dynamiques et les autres vont croissant; en ce qui concerne les interrelations et l'organisation des réseaux fonctionnels entre diverses régions et les nœuds de communication, des faiblesses et des discontinuités persistent.

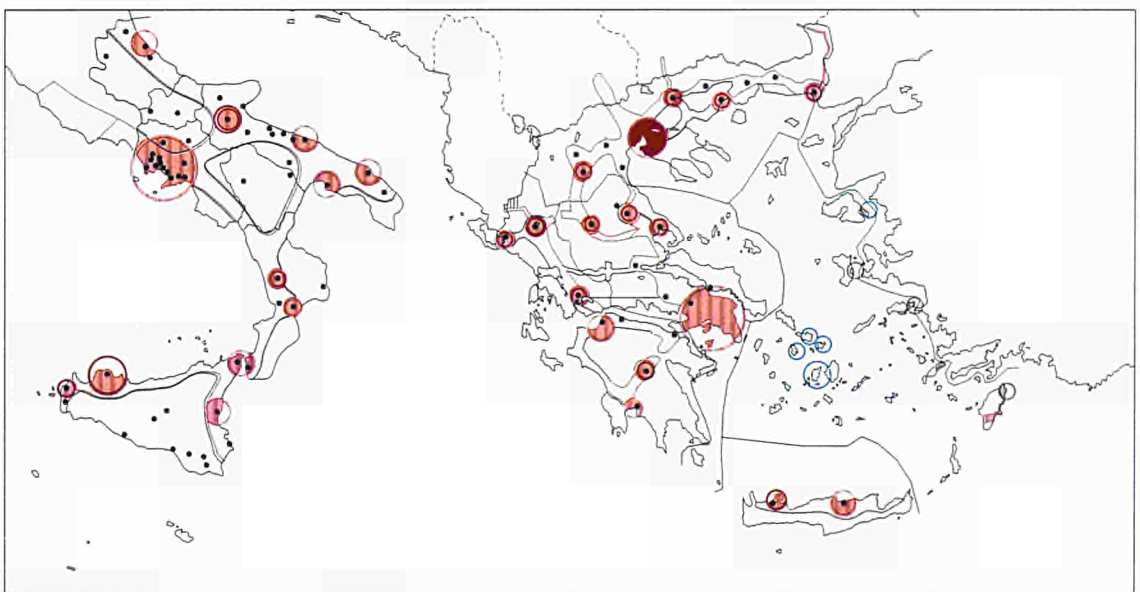
L'axe adriatique reste prédominant dans le sud de l'Italie; pour l'axe tyrrhénien, c'est toujours l'impasse institutionnelle.



PREMIER SCÉNARIO : LA FRAGMENTATION



DEUXIÈME SCÉNARIO : LE POTENTIEL DE RÉGÉNÉRATION



TROISIÈME SCÉNARIO : L' INTÉGRATION

## SCÉNARIOS

### LÉGENDE

■ Développement urbain



Grands centres



Centres secondaires



Centres moyens

□ Zones rurales agriculture-montagnes

○ Petits centres insulaires

□ Régions insulaires

0 100 200km

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La «sinusoïde» grecque connaît un dynamisme croissant, malgré des solutions de continuité. Sa partie septentrionale, par exemple, commence à connaître un certain essor. Les autres zones — continentale, frontalière et insulaire — se caractérisent par leur périphéricité, à quelques exceptions près, comme celle de la Crète, où l'activité touristique et le développement d'autres secteurs productifs se complètent harmonieusement.

### Troisième scénario: l'intégration

La Communauté européenne entretient des relations économiques de plus en plus intenses avec les pays tiers jouxtant la région méditerranéenne centrale, dans un esprit visant à résoudre les conflits politiques et militaires, ce qui favorise une certaine stabilisation démographique dans l'espace européen élargi.

La Communauté mène une politique nouvelle et dynamique à orientation «méditerranéenne», de sorte que la région méditerranéenne centrale devient le centre de gravité autour duquel s'organisent les relations de ladite région avec les pays tiers méditerranéens.

Le développement des infrastructures techniques et sociales, les télécommunications, l'enseignement, la formation et la recherche-développement déclencheront un processus de modernisation qui fera ultérieurement progresser le volume des investissements privés.

L'évolution des conditions macroéconomiques au niveau de la Communauté européenne donne à la région méditerranéenne centrale une plus grande autonomie en matière d'interventions axées sur l'évolution structurelle, d'où la possibilité de transformer l'économie et de restructurer la production.

Les facteurs précités permettent de réduire la dépendance à l'égard de l'extérieur, à mesure que le secteur public gagne en efficacité dans l'exercice de sa double mission, qui est d'administrer et d'investir.

Fragmentation spatiale et isolement, faiblesse de la structure industrielle et dépendance à l'égard de l'extérieur, cette image se brouille progressivement pour faire place à une autre, mettant en lumière l'intégration géographique et économique, une capacité autonome de croissance ainsi qu'une position centrale parmi les pays du bassin méditerranéen et de l'Europe orientale.

Une structure industrielle renforcée progresse dans deux directions: des secteurs traditionnels déterminés et de nouveaux secteurs dynamiques de haute technologie; les petites et moyennes entreprises sont l'agent principal de cette évolution.

L'agriculture se transforme dans le contexte de la PAC et la mise en œuvre de dispositions protégeant l'environnement favorise l'adaptation du tourisme dans un contexte réorganisé où ce secteur joue un rôle important et reste dynamique, notamment en Grèce.

L'essentiel réside dans la diffusion du développement, même si quelques zones isolées restent marginalisées à cet égard.

La fragmentation des espaces régresse sensiblement, tandis que s'amenuisent les disparités régionales. L'infrastructure se développe, assurant des liaisons internes et externes entre centres urbains et industriels. Grâce au ciblage spécifique des politiques environnementales, il est mieux tenu compte des besoins propres à la région méditerranéenne centrale. La coopération de tous les échelons et de tous les organismes administratifs aide à consolider et à promouvoir ce type de développement.

Diffusion et décentralisation s'opèrent en liaison étroite avec l'apparition d'axes transversaux (Naples-Bari, Thessalonique-Ighoumenítsa). L'axe adriatique est unifié à travers toute l'Italie et l'axe tyrrhénien connaît une évolution calquée sur la croissance des grandes agglomérations qui le jalonnent.

La «sinusoïde» grecque se transforme en un système organique. Le succès de la décentralisation insufflé une dynamique nouvelle à ce chapelet de centres urbains de la Grèce septentrionale (Thessalonique, Kavála, Alexandroupolis).

L'axe occidental et l'axe secondaire situé à l'intérieur des terres connaissent eux aussi, dans une moindre mesure, une évolution dynamique. Les îles et les régions frontalières tendent à s'intégrer dans le contexte des zones continentales et deviennent des «traits d'union» avec les pays méditerranéens et balkaniques environnants.



## PART II – ANALYSIS

# 1. Demography and the labour force

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### 1.1. Introduction

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An analysis of the evolution, structure and distribution of the population is fundamental in gaining an understanding of the socioeconomic situation of an area and the territorial politics that aim to solve its problems.

Moreover, the state of available human resources is ultimately the most important factor in determining the patterns of both qualitative and quantitative development. In this light we begin our analysis of the central Mediterranean area with an examination of past trends and possible developments in the demographic evolution of the region.

### 1.2. Demography

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#### 1.2.1. Population trends through the 1970s

During the 1970s, the demographic evolution of the resident population of the central Mediterranean regions reflected developments in the rest of the Community. These developments were characterized by:

- (i) a marked decrease in the growth rate of the population (coming from the natural difference between births and deaths);
- (ii) a progressive and substantial reduction in emigration and, as regards the Mezzogiorno, also a reduction in emigration towards the northern regions of Italy.

#### 1.2.2. The new demographic phenomena of the 1980s

At the beginning of the 1980s there was a marked change in the evolution and distribution of the population in the central Mediterranean regions. During the post-war period, more or less until the end of the 1960s, the central Mediterranean regions had been a population 'reserve' for the north European countries. However, during the subsequent period, the population began to age, and the rate of emigration decreased.

This trend developed and continued into the 1980s, with the phenomenon of an ageing population spreading to the rest of the Community.

During the 1980s, there was, in addition, a decrease in the differences in population growth rates between the Mezzogiorno and the rest of the EC. This was largely brought about by a progressive fall in the population growth rate within the Mezzogiorno, which almost halved between 1980 and 1989.

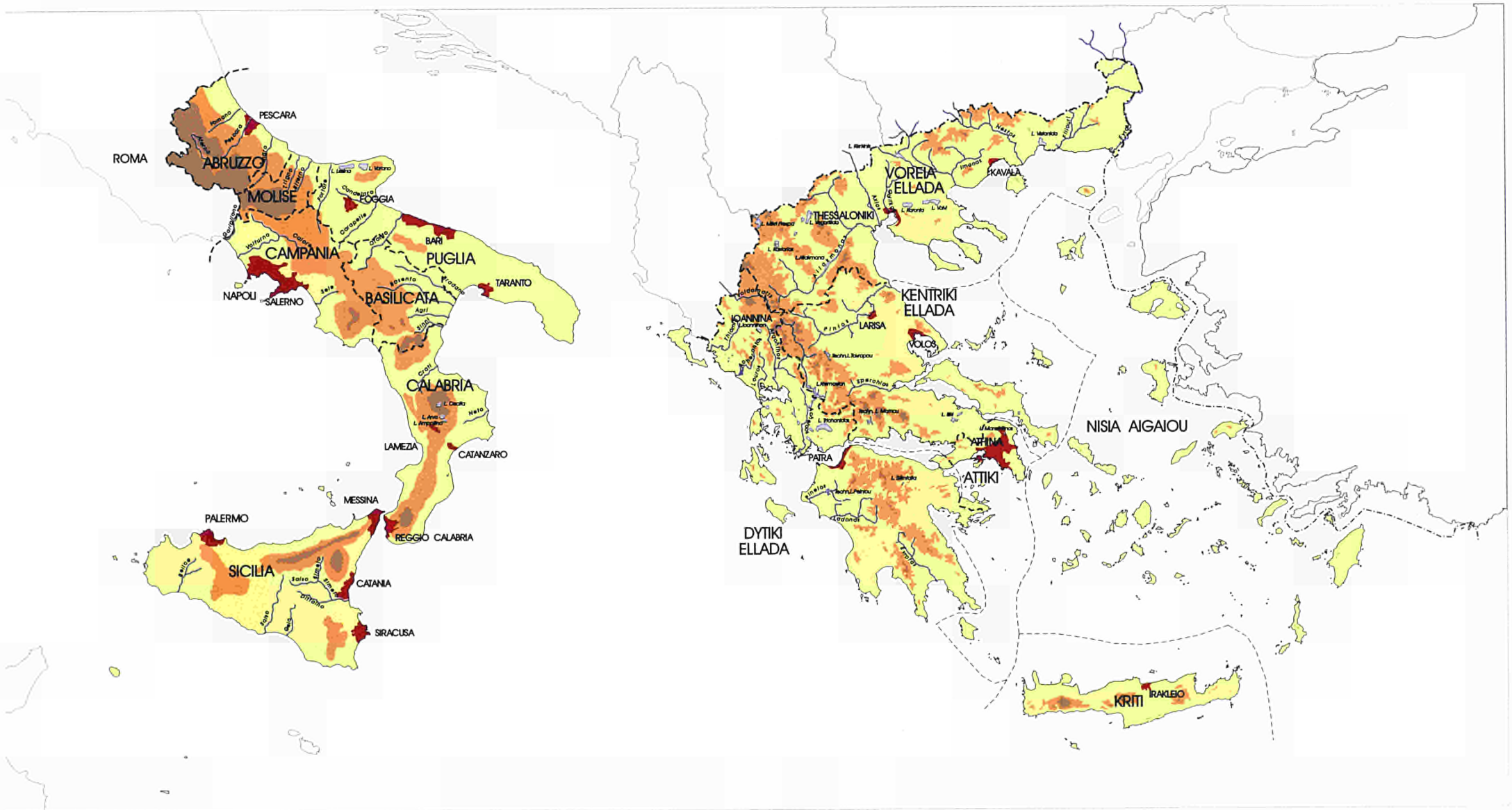
Demographic growth in the EC as a whole was thus markedly lower than in previous years.

##### 1.2.2.1. The demographic balance in the central Mediterranean area

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

Why was there such a dramatic fall in the population growth rate in the central Mediterranean area?




Firstly, there was a sharp decline in birth rates in some regions, particularly in Greece. Here, the birth rate fell by one third over the 1980s, from 15.7 per 1 000 inhabi-



BASE MAP — ADMINISTRATIVE AREAS AND TOPOGRAPHY

LEGEND

-  Main Urban Centres
-  Lake
-  Principal rivers
-  Administrative boundaries  
(Group of NUTS2 for Greece)
-  National boundaries

- Mountain zones
-  0 - 800 m
-  800 - 1500 m
-  > 1500 m

0 100 200 km

TABLE 1. Variation in resident population, 1980-89

	(%)		
	1980-84	1985-89	1980-89
Mezzogiorno	+ 3.4	+ 3.0	+ 6.4
Greece	+ 5.6	+ 0.9	+ 6.5
Central Mediterranean	+ 4.1	+ 2.3	+ 6.4
EUR 12	+ 1.8	+ 2.0	+ 3.8

Source: Our elaboration on Eurostat data.

TABLE 2. Population by sex, 1980-89

	(1 000)								
	1980			1985			1989		
	M + F	%	F	M + F	%	F	M + F	%	F
Mezzogiorno	18 330	5.8	9 351	18 948	5.8	9 649	19 519 <sup>1</sup>	5.9	9 574 <sup>1</sup>
Greece	9 410	3.0	4 797	9 934	3.1	5 047	10 033	3.0	5 097
Total area	27 740	8.8	14 148	28 882	8.9	14 696	29 552	8.9	14 671
EUR 12 <sup>2</sup>	316 319	100.0	162 384	321 920	100.0	165 352	328 571	100.0	167 306

<sup>1</sup> For the Mezzogiorno, 1990.

<sup>2</sup> For 1980 including Spain and Portugal.

Source: Eurostat, *General statistics of the Community*.

tants in 1980 to 10.2 per 1 000 inhabitants in 1990. Population growth correspondingly fell from 5.6% in the years 1980-84 to only 0.9% during the period 1985-89.

This demographic transition did not, however, take place in all central Mediterranean regions: Campania, for example, still has the highest birth rate in Italy.

The structural composition of the population by sex in the central Mediterranean area differs somewhat from that to be expected as the society tends to grow older. There has in fact been a reduction in the share of women in the population (- 1.4% over the period 1980-89).

This variation reflects the general trend in the Community (- 0.4% over the same period), but is chiefly due to a large increase in the resident male population of the Mezzogiorno (+ 2%, 1980-89).

This increase may be attributed to three distinct changes in social behaviour in the Mezzogiorno in recent years:

- (a) emigration among the male members of the population is much lower than in the past (especially in the Mezzogiorno);
- (b) former emigrants are returning home, either because they have stopped working or because they have lost their jobs owing to the international crisis;
- (c) immigration of male workers from non-EC countries is increasing.

Table 3 underlines the relative positive social balance (difference between number of people registered and number cancelled).

**TABLE 3. Demographic balance of population, 1980-88**

	1980			1985			1988		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Mezzogiorno	5.4	- 2.7	2.7	5.4	1.1	6.5	5.0	- 0.5	4.5
Greece	7.0	5.2	12.2	2.4	2.3	4.7	1.5	1.5	3.0
Central Mediterranean	5.8	- 0.2	5.6	4.0	1.5	5.5	4.3	0.1	4.4
EUR 12	1.8	1.7	3.5	1.5	1.1	2.6	1.9	1.9	3.8

NB: (1) Natural balance (difference between births and deaths (1 000 residents).

(2) Social balance (difference between number of people registered and number cancelled (1 000 residents).

(3) Global balance (1 + 2).

Source: Our elaboration on Eurostat data for Greece and EUR 12 and ISTAT data for the Mezzogiorno.

Table 6 underlines the growth of the potential resident working population.

As regards the social balance, the main variations concern the central Mediterranean regions in the period 1980-89.

The data given in Table 3 underline a great change in this demographic element: they indicate the 'stop' in the negative social balance in the Mezzogiorno and, in general, the lower level of 'social mobility' in central Mediterranean regions in comparison with EUR 12.

We can say that in this period, except for the high values of natural balance in the Mezzogiorno, the central Mediterranean regions had a demographic balance very similar to that in other European countries.

These data vary greatly over a 10-year period and the social changes will be very important for the future demographic structure of the area, especially as regards employment (to stop emigration).

If the political and economic system cannot solve the structural problems of the labour-market, emigration to northern countries is expected to start again.

#### 1.2.2.2. Rising immigration pressure over the 1980s

Over the 1980s, extra-Community immigrants have significantly altered the social balance of the central Mediterranean area. This phenomenon is particularly evident in the Mezzogiorno.

People from non-EC countries come to the central Mediterranean for three main reasons:

- (i) to settle;
- (ii) as a staging post to reach northern Europe;
- (iii) in search of seasonal or clandestine work for some months of the year, subsequently returning home with the money they have earned.

Recent ISTAT (Istituto nazionale di statistica) estimations for 1989 reported a total of 329 100 immigrants in the Mezzogiorno, of which 92% were from non-EC countries. Thus, immigration in the Mezzogiorno consists almost entirely of non-Community citizens.

Within the Mezzogiorno, there is a significant regional variation in the numbers of immigrants. Sicily (135 400) has the highest number of extra-Community immigrants in the Mezzogiorno, followed by Campania (83 500) and Puglia (36 900).

However, we point out that Puglia and Sicily are a sort of 'landing-place' for extra-Community immigrants, especially those from the less-developed Mediterranean countries which represent the main source of non-EC immigrants (27% from North Africa, 10.3% from West Asia and 9.4% from sub-Saharan regions).

The ISTAT data (see Table 4 below) show that, of the 302 600 non-EC immigrants in the Mezzogiorno, only 25% are resident in the country. In other words, illegal immigrants make up 75% of those from non-EC countries.

This situation is common to many other European countries, but it is particularly relevant to the central Mediterranean area because of the proximity of the region to the native countries of many immigrants. It thus represents, for many, a staging post by which to enter Europe.

In the Mezzogiorno, irregular workers represent 64.4% of the total number of immigrants, some 187 000

people; 100 000 of these are localized in Sicily and about 50 000 in Campania. These numbers underline the significance of extra-EC immigration in the labour-market in the Mezzogiorno.

Immigration is also significant in Greece, but it causes fewer problems of 'pressure' on the local labour-market, owing to the significant differences that exist between the two countries.

**TABLE 4. Immigrants in Italy according to place of origin and destination, 1989**

Territorial distribution	From EC countries	From non-Community countries	Total
1 000			
Mezzogiorno	26.5	302.6	329.1
Centre-north	154.5	660.4	814.9
Italy	181.0	963.0	1 144.0
Percentage			
Mezzogiorno	8.1	91.9	100.0
Centre-north	19.0	81.0	100.0
Italy	15.8	84.2	100.0
Immigrants per 1 000 inhabitants			
Mezzogiorno	1.2	14.4	15.6
Centre-north	4.2	18.1	22.3
Italy	3.2	16.7	19.9

Source: ISTAT.

**TABLE 5. Extra-Community immigrants in Italy according to place of destination and socioeconomic characteristics, 1989**

Place of destination	Children	Students > 18 years old	Regular workers	Irregular workers	Registered unemployed and others	Inactive	Total
1 000							
Mezzogiorno	31.9	3.0	18.6	187.0	21.5	25.6	287.6
Centre-north	77.5	22.8	65.5	385.0	42.9	66.7	660.4
Italy	111.0	26.0	85.0	580.0	67.0	94.0	963.0
Percentage							
Mezzogiorno	11.1	1.1	6.4	64.4	8.0	9.0	100.0
Centre-north	11.7	3.5	9.9	58.3	6.5	10.1	100.0
Italy	11.5	2.7	8.8	60.2	7.0	9.8	100.0

Source: Svimez elaboration of ISTAT estimates.

- (i) The characteristics of immigrants in Greece are quite different, as they have different countries of origin, many coming from within the EC, or from other regions in the Balkan peninsula where cultural differences are much less than those between say North Africa and the Mezzogiorno.
- (ii) A much higher share of immigrants than that in the Mezzogiorno enter Greece legally. By December 1987 there were 193 385 foreigners who had residence permits in Greece: 72 298 (37.4%) were Greek nationals with foreign citizenship and another 20% came from EC countries. A large proportion (16.4%) came from Asia, followed by East European countries (10%), the United States of America (9.8%) and African countries (5.7%).

The high number of people coming from EC countries indicates that in Greece there is (or there was until recently) a fundamental need for qualified workers, which were often not available on the local labour-market.

- (iii) There are a large number of irregular immigrants that come mostly from Albania, the former Yugoslavia and the East European countries looking for temporary work (especially in agriculture). These immigrants provide low-cost labour which offsets the large increase in labour demand in the agricultural sector at peak periods.

### 1.2.3. Towards 2000: demographic developments unfolding

#### 1.2.3.1. Population ageing

The age distribution of the population will exert a strong influence on the evolution of the social characteristics of the population of the central Mediterranean area.

During the 1970s and 1980s, the high share of young people gave rise to two social phenomena:

- (a) it provided an important reservoir of labour, particularly for northern regions, where there was a very low level of natural growth of an 'indigenous' labour force in the 1970s and 1980s;
- (b) it caused a rise in unemployment rates, especially in the Mezzogiorno where there was a large average growth of the labour force without corresponding employment generation.

In the last 10 years, this pattern has begun to change. The demographic boom of the 1950s and 1960s, which produced a rising supply of labour in the 1970s and 1980s, came to an end in the 1970s. As a result, the numbers of young people reaching working age has begun to fall, and the share of old people in the population to increase. The central Mediterranean is now moving towards the position where the age structure of the population is similar to that in other Member States.

TABLE 6. Population by age, 1980-89

	1980			1985			1989		
	0-14	15-64	>65	0-14	15-64	>65	0-14	15-64	>65
Mezzogiorno (1 000)	4 742	11 628	2 087	4 395	12 691	2 151	4 058	13 048	2 411
Percentage	25.7	63.0	11.3	22.8	66.0	11.2	20.8	66.8	12.4
Greece (1 000)	2 192	5 999	1 210	2 075	6 532	1 328	1 986	6 677	1 370
Percentage	23.3	63.7	13.0	20.9	65.7	13.4	19.8	66.6	13.7
Total area (1 000)	6 934	17 627	3 297	6 470	19 223	3 479	6 044	19 725	3 781
Percentage	24.9	63.3	11.8	22.2	65.9	11.9	20.4	66.7	12.8
EUR 12 (1 000)	71 274	192 081	42 796	62 945	215 384	43 590	59 581	220 598	48 392
Percentage	21.8	64.2	14.0	19.8	66.9	13.3	18.1	67.2	14.7

Sources: Eurostat and ISTAT for the Mezzogiorno.



The share of young people diminished from 24.9% in 1980 to 20.4% in 1989.

At the same time the share of old people (aged over 65) rose from 11.8 to 12.8% and, of greatest significance in this period, the share of people of working age rose from 63.3 to 66.7%.

These changes in the structural composition of population by age classes in the central Mediterranean area caused an increase of labour supply which the productive system was no longer able to absorb. There was consequently a marked increase in unemployment and related social problems.

### 1.2.3.2. Population in 2020: ageing continues without significant population growth

In the coming years, the trend of population ageing will continue, though current estimates are that the population as a whole will stabilize at around the 1990 level.<sup>1</sup> The key developments are likely to be:

- (i) the share of the EC population accounted for by the central Mediterranean area will increase from 9.5% in 1990 to 9.8% in 2020;
- (ii) numbers of old and very old people (over 80) will reach unprecedented levels both in terms of absolute numbers and in proportion to the total population;

<sup>1</sup> Eurostat estimates.

(iii) the number and share of young people will be reduced correspondingly;

(iv) in 1990 the share of old people (over 65) was around 15% and the share of young people (0-14) was 20% in the central Mediterranean area. In 2020 these shares will become 20 and 15% respectively;

(v) within the central Mediterranean area, the share of old people will be higher than 20% in most of the Greek regions while it will fall between 15 and 20% in most of the Mezzogiorno regions.

### 1.2.3.3. The social, economic and cultural impact of population ageing

The social, economic and cultural consequences of this phenomenon of population ageing are far-reaching and not always easily predictable.

A severe strain will certainly be imposed on the main solidarity institutions of European society: the family and the welfare state. To the extent that the increase in the population share of old and very old people will be accompanied by an increase in chronically ill people, the responsibility and the tasks of the family and of the State will be further enhanced.

The family has traditionally played the important role of protection and assistance in the central Mediterranean area — more so than in the northern European countries. This role will become increasingly important; however, changing patterns of employment and family organization will increase the strain it imposes on the family.

TABLE 7. Estimates of resident population at 2000 and 2020

	1990	2000	2020
Mezzogiorno <sup>1</sup>	21 184	21 707	21 126
Greece	10 046	10 193	10 139
Central Mediterranean	31 230	31 900	31 265
EUR 12	327 136	333 874	319 623

<sup>1</sup> For the Mezzogiorno our estimates on Eurostat data (considering actual incidence of resident population in the Mezzogiorno over total resident population in Italy and its increase of incidence in the last decade).

Source: Eurostat.

The family itself is undergoing a process of deep transformation, linked to falling fertility rates, to longer average life and to the behavioural changes of family members. The number of large families (with five or more than five components), which was high in the central Mediterranean area until recently, is falling rapidly while the number of one-person households (widows and single people) and two-person households (retired couples) is increasing. As a consequence, the number of households is increasing but their average size is falling, in line with what has already occurred in the rest of Europe. These trends are bound to continue in the future.

The increase in the number and share of retired people will pose delicate problems of intertemporal redistribution of income, which, if not properly solved, may cause financial imbalances or poverty among the eldest sections of the population. The ratio of people of working age (20-65) to the elderly (over 65) was four in 1990 and should fall to three in 2020 in the countries of the European Union. Similar ratios will prevail in the central Mediterranean area. The composition of income, both in the family unit and in the economic system as a whole, has already changed with a reduction of the share of labour income and a significant increase of transferred income.

The provision of social infrastructure in the central Mediterranean is very inadequate. As social pressures and demands increase, this inadequacy will become both more acute and less acceptable to the population. The efficiency of the State in the central Mediterranean as the supplier of social infrastructure has always been particularly low, and unless there is a significant amelioration in this respect there will undoubtedly be increasing problems in the future.

Population ageing will have a less direct impact in other areas.

- (i) The composition of demand may change as a result of the changing age composition of the population and size of families. The building sector may, for instance, face increased demand for new flats of smaller size due both to the increasing number of family units and to their smaller size.
- (ii) Volume of demand may also be affected by the stagnation of the population.
- (iii) The composition of infrastructural and social expenditure is also bound to undergo important shifts as

the relative numbers of young and old people radically change. Expenditure on childcare, education, training, health and assistance will change in total and relative amounts according to the different needs of the various sections of the population.

- (iv) The ageing of the population may finally have unpredictable effects at a cultural level: it has even been foreseen by some that an older population will adopt a different attitude towards the problems of peace and war.

#### 1.2.3.4. Projecting migratory flows: increasing immigration

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The future growth of total population will depend on both the natural rate of growth and increasingly on net immigration.

In terms of world demographic trends, patterns of population development in Europe can be seen to be of minor and still diminishing significance. In this context, the residual differences between the central Mediterranean regions and the rest of Europe are of negligible importance. The EC share of world population was 10% in 1950, 6.1% in 1990 and will fall below 4% by 2025.

Focusing attention on extra-European Mediterranean countries, the estimated growth of population in this region between 1990 and 2020 is about 140 million people. This figure should be compared with the expected decrease of three million for Europe. The share of the under-15s in the same countries in 1990 varies between 35 and 45% while the share of the elderly (over 60) varies between 5 and 7%. These figures should be compared with the 18 and 20% respectively for Europe in the same year.

The high-income countries of the north shore of the Mediterranean Sea with a rapidly diminishing and ageing population must therefore coexist with the low-income countries of the south shore, the populations of which are both young and fast-growing. The demographic pressure on the European labour-market from the south, which is already considerable, will thus inevitably become enormous.

Together with rising external demographic pressure, internal population movement trends must also be taken into account. Net immigration in the central Mediterranean area will thus be the result of three analytically distinct movements: emigration of the central Mediterran-

ean population; emigration of the southern Italy population to the north of Italy; net immigration from abroad. Let us consider separately these three potential flows.

### **1) Emigration of the central Mediterranean population**

The possibility of huge migratory flows from the central Mediterranean towards other countries can be considered rather remote. In spite of the present economic difficulties, the standard of living of the population in the central Mediterranean area is not sufficiently low to justify so painful an experience as emigration. The uncertain economic situation in the rest of Europe also represents an additional discouraging factor. Furthermore, the 'cultural' attitude of the richest European countries, with several manifestations of racism and intolerance, is at present particularly hostile to foreign people.

### **2) Emigration from the south to the north of Italy**

The possibility of a renewal of significant migratory flows from the south to the north of Italy should be taken more seriously, the human cost of migration within the same country being lower than emigration.

At the end of the 1980s expectations of a new wave of south-north migration were high. These expectations were justified by the coexistence of near full employment in the centre-north and of high unemployment in the south. Given this imbalance in the labour-market, orthodox economic theory predicts the working of two alternative adjustment mechanisms: full wage flexibility or emigration. Since the former adjustment mechanism does not work in reality because of the prevalence of institutional factors in wage fixing, the migration mechanism is expected to prevail. The likelihood of migration under this perspective should, however, be compared with a third alternative: the failure of any market adjustment and the persistence of an imbalance in the labour-market.

Various factors play in favour of one or other alternative. Some factors relate to the internal situation of the southern regions and can be considered 'push' factors; others relate to the situation in the northern regions and can be treated as 'pull' factors. Let us briefly consider them in turn.

#### *(a) 'Push' factors*

The per capita income in the southern regions is significantly lower than in the northern regions. The differences in per capita disposable income and per capita consumption are however less important since the south of Italy receives positive net transfers from the northern regions. Furthermore, the wide differences existing between the south and the other half of the country should not be overvalued on the consideration that the centre-north of Italy is, after all, one of the richest parts of the world. The average standard of living enjoyed by the population in the south is therefore not low in absolute terms.

It is probable that in the future the amount of transfers to the south will be curtailed. The anti-south sentiment mounting in the northern regions and the severe national financial difficulties will further increase this trend. To the extent that radical cuts take place, the economic situation of the south will deteriorate and the pressure for migration may increase.

The number of unemployed people in the south is high. Most of them, however, are young people looking for a first job. They still live with their families and do not have the responsibility of a family of their own. While their situation is therefore certainly unpleasant, it does not present immediate problems of poverty and they are thus able to wait for a job for a longer period. The pressure to emigrate is consequently weakened.

The high expected growth of labour supply in the south may however make the labour-market situation more desperate, thus increasing the attractiveness of the emigration option.

#### *(b) 'Pull' factors*

The 'pull' factors are not at the moment particularly strong. In the north, the demand for labour is weak, many jobs have been lost in industry and the unemployment rate is rising. This is linked both to the downward phase of the world cycle and to the special difficulties of the present Italian economic situation.

In the longer run, the heavy fall in the working age population in the north may create serious problems of imbalance between supply and demand for labour. A shortage of supply may represent a power-

ful pull factor for a renewal of south-north migration flows. How powerful this factor will be is, however, difficult to evaluate because it implies strong assumptions on the rate of growth of the economy, on the nature of technical progress, and on the evolution of economic policy. At the extreme, a low rate of growth associated with strong labour-saving technical progress may prevent the emergence of any shortage in the supply of labour. The magnitude of any excess labour demand in the north in the future is therefore unpredictable.

The consequences of the imbalance in the Italian labour-market should also be analysed in a different respect. The coexistence of excess labour demand in the north and excess supply in the south at an aggregate level is not sufficient *per se* to predict emigration. A more disaggregate analysis is needed to verify whether or not the supply of labour from the south matches the demand for labour in the north. In this respect, recent analysis shows that labour demand in the north can be better satisfied by Third World emigrants than by more skilled and more demanding workers from the south of Italy.

Finally, the cultural atmosphere prevailing in the northern regions should be taken into account. The anti-south sentiments of the northern population may turn out to be transitory, but in the present political conjuncture they are a crucial discouraging factor for a new wave of south-north emigration.

The consideration of push and pull factors leads us to conclude that a renewal of huge migrator flows is unlikely in the coming years. Emigration from the south to the north will increase with respect to the very low values of the mid-1980s but the size of the phenomenon should remain limited. Emigration from the south to the north among selected groups of very skilled workers is, on the contrary, likely to continue.

The setting of an alternative scenario with south-north emigration would imply assumptions of radical cuts of regional transfers, deterioration of the economic situation in the south associated with serious social upheavals, and an economic recovery of the north with the emergence of a significant excess demand for labour. This alternative scenario is less likely but cannot be excluded.

### 3) Net immigration from abroad

The third potential source of population change is emigration into the central Mediterranean area from Third World countries and from Eastern and Central Europe. The central Mediterranean area is one of the poorest parts of the European Community and, in this respect, it should not be favoured as a final destination by emigrants. In another respect, however, it may receive a significant share of immigrants because of its geographical contiguity both with North African countries and with some Eastern countries.

Given the dynamics of population growth in the Mediterranean basin discussed above, it is inevitable that immigration pressure will increase substantially over the coming years. The demographic and income imbalances between the south and the north Mediterranean countries are so deep that any permissive immigration policy would lead to a massive inflow of people into Europe. The rhythm of immigration in the decades to come will therefore depend entirely on the immigration laws and on the ability (or will) to enforce them.

Current immigration laws are quite restrictive in the central Mediterranean area and the pace of legal immigration will be slow. However, illegal immigration will take place at an unpredictable rate. On the whole, the absolute numbers of immigrants and their share of the total central Mediterranean population are expected to increase.

## 1.3. The labour-market

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### 1.3.1. Characteristics of the central Mediterranean labour-market

The main characteristics of and the prevailing trends in the central Mediterranean labour-market at the beginning of the 1990s were as follows.

- There is a large gap between unemployment in the Mezzogiorno and in the centre-north of Italy.
- The resident population attaining working age is growing.
- Activity rates are increasing, especially for women, in the whole central Mediterranean area. Activity rates, however, remain very low by European standards.

**TABLE 8. Work-forces by sex (% of population, total, men, women), 1980-90**

	Total			Men			Women		
	1980	1985	1990	1980	1985	1990	1980	1985	1990
Mezzogiorno	35.8	37.1	38.4	50.6	51.9	52.3	21.8	22.8	25.3
Greece	37.7	39.2	40.7	54.9	55.2	53.0	21.1	27.3	29.2
Central Mediterranean	36.3	37.8	39.1	52.0	53.0	52.5	21.5	24.3	26.6
EUR 12	42.4	43.3	44.9	55.7	55.5	55.6	30.0	32.1	34.9

Source: Our elaboration on Eurostat (ISTAT for the Mezzogiorno) data.

- Fewer people emigrate to northern regions.
- More people from extra-Community countries emigrate to the central Mediterranean.

These elements combine to create a structural excess in the work-force of the area in comparison with the capacity of its productive system.<sup>1</sup>

The figures above (Table 8), which show the low participation rates and high unemployment rates in the central Mediterranean, underline this situation.

The participation rate (ratio of work-force to population) rose very slightly higher in central Mediterranean regions than in the EC over the last 10 years (2.8 and 2.6% respectively). However, the gap between the participation rate in the central Mediterranean area and the average for the Community as a whole is still very wide (6 percentage points). For women, this figure is even greater (8.3 percentage points), even though there was a substantial increase in the female participation rate in the central Mediterranean over the 1980s.

### 1.3.2. Participation of women in the labour force

The extremely low level of female participation in the central Mediterranean labour force is due to several different factors:

<sup>1</sup> The average rate of growth of the work-force over the 1980s was 1.6% in the Mezzogiorno and 0.9% in Greece.

- 'Economic' factors. There are difficulties in entering a labour-market which is already characterized by high unemployment rates.
- 'Cultural' factors. These include barriers due to the role still played by women in society and in the family.
- 'Demographic' factors. The average number of children in each family is high in the central Mediterranean, requiring many women to stay at home.

Looking at the differences in activity rate between age classes, we can see that the higher rates of female participation are concentrated in the first and the second working age classes (25-34 and 35-44). This is in line with the recent increase in the number of women in the labour force.

### 1.3.3. Dynamics of the labour-market into the 1990s

#### 1.3.3.1. Growth of labour supply

The evolution of the labour-market situation obviously depends on the trends of labour supply and demand.

The supply of labour, in turn, depends on two main variables: the number of people of working age and changes in the activity rate.

The size of the working age population in the coming years is a known variable because we already know the size of the age classes between 0 and 14 years. Given the growth of this class to working age, and assuming a

**TABLE 9. Labour-force growth, 1990-2005, constant activity rates**

	Greece	Mezzogiorno	Centre-north	EUR 12
Absolute variation	130 000	900 000	- 1 060 000	960 000
Yearly average	10 000	60 000	- 71 000	64 000

Source: Eurostat.

constant activity rate (1990), the forecast for the growth of labour supply between 1990 and 2005 is 900 000 for the Mezzogiorno and 150 000 for Greece. It is interesting to note that the forecast for EUR 12 is 960 000 over the same period.

In the case of the Mezzogiorno, we must stress the implications of this projected increase in labour supply. A rise of 900 000 people in the working age population is extremely large indeed — almost the same as that forecast for EUR 12. It represents an increase in the Mezzogiorno work-force over the 1990 level of approximately 12%.

As a result of these trends, the labour force of the central Mediterranean area in 2005 will represent a significantly higher share of the total EUR 12 labour force than in 1990.

These forecasts on the growth of labour supply in the central Mediterranean area are based on the assumption of a constant activity rate. Activity rates, however, are unlikely to be constant over the next decade. During the 1980s the activity rate among people of working age increased for the entire central Mediterranean area. This was the result of an increasing rate of participation among women which more than offset the decreasing male activity rate.

The male activity rate decreased because the period of education and training for the younger classes of people has increased. This is a trend common to most European countries.

A reasonable forecast is that the trend of the 1980s will continue through the 1990s with a significant increase in participation rates among women and a slight decrease among men. Within the central Mediterranean area, the

overall activity rate should rise in the Italian Mezzogiorno and remain stable (or slightly decrease) in Greece, as in the 1980s.

The impact of rising activity rates will be a further increase in labour supply in the Mezzogiorno. 'Internal' labour supply' will thus increase not only as a result of natural population growth, but there will, under a 'reasonable' assumption on the rise of the female activity rate, be a further increase in the labour force of something like 500 000 people.

Together with the natural growth forecast for the Mezzogiorno, this gives a total increase in the labour force of 1 400 000 people (19% of 1990 work-force) by 2005.

#### 1.3.3.2. Youth employment: low participation

Participation rates for young people in the central Mediterranean regions are low in comparison with those in the rest of the EC. This is due to two different phenomena:

- (i) there is an excess supply of young people in the labour-market. There is consequently an increasing number of young people engaged in irregular 'sweated', low-wage labour;
- (ii) young people stay in education longer than in previous years (thanks to better economic conditions). As a consequence, they enter the labour-market at a later stage, and wait longer for a job requiring better qualifications.

<sup>1</sup> Excluding immigration and emigration effects.

TABLE 10. Work-force, by age class and sex, 1986

	(%)					
	14-25	25-34	35-44	45-54	55-64	> 65
Male						
Mezzogiorno	46.1	93.8	97.1	92.5	58.9	8.6
Greece	41.3	95.9	97.3	91.1	65.3	15.5
EUR 12	50.5	–	–	–	–	7.1
Female						
Mezzogiorno	28.1	43.1	40.1	31.2	17.8	2.3
Greece	30.4	52.9	49.4	41.8	26.4	7.1
EUR 12	54.6	–	–	–	–	2.4
Total						
Mezzogiorno	37.9	68.3	70.3	62.9	38.2	5.1
Greece	35.6	73.3	73.0	66.1	45.3	10.3
EUR 12	53.1	–	–	–	–	4.3

Source: Eurostat.

### 1.3.3.3. Unemployment: the biggest unsolved problem in the central Mediterranean<sup>1</sup>

We mentioned the growing participation of women in the labour force and the low participation of young people in 'steady' work.

These two phenomena show remarkable differences between the Mezzogiorno and Greece.

Looking at unemployment rates and their trends, we can see that during the 1980s the gap between the central Mediterranean area and the EC as a whole rose from a difference of 2.4% in the total unemployment rate (1980) to a difference of 3.9% (1990).

Since the Second World War, the main problem in the Mezzogiorno has been how to employ the growing sup-

ply of labour. Historically the main answer to this problem was heavy emigration to northern countries; as a consequence, the Mezzogiorno society grew poorer.

As we have seen, in the last 10 years there has been a reversal in this trend. However, the insufficient rate of employment creation in the Mezzogiorno has failed to reduce unemployment.

The situation in Greece is markedly different as Table 11 shows.

The unemployment rate rose over the period 1980-90 and reached 19.7% in the Mezzogiorno (with an increase of +8.3% in this period); this was more than twice the EC average. In contrast in Greece, after a large increase in 1980-85, unemployment dropped to 7.2%, which is less than the Community average, in 1990.

Youth employment has followed dramatically different paths in the central Mediterranean regions. In both Greece and the Mezzogiorno, youth unemployment rates are high, well above the EC average. However, in Greece there was only a small increase over the 1980s while in the Mezzogiorno there was a massive increase over the decade from 28% in 1980, already a very high

<sup>1</sup> Unemployment figures have been used according to the respective national definitions throughout our study. We must note, however, that these definitions are not the same in Greece and Italy, and specifically that in Italy this produces unemployment rates that are somewhat higher than those calculated using the European standard. In October 1992, the respective figures for the Mezzogiorno were 22.2% using the old definition and 16.1% using the new standard definition, a difference of 6.1%. We should also note that the quoted distribution of unemployment within Italy is not altered significantly under the new standard definition of unemployment.

**TABLE 11. Total and youth unemployment rates by area, 1980-90**

(% of labour force)

	Total unemployment				Youth unemployment			
	1980	1985	1990	% difference 1980-90	1980	1985	1990	% difference 1980-90
Mezzogiorno	11.4	14.7	19.7	8.3	28.0	34.2	44.0	16.0
Greece	2.8	8.7	7.2	4.4	22.0	23.8	24.8	2.8
EUR 12	6.1	10.9	9.1	3.0	-	20.0	17.6	-

Sources: Censis elaboration on ISTAT; OECD; Eurostat statistics.

level, to 44% in 1990. We should note that between 1985 and 1990, youth unemployment for the EC as a whole fell from 20 to 17.6%.

In other words we can say that at present the employment situation is sustainable in Greece but not in the Mezzogiorno.

We should emphasize, however, that this does not imply the absence of problems in the labour-market in Greece: both the central Mediterranean regions have relatively high rates of both youth and long-term unemployment, and a high index of dependency in the population.

Long-term unemployment rates are greater than 50% of total unemployment rates showing a possible 'structural' imbalance between the demand and supply of labour.

Table 12 shows the high rate of dependency in the central Mediterranean regions relative to the EC average.

**TABLE 12. Long-term unemployment rates, 1989**

Mezzogiorno	12.3
Greece	3.7
EUR 12	4.6

Source: Eurostat.

**TABLE 13. Dependent population (ratio employees/total population), 1980 and 1989**

Region	1980	1989
Mezzogiorno	31.7	32.8
Greece	32.8	33.6
Central Mediterranean	32.1	33.0
EUR 12	39.8	40.8

Source: Our elaboration on OECD data.

The difference between the central Mediterranean and the EC is plain: only 33 people out of 100 have a job in the central Mediterranean as opposed to almost 41 in the rest of the EC. These 33 people, therefore, have to maintain 10 more people out of their income.

This large difference in dependency rates accounts for the significantly lower per capita earnings in the central Mediterranean region as compared with other EC countries.

It also highlights the fact that in the central Mediterranean regions unemployment remains the biggest unsolved problem.

#### 1.3.4. The likelihood of rising unemployment

The demand for labour in the central Mediterranean over the next decade is quite unpredictable. It depends on



the growth of the economy and on the elasticity of employment relative to GDP growth. Both these variables have been highly unstable in the past.

The rate of growth of the world and national economies has changed radically in the last three decades, following a long-run downward trend. No one is able to forecast the future of the world economy. (Let us remember that no one predicted either the long wave of the 1950s and 1960s or the succeeding relative stagnation.)

The income elasticity of employment has also changed, being much lower in the 1970s and 1980s than in the 1960s. This depends mainly on the type of technical progress which, in turn, depends on many other unpredictable socioeconomic variables.

To compare the relative growth of labour supply and demand, we can only look at the past trends. Assuming a constant activity rate, labour supply will increase at a yearly rate of 0.25% in Greece and 0.72% in the Mezzogiorno.

The increase in labour supply in Greece over the 1980s was more or less equivalent to the rate of growth of employment. This was, furthermore, a decade in which economic performance in Greece was certainly not brilliant. It is likely therefore that, in this part of the central Mediterranean area, serious problems of unemployment will not emerge.

The increase in labour supply of 0.72% per year in the Mezzogiorno is, on the contrary, much higher than the employment growth recorded in the 1980s, which was 0.4% between 1981 and 1985 and -0.3% between 1986 and 1992. It is even slightly higher than the growth of employment in the 1970s, which was 0.6% per year.

All this implies that the unemployment problem in the Mezzogiorno is likely to become even more serious than it is at present unless there is a very significant reversal of the employment trends in the area. An increase in the activity rate as discussed above would, of course, exacerbate the situation.

The evolution of the supply of labour in the Mezzogiorno should finally be taken in context with the parallel evolution in the centre-north of Italy where labour supply will decrease by more than one million people between 1990 and 2005. This large decrease in the north and the resulting imbalance is the reason many people expect a renewal of migratory flows within Italy.

### 1.3.5. The regional labour-market

Within the two central Mediterranean areas, and especially in the Mezzogiorno, there are strong regional characteristics in the patterns of unemployment. Unemployment figures are given in the table below.

The Mezzogiorno regions can be clearly divided into two groups: Abruzzi-Molise and Puglia, encompassing the dynamic Adriatic axis, and Basilicata, Calabria, Campania and Sicily covering the weak Tyrrhenian axis.

The trend in the Mezzogiorno, as we have discussed, is towards rising unemployment, and this trend is supported at the regional level. The distinction must be made, however, that along the Tyrrhenian axis unemployment levels are extremely high indeed, ranging from 20 to 25%. Moreover, in the regions of Calabria, Campania and Sicily, which account for 65% of total Mezzogiorno employment, there were large increases in unemployment over the period 1986-90.

In the two principal regions of the Adriatic axis, Abruzzi and Puglia, the unemployment situation is much less discouraging. In Abruzzi, there was even a slight fall in unemployment.

In Greece, over the period 1986-90, there was a significant increase in the share of Attica in total employment, with unemployment rates in this region falling considerably from 11.2 to 8.8% in 1990. This, however, is still above the national average. In the remaining large Greek regions, encompassing all except the Aegean Islands and Crete, there was an increase in unemployment rates over the period, though from fairly low initial levels by central Mediterranean standards. There has therefore been a general trend towards spatial equalization of unemployment rates which no longer differ widely across the country.

The islands and Crete provide a somewhat separate case, accounting for a fairly small percentage of total employment, and having particular labour-market characteristics, with a high level of activity in tourism and traditional agriculture and craft industries. Unemployment rates in both these regions are low, with the large fall in the Aegean Islands largely accounted for by migration towards the larger centres of mainland Greece.

**TABLE 14. Regional employment, 1986 and 1990**

Region	(%)			
	Share of total employment		Unemployment rate	
	1986	1990	1986	1990
Crete (5)	5.6	5.3	1.8	2.4
Islands (4)	3.9	3.8	8.0	4.6
West (1)	19.4	18.1	5.1	5.8
North-east (2)	25.4	25.7	5.5	6.6
Central Greece (3)	13.3	11.9	6.6	7.3
Attica (6)	32.3	35.1	11.2	8.8
Abruzzi	7.5	8.0	11.4	10.2
Molise	2.0	2.0	9.8	14.0
Puglia	21.4	21.7	14.4	15.7
Basilicata	3.3	3.4	19.8	19.8
Campania	30.3	29.7	17.7	20.8
Sicily	24.9	24.8	16.2	22.6
Calabria	10.6	10.5	17.9	24.6
Greece	100.0	100.0	7.4	7.2
Mezzogiorno	100.0	100.0	16.1	19.7

NB: Regions for Greece are groupings of the 13 official administrative regions:

- (1) Epirus, Ionian Islands, west central Greece, Peloponnese;
- (2) East Macedonia and Thrace, central Macedonia, west Macedonia;
- (3) Thessaly, east central Greece;
- (4) Northern Aegean, southern Aegean;
- (5) Crete;
- (6) Attica.

Source: Labour force surveys, 1986 and 1990.

#### 1.4. Labour-market development: the big four variables

The setting of a scenario for the demographic trends and for the labour-market situation in the central Mediterranean area depends on the values of four variables. Different assumptions on the combinations of these variables give very different results for the demographic future of the area and for the labour-market.

The four variables are:

- (i) the fertility rate,
- (ii) migratory flows,

(iii) the activity rate,

(iv) the demand for labour.

Fertility rates: the first variable is the fertility rate which affects the natural growth of population. We have assumed a constant fertility rate and, under this assumption, a slow and declining growth of the population in the next three decades.

Migratory flows: the second variable is the migratory flow. Assumptions are needed on the direction and the size of these flows. We have assumed a continuous flow of immigrants from extra-European countries and an increase in emigration from the south to the north of Italy. We have also assumed that, for different reasons, the size of these two flows will be limited and they will therefore not be sufficient to alter very significantly the total population.

Activity rates: the third variable is the activity rate. We have assumed a rise in the overall activity rate as entirely attributable to the increasing participation of women. This rise will increase the supply of labour, especially in the Mezzogiorno, where the labour supply will also increase significantly for 'natural' reasons.

Labour demand: the fourth variable is the demand for labour. We have made no assumptions on the future values of this variable. We have taken as reference points only the past values of employment growth in the 1970s and 1980s to analyse the possible outcomes in terms of unemployment of the assumed growth of labour supply.

The population of the central Mediterranean area, on the basis of these assumptions, will be essentially stagnant, increasingly aged and with a slowly rising share of foreign people. The labour force will be characterized by an increase in the female share of activity in the whole area and by a persistence or even by a further deterioration of the unemployment problem in the western part of the area.

## 1.5. Policy conclusions and recommendations

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### ***The ageing population implies the development of intense pressure on social services and the social security system***

These are disorganized and insufficient in the central Mediterranean. Greece and Italy are also facing a drastic reduction in public expenditure that is seriously affecting the capacity and range of public services offered.

Basic reform of the system can be implemented through organizational restructuring and an increase in the efficiency of public services.

### ***The laws on immigration remain the principal instruments to control immigration flows***

The guidelines on immigration laws must be decided at the European level, and must represent a coherent policy for all EC countries. At the same time, each country can define specific arrangements in order to moderate migration trends in relation to population growth and labour-market needs.

The definition of these arrangements must include the participation of the countries of origin, and a Mediterranean policy for migration has to be defined.

Immigration laws must also support the physical and organizational structure necessary to permit legal immigration and discourage illegal immigration. It is especially important that Sicily and the border regions of Greece be able to deal effectively with immigration pressure.

### ***The high level of unemployment is one of the principal problems for the central Mediterranean area***

The process of privatization in Greece will very probably produce an increase in unemployment similar to that which occurred in the Mezzogiorno in the 1980s. The recent slow rate of growth of Europe and the slow elasticity of labour demand in relation to production can increase the difficulties in controlling unemployment.

Action directed at increasing labour demand and diminishing labour costs in the central Mediterranean is important, but not sufficient.

### ***Structural reform of training systems is necessary***

Training absorbs a significant amount of resources in Greece and in the Mezzogiorno, but it is very ineffective. Flexibility in the training system must increase in order to respond to the rapid transformation of sectoral production and the changing characteristics of labour demand. The constant monitoring of skill requirements and of training supply and the planning of training have to be organized at the local and regional levels.

### ***The high share of young and educated people in the labour force has to be transformed into an opportunity for the central Mediterranean***

In the north of Italy and in many advanced European regions there is a shortage of supply of university graduates. Stronger collaboration between the educational system, universities and companies can create the conditions required to move technological plants into the central Mediterranean, utilizing the supply of young educated people as an attracting resource.

***Specific policies must be defined  
for the weak segments of labour supply:  
the long-term unemployed,  
women and young people***

These segments of the labour-market suffer more than others from the job shortage, but their problems are specific and cannot be overcome with general labour-market intervention.

Initiatives for job-creation, job-orientation and training, and incentives for part-time working must be multiplied

and designed specifically for the characteristics of the central Mediterranean labour-market.

***Urgent measures have to be implemented in  
the crisis areas: the large cities and Tyrrhenian  
regions of the Mezzogiorno***

These measures must not only provide direct assistance, but must be coherent with efforts to increase labour demand. It is necessary to transform the market in order to promote the development of entrepreneurial forces.

## 2. Sectoral development

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### 2.1. The pattern of growth

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#### 2.1.1. Sectoral imbalance in the central Mediterranean area

The pattern of development in the two regions of the central Mediterranean area presents some common distinctive features:

- (i) the difficulty of building an extensive and competitive industrial system;
- (ii) the difficulty of transforming agriculture into a modern and efficient sector;
- (iii) a disproportionate increase in the importance of the service sector relative to the level of development of the area;
- (iv) a pervading role of the State, in several different forms, in economic activity.

This pattern of growth has given rise to an unbalanced economic structure, with an excessively large protected component comprising most of the tertiary sector, and an excessively small competitive sector (industry,

agriculture, some tradable branches of the service sector).

Both the Mezzogiorno and Greece have been following a trajectory of development which does not include a significant phase of industrialization. They have been moving directly from an agrarian economy with more than half of the population employed in agriculture to a service economy with half or more of the labour force employed in tertiary activity.<sup>1</sup>

This atypical pattern of development has been made possible by an increasing level of State intervention in the economic system. This intervention has assumed different forms: increases in the numbers of people employed in public administration simply in order to alleviate unemployment or to get electoral support, increases in net transfers to support family income, take over of private firms if they become bankrupt, and expenditure on major infrastructures. The ultimate result of this rising level of State intervention has not been a strengthening of the productive structure but an increase in disposable income to a level that continuously exceeds domestic resources.

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<sup>1</sup> In the Mezzogiorno, this process of development has already gone very far. As far as Greece is concerned, the transition from an agrarian to a modern economy is still under way, with some regions still maintaining a very high share of employment in agriculture.

Sooner or later, this pattern of development was bound to fall into serious trouble. There is, however, a crucial difference between Greece and the Mezzogiorno arising from the different nature of the external constraint in each case.

In the Mezzogiorno, which is not an autonomous State and therefore does not have its own balance of payments, this pattern of development has implied a continuous dependence on transfers from the rest of Italy. In Greece, on the other hand, it has, since the date of entry into the EC, implied a permanent bias towards external deficit and an increasing dependence on EC aid.

Despite the different nature of the external constraints, this pattern of growth, dependent on external transfers, has become progressively more unsustainable in both regions.

In Greece, mounting external debt has brought the country dangerously close to falling into the 'debt trap'; in the Mezzogiorno, after more than 30 years of transfers, it has brought an increasing reluctance on the part of the north of the country to 'foot the bill' for the south, in the absence of any sufficient result in terms of the development of a more autonomous economic system in the Mezzogiorno.

## 2.1.2. The crucial weakness of the industrial sector

### *The Mezzogiorno*

In the Mezzogiorno the small share of the industrial sector in terms of employment is certainly not justified by high labour productivity. Productivity growth in the last decade was actually greater than employment growth but this was the result of a heavy fall in employment rather than a growth in value-added.

The restructuring processes of the 1980s have therefore resulted in a further narrowing of the already limited industrial base of the area. Gains in productivity were insufficient to reduce significantly the efficiency gap between the Mezzogiorno and the rest of Italy, and the most advanced industrial countries of Europe.<sup>1</sup>

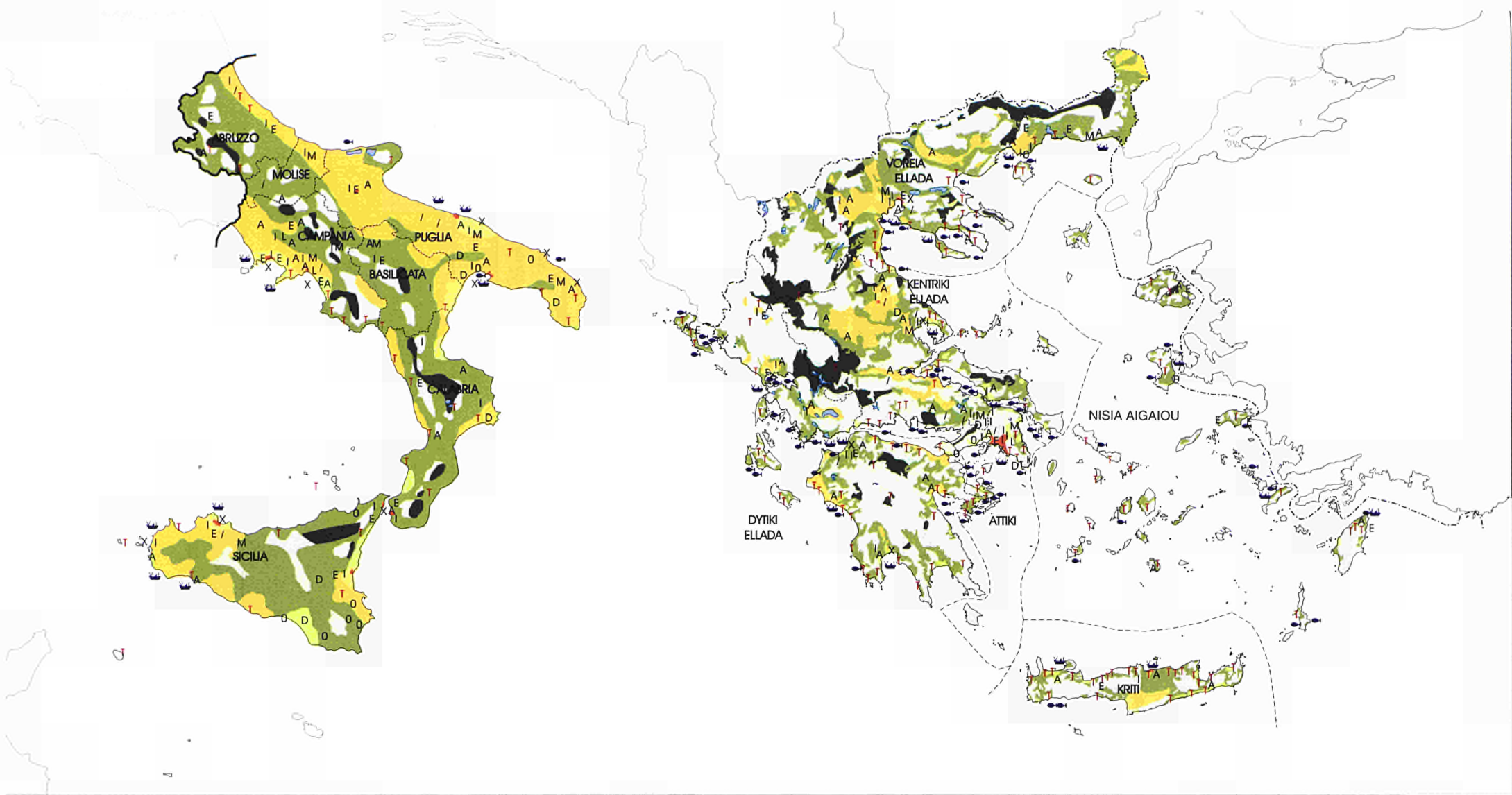
Taking into account the fact that the cost of labour is not low enough to compensate for this shortfall, the competitiveness of Mezzogiorno industrial products in international markets is clearly unsatisfactory: the Mezzogiorno enjoys neither a comparative advantage in the technologically advanced branches of manufacturing nor any significant advantage in the traditional labour-intensive sectors.

<sup>1</sup> Relative to the centre-north of the country, this gap is today above 20%.

**TABLE 1. Performance of the industrial sectors in the Mezzogiorno**

	Productivity (north of Italy = 100)		Quotas of national value-added		Employment (average growth rate)
	1980	1989	1980	1990	1989/1980
Manufactures	75.5	82.2	12.7	13.2	- 1.6
Metals	77.9	92.7	16.6	15.1	- 3.3
Non-metallic minerals	78.3	77.0	20.1	22.4	1.9
Chemicals	79.9	89.3	14.0	16.6	1.0
Mechanical engineering	71.0	75.1	9.4	9.6	- 1.6
Vehicles	82.4	89.8	14.5	17.3	- 0.7
Food, drink and tobacco	87.1	95.4	22.8	19.9	- 3.2
Textiles	60.9	67.6	10.0	10.0	- 3.0
Paper, printing and publishing	88.3	71.8	9.6	8.0	- 1.5
Other	61.5	72.5	10.3	11.8	- 2.5

Sources: ISTAT; Svimez.



ECONOMY

0 100 200 km

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Other activity codes

- |   |               |   |                        |
|---|---------------|---|------------------------|
| I | Industry      | E | Education — Research   |
| A | Agro-Industry | D | Defence                |
| T | Tourism       | L | Electronics            |
| / | Textiles      | M | Motors                 |
| O | Oil           | X | Distribution — Freight |

Forestry

Fisheries and aquaculture

- Fish farming
- Fishing ports

Urbanized areas

LEGEND

Agriculture

- Market gardening, horticulture
- Intensive agriculture
- Malleable agricultural areas
- Marginal zones

The performance of the industrial sectors in the Mezzogiorno must be analysed with respect to the whole of Italy. In the 1980s, the manufacturing sectors increased their share of national production, but productivity levels remained below the national average. In all sectors, except metals and chemicals, the decrease of employment favours increases in productivity.

The higher specialization of the Mezzogiorno, with respect to national production, is in non-metallic minerals (22% in 1990), food (19.9%), vehicles and chemicals (17%). The first two of these sectors are traditional, based on a fabric of SMEs and not export-oriented. The vehicles and chemicals sectors, on the other hand, depend largely on direct investment and are part of international companies.

In general, the traditional sectors (textiles, food, non-minerals), characterized by a small scale, have lost out in terms of their employment shares or productivity, while the larger-scale sectors (metals, chemicals, vehicles) have succeeded in following the national trend of productivity and maintaining a sufficient level of competitiveness, due principally to their external control and management and a high level of State support.

In geographical terms, the Adriatic axis has been favoured in its industrial growth by the combination of capital-intensive external firms and traditional local firms (see map, 'Economy'). In the Tyrrhenian axis, the recovery of the capital-intensive firms has not been coupled with a strengthening of the SMEs; moreover, the strong

historical concentration of industry along this axis (in Naples, Palermo and Catania) has increased the difficulties of decentralization and aggravated the social and entrepreneurial conditions.

### Greece

In Greece, employment in manufacturing increased steadily during the 1960s and 1970s, from very low initial levels up to a level of 22% of total employment. This share of 22% is lower than the share of the most advanced industrial countries and it is much lower than the peaks reached by these countries in the late 1960s, before the restructuring and tertiarization processes of the last two decades.<sup>1</sup>

During the 1980s, the share of employment in the manufacturing sector in Greece did not rise; most new jobs were created by the service sector and only very few by industry.<sup>2</sup>

At a more disaggregated level (see Table 2), the situation in Greece is very similar to that in the Mezzogiorno. The mechanical engineering sector, in particular, in Greece is very weak. We see again that in traditional sectors (textiles, food) the share of value-added is relatively high,

<sup>1</sup> It should also be considered that, within this 22%, there is a substantial proportion of very small firms operating at a family and artisanal level, which are not really engaged in manufacturing activities proper.

<sup>2</sup> The contribution of the manufacturing sector in terms of value-added to Greek GDP has followed a similar trend.

TABLE 2. Industrial activity by sector in Greece

	Productivity (EC = 100)	Value-added (manufacturing = 100)
	1985	1985
Food, drink and tobacco	16.3	20.4
Textiles	14.3	16.1
Metals and metal products	16.3	12.8
Chemicals	22.7	8.8
Non-metallic minerals	11.0	7.3
Vehicles	14.5	7.0
Petroleum and coal	39.0	3.3
Mechanical engineering	13.0	1.6

NB: Productivity in plants with more than 20 employees.



though productivity levels with respect to the EC averages are extremely low. Chemicals is, in fact, the only large manufacturing sector in Greece where productivity is over 20% of the EC average.

### **Central Mediterranean industry: the requirement of a sustained growth in output**

The employment trend in Greece, although unsatisfactory, was much better than in the Mezzogiorno, where absolute levels of employment were not maintained. However, the counterpart of this positive performance was a relative deterioration of productivity levels.<sup>1</sup>

In the Mezzogiorno, therefore, productivity levels were improved through a narrowing of the manufacturing base, while in Greece employment levels were maintained at the expense of a radical deterioration of productivity.

The major difficulties that have arisen are due to the fact that both of these outcomes are undesirable in developing regions. What is actually required is a prolonged period of sustained productivity and employment growth brought about by a sustained growth of output. This was the pattern of growth prevailing in most industrial countries in the 1950s and 1960s when world demand was buoyant. It is also important here to note just how important an environment of fast growth of world demand is for developing countries.

The lowering of productivity levels in Greece in the 1980s was the result of an abnormally low level of investment and lack of political will to preserve employment levels regardless of the economic health of firms. The structural evolution of the manufacturing sector, in this context, was not positive. Greek industry is specialized in traditional production, mainly textiles and clothing, in processing agricultural products, and in raw materials, minerals and petroleum products.

However unsatisfactory it may appear, this model of specialization is quite common to developing countries. Yet a dynamic economy is able to achieve high rates of technical progress in the traditional sectors and, at the same time, to shift gradually the structure of comparative advantages. This was not the case in Greek industry in the 1980s: technical progress was very slow, and the structure of manufacturing was unchanged.

<sup>1</sup> The annual rate of growth of productivity in manufacturing in the 1980s was 3.2% in EUR 7, while it was negative at a rate of -0.21% per year in Greece.

The possibility that present trends in employment and productivity growth will continue leads to a pessimistic conclusion for the future of the central Mediterranean area. There is no genuine economic development for an area as vast and as populated as the central Mediterranean without the growth of a large and competitive industrial sector. Moreover, the completion of the European market, in a context of low and deteriorating competitiveness, can only be a further disadvantage for this area.

### **2.1.3. The anomalous growth of the tertiary sector**

Why do we say that the central Mediterranean area has been characterized by an 'anomalous' growth of the tertiary sector?

We judge the growth of the service sector as anomalous with respect to the size and efficiency of the tradable sector. An imbalance in the economic structure between tradables and non-tradables leads to a pattern of economic development which is not self-sustaining in the long run but depends on external sources of financing.

We speak, therefore, of the excessive growth of the tertiary sector in the central Mediterranean area with a precise reference to its narrow industrial base and to its extremely low level of efficiency and competitiveness.

The service sector is very heterogeneous, composed of various branches which play a different role in the dynamics of the economic system. Some branches of this sector are part of the 'tradables', directly contributing to the external balance. The shipping sector and tourism are important examples of this type of service for the central Mediterranean. Together with emigrants' remittances, they have in the past been a crucial contribution towards reducing the trade deficit of the area. However, they have been gradually losing this capacity.<sup>2</sup>

The capacity to cover the trade deficit by a surplus in invisible trade has thus sharply diminished, revealing the intrinsic weakness of a pattern of growth based on a non-competitive manufacturing sector.

<sup>2</sup> Emigrants' remittances have been steadily declining because of the fall in the emigration flows since the 1970s: the shipping sector is suffering problems of deteriorating competitiveness: tourism — as we have already seen — is also passing through a phase of poor performance after a prolonged period of growth.

Other branches of the service industry are part of the protected sector. This does not imply that they do not play an important role in economic development but simply that they should grow in line with the tradable sector if the viability of the system is to be maintained.

Employment has grown fast in the central Mediterranean area in those branches of the tertiary sector which are a function of disposable income and of private consumption (retail trade for instance). This expansion has been supported largely by the high level of external transfers. Since consumption has grown faster than endogenous production, employment in these branches has increased somewhat independently from the productive system.

Employment growth in some service industries has been enhanced by the structural weaknesses of the system. The small size of firms in all sectors has favoured an artificial swelling of the distribution system; the weak capacity to create 'productive' jobs in industry has favoured the growth of precarious self-employment in certain services as the only alternative to open unemployment. Employment has also grown rapidly in the supply of social infrastructure, reflecting the efforts of the State to cover the wide gap that exists in this field relative to other parts of Europe.

The combined result of these trends has been a sharp increase in the employment and value-added share of the service sector in the central Mediterranean area. However, a clear distinction must be made between the Mezzogiorno and Greece.

In the Italian Mezzogiorno, the rise in the employment share of the service sector has been impressive: it has reached 43% for private services and 22% for public services. It should be clear that an economic system with 65% of people employed in the service sector and 13% in the manufacturing sector can sustain itself only with a continuous inflow of external resources.

In Greece the process of tertiarization started later than in the Mezzogiorno and it has not gone as far. The share of 30% for 1990, however, still remains significantly lower than the relative shares in advanced industrial countries. The same is not true of the employment share in public services which has risen to 20%, close to the figure in the advanced countries in Europe.

#### **2.1.4. The heavy hand of inefficient State intervention**

An important contribution to the growth of employment in the tertiary sector has been given by the increasing presence of the State in the economic system of the central Mediterranean area through its direct intervention in productive activity and through its role in the redistribution of resources. In developing areas, the impulse for this heavy State intervention is always very strong, and the central Mediterranean is no exception.

There is, first of all, a great inadequacy in the endowment of basic economic infrastructures which represents a serious obstacle to the take-off of the economy. There are the shortcomings of a weak private sector and the belief that the State, either through direct intervention or through the provision of financial incentives, can obviate them. There is, finally, a wide gap with the advanced countries in the provision of a welfare system and in social infrastructure, and together with this shortcoming, strong popular pressure to reduce the disparity.

The increase in the level of State intervention is therefore motivated by the real needs of both the economic system and the population. State intervention has the ambition of 'accelerating' the process of development.

The difficulty is that however legitimate this ambition, it runs the grave risk of failure, and of producing serious imbalances in the economic system for at least two reasons.

Firstly, the aim of a 'real convergence' may be incompatible in the short run with the aim of 'nominal convergence'. In other words, an increase in public expenditure that is out of line with increases in revenue is bound to produce a fiscal crisis for the State. This is exactly what has occurred in the central Mediterranean area.

Secondly, the success of State intervention depends crucially on the efficiency of the public administration. Unfortunately, in the late-developing countries, the public sector fully reflects the weakness of the private sector. The 'efficiency' in the use of public resources is extremely low and the quality of services is unsatisfactory, even when expenditure is perfectly adequate.

The popular disaffection towards State intervention and the spread of the belief that 'private is beautiful' is therefore the consequence both of the financial difficulties faced by the State and of the grave misuse of resources.

The 'anti-State wave', however, evades the real issue which is not, for the central Mediterranean area and for developing countries in general, to have 'less State' but to have a 'better State': the correct solution to this problem of the role and activity of the State in the central Mediterranean is at the very core of an amelioration of the economic and social problems of the area.

#### **2.1.5. Into the 1990s: a continuation of current trends would lead to increasing marginalization**

The pattern of growth we have thus far analysed has determined the evolution of sectoral employment and value-added in the 1980s. Evolution in the 1990s will be determined partly by long-run trends and partly by the model of development which prevails over the present decade.

The trend for agricultural employment to fall in both absolute numbers and as a share of employment will continue in the 1990s. The pace of this fall may be slowed or quickened by the rhythm of growth of the other sectors but the direction of the long-run trend can be taken for granted. The room for this decline is very wide in most Greek regions; it is smaller but still significant in the Mezzogiorno. The fall in agricultural employment in both regions will be a source of additional labour supply for the other sectors.

The share of agricultural value-added in GDP will also fall in the 1990s; however, the absolute level may either rise or decline depending on the level of productivity growth: there is plenty of room for technical improvements given the extremely low initial levels of productivity and the high share of the labour force employed in agriculture, especially in Greece. The real challenge is whether the inevitable process of contraction of this sector will be characterized by abandonment of the land or by an economic restructuring in the capitalist sense.

The growth of employment in the public sector is likely to be rather slower than in the recent past. In the 1970s and in the 1980s the share of employment in public administration in the central Mediterranean grew rapidly enough to close the gap with the rest of the EC. However, the fiscal crisis faced by the State in both the Mezzogiorno and Greece will represent a serious disincentive to further growth in the level of public sector employment. The privatization process under way in the two countries may, at the margin, also shift employment to the private sector. We may additionally hope that increasing efficiency in the public administration will

lead to a measure of productivity growth and increased efficiency.

The dynamics of employment in private services will be different in the two central Mediterranean regions. Greece is passing through a transition phase from an agrarian society to an advanced tertiary society. The share of private services is still very low relative to standards in the rest of the EC. The process of development will inevitably lead to its gradual increase, though this is a long-run phenomenon. The model of tertiarization will be of 'European type' in continental Greece, while in the islands it will be characterized by the prevalence of tourism.

The Italian Mezzogiorno is no longer an agrarian society; it has already reached the stage of full tertiarization of the economic system. The room for further increases in the share of private services is therefore more limited. The future of this sector will depend mostly on the pattern of growth of the system as a whole. Should the stagnation of industry continue and/or the external transfers be reduced, employment in private services will grow mainly as marginal, precarious and unreliable self-employment. If, on the contrary, significant industrial development takes place, the private sector may absorb a greater share of labour supply in branches directly or indirectly linked to productive activity.

Ultimately, the opportunity to change the pattern of growth in the central Mediterranean area will depend entirely on the capacity to promote genuine industrial development and a more organized supply of facilities and services for the tourism sector.

For the Mezzogiorno, a scenario 'without success' would be characterized by the following elements: industrial stagnation, a cut in net transfers, slow employment growth in public administration and 'residual' growth in private services, rising unemployment, renewal of emigration flows to the north of the country, social and political instability and a widening of the existing income gap relative to the rest of Europe.

For Greece, a scenario 'without success' would imply that the labour supply to the non-primary sectors (natural growth plus the fall in agricultural employment) would either be absorbed by the tertiary sector or become unemployed. Since the room for increase in private services is large and the natural growth of labour supply is low, imbalances in the labour-market should be less important than in the Mezzogiorno. In this context,

however, the fiscal crisis of the State would be exacerbated, the external constraints would become tighter and tighter, and the dependence on EC and other transfers from abroad more rigid. The 'distance' from the rest of Europe would become greater.

## 2.2. Sectoral analysis

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### 2.2.1. Introduction

In all, 34 out of every 100 inhabitants in the central Mediterranean work which is far less than the 42 inhabitants out of every 100 that work in EUR 7.<sup>1</sup> In 1989, output per person employed in the area was 60% of that in EUR 7.

The central Mediterranean region is therefore of little importance to the Community's economy and its position *vis-à-vis* other European countries is disadvantageous.

The agricultural sector in the central Mediterranean is relatively large, accounting for 20% of EC employment and 15% of EC value-added in this sector (see Graph 1). However, central Mediterranean agricultural production per employee is only 54% of that of EUR 7 (Graph 3).

Other sectors have a minimal share in the Community's economy, in comparison with the population share of the central Mediterranean (9%). In relation to the EC average, the EC share of employment in all sectors is higher than that of output.

A close examination of sectoral employment rates<sup>2</sup> allows a comparison to be made between the activity levels of the area and those in the more advanced regions of Europe, and is useful in explaining the value-added and employment composition.

In the central Mediterranean more than six inhabitants in 100 work in agriculture (see Graph 2). This compares with the EUR 7 average of only two.

The share of the population employed in manufacturing industry (5% in 1990) is half that of EUR 7. Employment rates in the service sector are also much lower than those of the industrialized countries: private services employ 13 out of every 100 inhabitants against 18 in EUR 7 and public services employ seven against nine in EUR 7.

The largely agricultural vocation of the central Mediterranean is therefore accompanied by a limited productive base in other sectors.

The level of industrialization is half that of the developed countries. In the service sector, which has more than half of total employees, the employment rate and the relative productive capacity are far lower than those in the more advanced countries.

#### 2.2.1.1. The central Mediterranean economy

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##### **Sectoral value-added**

###### *Agriculture*

Agricultural production in the central Mediterranean continued to decline throughout the 1980s. This decline, however, seems lower than that of the previous decade (see Graph 1).

The most significant figure, however, is the size of the agricultural sector in the central Mediterranean which at 8.5% of total value-added accounted for three times the Community average (3%) in 1990.

###### *Manufacturing*

During the 1980s, the share of value-added in manufacturing<sup>3</sup> stabilized while the relative share in construction declined. Overall, the central Mediterranean industrial sector accounted for around 27% of total production, more than 6 percentage points below the Community average.

The decline in the construction sector however, which was greater in the Mezzogiorno than in Greece, is the result of a cyclical trend and reflects a slow-down of urbanization within the region.

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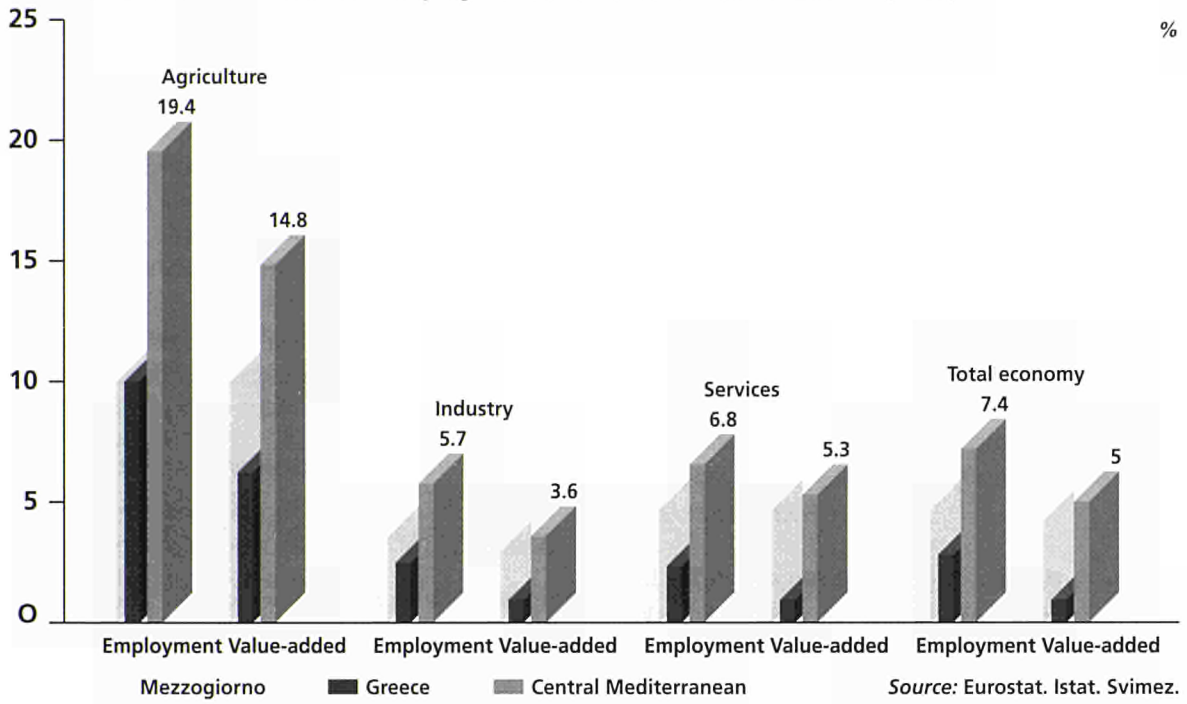
<sup>1</sup> We have chosen to use the aggregate EUR 7 to highlight the productivity gap existing in relation to industrialized countries. In any case, available data for EUR 12 do not allow for the same elaborations presented for EUR 7.

<sup>2</sup> Relation between the number of people employed per sector and total population.

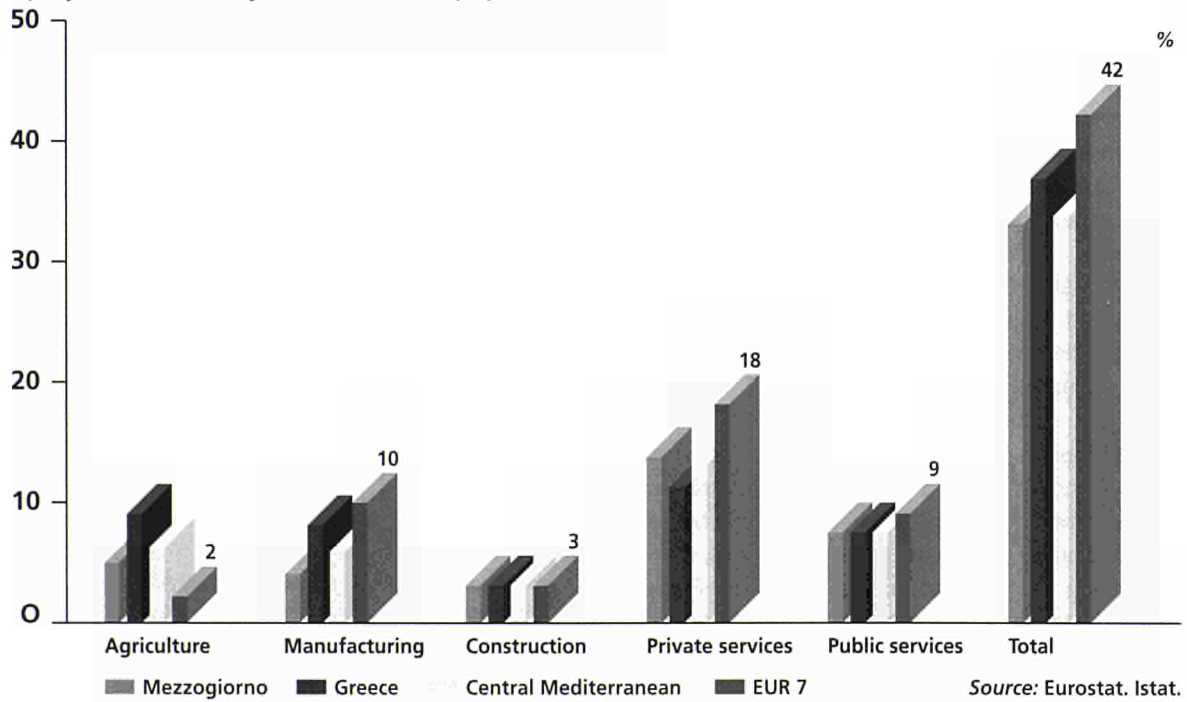
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<sup>3</sup> Analysing the value-added shares at current prices reduces the manufacturing share, due to unfavourable price trends relative to traditional industrial sectors in which the central Mediterranean is specialized.

**Graph 1.**  
Shares of central Mediterranean employment and value-added on EUR 12 (1989)



**Graph 2.**  
Employment shares by sector on total population (1989)



## Services

Services grew by 2% per year over the 1980s, maintaining values above the Community average. If, however, growth in services is compared with total population, the Community figures are substantially higher.

The most important characteristics of the tertiary sector are:

- (i) premature tertiarization with respect to the development of industry;
- (ii) higher employment in services at the beginning of the 1980s, in both the private and the public sectors;
- (iii) a sharp slow-down in private services in the last decade, which underlines the difficulties in the adjustment of the economy, especially with regard to innovative production services;
- (iv) the high employment level in public services which is even more significant when compared with the decline in this sector in the EC.

The most important differences in value-added between Greece and the Mezzogiorno are:

- (i) the agricultural share is higher in Greece than in the Mezzogiorno (15 versus 6.5%);
- (ii) services, and especially private services, hold a greater share of output in the Mezzogiorno (50%, as opposed to 38% in Greece);
- (iii) the share of value-added in manufacturing in Greece (22.4%) is 4 percentage points higher than that in the Mezzogiorno. It has however declined over the last few years while that of the Mezzogiorno has remained constant throughout the decade.

The transformation from an agricultural economy to a service economy without a strong intermediate phase of industrialization is common to both the central Mediterranean regions; this process, though analogous, is more advanced in the Mezzogiorno than in Greece. Furthermore, industry in the Mezzogiorno is more competitive than in Greece, even though it occupies a lower proportion of the total economy.

## Employment

The main conclusions that can be drawn from this section confirm the findings of the previous section, as far as the main trends of the 1980s are concerned:

- (i) the diminishing importance of agriculture and construction;
- (ii) the unsatisfactory performance of manufacturing;
- (iii) the rise of the service sector, both private and public.

## Agriculture

In the central Mediterranean employment was halved between 1970 (34.2%) and 1990 (18.7%). It is however still double the average for EUR 12 (7%).

In the 1980s, agricultural employment decreased at a slower rate than in the preceding decade, mostly because of a slow-down in this trend in Greece. It is important to bear in mind that this sector is affected by a high degree of concealed unemployment, and that seasonal fluctuations are higher than in other countries.<sup>1</sup>

## Manufacturing

Employment in this sector in the central Mediterranean decreased between 1970 (17.6%) and 1990 (15.6%). This decrease was the result of two different patterns in Greece and the Mezzogiorno: in Greece employment increased, while in the Mezzogiorno it decreased.

Employment in the construction sector decreased considerably over the 1980s, although in 1990 the percentage of employees in this sector was still higher than the Community average (6.9%).

## Services

Employment in services has increased by 20% over the last two decades, from 37% in 1970 to 57% in 1990. This percentage is now close to the EC average (60%).

In 1990 the private services employment share (37%) was still below the Community average (41%). Employ-

<sup>1</sup> In 1991 there was a slight increase in agricultural employment in the Mezzogiorno (0.3%); this does not contradict the long-term tendency of a decrease in agricultural employment, but it reinforces the importance of the agricultural sector as a market for 'residual' employment when other sectors are not absorbing much labour.

ment in public services in the area reached the Community average in 1980 (17.5%) and followed the same pattern over the 1980s.

### Sectoral employment differences between Greece and the Mezzogiorno

Greece has a higher proportion of employees in agriculture (24 versus 16%) and in manufacturing industry (21 versus 12%).

In the Mezzogiorno, with respect to Greece, employment is more highly concentrated in the service sector (62 versus 48%), both public and private, and in construction (9 versus 7%).

There is a similar sectoral trend in the two regions, but in the Mezzogiorno the phenomena seem to appear about 10 years earlier than in Greece.

Over the last 10 years the course of sectoral changes in employment levels has been the same for both Greece and the Mezzogiorno, but their intensity has differed in some cases:

(i) in Greece the decline in agricultural employment was relatively less steep;

(ii) in manufacturing, employment in Greece remained stable, while in the Mezzogiorno it decreased considerably;

(iii) in construction, Greece reduced its employment levels more;

(iv) Mezzogiorno's employment levels in private services increased more than in Greece;

(v) public service sector growth was similar in both regions, with the Mezzogiorno's share remaining higher.

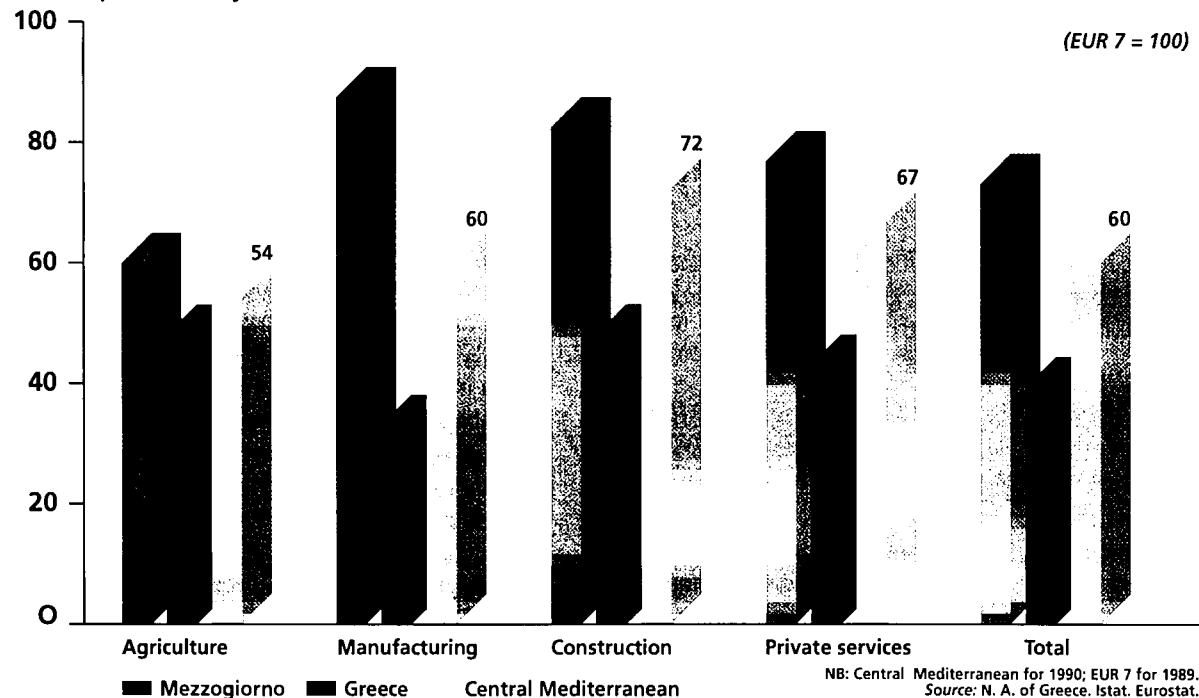
### Productivity

In 1990 total production per employee in the area was 60% of that of EUR 7.

The greatest shortfall is in agricultural production (54%), while the construction sector is the only one in which per capita output exceeds 70% that of EUR 7.

There are marked differences in productivity levels within the central Mediterranean area: in the Mezzogiorno output per employee is twice as high as in Greece. This difference is present in almost all sectors, and is greater in the manufacturing sector where it reaches a proportion

Graph 3. Labour productivity, 1990



**TABLE 3. Annual average of the rate of growth of value-added, employment and productivity, 1981-90**

	Agriculture	Manu- facturing	Construction	Private services	Public services	Total
(%)						
<i>Mezzogiorno</i>						
Value-added	- 1.50	3.31	0.76	3.46	1.85	2.51
Employment	- 2.37	- 1.24	- 1.17	3.60	2.01	0.99
Productivity	0.87	4.55	1.93	- .15	- .17	1.52
<i>Greece</i>						
Value-added	- .49	1.17	1.01	2.73	2.39	1.65
Employment	- .86	1.38	- 2.18	3.36	3.37	1.36
Productivity	0.38	- .21	3.20	- .63	- .98	0.29
<i>Central Mediterranean</i>						
Value-added	- 1.13	2.62	0.97	3.30	1.98	2.29
Employment	- 1.73	- .03	- 1.48	3.54	2.47	1.11
Productivity	0.60	2.66	2.45	- .24	- .49	1.18
<i>EUR 7<sup>1</sup></i>						
Value-added	2.03	1.42	0.31	3.45	1.16	2.25
Employment	- 2.34	- 1.75	- 1.02	1.90	1.21	0.29
Productivity	4.37	3.17	1.33	1.55	- .04	1.97

NB: Mezzogiorno includes Sardinia.

<sup>1</sup> EUR 7 = B, DK, D, F, I, NL, UK; 1980-89.

Sources: Eurostat; ISTAT; Svimez; national accounts of Greece; labour force survey of Greece.

of almost three to one. In the past decade the dynamics of production have increased the productivity shortfall of the area with respect to the more-developed regions of Europe.

Total productivity growth in the central Mediterranean area has been 1.2% annually, just over half the percentage growth in EUR 7 (see Table 3).

Only in the construction sector has the increase in productivity in the central Mediterranean surpassed that in EUR 7. This was due to a massive reduction in employment (- 1.5%).

The greatest lags in productivity in the central Mediterranean were in the agricultural and private services sectors. In the former, productivity grew in the past decade by only 0.06%, while in EUR 7 it grew by 4.4%; in the

latter, productivity in the central Mediterranean decreased by 0.2%, against an increase of 1.6% in EUR 7.

There were some significant differences in productivity trends between Greece and the Mezzogiorno.

- (i) In the Mezzogiorno total productivity growth was five times that in Greece, which was negligible.
- (ii) In the manufacturing sector productivity grew considerably in the Mezzogiorno (+ 4.5% per year), as a result of a fall in employment levels, overtaking the growth rate in EUR 7; in Greece it diminished (- 0.2% per year).
- (iii) Greece's performance in productivity growth was positive only in the construction sector, where productivity grew by 3.2% per year and employment decreased by 2.2%.



- (iv) In the service sector, both public and private, productivity per employee in both Greece and the Mezzogiorno decreased; this was largely due to the considerable growth in employment (over 2% annually).

An analysis of productivity highlights some general characteristics of the central Mediterranean.

- (i) The shift of employment from agriculture to services slows down productivity growth.
- (ii) The agricultural sector is not gaining in productivity from the reduction in employment.
- (iii) The manufacturing sector is suffering the effects of competition and is consequently conforming to international conditions more rapidly than the other sectors, thereby increasing its productivity.<sup>1</sup>
- (iv) Finally, in the central Mediterranean there is low value-added in the service sector which absorbs employment in excess of its productive capacities.

The tertiary sector is 'fed' by public spending, and is thus also protected from external competition. As for the manufacturing sector, European integration may bring a considerable restructuring of private services in the area, and a growing foreign presence in the more innovative services for production.

### ***Manufacturing productivity and new technologies***

The low productivity performance of the manufacturing sector in the central Mediterranean has been conditioned by a low capacity for technological innovation.

The conditions required for successful technological innovation are a well-trained and qualified labour force, good endowment of communications and telecommunications services, supply of advanced and research services, and the availability of venture capital. These are all very poor in the central Mediterranean areas.

In Greece the low levels of productivity are coupled with the structural problems of adjustment to prevailing inter-

<sup>1</sup> In the Mezzogiorno, in this sector in particular, the influence of external competition is felt more than in Greece and productivity is following the trends of northern Italy. In Greece there was no significant productive adjustment during the 1980s and consequently privatization and the restructuring of the manufacturing sector have only recently begun.

national conditions, particularly in the field of promoting investment in new technology.

Most branches of manufacturing had low investment levels during the 1980s, especially clothing and footwear, wood and furniture, and machinery and electrical supplies. Textiles, the second most important branch of manufacturing, also fared badly, especially in the second half of the decade.

There were, however, some 'manufacturing successes' in the 1980s. A number of firms in sectors such as food and drink, and office furniture sustained rapid and stable growth through the introduction of new technologies and modern management methods. Furthermore, in the related business services sector, there was during this decade a significant growth of very successful firms.

Despite the fact that there were some successes, it is clear that the general economic climate (economic crisis, shortage of funds and high interest rates, etc.) and low average skill levels of the labour force were not conducive to the very large investments and business reorganization and restructuring that the adoption of new technologies require.

In the Mezzogiorno the level of investment in the manufacturing sector has been higher than in Greece in recent years, but the capacity for technological innovation has been very weak. Two specific reasons explain this poor performance: the low level for public and private expenditure in R&D and the high level of capital incentives.

The expenditure in R&D in Italy remains concentrated in the north. In 1988, the total expenditure (private and public) in R&D in the Mezzogiorno amounted to only 6.6% of national expenditure.

The high level of incentives for investment (30% of the total cost in capital incentives and 30% in interest incentives) leads enterprises to buy new capital, instead of promoting internal innovation.

In addition, the technological programme supported by the Community does not have much impact in the central Mediterranean, because the greater part of the resources are allocated to the more advanced countries, where there are more research infrastructures and advanced enterprises.

The definition of a specific programme to develop technological research and innovation in the central Mediter-

anean thus remains a key policy objective, but it must be linked to a more general policy of reinforcement of infrastructure, and the provision of an environment that is conducive to technological innovation.

#### 2.2.1.2. The regional economy: increasing divergence between dynamic and underdeveloped areas

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##### **Sectoral transformation**

In the transformations which took place between 1981 and 1988 in the individual regions' of the central Mediterranean there were some interesting exceptions to the general trends.

The reduction in the share of agriculture in total output is diffused throughout all the regions of the Mezzogiorno but the reasons for this decline differ:

- (i) the considerable decline in agriculture in Abruzzi was due to the growth of the manufacturing sector (+ 5%) while services remained stagnant;
- (ii) the agricultural decline in Calabria took place together with a more marked decline in manufacturing industry (- 9.5%) and was compensated for by growth in services (+ 9.5%);
- (iii) in general in the regions where the relative share of the manufacturing sector increased, services remained stable (Molise, Puglia), whereas in regions where manufacturing remained stable, or declined, the share of services increased. This reveals the compensation or stabilization nature of services, induced mainly by public intervention.

In the Greek regions there were contrasting trends. Some regions stabilized their share of value-added in agriculture (north-east, central, Attica) while there was a marked decline in others (west, islands, Crete).

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<sup>1</sup> For the Mezzogiorno we have used the administrative regions (see map 'Administrative areas and topography'), while for Greece we have used the following NUTS 2 regional aggregations:  
West = Epirus + Ionian Islands + west central Greece + Peloponnese;  
North-east = East Macedonia and Thrace + central Macedonia + west Macedonia;  
Central Greece = Thessaly + east central Greece;  
Islands = Northern Aegean + southern Aegean;  
Crete;  
Attica.

In the former, the more-developed regions encountered increasing difficulties in the development of other sectors or they improved agriculture by integrating it into the food production sector. In the second case, however, regions with a strong tourism potential turned their economies towards the service sector.

In the manufacturing sector it is the Italian regions which show the greatest differences.

The regions of Abruzzi, Molise and Puglia increased their manufacturing shares considerably (more than 3%) while those in Calabria fell by almost 10%. The Adriatic axis of the Mezzogiorno's industrial development was thus reinforced.

In the growth of private services there are two prominent regions: the islands for Greece (+ 10.3%) and Calabria in Italy (+ 9.5%). In the first case this growth seems to be due to an increase in tourism while in the second it seems to result from a deterioration of other sectors and an increase in public spending.

The growth of the share of value-added in public services is considerable in the most backward regions of Italy: Basilicata and Calabria. In Greece this phenomenon is more diffused and only in Attica is there a reduction in the value-added share of public services.

##### **Employment**

At the regional level, there were also significant variations in employment trends.

- (i) The reduction in agricultural employment is higher in the Adriatic regions of the Mezzogiorno, where manufacturing employment is actually higher (especially in Abruzzi).
- (ii) Agricultural employment was stable at about 20%, (5 percentage points above the average) in the less-developed regions such as Calabria and in the smaller and more rural regions without large urban centres (Molise and Basilicata).
- (iii) In Greece, the biggest reduction in agricultural employment was in the islands, where 1981 levels were halved (32%), the employment difference all going to tourism (+ 18%).
- (iv) The west, north-east and central Greek regions have more than 80% of total agricultural employment, and the reduction in their agricultural employment shares

has been close to the country's average. These regions still have a very high proportion of total agricultural employment, 30% in the north-east, 37% in central Greece, and 45% in the west.

- (v) The reduction of agricultural employment is slightly higher in central Greece, where private services increased considerably. This would indicate that this region is starting to become more fully integrated with the more advanced areas of the country, Athens and Thessaloniki.
- (vi) Manufacturing employment in the central Mediterranean area is concentrated in only a few regions: Attica has 44% of its country's total employment in this sector; Campania, Puglia and Sicily together have almost 70% of total employment (production shares are similar).
- (vii) In Campania and Sicily, the share of employment in manufacturing declined more than the average, as a result of a decline in general employment due to the restructuring of the chemical and industrial poles which in the last decade accelerated.
- (viii) The Adriatic regions, Abruzzi and Molise, increased their manufacturing employment.
- (ix) In Greece, the changes in the employment levels in the manufacturing sector in the north-east and centre (+ 2%) and in Attica (- 35%) indicate a strengthening of industrial development along the Athens-Thessaloniki axis, and the beginning of a process of decentralization from Athens.
- (x) The growth of employment in the service sector is uniformly divided in the Mezzogiorno area, while in Greece it is concentrated in Athens (almost 50% of national employment in services).

## 2.2.2. Agriculture

### 2.2.2.1. Utilization of agricultural terrain

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In 1989, the cultivable land of the central Mediterranean amounted to a total of 10 221 ha, the equivalent of 45% of the total central Mediterranean land area, and 8% of the total land area available in the Community.

In the last decade, the total cultivable land area within the central Mediterranean remained virtually constant in Greece, whereas in the Mezzogiorno there was a loss of 4.5%. The corresponding decrease for the Community

as a whole was 7.3%. The abandonment of vast areas of cultivable land is a serious problem for the Mezzogiorno and it has yet to be dealt with adequately in terms of environmental protection.

### 2.2.2.2. The structural evolution of agriculture: a slow process

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The slow pace of modernization in agriculture is due to many factors which can be summarized as follows.

- (i) The existence of unproductive agriculture areas together with a lack of adequate infrastructures to counterbalance this disadvantage.
- (ii) Low diffusion of pluriactivity (agriculture combined with other activities in the secondary and tertiary sector) in a productive framework too weak to develop the productive and business synergies necessary for the success of this type of organization.<sup>1</sup>
- (iii) In Greece, the lack of reform of existing complex land property rights not only hinders the growth of farm size, but also impedes the process of obtaining reliable estimates of rented land area.
- (iv) In the Mezzogiorno, a tradition of large estates has, until recently, restricted the development of a productive middle class and the creation of independent enterprises in rural areas.

These 'structural' elements are often accompanied by national and Community policies that are not able to support most productive activities.

In the last 10 years, the Mezzogiorno has seen a greater decrease in employment than in agricultural land use, creating an increase in the area's hectare/employee ratio. In Greece, where the cultivable land area has remained constant, there has also been a similar reduction in employment leading to an increase in the hectare/employee ratio.

At the end of 1989, the hectare/occupant ratio was 3.9 in Greece (3.2 in 1980) and 6.4 in the Mezzogiorno (5.1 in 1980), values that are much lower than the EC average of 14.3.

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<sup>1</sup> In northern Italy, multiactivity in areas with strong frameworks of small and medium-sized enterprises has encouraged a slight increase in income/revenue.

NOMENCLATURE OF TERRITORIAL UNITS  
FOR STATISTICS (NUTS) LEVEL 2



DEFINITION OF REGIONS



**TABLE 4. Agriculture productivity: percentage growth in the 1980s**

	Mezzogiorno	Greece
Gross tradable production	1.5	5.1
Agriculture used area	- 5.5	- 0.4
Employment	- 16.3	- 17.9
Gross tradable production/employment	17.8 (100%)	22.9 (100%)
Gross tradable production/agriculture used area	7.0 (39%)	5.4 (24%)
Agriculture used area/employment	10.8 (61%)	17.5 (76%)

NB: Period 1988-89/1981-80 for Greece; period 1989-90/1981-82 for the Mezzogiorno. Mezzogiorno includes Sardinia.

Sources; Greek Ministry of Agriculture (1980-89); census of agriculture for Italy (1982-90).

Despite the strong reduction in agricultural employment in the central Mediterranean, there has only been a slight improvement in labour productivity as compared with that in other EC countries, especially central and northern Europe.

In agriculture, the output/employee ratio for the central Mediterranean region in 1990 was equal to 50% of that in EUR 7 and the increase in the productivity level in the area (+ 0.6% per year between 1981 and 1990) was less than in EUR 7 (+ 4.4% a year).

The reduction in employment contributes to the 50% increase in the product/employee ratio in both sub-areas. The technical component of productivity (represented by the output/hectare) is greater in the Mezzogiorno region than it is in Greece (see annex).

Technical improvements in the Mezzogiorno during the 1980s were the fruit of heavy investments made at the beginning of the decade. Investments in northern Italy have been directed to the reconversion of production methods and the modernization of techniques, whereas the Mezzogiorno has used financial support to improve its infrastructures (particularly irrigation).

In many cases, the irrigation and drainage works planned for the Mezzogiorno have not been completed yet, but where they have been, as in the Metapontina plain in Basilicata, a significant level of activity has developed. In the 1980s, these regions also improved pro-

duction methods and production and marketing techniques.<sup>1</sup>

A large part of the area's agriculture is aided by State and Community funds. In Greece, the share of these subsidies reached 39% of value-added in agriculture in 1989. In the Mezzogiorno, the figure was much lower, equivalent to just under 10% of value-added.

It should be kept in mind that in Greece, EAGGF support to maintain investment levels grew from 2.6% of total investment outlays in agriculture in 1982 to 45.2% in 1989. This figure could be misleading, however, as it is insufficient to offset the downward trend in capital creation in Greek agriculture, which partially explains its deteriorating competitive position.

Between 1980 and 1989, agricultural investment in Greece in fact declined in real terms at an average annual rate of 3.7%, the private sector showing a greater reduction (4.3%) than the public sector (2.7%).

In the Mezzogiorno during the 1980s, the decrease was somewhat smaller averaging 1.3% per year. During the 1970s, the Mezzogiorno maintained an investment level

<sup>1</sup> The increase in the share of intermediary foods/goods of gross saleable production (from 20% in 1980 to 28% in 1989) is another signal of the modernization process going on in agriculture in the Mezzogiorno.

of 29% of value-added compared with only 20% in Greece.

The above elements show that the central Mediterranean area is far from making the necessary improvements in terms of land productivity and farm income. Even though the Mezzogiorno appears to be in a better position than Greece in terms of the area of cultivated land per holding and hectare/employee, a deficiency is exhibited by the whole area when figures are compared with Community averages.

### 2.2.2.3. The composition of agricultural production in the central Mediterranean

The most important difference between the central Mediterranean and the rest of the Community in the various uses of cultivable land lies in the types of permanent crops grown, which are typical of the Mediterranean region (fruit, grapes, olives and other crops). Permanent crops occupy 23.5% of the total cultivable area of the central Mediterranean, as compared with only 9.4% of the Community as a whole (see annex).

The higher percentage of permanent cultivable land is however compensated for by the smaller percentage of permanent grassland which occupies 25% of agricultural land in the central Mediterranean as compared 37.6% in the EC as a whole.

The area occupied by 'arable' land (cereals) within the central Mediterranean is comparable to that of EUR 12.

In the last decade, there have been no major changes in the types of crops cultivated in the central Mediterranean area. Total cereal production has increased by 1% in real terms, and fruit production in the Mezzogiorno by 1.5%.

The central Mediterranean area provides 45% of the wheat (durum), 25% of the wine, 17% of all fruit and 50% of the tomatoes produced in the Community.

In terms of animal production, the head count is higher in Greece than in the Mezzogiorno, though at the EC level, only the number of goats is particularly significant (45% of total).

In the Mezzogiorno, forestry and fishing represented 0.5 and 4%, respectively of the primary sector's total added-value in the 1980s. In Greece, fishing constituted 2% and forestry 1.5% of agricultural GDP.

In the Mezzogiorno, (see annex, Table II.A), the most significant production levels in monetary terms are of vegetables (25.5% of the total), wine, meat and olives. In the last 10 years, floriculture has doubled in importance; production of vegetables and citrus fruits has increased, for the most part, at the expense of cereals and olives.

Agricultural products currently important to Greece<sup>1</sup> are olives, cotton, meat and milk. Cotton has doubled its share of output in the last decade; tobacco has increased by almost 20%. In cereals, particularly soft wheat (- 7.4%), and meat (- 2.6%)<sup>2</sup> there has been a reduction in the share of total production. The share of production accounted for by other Mediterranean crops, such as olives, remains practically unaltered.

The above figures illustrate a common decline in the share of livestock production. Furthermore, if general animal production were to become more intensive, the value of intermediary inputs, particularly feedgrains, would constantly increase and this would be reflected in a much larger decline in livestock value-added.

Total feedgrain production increased throughout the 1980s mainly because the expansion of corn production (332 000 tonnes) was greater than the fall in barley production (260 000 tonnes). The production of forager crops (alfa-alfa) declined by 12% (from 1 756 000 tonnes in 1980 to 1 544 000 tonnes in 1989).

These changes emphasize the repercussions of the common agricultural policy, and the direct impact of the common organization of markets on these key products.

Finally, there are Mediterranean crops that are common to the agriculture of both Greece and the Mezzogiorno and therefore place the regions in direct competition in various markets (fruit and vegetables, citrus, tobacco). Integration has taken place in certain cases, such as in the case of Greek oil where much of that produced is exported to, and marketed in, Italy.

<sup>1</sup> No data are available for Greece that refer exclusively to gross total production (GTP) in herbaceous or forager crops. It is not possible, therefore, to analyse the monetary value of individual outputs such as vegetables.

<sup>2</sup> It should be pointed out that in Greece there was a very large decline in beef production (16.5% between 1980 and 1989), whereas lamb, goat and pork production in volume terms exhibited low growth (between 0.3 and 1.9% a year).

#### 2.2.2.4. Farm size: the excessive number of smallholdings limits agricultural restructuring

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In 1989, the total number of farm holdings in the central Mediterranean came to 2 429 911, representing 28% of the Community total. In the last decade, the number of farm holdings in the area has decreased by 4.5%, with no considerable differences between Greece and the Mezzogiorno.

The total average amount of cultivated land per holding was 4.8 ha, as compared with the Community average of 14.7 ha per holding (in France and Germany, this value increases to 28.6 and 30.2 ha per holding respectively).

The excessive fragmentation of cultivable land is shown by the distribution of enterprises by size. In the central Mediterranean area, 70% of agricultural firms have less than 5 ha, whereas in EUR 12, the same size class accounts for only 49% of agricultural firms. At the other end of the scale, less than 1% of central Mediterranean firms have a cultivable land area greater than 50 ha as compared with 7% in the EC as a whole.

The ongoing process of reorganization of the primary sector has not, in fact, brought about an improvement in efficiency and the gap with north European countries remains very significant.

Within the central Mediterranean area, coastal regions can be separated from the remainder of the territory as they tend to be wealthier, more suitable for the cultivation of fruit, vegetables, and legumes, reach high levels of efficiency and productivity, and export their products to international markets.

In the inland regions, on the other hand, cultivation of cereals for livestock feed is prevalent; these areas are characterized by a level of efficiency and productivity that is lower than the European average.

#### 2.2.2.5. Regional agricultural characteristics

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##### 2.2.2.5.1. The Mezzogiorno

In the Mezzogiorno four 'types' of agricultural area can be identified following the above characteristics.

- (i) That typical of the 'internal areas' of the Apennines, characterized by subsistence production, high inefficiency and limited local markets.

- (ii) 'Small, traditional, intensive farms', situated primarily in Campania. The efficiency of this second type is greater than the average, but it is more often dependent on subsidies rather than open market competitiveness.

- (iii) The third type is characterized by both underdeveloped areas (originally large estates) and areas of higher efficiency and income which are mainly directed towards Mediterranean farming. This type is found in Puglia and in parts of Sicily.

- (iv) The region of Calabria, which appears as an independent territorial and agricultural system, characterized by large areas of mountainous agriculture and low levels of development.

##### 2.2.2.5.2. Greece

In Greece, the newly established divisions of the country into five broad regions created by the integrated Mediterranean programmes cannot provide a solid basis for measuring the ongoing regional disparities in agricultural production.

It should be pointed out that several case-studies carried out at the prefecture (or *nomos*) level (Greece consists of 51 *nomoi*) revealed important disparities in farm structure, labour productivity and farm income.

Furthermore, there is ample evidence that disparities in Greece between mountainous areas and plains were increased in the past decade, as the former exhibited a decreasing population as well as a distorted age pyramid, underlining the area's inability to adapt to a new competitive environment.

#### 2.2.2.6. Transformation of the agricultural system: low integration with industry

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The major trends in European agriculture are:

- (i) increasing specialization of farms;
- (ii) growth in capital yields;
- (iii) gradual deactivation of some internal operations in favour of increasing use of external services;
- (iv) decreasing participation of small-scale local industries in the agricultural production process;



- (v) increasing extra-agricultural income among rural families.

With respect to these Community trends, the central Mediterranean area possesses several characteristics which impede this transformation of the agricultural sector. These include the often harsh nature of the terrain, the system of organization of agricultural land, and the weakness of the existing infrastructure.

In the central Mediterranean area, the poor state of development of the agro-alimentary system, which is far below that reached elsewhere in the EC, prevents increasing integration between agriculture and other activities. The central Mediterranean is thus seen largely as a producer of primary materials for the food industry of the more-developed areas.

Value-added in the food industry relative to that in agriculture is still far below the EC average in the central Mediterranean. It is, in fact, only equal to about 30% of agricultural value-added as compared with the 100% or more reported by most European countries. Moreover, in regions such as Campania, Basilicata, and Calabria this ratio is lower still (25, 18, and 17%, respectively).

In Greece, the GDP of the agro-alimentary sector between 1980 and 1989 increased at constant prices at an average annual rate of 2.4%, approximately five times higher than the rate of growth of agricultural GDP. However, despite this high growth differential, at 34.7%, the share of the agro-alimentary sector in the GDP of the enlarged agricultural sector (agriculture plus agro-alimentary products) is still far below the EC average.

In the Mezzogiorno, the integration between primary food production and the food industry is even less than in Greece. The GDP share of foods in total agricultural production has in fact fallen by about 2% over the last five years. This is indicative of the general weakness in the organization of the agro-alimentary sector.

There are several reasons for the poor performance and weak state of the central Mediterranean agro-alimentary industry.

- (i) The property structure in this sector, which is largely represented by cooperative associations, is going through a profound crisis due to a lack of capital.

Investment levels are thus extremely low, and the urgently required and costly process of reconstruction is almost at a standstill.

- (ii) The public component of the agro-alimentary system between the 1970s and 1980s also demonstrated a great inability to renovate and to complete the investment projects needed to fend off increasing competition.

- (iii) Other limits of agro-alimentary development in the Mezzogiorno derive from the area's traditional dairy specialization, particularly in the production of fresh cheeses.

To expand to markets beyond the local borders, this specialization requires a high level of investment in organization and distribution networks. This task is, of course, especially difficult given the generally poor state of infrastructural provision, especially in the rural areas.

#### 2.2.2.7. The agricultural sector between abandonment and restructuring

The main trends in the central Mediterranean agricultural sector over the 1980s have been the following:

- (i) a negative growth of value-added;
- (ii) a decreasing employment;
- (iii) a modest increase in productivity;
- (iv) a reduction in the total cultivated area;
- (v) a pronounced fall in investment.

Together these trends have produced an overall decrease in the contribution of agriculture to GDP throughout the central Mediterranean.

The structural evolution of the agricultural sector in the central Mediterranean is extremely slow when compared with the rest of the EC, and does not point towards a reduction in the technological shortfall between the central Mediterranean and the most advanced agricultural areas of the rest of Europe. This gap is in fact increasing at present.

The central Mediterranean agricultural sector is caught between two alternatives: these alternatives in reality present a stark choice, between abandonment on the one hand and restructuring on the other. The long-run trend of falling employment is physiological and is bound to continue in the next decade. This could give rise either to a complete marginalization of agriculture, with a

progressive reduction in the cultivable land area, or to a restructuring of the sector with the development of a network of larger and more efficient capitalistic firms.

The reduction of the cultivable land area effectively means the abandonment of hill and mountainous areas, which represent a great part of the central Mediterranean territory. This abandonment could have grave feedback effects on environmental conditions in the central Mediterranean territory. An acceleration of this phenomenon may lead to a 'desertification' of large areas of the central Mediterranean.

The agricultural sector in the Mezzogiorno has already gone a considerable distance along the path of the first alternative. After the substantial failure of the land reform of the 1950s, the process of abandonment of less-fertile lands has led to huge emigration flows and to the social disintegration of vast areas of the interior, and thus to serious consequences for the geological equilibrium. Many agricultural regions still survive only because of various income support policies (more or less explicitly directed to agriculture) implemented by the State or by the Community. The progressive lowering of the degree of protection in the Community and significant reductions in the level of aid may easily lead to a further reduc-

tion of cultivated area. In the absence of an intervention policy, a continuation of the past trends will imply a further weakening and marginalization of the agricultural sector.

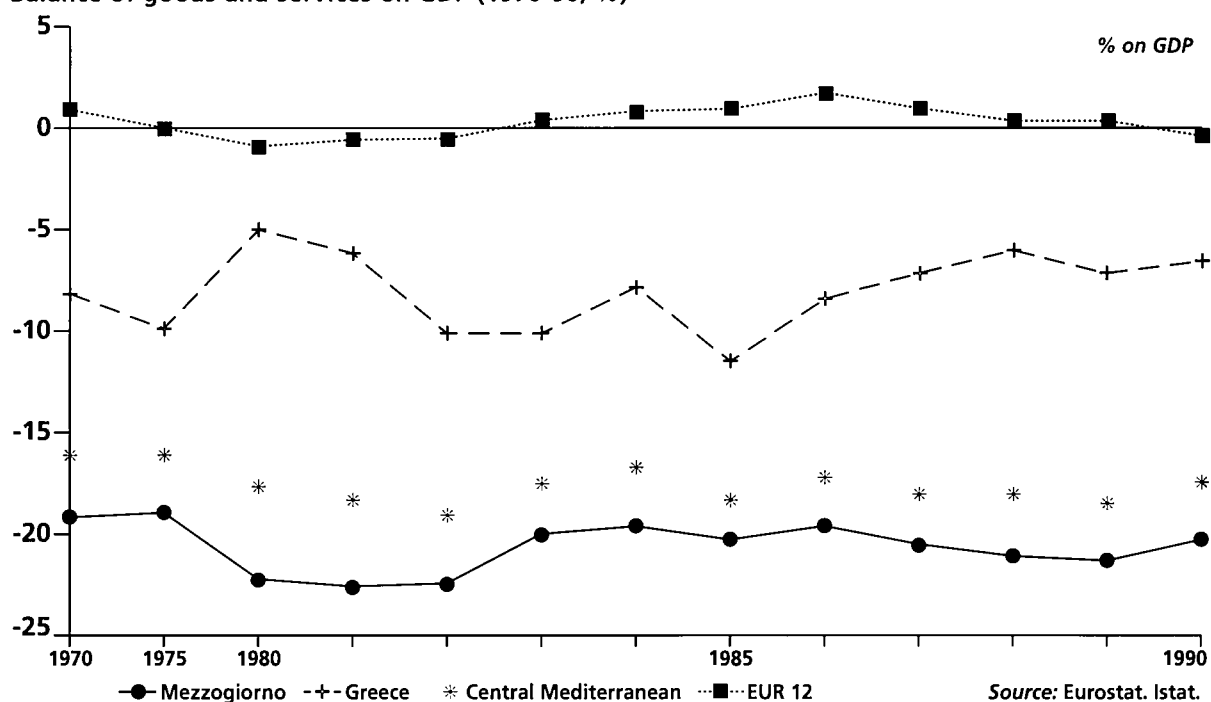
The state of agriculture in the central Mediterranean is undoubtedly weak and the level of investment so low (despite EC support) that, paradoxically, the room for productivity gains is enormous. Indeed, after the disappointing performance of the first half of the 1980s, productivity actually started to increase very quickly in the second part of the decade with a fall in employment largely exceeding the fall in production. Should this trend continue, the prospects for agricultural income appear positive, though there will necessarily be a significant loss in terms of employment opportunities.

### 2.2.3. Trade

#### 2.2.3.1. A permanent imbalance

The central Mediterranean area consumed about 18% more than it produced throughout the 1980s. This foreign deficit is not a recent development, but has been maintained over a long period of time.

**Graph 4.**  
Balance of goods and services on GDP (1970-90; %)



Patterns of international trade show large differences between the two principal regions of the central Mediterranean. Notwithstanding these differences, which largely explain the gap registered in their respective foreign deficits for goods and services (20% of GDP for the Mezzogiorno, 10% for Greece), the chief characteristics of the trade imbalances in both regions are similar:

- (i) a level of internal demand, supported over time by public expenditure, which is too high with respect to productive capacity;
- (ii) a productive specialization which is too weak to generate competitive advantages and exports in the sectors most exposed to international competition;
- (iii) insufficient competitiveness on international markets.

The persistence of these difficulties has generated a long-term foreign deficit, and has served to weaken the multiplier effects of internal demand which instead transmit themselves to the trading partners.<sup>1</sup>

#### 2.2.3.2. Financing the trade deficit

The greatest difference between the two central Mediterranean regions, in terms of their trade deficits, lies in the fact that Greece is a national State and the Mezzogiorno is not. The trade deficit of the Mezzogiorno can be divided between northern Italy, which accounted for approximately – 17% of GDP per year in the last few years, and foreign trade, accounting for roughly the remaining – 3% of the total balance.

In terms of financing the trade deficit, the implication for the Mezzogiorno is that the trading imbalance has, to a very great extent, been sustained by financial transfers from the north of Italy, through the long-term policies of family income support.

The situation in Greece is rather different. The main source of financing for the trade deficit is the invisible trade surplus, mainly in transportation earnings, tourism, emigrant remittances and EC transfers, especially following the 1986 loan. But most of these financial sources have turned out to be quite unstable because of their direct dependence on fluctuations in conditions in the international economic and political arena.

<sup>1</sup> In the case of the Mezzogiorno, various studies and different analytical techniques have shown that the growth of internal demand affects the regions of the centre-north more than those of the Mezzogiorno.

The invisible trade surplus has expanded at an average annual growth rate of 7%, financing 70% of the trade deficit in 1985, 50% in 1988 and again 70% in 1990. One of the characteristic features is the sharp downward trend in transportation earnings which from 30% of the invisible trade receipts in 1981 fell to only 13% in 1990. Earnings from tourism followed the same path, falling from 30% in 1981 to 20% in 1990. This trend also developed in the value of emigrant remittances, but here it was not so pronounced.

The only force counteracting this negative course of developments in Greece's external position over the 1980s was the steady increase in EC transfers which from 2% of invisible receipts in 1981 rose to 22% in 1990.

Without these Community transfers, the invisible trade surplus in 1990 would have been 35% lower and it would thus have covered only 48% of the trade deficit (instead of 70%); the current account deficit would correspondingly have been more than 10% of GDP instead of its present level of 6%.

#### 2.2.3.3. Low foreign trade exposure

The degree of openness of the Mezzogiorno's economy<sup>2</sup> in recent years has oscillated between 13 and 15% of GDP, against the EUR 12 average of 47% in 1990.

The degree of openness of the Greek economy was, in 1990, 54% of GDP, with an import level of 30% and an export level of 24% of GDP. In 1970 its degree of openness was 30%, compared with an EC average of 40%. Increased exposure to international trade in Greece developed in the 1980s both as a result of entry into the EC, and following the impetus of private and public demand.

The overall trade exposure of the central Mediterranean area (without taking into consideration the exchanges between the Mezzogiorno and the north of Italy) is about 22% of GDP, with imports of goods and services accounting for 13% of GDP, and exports of goods and services accounting for 9% of GDP.

#### 2.2.3.4. Weak specialization

The high degree of openness of the chemical and iron and steel industries, and of the associated energy sec-

<sup>2</sup> To measure the degree of openness, we have summed imports and exports as a percentage of GDP.

tor in the Mezzogiorno is not reflected in a high trade specialization in these industries. The energy and ferrous metal sectors import raw materials equal to the value of their production, but they export much less, approximately 25% in the energy sector and 57% in the iron and steel sector. The chemical sector, however, has a positive balance of trade (13% of value-added); but to gain an accurate picture here, a substantial share of imported oil products must be added to the import figures.

These results are heavily conditioned by the spatial organization of production in Italy. In fact many of the primary treatment plants for raw materials are located in the Mezzogiorno. Imports in these sectors are therefore high, while there are fewer exports and low value-added.

The only sectors showing a satisfactory degree of specialization in the Mezzogiorno are those of non-metallic minerals and textiles. The latter includes a large share of production carried out on behalf of large companies of the north of Italy. The food and agriculture industry also produces a deficit, despite its high share in the Mezzogiorno's output.

In Greece during the 1980s, the trade deficit increased by 80%, an average annual growth rate of almost 6%, when real GDP growth never exceeded 3% per annum. The trade deficit thus increased very rapidly, reaching almost 20% of GDP in 1990.

The trade deficit became trapped in a vicious circle with the budget deficit, which enhanced the internal demand for consumer goods, and, coupled with a very rigid supply of goods, led to the above result.

Greek exports in the 1980s consisted mainly of handicrafts and manufactures (55%), and agricultural and related semi-processed products, mostly food and beverages (25%). The remainder was made up of raw materials, minerals and petroleum products.

Imports were composed of manufactured products for final consumption (22.5% in 1981 and 36.4% in 1990), capital goods, fuel (32% in 1981 and 14.4% in 1990), other raw materials and food (14%). We must point out that if the collapse in oil and raw material prices had not occurred after 1985, the overall trade deficit would be at least 15% higher.

Only a minor part of the trade deficit deterioration can be attributed to exchange-rate fluctuations or expectations

concerning the domestic currency devaluation. The country's external trade pattern and evolution reflect the deterioration of its competitive position (see the index of specialization).<sup>1</sup> The concentration of production in a limited number of 'traditional' commodities results in the inability of domestic supply to meet an expanding demand.

#### 2.2.3.5. Trading partners: a high share of extra-EC trade in Sicily

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The direction of trade in Greece is given in Table 5 below. In terms of country groupings, the pattern of Greek foreign trade was heavily altered by its entry into the EC in 1981. Thus, whereas only 35% of exports and 41.5% of imports involved the EC in 1981, by 1990 these figures had risen to 64 and 60.5% respectively. This shift adversely affected the country's trade with other regions, particularly the neighbouring non-EC regions: Eastern Europe (-6.7% of total exports and -2.6% of total imports) and OPEC countries (-7.4% of exports and -10.2% of total imports).

Table 6 gives data on the destination of exports by region for the Mezzogiorno in 1991. In interpreting these figures, it is important to bear in mind the fact that Mezzogiorno exports represent a small fraction of total exports from Italy, only 8% in 1991.

As in Greece in 1991, exports to the rest of the EC are in general high, reaching over 90% in Abruzzi and Molise, and over 70% in all other regions except Sicily. EC exports in Sicily are in fact much lower than elsewhere in the central Mediterranean, only 47% of total exports, with this deficit being made up by relatively high exports to both OPEC countries and the underdeveloped regions of the world. More disaggregated trade data in these two categories would more than likely show high levels of trade between Sicily and the south Mediterranean countries of North Africa and the Middle East.

Comparing Sicily with Greece, it is apparent, that trade links with the less-developed regions are relatively much more important for Sicily than for Greece, which is highly dependent on intra-EC trade. This may be due in part to the maintenance and continuing importance of

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<sup>1</sup> The falling competitiveness of Greek products may also be seen through the evolution of the terms of trade indices. With the base of 1982 = 100, while the volume terms of trade index reached 106 in 1988, the value terms of trade index fell to 97. In the capital goods sector, the value terms of trade index fell to 63 during the same period while in volume terms the decline was only to 95.

**TABLE 5. Direction of Greek trade, 1971-91***(% values)*

	1971		1981		1991	
	Exports	Imports	Exports	Imports	Exports	Imports
OECD countries	77.1	85.2	51.6	63.0	84.7	81.2
European						
Community	47.3	53.5	34.9	41.5	64.0	60.5
Rest of Europe	10.1	10.9	4.1	6.5	6.0	7.6
USA	16.8	11.5	11.4	11.4	12.9	9.1
Japan	1.6	4.3	0.6	3.2	0.9	3.4
Eastern Europe	14.4	6.3	9.3	6.9	2.6	4.3
OPEC countries	2.9	2.9	10.3	19.3	2.6	9.1
Rest of world	5.6	5.6	28.7	10.8	10.2	5.5
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: Bank of Greece.

**TABLE 6. Destination of Mezzogiorno exports by region, 1991***(% of total regional exports)*

	Mezzogiorno	Abruzzi	Molise	Campania	Puglia	Basilicata	Calabria	Sicily
OECD countries	76.7	92.4	93.4	81.8	75.0	85.7	74.7	59.6
European								
Community	60.8	82.7	67.3	58.1	60.4	66.4	64.7	47.4
Rest of Europe	5.3	5.5	6.0	6.3	6.2	8.8	4.8	2.6
USA	9.4	3.3	12.7	15.4	7.8	8.9	3.8	8.7
Other industrialized	1.2	0.9	7.4	0.2	0.6	1.6	1.4	0.9
Eastern Europe	3.0	1.5	0.8	2.9	4.1	2.7	8.2	2.8
OPEC countries	7.4	2.5	0.9	4.8	9.1	3.4	4.7	12.8
Rest of world	13.0	3.6	4.9	10.5	11.8	8.2	12.4	24.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

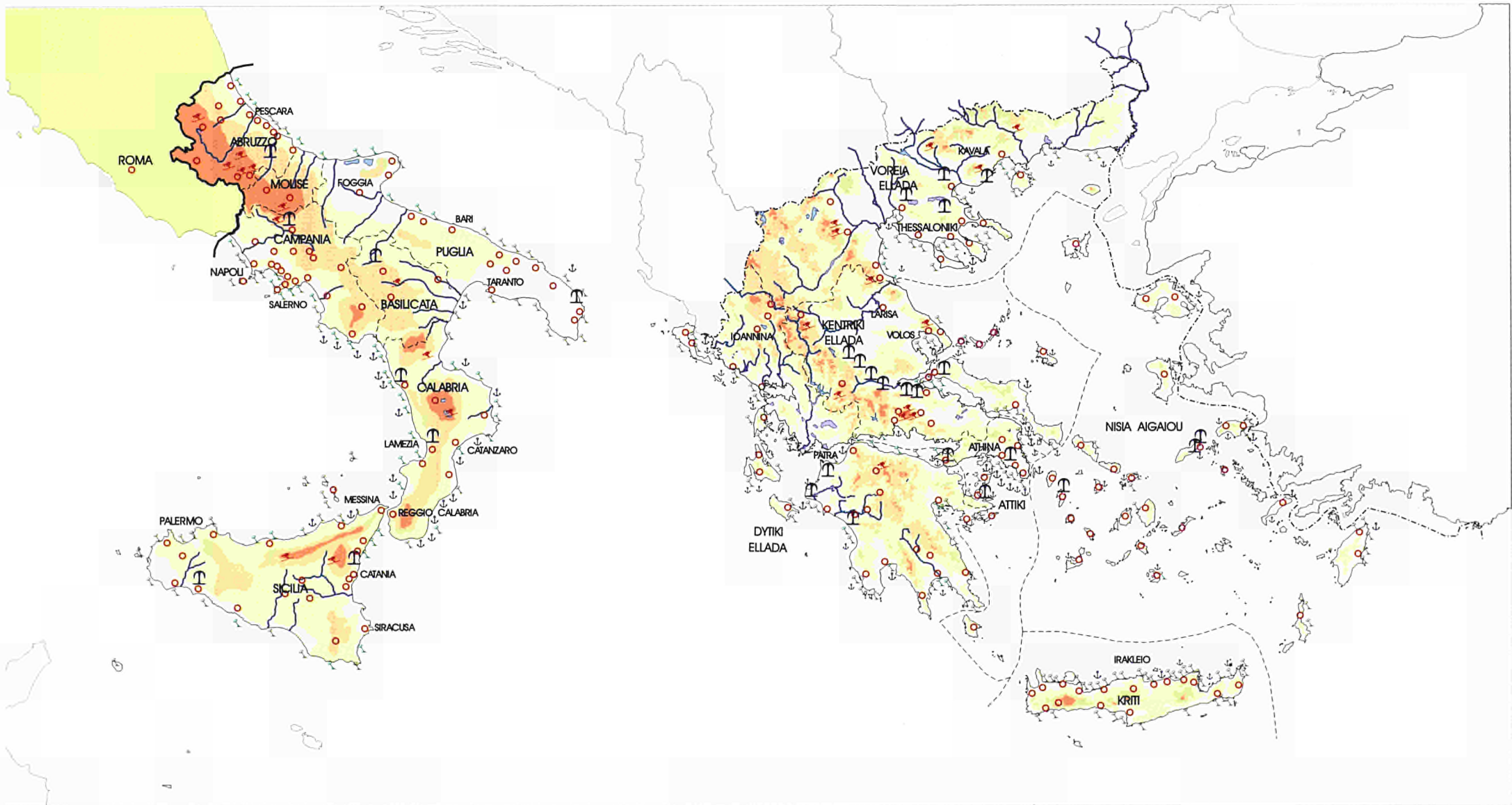
Source: Our elaboration on ISTAT data.

traditional trade links with the south in Sicily, and to the geopolitical position of Greece and its unfriendly relations with Turkey in particular. It is interesting to note that prior to entry into the EC economy, the share of Greek exports to the rest of the world was, at 28.7% in 1981, comparable with that in Sicily at present: extra-EC trading links have been maintained in Sicily in spite of the fact that it has long been a part of the European Community.

## 2.2.4. Tourism

### 2.2.4.1. Supply of tourist facilities: a limited and unplanned expansion

The expansion of tourism in the central Mediterranean area has not thus far favoured the diffusion of economic development.



LEISURE, CULTURE AND TOURISM

0 100 200 km





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

Coastal amenities

-  Marina developments
-  Principal bathing area
-  Spa
-  Winter sports resorts
-  Tourist centres

LEGEND

Mountain zones

-  Lake
-  Principal rivers
-  Administrative boundaries  
(Group of NUTS2 for Greece)
-  National boundaries

-  0 - 200 m
-  200 - 800 m
-  800 - 1500 m
-  > 1500 m

In many regions of the area, it has, however, stimulated development in a few associated activities such as agriculture and handicrafts. The tourism sector has grown extensively (see map, 'Leisure, culture and tourism'), though despite this expansion quality and professionalism have remained low and environmental degradation has spread. The worst degradation has occurred mainly in coastal areas, the most popular tourist destination in the central Mediterranean. However, even the demand for this type of tourist activity is now falling, as the central Mediterranean seems unable to compete with other Mediterranean countries.

The main problem with tourism in the central Mediterranean area is that the high growth in demand for tourism in the 1970s and at the beginning of the 1980s was met by an inefficient and unplanned supply. The supply was organized only to meet tourist demand during the high season, without readapting to meet the slower pace of the off-season which would have created an increase in quality and competitiveness.

As the volume of tourist traffic increased, and other Mediterranean regions adapted to changing patterns of demand, the legacy of this chaotic development began to emerge. The central Mediterranean lost its attractiveness for many tourists, and the competitiveness of its tourist industry was steadily eroded.

#### 2.2.4.2. Deteriorating competitiveness

In 1989, 31% of world tourist flows were concentrated in the European portion of the Mediterranean.

In this region, France holds the lion's share of the market, maintaining a share of activity (60.7%) that is greater than the total of the other countries combined. Moreover, France has increased its share of the market in the last decade, at the expense of most of the other regions, including the central Mediterranean.<sup>1</sup>

In 1989, the central Mediterranean retained a share of 7% of tourism in the Mediterranean basin. This represents a decline of 2.3% relative to 1981, which occurred despite tourist growth in OECD countries of around 5% per year between 1986 and 1989.

Although Spain, Greece and Italy went through a period of considerable expansion between 1975 and 1985, their loss in competitiveness is now due to the fact that price increases in these areas have not corresponded to a relative readjustment and diversification of supply: the purely 'sun and sea' package holiday is no longer sufficient to attract tourists.

<sup>1</sup> Portugal and Turkey have also increased their respective market shares.

TABLE 7. Attendances 1981-89 — Mediterranean countries

	1981	1989	1989/1981 (%)
Greece	6.3	4.7	- 1.6
Mezzogiorno	3.0	2.3	- 0.7
Central Mediterranean	9.3	7.0	- 2.3
France	52.1	60.7	+ 8.6
Italy	15.5	12.1	- 3.4
Portugal	2.4	2.5	+ 0.1
Spain	15.2	11.5	- 3.7
Turkey	0.3	1.7	+ 1.4
Former Yugoslavia	8.1	6.8	- 1.3
Mediterranean Europe	100.0	100.0	-

Source: Ministry of Tourism, 1991.

### 2.2.4.3. The predominance of non-registered tourist accommodation

In 1990, 11 369 hotels operated in the central Mediterranean area, providing 389 644 rooms and 734 528 beds, i.e. an average of 34.3 rooms and 64.6 beds for every hotel and an index of 1.9 beds per room. Sizeable differences do not appear to exist between Greece and the Mezzogiorno.

In the last five years, the total number of hotel establishments in the area has remained practically unchanged, with an increase in the numbers in Greece balanced by a decrease in the Mezzogiorno. Many establishments in the latter are currently undergoing reconstruction, leading to a decrease in the number of hotels available while leaving the total capacity unaltered.

Among other businesses catering for the demand for accommodation in the area, there are approximately 1 000 campsites (around 300 in Greece and 700 in the Mezzogiorno), the numbers of which continue to grow at a slow but steady rate.

The highest capacity for accommodation, especially in Greece, is in private premises for letting. Official statistics, however, considerably underestimate the total. Only around 50 000 beds in private establishments are registered for the entire central Mediterranean area, but approximately 600 000 rented beds in non-registered rooms are estimated to be available in Greece alone.

The variety of tourist accommodation in Greece, ranging from luxury hotels to rented rooms and campsites, provides a broad area for the development of unaccounted-for tourist activity which constitutes a significant part of the country's parallel economy. This practice of 'unregistered' tourism is also widespread in the Mezzogiorno, though to a lesser extent than in Greece.<sup>1</sup>

Tourism involves a country's entire economy, especially its services. In addition to those services already mentioned, that are strictly related to the tourist industry, it is without doubt that tourism can benefit greatly from the proximity of a large number of high-quality services.

<sup>1</sup> In sample surveys on Italian tourism, the southern regions register a greater weight than that reported by official statistics.

**TABLE 8. Hotel facilities, 1990**

	Number of hotels	Rooms	Rooms per hotel	Beds	Beds per hotel
Mezzogiorno	4 722	153 758	32.6	290 195	61.5
Greece	6 647	235 886	35.5	444 333	66.9
Total area	11 369	389 644	34.3	734 528	64.6

Sources: ISTAT for the Mezzogiorno; Chamber of hotels for Greece.

**TABLE 9. Arrivals and attendances of resident and non-resident tourists, 1989**

	(1 000)					
	Resident		Non-resident		Total	
	Arrivals	Attendances	Arrivals	Attendances	Arrivals	Attendances
Mezzogiorno	7 075	28 577	2 087	10 692	9 162	39 268
Greece	—	11 396	8 540	32 938	—	44 334
Central Mediterranean	—	28 588	10 628	10 725	—	83 602

Sources: ISTAT; national statistical accounting — National Tourism Office of Greece.



The lack of tourist supply in the Mezzogiorno and Greece in comparison with more advanced countries, such as France, is basically due to the insufficient provision of a complete array of services.

In the central Mediterranean area, tourist demand is very different in Greece and in the Mezzogiorno. In Greece, demand originating from non-residents is equal to 75% of total visitors; in the Mezzogiorno, the percentage decreases to 30%. This is primarily due to the fact that the Mezzogiorno is part of an economically mature country' where tourist demand from residents is very high.

Over the 1980s, the composition of foreign demand in Greece changed significantly: by far the largest share of tourists came from Europe (87%), with US tourist arrivals falling from 27% in the 1970s to 6% in the 1980s.

#### 2.2.4.4. High spatial concentration of tourist facilities

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Tourist activity in the central Mediterranean is highly spatially concentrated.

In Greece, tourism is concentrated in the metropolitan centres of Athens and Thessaloniki (20% of total attendance), Crete (20%), the Cyclades and Dodecanese (25.1%), Corfu and the Ionian Islands (8.5%), and certain parts of the Peloponnese (7.4%).

In the Mezzogiorno, the areas attracting most tourists are the coastal zones of Campania, drawing half of the non-resident tourists, and Sicily. Together, these two regions receive 50% of the total flow of tourists in the Mezzogiorno.

#### 2.2.4.5. The tourism resource: a potential unexploited

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Tourism is an important source of autonomous income for the central Mediterranean area. It cannot represent, as has sometimes been suggested, a substitute for industry, but it can certainly constitute a significant part of the tradable sector. The potential for tourism of the area is enormous. But it has been insufficiently exploited and partly spoiled through a savage use of natural resources.

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<sup>1</sup> As far as tourism is concerned, according to the World Tourism Organization (WTO), Italy has climbed eight rank positions over the last four years — from 14th place in 1985 to sixth place in 1989.

Tourism in the central Mediterranean area has strongly identified itself with the 'sun and sea' package holiday masses of people (coming from either abroad or from the interior) invading the coastal areas in very limited periods of the year and being received by an unplanned and very unsophisticated supply of facilities.

This model has led to a rapid growth of the tourism sector for a decade with, as a by-product, a significant degree of environmental degradation. However, since the mid-1980s, it has met with increasing difficulties.

The demand for tourism in general has been evolving over the last decade towards a much greater segmentation in terms of holiday-types, a greater sophistication in terms of services required, and an increasing regard for the preservation of the quality of natural resources.

However, the supply of tourism-related products and services in the central Mediterranean area has been unable to satisfy these changing conditions of demand, stuck in a model based exclusively on the intensive and destructive use of natural resources.<sup>2</sup>

The main shortcomings of the central Mediterranean tourism sector are as follows:

- (i) the presence of a highly limited number of 'tourist centres' offering a complete array of services of an international standard;
- (ii) the lack of a territorially integrated tourist network;
- (iii) the crisis of tourism in the big metropolitan areas (Athens, Naples, Palermo);
- (iv) the insufficient and low quality of the transport infrastructure and the provision of public services;
- (v) the lack of diversification of the tourist supply which would be able to promote tourism at different times of the year and to satisfy the increasing variety of demand.

The central Mediterranean area cannot afford to lose ground in the field of tourism. This is a sector which is

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<sup>2</sup> Despite this inability, the absolute number of tourists in the area increased over the 1980s due to the general increase in world demand in the sector, but the share of tourism accounted for by Greece and the Mezzogiorno among European Mediterranean countries has decreased and the positive trade balance this generated has been reduced.

essential in order to give rise to an 'autonomous' pattern of growth. Industrial development can and must be promoted but the weakness of the central Mediterranean area in this field is bound to continue for a long time. It would thus clearly be foolish not to exploit the enormous potential of growth contained in the tourism sector.

### 2.2.5. Small and medium-sized enterprises

The central Mediterranean area is characterized by the presence of a small and decreasing number of large-scale enterprises and a large number of micro (0-9 employees) and small-scale enterprises (10-99).

This characteristic is common to all sectors and to all regions of the central Mediterranean. However, in Greece the relative importance of micro-enterprises is higher than elsewhere in the area and constitutes a structural element of fundamental importance in the formulation of any future policy to foster economic restructuring.

Micro-enterprises in Greece represent almost 93% of the total number of enterprises though they absorb only 19% of the work-force, against 24% in the Mezzogiorno. There is thus a polarization of micro-enterprises towards the smallest units in this class, which constitute mainly traditional production firms. These figures reflect the present inability of the country's productive structure to face up to international competition, the consequences of which are reflected in the balance of payments of goods and services.

#### 2.2.5.1. The inflexible characteristics of organization among small firms

Several distinctive characteristics of Mezzogiorno's small and medium-sized enterprises can serve to illuminate the structural changes likely to prevail in the area in the coming decades.

In contrast to the prevailing situation in Greece, small and medium-sized industrial enterprises in the Mezzogiorno produce primarily under a regime of subcontracting with larger units located mainly outside the region. They, therefore, while producing for external markets, do not possess an internal marketing ability and focus mainly on the lower value-added production stages. They have a low capacity to compete autonomously and to penetrate external markets. Those firms which are not connected with large extraregional firms produce mainly for the regional market.

Under these conditions the capacity to innovate, to introduce new technologies and to expand is very limited.

In the Mezzogiorno, enterprises of over 100 employees in manufacturing operate mainly under external ownership.

Furthermore, the sectors where larger firms prevail are those most influenced by economies of scale and oligopolistic competition, such as energy, metallurgy and chemicals in the industrial sector, and transport, banking and financing in the tertiary sector.

In sectors like construction and retailing the small size units occupy most of the sectoral labour force, and play a fundamental role in absorbing excess labour supply, though at a low salary and on a precarious and temporary basis.

The small and medium-sized firms in the central Mediterranean are supported by a weak financial system, where credit is more costly as a result of the high risk associated with the provision of credit.

In the Mezzogiorno, as a result of investment grant policies, firms tend to be overcapitalized per unit of labour,

**TABLE 10. Percentage of enterprises and employment by size class in manufacturing**

	Micro (0-9)			Small (10-99)			Medium and large (> 99)		
	Greece	Mezzogiorno	EUR 12	Greece	Mezzogiorno	EUR 12	Greece	Mezzogiorno	EUR 12
Enterprises	92.8	80.3	82.7	6.6	18.7	15.1	0.6	1.0	2.2
Employment	18.8	24.2	11.1	18.9	42.3	24.0	62.6	33.5	64.9

NB: 1989 for Italy, 1984 for Greece and 1986 for EUR 12.

Sources: Cerved for Italy; enterprises in the European Community.

and capital productivity is substantially lower than in the rest of the country.

Another interesting development is the rapidly growing share, during the last two decades, of the size class of 10 to 99 employees in the Mezzogiorno. This was the result of a movement of consolidation and reduction in the micro-class of firms. In other words, the artisanal, pre-industrial units either expanded or disappeared altogether, as local markets were opened to external competition.

These developments have brought many analysts to consider the high birth rate of small locally owned units as the main vehicle for industrial take-off in the area.

The trouble is that in the most recent period the above trends, reinforced by economic and monetary union (EMU), have caused a high mortality among small-scale enterprises in all sectors. This is especially true in manufacturing, which will remain for sometime the most exposed sector. Many small firms have thus had serious difficulties in surviving in the market, due to the slow pace of both innovation and technological progress.

As a result of the difficulties faced by smaller firms, the leading role of large enterprises is again being considered a necessary condition for their survival. The question still remains open as to whether or not these small units can eventually, and by what means, become autonomous and grow independently from the subcontracts of large firms, as has occurred in northern and central Italy.

In this matter the state of infrastructure and the efficiency of social equipment and organization seem to have been of fundamental importance in allowing small firms to perform well in the international market. As we have said elsewhere in this report, the state of these infrastructures in the Mezzogiorno is far below the minimum level required to provide the support required by small and larger firms alike. The development of the small firm sector over the medium term will thus depend to a large extent on improvements in infrastructural provision.

The problems encountered by small and medium-sized enterprises in the Mezzogiorno are useful in developing a picture of the likely patterns of growth in this sector in Greece in the coming years. As we have said, there are significant organizational differences between the two regions, above all in the degree of vertical integration between small and large firms. However, there are also strong similarities in the economic environment, such as

the poor state of infrastructural development and support services, the progressive reduction in protectionism in Greece following entry into the EC, and the increasing openness promoted by EMU.

We can therefore forecast that difficulties similar to those faced by small and medium-sized firms in the Mezzogiorno are likely to develop in Greece during the next decades. The lessons learnt in the Mezzogiorno can thus be usefully employed in the development of policies in Greece to promote the successful and autonomous growth of small and medium-sized firms.

#### 2.2.5.2. Spatial distribution of activity

##### **2.2.5.2.1. The Mezzogiorno**

In the Mezzogiorno the spatial localization of micro and small firms confirms and somewhat explains the trends described in the other chapters, namely the strengthening of some territorial axes and the persistent weakness or decline of others.

For a better understanding of those phenomena, it is necessary to distinguish three main types of area, defined in terms of their prevailing productive structure, and especially in terms of their strength in industrial production:

- (i) areas of dynamic industry;
- (ii) the traditional poles of development;
- (iii) areas of slow industrial growth.

The areas of dynamic industrial growth are concentrated mainly on the Adriatic axis, and can be considered as the continuation along a line of transport infrastructures of the impressive growth of the eastern regions of Italy. These are characterized by a dynamic, flexible and highly innovative industrial structure. During the last two decades they have been among the fastest-growing regions of the EC.

The old poles of development were created in the south during the 1960s and early 1970s. These areas, where industry still has an important place in the income generation process, are at the centre of a movement of rapid deindustrialization.

The main metropolitan areas, where industry has had limited but not insignificant importance in the past, are also rapidly losing industrial employment.

### *Areas of dynamic industry*

In the dynamic areas we can distinguish two different types of growth pattern.

The first is centred on the production of light manufactures in the metallurgic and mechanical industries. This type of activity is concentrated mainly in Abruzzi (Teramo, Chieti and Pescara), Puglia (Bari and Lecce), and to a lesser extent in Avellino in Campania. In these areas the development process has centred around the growth of small autonomous firms.

In areas such as Campobasso, L'Aquila and Chieti we can distinguish the combined growth of small firms, concentrated in light mechanical products, and large firms externally owned and controlled; in Abruzzi small enterprises are growing in number rather than size.

The second type of dynamic growth region is typical of two areas in Sicily: Catania and Ragusa. In these areas growth is generated by the construction sector, which is also characterized by very small units, whereas manufacturing is declining.

In all these dynamic areas we observe a general fall in the numbers of micro-enterprises and a polarization of firm size around the 10 to 99 size class. We also observe that the growth of industrial employment corresponds to a more limited expansion of tertiary sector employment in relation to that in other less-successful regions.

### *The traditional poles of development*

The second 'type' we have identified in terms of productive structure, the traditional poles of development, encompasses Syracuse, Taranto and Matera. Here industry again represents an important source of local income. There is a high degree of specialization in heavy manufactures, chemicals, and iron and steel. The development of these industries came to a halt in the mid-1970s and, since then, there has been a serious reduction in both employment and profitability. These areas were furthermore incapable of diversifying or of creating new enterprises connected with their previous specialization.

### *Areas of slow industrial growth*

The areas of low industrialization encompass the remaining provinces of the Mezzogiorno, and constitute the larger part of the area as a whole.

As a key factor in the evolution of industrial employment, we must underline the process of rapid de-industrialization which is taking place in the two metropolitan areas of the Mezzogiorno.

In Naples, which in the past had an important industrial structure, between 1981 and 1990 there was a loss of half of the industrial employment. This came mainly from firms with over 500 employees. In Palermo the fall in industrial employment during the same period was 37% of the industrial labour force, from firms of all size classes.

Other areas in particular difficulty are the regions of Calabria and Basilicata, and the remaining provinces of Sicily and Campania.

The Tyrrhenian axis (with the exception of Avellino) and the majority of the internal provinces thus remain in an extremely difficult situation, which is reflected in the insufficient rate of growth of new firms.

### **2.2.5.2.2. Greece**

In Greece, not only for the sectors under scrutiny — manufacturing, commerce and services — but for the country as a whole, the predominant type of organization of the enterprises is that of the small firm. The average number of employees by establishment for all sectors, for the years 1978, 1984 and 1988, for which data were available, was 3.7, 3.1 and 3.4 respectively.

The downward trend in the number of employees per establishment during the 1980s is obviously a reflection of the prolonged crisis of the Greek economy in a double sense. Firstly, it is a well-observed phenomenon that during a crisis there is a significant rise in the number of small firms as well as in the number of bankruptcies of all firm sizes. Secondly, in Greece, the number of 'unhealthy' large bureaucratic firms in all sectors that, due to large debts and the policy of maintaining employment at high levels, pass on to State ownership and control continued to rise throughout the decade. The latter implies both a sluggish rate of employment growth in the large firms (over 50 employees per firm) which are responsible for a significant proportion of total employment, and an ominous further reduction of employment in these firms in the future, as the State is forced by accumulated high budget deficits to close down or 'privatize' such firms.

It is almost certain that the average number of employees per firm will fall to even lower levels during the early

1990s. This index of firm size is nevertheless misleading and it should be kept in mind that the true picture in all sectors, but especially in manufacturing, is one of a small number of very large firms (accounting for nearly 40% of employment in manufacturing) and a large number of very small ones (one to three employees per firm).<sup>1</sup> Thus, the expected rise of small and medium-sized enterprises in most sectors of economic activity is heavily biased towards the 'small' side (one to five employees per firm).

Between 1978 and 1988 the average size of the manufacturing firm in Greece fell from 5.6 to 5 employees. Within this general trend there are slight regional variations which reflect the manner in which manufacturing developed spatially in conjunction with the urban centres of each region.

The industrial centres,<sup>2</sup> in 1984, accounted for 51.4% of establishments and 53.8% of employment. The number of employees per firm was low, as in other regions, except in the industrial centres of Elefsis and Ptolemáís. In Elefsis, the reason for the larger average size of firms is the proximity to Athens — Piraeus and the national roads to the north and the Peloponnese. In Ptolemáís, it is due to the type of firms operating in the area, producing energy and fertilizers, and to the fact that they are largely owned and controlled by the State.

Commerce (retail and wholesale) is *par excellence* the sector where the small firm is dominant. Here, too, during the period 1978-88 there was a downward trend in the average firm size with a slight reversal at the end of the period. With the exception of Attica, where 36.3% of the shops and 44.1% of the employees are to be found, the number of employees per firm is below the national average in all regions. The high average in Attica may be explained by the growing importance of large retail outlets chains, especially in the food sector, but also in household appliances, clothing, etc.

The average firm size in the service sector and the spatial concentration of activity are very similar to those in commerce. Only Attica had an index of average enterprise size above the national average in 1988, with 28.1% of firms and 42.9% of total service employment. This again reflects the duality in this sector, which accommodates a large number of very small firms alongside a few large ones. This is especially so in air and

rail transport and in banking, which are mostly controlled by the State.

### 2.2.5.3. 'Problematic enterprises', small-scale production, and the parallel economy in Greece

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The characteristic form of organization in industry, services and commerce is the coexistence of a few large-scale oligopolistic enterprises, with a large number of very small-scale firms. The most important feature of big industrial businesses in Greece is a well-established trend to run into loss, forming the so-called problematic enterprises.

The main reasons for this trend are the limited size of the internal market, both physically and economically, the lack of a well-functioning capital market, and the heavy indebtedness to banks. The State has, moreover, pursued a policy of intervention and support among these large firms, presumably for reasons of employment, which has isolated them from market pressures and removed incentives to increase efficiency.

In many cases this support has led to direct State-controlled ownership, expanding the economic role of the Greek State. By 1990, the State controlled over 300 large enterprises. This has led to further malfunctioning and disregard for market signals with firms becoming increasingly less viable in their operation, so that when the national fiscal crisis finally arrived and the State could no longer continue pouring funds into ailing enterprises, many firms simply had to be closed down. Others, that were not in such poor condition, were privatized.

There has been very little attempt at the rationalization of production activities, or the improvement of the competitive position of State-controlled firms. This aspect of the crisis has contributed, and will continue to do so in the 1990s, to the falling trend in average firm size in Greece.

At the other end of the scale, small-scale establishments with average employment of between one and nine persons constitute almost 95% of the total number of manufacturing units in Greece. Abstracting from their high rate of turnover, these firms survive by organizing their operation on the basis of family relations that are 'flexible' enough to allow them to operate with equal ease in both the official and the parallel economy. The determinant factor for the small-scale character of the Greek economy is the small scale of the structure of land ownership. This structure was extended through

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<sup>1</sup> See annex.

<sup>2</sup> As defined by the national statistical service of Greece, and corresponding to certain urban centres.

the massive population movements and thus also became dominant in the urban centres, the location of the major part of industrial production and services.

The reproduction of small-scale ownership through prevailing social processes, such as inheritance and dowry endowments, has led to a stable social structure where the formal feature of a labourer 'free' from both personal compulsions and economic resources, other than his or her own labour power, exists only as a redundant descriptive category.<sup>1</sup>

Finally, self-employment, which accounted for more than 60% of total employment in Greece during the 1960s followed a declining trend over the subsequent period. During the 1980s, this decline was halted, with the level of self-employment stabilizing at around 50%. This is a reflection both of the underlying crisis of the economy during the 1980s, as well as of the considerable growth of the parallel economy that seems to be the 'popular response' to the crisis and the all-pervading bureaucratic involvement of the State in the economy. According to the most conservative estimate, the parallel economy accounts for approximately one third of officially registered GDP.

The general picture is clearly one where the small firm dominates as a form of organization of the Greek economy, since in agriculture too the small farm is dominant with 998 000 farms in the country. Even a superficial examination of the majority of these firms in terms of business longevity, legal form, and technology used leads to the conclusion that this situation is more a reflection of serious deficiencies in investment and skills rather than of modern forms of organization.

## 2.3. Recent policies

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### 2.3.1. Support policies for the Mezzogiorno regions

#### 2.3.1.1. Redistribution effects of fiscal policies

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Over the last 20 years, Italian national fiscal policy has provided a continuous redistribution of income in

<sup>1</sup> An illustration of the nature of Greek social structure lies in the solution adopted to the housing shortage. The absence of organized building enterprises coupled with small-scale land ownership has mobilized the productive process on the basis of two 'historical' production relations: that of *métavage* and that of 'putting-out'/subcontracting. The combination of these types of organization has produced one of the best average housing conditions in Europe.

favour of the Mezzogiorno regions. Between 1970 and 1987 this resulted in a fiscal expenditure of LIT 1.5 billion for every LIT 1 billion collected in Mezzogiorno, and a corresponding expenditure of LIT 0.9 billion for every LIT 1 billion collected in the centre-north of Italy. Income support policies have thus produced a certain re-equilibrium in terms of per capita income in the Mezzogiorno with respect to the centre-north, but this has had the effect of greatly increasing consumption levels without significantly affecting investment rates or productivity.

The high and persistent external deficit of the southern regions clearly demonstrates the limits of this policy. There have however been further negative effects.

Firstly, public expenditure and the public administration have moved into a position of dominance over economic and social life in the southern regions of Italy. The high share of public expenditure in the GDP of the Mezzogiorno and the high level of employment in the public sector, together with a lack of growth in the tradable goods sectors, have led to a distortion of social and economic relations. Since the beginning of the 1960s, the importance of 'clientelismo' in economic activity has grown rapidly through the vicious circle of electoral consent — transfer of the public resources to the Mezzogiorno — 'clientelismo'.<sup>2</sup> It now supports a political class that is strongly adverse to any form of change.

A second negative effect of the income support policies, strongly connected with the above, is represented by the inability to increase the efficiency of the public administration. The inefficiency of the principal administrative functions of the public authorities, and of collective services such as the planning of infrastructures and industrial policy, represent a severe constraint for firms and one of the main barriers to productive growth in the Mezzogiorno.

#### 2.3.1.2. The 'Intervento straordinario' for the Mezzogiorno

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The Intervento straordinario for the Mezzogiorno was the second and principal instrument adopted for the regional re-equilibrium in Italy. Instigated in the 1950s as a structural policy intervention, but with additional and temporary objectives with respect to national policies, the Intervento straordinario became the main and per-

<sup>2</sup> Clientelism.

**TABLE 11. Intervento straordinario in the Mezzogiorno during the 1980s: typology and percentage of GDP and investment — average 1980-90**

	Infra-structure	Contribution to private sector	Financial grants	Others	Total	Total percentage of GDP	Total percentage of investment
Expenditure average 1980-90	70.4	24.5	3.9	1.2	100.0	2.3	9.1
Allocated average 1980-90	67.9	27.0	2.6	2.5	100.0	3.4	13.7

Source: Our elaboration on Svimez data.

manent support policy for productive activities in the Mezzogiorno.

The first phase of this programme succeeded in increasing the planning capacity of the public administration as was intended. In the early 1970s, however, it rapidly began to take on the defects discussed above for ordinary public expenditure, that is inefficiency and clientelism.

This general evaluation must not overlook the high level of resources actually spent in the Mezzogiorno through the Intervento straordinario: between 1980 and 1990 only, this amounted to an expenditure of about LIT 50 000 billion<sup>1</sup> out of approximately LIT 74 000 billion allocated. Over this period, the Intervento straordinario accounted for about 10% of total investments in the Mezzogiorno, of which by far the highest share, about 70%, was allocated to infrastructure works. Only in 1990 did the share of total expenditure allocated to infrastructure fall to 28%, with contributions to the private sector rising to 65%.

One of the main limits of the Intervento straordinario has been its overlap with regional initiatives and the incoherence between its interventions and those made at the regional level. In many cases, the regional administrations have delegated their own planning operations to the national structure of the Intervento straordinario. In others, when a detailed plan was requested from the regions by the national authorities, the result was an extremely fragmented, incoherent set of expenditure projects.

<sup>1</sup> At current prices.

Finally, it is necessary to recall the absence of a territorial viewpoint in the Intervento straordinario. This failure in taking into account geographic aspects in project selection and expenditure allocation is evident at the territorial level, but it is even more so at the project level considering the fact that only 9 to 10% of all investment projects submitted in the 1980s were rejected.

To conclude, the Intervento straordinario has over the past 30 years, to all intents and purposes, replaced ordinary national and regional policies. In many cases it assumed the very same characteristics of income transfer to the Mezzogiorno regions.

### 2.3.1.3. Industrial policies in the Mezzogiorno

Policies supporting industry in the Mezzogiorno have for a long time concentrated on reducing the cost of inputs (capital and labour). In recent years, they have not led to any significant effect in introducing innovations. Support for technological innovation, the transfer of know-how and the improvement of the environmental conditions have in fact been reduced by about 7% with respect to the overall resource allocation.

The Intervento straordinario in the Mezzogiorno for investment in the manufacturing sector was intended to provide direct support for capital expenditure equivalent to about 40% of the total cost, and credit interest support for a further 30%. National policies in all regions provide investment support varying from 20 to 25% of the total cost for SMEs to 50 to 60% for applied research and technological innovation.

The difference in total support for industrial investment between the Mezzogiorno and the rest of Italy created

**TABLE 12. State expenditure for industrial support in the Mezzogiorno — annual averages (billion LIT (1990) and total assistance (percentage))**

	1982-85	%	1986-90	%
Infrastructures	907.2	10.8	633.5	7.3
Financial grants <sup>1</sup>	1 230.1	14.7	1 560.6	18.0
Labour subsidy <sup>2</sup>	6 231.6	74.5	6 494.4	74.7
<b>Total</b>	<b>8 368.9</b>	<b>100.0</b>	<b>8 688.5</b>	<b>100.0</b>

<sup>1</sup> Including capital investment and credit assistance.

<sup>2</sup> Subsidy to reduce costs of social contributions for employers.

Source: Svimez.

by the Intervento straordinario was not therefore so remarkable. Furthermore, the administrative mechanisms for the allocation of resources in the Mezzogiorno take up to five years to complete. They do not thus allow the beneficiaries to plan effective investment programmes because the delays expected are so long.

The most important form of industrial support through the Intervento straordinario was aimed at reducing the cost of labour for enterprises. In the 1980s, this accounted for more than 70% of the financial aids for Mezzogiorno industry. Even this intervention, however, is not limited to the Mezzogiorno but at the national level accounts for more than 65% of the total of the expenditure on industrial support.

The reduction of labour costs was used at the end of the 1960s as an extraordinary measure: it subsequently became part of a permanent policy and has gradually included an increasingly wide range of labour categories.

In 1988, more than one million workers<sup>1</sup> in the Mezzogiorno benefited from this support; 19% of these with a 10% reduction in fiscal contributions, 54% with a reduction ranging between 20 and 30% and the remaining 27% with the complete removal of contribution payments.<sup>2</sup>

<sup>1</sup> This is equivalent to approximately 20% of total private sector employment and includes workers in industry, tourism and services to enterprises.

<sup>2</sup> These payments in Italy are very high, with social contributions representing approximately 50% of labour costs.

The weak effects of industrial policies in the Mezzogiorno do not depend therefore on the scarcity of the resources engaged, but on their low-level impact at a structural level.

Neither the labour subsidy nor capital incentives are connected to enterprise results and neither is differentiated at the territorial level. Many studies have shown that these financial incentives did not lead to effective increases in productivity, despite the fact that a high level of investment was maintained. They did in fact contribute more to the defence of employment levels. The final result was to produce a high degree of overcapitalization in many enterprises without any significant increase in competitiveness.

In conclusion, a profound reform of industrial policies in the Mezzogiorno is required. It is necessary to reconsider the tools utilized thus far and to allocate a greater amount of resources to the reduction of the external costs in industry (infrastructure, services, labour qualification, efficiency of the public administration). These interventions are critical to ensure greater efficiency for investment and to encourage the relocation and development of industrial activity in the Mezzogiorno.

The support for both investment and labour costs cannot be removed, but the burden of these transfers for the State must be lowered, and, at the same time, their efficiency must be raised.

These financial support policies must be differentiated at the territorial level, with an increased difference between the level of support in the centre-north and the Mezzogiorno, and even within the different areas of the Mezzo-



giorno. Access to such incentives must also be linked to the level of technological innovation and to productivity within the enterprises involved.

#### 2.3.1.4. The policies of the regions of the Mezzogiorno

Despite the fact that the Italian regions have no financial autonomy, they do have a significant level of autonomy in terms of expenditure on social and economic policies. In practice, however, their ability to implement intervention policies is very limited.

This limitation is for two principal reasons connected to the procedures required for resource allocation. Firstly, in order to allocate resources for a new intervention policy, the programme budget must be written into law. The capacity of the authorities to pass legislative measures is very low. This means that, if resources are to be allocated reasonably quickly, the project must be made to comply with the definition of an existing programme which has been through the legislative procedure. Hence, either much time and delay is required, or the project objectives must be severely constrained.

The second important constraint is in the inefficiency of the planning and expenditure procedure itself. In the planning of any one intervention programme, there is a large division of responsibility among many different public bodies regarding construction, environmental impact, interconnection, feasibility impact and so on. Coordination in project planning is thus virtually non-

existent. Due to weak linkages, the public administration is unable to call on private sector companies to assist in planning activities and project implementation especially for 'soft' infrastructures (services, market surveys, management, etc.). Almost all activity is thus retained within the public domain, perpetuating the existing operational inefficiencies. In the last few years, the shortage of funding at the national level has been an additional problem, though it is important to stress that the 'structural' difficulties discussed above were just as problematic when adequate resources were available.

In the 1980s, policies adopted at the regional level were rather less than successful because they either overlapped with interventions at the national level or promoted fragmentary actions that were incoherent with the national and transregional terms of reference.

As shown in the table below, financial incentives for investment form by far the major part of the total expenditure in all regions.<sup>1</sup> It is also noteworthy that there are remarkable differences in the level of per capita expenditure between the regions. In Campania and Calabria, for example, two large regions, total expenditure on in-

<sup>1</sup> It is necessary to bear in mind in the interpretation of these figures that the high level of expenditure in Sicily, for example, is not due solely to industrial policy choices, but also to the much higher budget available to the regions with special status granting them a much greater degree of autonomy. This includes both Sicily and Sardinia, though there are still further differences in the status of these two regions.

**TABLE 13. Industrial policy expenditure in the Mezzogiorno, 1980-89**

	Investment incentives (billion LIT)	(% of total)	Total expenditure (1 000 LIT per capita)
Abruzzi	41	91	36
Molise	40	87	137
Campania	51	100	9
Puglia	130	100	32
Basilicata	114	86	212
Calabria	22	85	12
Sicily	1 312	74	342
Mezzogiorno	1 710	78	113
Italy	5 214	72	125

Source: CESPE elaboration.

dustrial support over the 1980s was only LIT 10 000 per capita, while the national average was LIT 125 000 per capita. In comparison, the region with the highest corresponding expenditure in Italy was Sardinia, at LIT 420 000, and the average for the centre-north was LIT 112 000.

There has been a very low level of expenditure on policies for infrastructure and services, actions which could, if implemented at the local level, be highly effective in terms of meeting the needs of the productive process.

We must also add that the industrial policies of the regions have in recent years become progressively more important, with expenditure by the regions rising, at the national level, from LIT 167 billion in 1980 to LIT 1 213 billion in 1989. Consequently, the effects on competitiveness between the regions have also increased.

A second limit, the fragmentation of regional intervention, is particularly strong for public works and training policies.

Even though expenditure in these two fields is relatively high,<sup>1</sup> both have been characterized by incoherence with the requirements of labour demand and by incoherence with the technological transformations undergone by the productive system.

The absence of any control on training at the regional level has created a supply of labour that lacks flexibility and the ability to adapt to changing patterns of labour demand. Training institutions have thus become, in many cases, similar to the public offices, with resources from the regional authorities continuing to flow due more to concern about employment in the training institutions themselves than the requirements of the labour-market.

In the fields of transport and the environment, poor planning capacity is evident within all the Mezzogiorno regions, through the failure to define regional transportation plans, and waste disposal plans, which was required by the national administration many years ago in order to coordinate the financing of public works projects.

In general, the Mezzogiorno regions have demonstrated a low level of competence in their ability to plan and

manage their own policies: the regions act only in their capacity as a payment office, with a large share of public resources flowing through relations of clientelism.

Among the many reasons for these conditions, we highlight the absence of regional financial autonomy and the inefficiency of the public administration. This inefficiency has, moreover, in many cases been encouraged by the *Intervento straordinario*, which either assumed or was given responsibilities which ought to have been assigned to the local administrations.

### 2.3.1.5. EC policies in the Mezzogiorno

EC structural policies in Italy, in contrast to the situation in Greece, represent a minor component of regional expenditure. In 1990, Community expenditure in Objective 1 regions<sup>2</sup> in Italy was about LIT 1 000 billion, while *Intervento straordinario* expenditure alone reached LIT 11 000 billion.

The last Community plan for financial support to the Mezzogiorno allocated almost 50% of the total resources to infrastructure and communications projects, 27% to productive activities (of which 10% went to tourism), and the remainder to the development of rural areas and human resources.

We thus see that great importance has been given to infrastructural development by EC structural policy and by the *Intervento straordinario*. Community intervention is addressed particularly to the support of some basic infrastructures (irrigation, telephones, gas distribution) and to projects specifically aimed at increasing the quality of provision such as the Valoren programme (renewable energy sources), or the proposed electricity transmission connection between Puglia and the west coast of Greece.

Community expenditure policies to support productive activities are somewhat more effective than national industrial policies, being based to a greater extent on a generic financing of investment. In the planning of these policies, the aim was to promote projects complementary to those implemented at the national level, and a higher degree of local planning is evident. However, in terms of project realization, there are still many shortcomings.

<sup>1</sup> In 1991, expenditure for training in the Mezzogiorno regions totalled approximately LIT 1 570 billion, equivalent to 51% of total expenditure for all Italian regions. To this must be added about LIT 350 billion from Community funds (the CSF). The share of expenditure for training in total expenditure by the regional authorities in the Mezzogiorno varies from 1% in Calabria to 2.9% in Basilicata.

<sup>2</sup> The Mezzogiorno, including Sardinia.

In recent years the Mezzogiorno regions have been able to spend only 50% of the available Community resources. This clearly confirms the extremely low intervention capacity of the regional authorities.

One of the greatest barriers to the use of Community funds is the bureaucratic procedure required of the regions in order to obtain the resources. This barrier is created because of the need for co-financing between the Community and the national administration and the complex situation this produces, and because of the involvement of the regions in the decision-making process.<sup>1</sup>

A second difficulty is that the share of incentives in investments available through national funds is already at the maximum allowed by the Community regulations. The additionality of the Structural Funds can therefore only increase the total funding available, and not the level of the incentives: as we have seen, the situation already exists where the level of resources available is not the primary constraint on the level of expenditure.

The administrative barriers to expenditure that exist therefore favour national policy expenditure and reduce the effectiveness of the Community intervention. We must point out, however, that the importance of the Community resources for the development of the Mezzogiorno remains fundamental, as does the experience of local planning in connection with the Community funds, providing valuable lessons for the future.

The experience of the Integrated Mediterranean programme (IMP) and the reform of the EC Structural Funds has forced the Mezzogiorno regions to address the problems of planning and implementation of local policies. Thus, even though the results of these policies in the past have not been good, this experience has played an important role in the redefinition of regional policies at the national and Community level.

### 2.3.2. Greece

#### 2.3.2.1. Productivity stagnation

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Clearly, one of the major problems in Greece over the 1980s was the disastrously low productivity growth that characterized the decade at a regional/national and sectoral/branch level. This has led to a widening productivity gap between Greece and the Community and a per

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<sup>1</sup> National funds, on the other hand, are allocated directly through the *Intervento straordinario* via Agensud.

capita GDP stabilizing at about half the Community average.

The overwhelming cause of this turn of events in the economic sphere has been the atavistic response of the government to the great structural problems of the decade with even greater State involvement in the economy.

The attempts to define a national economic policy in the period 1974-92, besides providing the essential infrastructure, have centred around the protection of income and employment in the three sectors, especially through the support of the large enterprises that characterize employment and ownership in most branches of industry as well as the services. This support of the so-called problematic enterprises necessitated the rising absorption of financial resources by the State, and resulted in high inflation rates, high interest rates and a shortage of funds for long-term investments thus leading to a deteriorating business climate and an actual decline in industrial investments.

Given the structure and trends of the labour-market (i.e. a relatively high growth in working age population and increasing participation rates, especially for women), we come to the inescapable conclusion that either unemployment has to rise significantly or strong GDP growth has to take place, if productivity levels are to be raised anywhere close to the EC averages, during the 1990s.

In fact, if the productivity gap with Greece's EC partners is to be narrowed, high investment in new technology will be required along with efficient retraining schemes in order to provide the skill requirements necessary for running this new technology.

#### 2.3.2.2. Government investment policy and the Community support framework (CSF)

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The strategy of Greek Governments in the late 1970s and, especially, the 1980s to address the economic crisis by expanding the State's involvement in economic activity led to an explosive increase in government expenditure, whose ratio to GDP rose from around 35% in 1980 to over 50% in 1990.

At the same time, the share of the inelastic<sup>2</sup> expenditure to total government expenditure rose from around 50% in 1980 to around 80% in 1990. The burden of restric-

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<sup>2</sup> Expenditure on salaries, pensions, debt-servicing, grants and subsidies is considered as inelastic.

tive stabilization policies almost entirely decreased the 'elastic' expenditure, government investment. Therefore, in a decade in which there were spectacular rises in expenditure in other categories, government fixed investment barely retained its share of GDP (5.6% in 1980, 5.3% in 1990).

The stagnation of government investment in the 1980s, together with the shift of emphasis in favour of decentralization policies, meant that there was no substantial progress made in the implementation of major infrastructural projects. This was despite the fact that there was widespread recognition of the importance of several major projects for the country's economic restructuring.

In this context, the Community support framework (CSF) for the period 1989-93 (together with the second CSF currently being prepared) constitutes a turning point for the Greek economy. Coming after a long period of stagnation of both government and private investment, the CSF has forced the Greek Government to set up a development plan centred around the following five priorities:

### **1) Upgrading of basic infrastructure**

This includes major works in the following areas:

- (i) transport: mainly expansion and modernization of the national road system, modernization of railways and expansion of the Athens underground railway system;
- (ii) telecommunications: mainly digitalization of the telephone network;
- (iii) energy: mainly construction of a network for the supply of natural gas and projects aimed at increasing electricity and water supplies.

### **2) Development of the primary sector and of agricultural resources**

This includes projects aimed at:

- (i) modernization of agricultural structures as well as the sector's infrastructure;
- (ii) modernization of agricultural manufacturing and trading firms;

- (iii) agricultural development, including the promotion and differentiation of agricultural employment as well as the preservation of the natural environment.

### **3) Increasing the competitiveness of business firms**

This can be achieved especially through horizontal measures which lead to the improvement of the technical environment and the availability of advice:

- (i) industrial zones;
- (ii) advisory services;
- (iii) manpower training.

### **4) Balanced development of tourism**

This includes measures which contribute to the improvement of tourist services and increase their distribution by area and season (for example, retirement, conference tourism and other specialized forms).

### **5) Development of human resources**

This includes measures which improve training structures, leading to better matching of labour supply with demand. This will also include training for the specialized manpower needed for the implementation of the four aforementioned priorities.

The CSF in Greece has been planned at two levels:

- (a) the national level, covering measures whose effects transcend the limits of specific regions;
- (b) the regional level covering measures aimed at the development of each of the country's 13 regions.

The implementation of the 1989-93 CSF is progressing at a pace which is generally considered satisfactory, a development which reinforces the argument that the CSF has brought about a turning point in public investment activity aimed at restructuring Greece's economy. The CSF's significance in this respect derives from two features.

- (i) The large size of the CSF. Investment expenditure financed through the CSF (including both nationally financed expenditure and that financed through Community grants) is approximately equal to half the entire government investment budget.

This clearly shows that the CSF has enabled the implementation of a government investment plan that would not have been feasible otherwise, given the emphasis placed on cutting down government expenditure.

- (ii) The CSF's effectiveness in disciplining the Greek Government to set up and implement an investment plan with clearly stated objectives which contribute both to the modernization of the country's material and human infrastructure and to regional development. This has reversed the process of stagnation in public investment activity which characterized the 1980s with disastrous consequences for the economy's restructuring efforts.

## 2.4. Policy conclusions and recommendations

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### 2.4.1. Introduction

In order to promote growth and the strengthening of the economic system in the central Mediterranean, an autonomous pattern of development must be established.

The main requirements are:

- (i) strengthening of the industrial sector to provide a larger productive base for the central Mediterranean economy;
- (ii) fulfilment of the potential of the vocational activities of the central Mediterranean: agriculture and tourism;
- (iii) provision of adequate basic infrastructural networks;
- (iv) integrated territorial organization and planning;
- (v) adequate education and training of the labour force to sustain the development of industry, the modernization of agriculture and the improvement of tourism;
- (vi) special provision of services to enable diffusion of small firms and to support decentralization of activities from large metropolitan areas;
- (vii) transformation of income transfer policies to support productive investment;
- (viii) increased efficiency in all areas of public sector activity.

### 2.4.2. Community policy

There are common policies at the EC level applying to the whole central Mediterranean region, and, of these, the most significant, and by far the largest component of EC expenditure, is the common agricultural policy (CAP).

The Structural Funds are the second basic EC support programme for the central Mediterranean; the whole region falls under the Objective 1 classification of the Structural Funds. The reform of the Structural Funds for the period 1994-99 and the next implementation of the Cohesion Fund for Greece represent an increase in the available resources and the opportunity for a new strategic reassessment of EC policies in the central Mediterranean.

#### *Reform of the common agricultural policy*

During the 1990s the common agricultural policy has steadily moved towards a less-protective environment for the European farmer. Given that the CAP is estimated to contribute to over a third of agricultural income, this poses a significant threat in the years to come for the agricultural sector in the central Mediterranean.

However, the new CAP is not entirely unfavourable for the region due to the continuing income support envisaged for smallholdings as well as the provision of funds for rural development, which will provide additional incomes for the rural population.

The radical restructuring of agricultural production in the central Mediterranean is not a reasonable proposition

We must effectively consider, therefore, the development of parallel agricultural branches, employing highly productive modern methods and operating within an open and competitive market on the one hand, and traditional small-scale, labour-intensive techniques on the other.

The vital role of traditional agriculture in preserving and protecting the environment, and in providing a source of income in underdeveloped rural areas, is particularly important in the central Mediterranean.

Equally important is the development of an internationally competitive modern agricultural sector.

The competitiveness of the modern agricultural sector should therefore be improved with the appropriate infra-

structural investments, provisions for agricultural education and training and a competitive restructuring in the composition of agricultural production.

The latter implies a shift of emphasis to the production of goods such as garden vegetables, fruit, olives and grapes for wine production in which the central Mediterranean has a strong competitive advantage. Moreover, these goods can easily be absorbed in the central Mediterranean, and in the EC and neighbouring non-EC markets. There is also a need to encourage forms of cooperation (companies, cooperatives, producers' unions, etc.) that will permit the cost-effective and systematic production of the abovementioned dynamic goods, by reducing external costs for the small farmer.

Innovation and research must be embodied in the agricultural activities.

Finally, closely related to agricultural policy is the requirement for the development of manufacturing enterprises for the vertical integration of agricultural production involving the processing, standardization and marketing of products.

There are very good prospects for such policies as this agro-alimentary activity involves the food and drinks industry, a branch with strong growth prospects and relatively few requirements for public support (infrastructure, training, etc.).

### ***The Structural Funds***

The increase of productive activities in the central Mediterranean depends, to a large extent, on spatial organization.

As in the past, one of the principal objectives of the Structural Funds must be to increase the level of infrastructural endowment. This problem is examined in Chapter 3.

Here, we want to point out that two kinds of infrastructure can have a particularly strong impact on the level of activity in the central Mediterranean: the transport system and the telecommunications system.

Their reinforcement would favour the integration of the central Mediterranean into the European space, increasing the internal spatial coherence and cost-competitiveness, guaranteeing the necessary linkages between firms and, in this way, increasing direct investment.

The direct support of the Structural Funds for industrial activities in the central Mediterranean cannot follow a sectoral approach. The limited competitiveness of the different branches in the central Mediterranean suggests a different approach. It is more important for the Structural Funds to support local development projects that are able to activate the crucial factors favouring investment: know-how, entrepreneurial forces, training, administrative and productive synergies. These factors must be addressed to a network functionality, improving the internal connections and diminishing the fragmentation of the area.

### **2.4.3. National policy**

At national level, both Greece and the Mezzogiorno must redefine the role of public support for the economy. This process represents an opportunity for a general reconsideration of development strategies.

In Italy, the end of the *Intervento straordinario* requires new strategies.

The *Intervento straordinario* in the Mezzogiorno was abolished in April 1992. However, the new regional policies that are thus required have still not been defined. The current proposal is that a new national fund will be created in Italy, based on the model of the Community fund, and managed with the usual procedures, which can then be used in the different areas of the country in different ways; this fund would not be for the Mezzogiorno regions only, but would finance interventions in the centre-north as well.

Our preceding analysis has highlighted some of the most important problems related to past development policies in the Mezzogiorno; their solution requires:

- (i) administrative reform redefining responsibilities, procedures and qualifications of public authorities and giving more autonomy (fiscal and decisional) to the regions in order to increase the efficiency of public institutions in both project planning and implementation;
- (ii) the assignment of clear responsibilities to the different institutions in order to overcome the existing institutional impasse and increase the coordination between the regional, national and Community policies;
- (iii) a redefinition of the instruments supporting investment, (grants, financial incentives, project evalu-

ation, etc.) in order to increase policy effectiveness in relation to the amount of resources spent;

- (iv) an increasing role for innovation and infrastructural policies in order to improve the social and productive environment;
- (v) limiting the responsibilities of the public administration and connected bodies in implementing projects and leaving these tasks to public and private partnerships.

*Greece: the role of the State evolves*

The policy measures put forward previously may be summarized by the necessity for:

- (i) an infrastructural policy that will bring Greece closer to the EC;
- (ii) a predominantly horizontal policy of support of productive activity, through the education and training of the labour force and the encouragement of forms of entrepreneurship that will allow the Greek economy to transcend the current monopoly of small-scale organization.

By extension, this policy implies a modernization of the State administrative system, as well as the decentralization of the decision-making and implementation processes for the corresponding projects.

The planning regions should thus also acquire the competence and tools to implement policies.

The widespread acceptance of the relative efficiency of market control of business activities requires the withdrawal of State interference from such activities. However, this goal should be one of substance and not of form, i.e. extending State support by means other than ownership.

These policy measures should seriously consider the implications of the process of restructuring and adjustment implied by the single European market and the curtailment of State intervention and control in a small-scale economy, such as that of Greece. These factors lead to a transition period of friction and transformation which might cause a rise in unemployment and other forms of social friction (strikes, social conflict, etc.).

It is therefore obvious that the policy of adjustment of the economy to a market-orientation and the restriction of

State involvement should be complemented by a policy of improving the infrastructure for social welfare, that is either absent or very poorly developed in comparison with those in the other EC Member States, and capable of accepting the public budget constraints.

#### **2.4.4. Local policy**

The general increase in the level of autonomy of the local authorities increases the range and the responsibilities of their policies for improving attractiveness and efficiency for the localization of activities. The instruments to promote investment must also be differentiated to reflect local needs and must not be based on financial grants alone.

Local policies for development must address three basic targets:

- (i) know-how, in terms of the creation of some European-level research centres and, moreover, promoting the diffusion of innovations and basic and intermediate know-how (development of industrial services, entrepreneurial capability, technological research and diffusion);
- (ii) vocational activities: development of branches with more competitive advantages, such as agriculture, agro-industry, industrial sectors, and tourism;
- (iii) spatial synergies: exploiting and reinforcing the linkages between different areas and with the external markets.

In all metropolitan areas, the infrastructures for research and technological diffusion must be reinforced, the relationships and cooperation with other European cities must be strengthened, and the development of advanced services, that are competitive at the European level, must be promoted.

Many cities, like Naples, Palermo, Catania, Taranto and Athens, are living in a prolonged industrial crisis, with progressive closure of industrial poles. In these cases, urgent action is necessary to limit the social effects of the crisis and to use the former industrial spaces for productive initiatives.

The more industrialized areas, like the Adriatic coast and eastern Greece, must reinforce their productive structure. The fabric of SMEs can increase competitiveness with interventions targeting technological innovation, networking cooperation and openness to external markets.

For this, it is necessary to increase the diffusion of services, experiment with incentives to increase both the quality and the quantity of capital provision, and promote innovations in firms that are internally generated and not solely imported. It is also necessary to increase the interactions between productive activities and cities' functionality.

Under these conditions, greater direct investment can have larger multiplier effects on income and productivity, and it can be supported with special initiatives (as in the case of the Fiat investments in Melfi).

The tourist coastal regions and rural areas must modernize and diversify their supply.

In tourist areas, the policy required is based largely on the overall policy mentioned above regarding the improvement of the material infrastructure (especially transport and communications), as well as on human resources (training etc.). It involves the improvement of the services offered, the diversification of supply and the spatial restructuring of activity.

The first policy axis implies the matching of services rendered with prices demanded. This is crucial for preserving the competitiveness of the central Mediterranean, especially with respect to neighbouring countries in the southern and eastern Mediterranean.

The diversification of supply comprises a series of measures aiming to transform the model of tourist activity from one of mass 'sun and sea' holidays towards a more complex and higher value-added model. This requires particular attention to special interest and age groups, such as retirement tourism, conference tourism, eco-tourism, agro-tourism, cultural activity tourism, mountain area tourism, etc.

This will permit the extension of the tourist period and allow for more standard forms of employment in this sector. It will also allow for the diffusion of activity to other regions and especially towards the mountainous hinterland, with its abundant natural and human resources which are underutilized, thus generating alternative sources of income in poor rural areas and promoting the development of a model of pluriactivity.



**TABLE 1.A. Population and GDP at current prices**

	Population				GDP (PPA EUR 12)			
	1960		1990		1960		1990	
	1 000	%	1 000	%	Billion	%	Billion	%
Mezzogiorno	18 099	6.5	21 184	6.5	9.0	3.4	267.4	4.4
Greece	8 327	3.0	10 086	3.1	3.1	1.2	98.5	1.6
Central Mediterranean	25 069	9.0	29 606	9.1	11.3	4.2	343.0	5.6
Italy	50 198	18.0	57 637	17.6	41.7	15.5	1 106.8	18.2
EUR 12	279 364	100.0	327 072	100.0	268.2	100.0	6 093.6	100.0

NB: Mezzogiorno includes Sardinia.

Sources: Eurostat; ISTAT; Svimez.

**TABLE 2.A. GDP per capita**

(PPA EUR 12)

	Index EUR 12 = 100						Index	
	1960	1970	1975	1980	1985	1989	variation	variation
							1960/75	1980/89
Mezzogiorno	52.1	64.4	66.5	70.2	71.6	67.7	14.4	- 2.5
Greece	38.8	51.6	57.2	58.1	56.7	52.6	18.4	- 5.5
Central Mediterranean	47.0	59.6	62.9	65.7	66.1	62.3	15.9	- 3.8
Italy	86.5	95.4	94.6	102.5	103.1	103.1	8.1	0.6
EUR 12	100.0	100.0	100.0	100.0	100.0	100.0	-	-

NB: Mezzogiorno includes Sardinia.

Source: Eurostat.

**TABLE 3.A. GDP at constant prices and national currencies, 1964-89**

	(% annual rate, period average)		
	1964-73	1974-84	1985-89
Mezzogiorno	5.1	2.3	2.4
Greece	7.7	2.6	2.1
EUR 12	4.6	1.9	3.0

NB: Mezzogiorno includes Sardinia.

Source: Elaborations on Eurostat, ISTAT and Svimez data.

**TABLE 4.A. Gross fixed capital formation, 1961-89**

	(% annual rate, period average, national currency)			
	1961-70	1971-80	1981-89	(1986-89)
Mezzogiorno	8.7	0.4	1.6	2.1
Greece	9.3	2.8	-0.8	0.9
EUR 12	6.1	1.6	2.4	6.1

NB: Mezzogiorno includes Sardinia.

Sources: Eurostat, ISTAT and Svimez (new series from 1981).

**TABLE 5.A. Composition of value-added** (constant prices 1985 = 100, ecus at 1985 exchange rate, %)

	1970					1980					1990				
	Agri- culture	Energy- manu- facturing sector	Construc- tion	Private services	Public services	Agri- culture	Energy- manu- facturing sector	Construc- tion	Private services	Public services	Agri- culture	Energy- manu- facturing sector	Construc- tion	Private services	Public services
Mezzogiorno	16.0	18.6	11.6	38.2	15.6	9.5	16.6	10.0	45.8	18.1	6.5	18.1	8.4	49.6	17.4
Greece	22.6	19.5	11.0	30.4	16.5	18.1	23.4	7.3	34.2	17.0	14.9	22.4	6.9	37.6	18.2
Central Mediterranean	-	-	-	-	-	11.3	17.9	9.2	44.4	17.5	8.5	19.1	8.0	46.8	17.6
EUR 12 <sup>1</sup>	4.9	36.5	8.3	37.8	12.3	3.9	31.8	7.1	42.5	14.6	3.0	28.5	5.9	48.2	14.3

<sup>1</sup> EUR 7 for 1970.

Sources: Eurostat; ISTAT; Svimez; national accounts of Greece.

**TABLE 6.A. Composition of employment**

	1970					1980					1990				
	Agri- culture	Energy- manu- facturing sector	Construc- tion	Private services	Public services	Agri- culture	Energy- manu- facturing sector	Construc- tion	Private services	Public services	Agri- culture	Energy- manu- facturing sector	Construc- tion	Private services	Public services
Mezzogiorno	30.4	16.5	13.9	25.1	14.1	23.3	15.6	10.5	32.0	18.6	15.7	12.4	9.1	41.4	21.6
Greece <sup>1</sup>	40.2	19.2	8.2	21.2	11.3	29.6	20.9	9.3	24.6	16.0	23.8	20.9	6.8	29.3	19.1
Central Mediterranean	34.2	17.6	11.9	23.5	12.8	25.4	17.5	10.1	29.3	17.7	18.7	15.6	8.3	37.0	20.4
EUR 12 <sup>2</sup>	9.9	33.0	8.8	32.4	15.8	9.4	29.1	7.8	36.3	17.5	7.1	24.4	6.9	40.7	20.9

<sup>1</sup> The employment in Greek public services contained one third of private employment.

<sup>2</sup> For 1970 EUR 7; 1989 instead of 1990 and EUR 12 without Ireland.

Sources: ISTAT; population census of Greece; Eurostat.

**TABLE 7.A. Indicators of subarea regions: shares of population, value-added and employment by sector and GDP per capita**  
(subarea = 100)

	Population	GDP per capita (subarea = 100)	Agriculture		Manufacturing		Construction		Private services		Public services		Total	
			Employ- ment	GDP	Employ- ment	GDP	Employ- ment	GDP	Employ- ment	GDP	Employ- ment	GDP	Employ- ment	GDP
Abruzzi	6.5	131.0	6.4	6.5	12.7	12.5	7.4	8.0	8.0	8.1	6.7	6.6	8.0	8.5
Molise	1.7	120.7	2.7	2.4	2.1	2.4	2.0	2.7	1.7	1.9	2.0	1.9	2.0	2.1
Campania	29.8	98.3	24.4	24.5	33.5	29.1	27.1	27.5	31.2	30.2	30.0	30.3	29.8	29.3
Puglia	21.0	106.5	24.2	27.4	26.9	24.8	18.1	21.3	20.6	21.2	20.8	20.5	21.6	22.3
Basilicata	3.2	90.6	4.5	3.9	2.5	2.2	4.7	4.5	2.6	2.5	3.3	3.4	3.3	2.9
Calabria	11.1	81.6	13.7	8.5	5.5	5.2	12.8	11.9	9.6	9.5	11.4	11.2	10.4	9.1
Sicily	26.7	96.7	24.2	26.9	16.7	23.7	27.8	24.1	26.4	26.6	25.8	26.1	25.0	25.8
Mezzogiorno (excluding Sardinia)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
West	17.3	89.0	34.2	26.1	10.9	12.2	19.6	18.9	13.3	12.8	13.0	13.0	18.1	15.4
North-east	25.3	100.5	32.5	34.8	29.1	29.0	22.6	26.4	21.4	19.8	21.4	22.9	25.7	25.4
Centre	12.6	108.2	18.2	22.5	11.8	17.1	13.6	15.9	8.6	9.2	8.4	8.2	11.9	13.6
Islands	4.3	95.3	2.3	3.5	2.1	2.4	6.0	5.3	5.9	5.8	3.8	3.1	3.8	4.1
Crete	5.1	96.2	10.8	8.1	2.4	2.2	5.7	5.4	4.0	5.4	3.7	4.2	5.3	4.9
Attica	35.3	103.3	2.0	5.0	43.8	37.2	32.5	28.1	46.9	47.1	49.7	48.6	35.1	36.4
Greece	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

NB: Population of 1988, GDP of 1988 at 1980 constant prices for Italy and at 1985 constant prices for Greece; employment of 1990, GDP per capita of 1988.

Sources: National accounts of Greece; ISTAT; labour force survey for Italy and Greece.

TABLE 8.A. Regional composition of employment and variation, 1981-90

(%)

	Agriculture			Manufacturing			Construction			Private services			Public services		
	1981	1990	1990/ 1981	1981	1990	1990/ 1981	1981	1990	1990/ 1981	1981	1990	1990/ 1981	1981	1990	1990/ 1981
Abruzzi	20.3	11.6	-8.6	17.7	19.0	1.3	13.4	10.8	-2.6	31.1	40.8	9.7	17.5	17.7	0.2
Molise	33.6	19.7	-14.0	9.2	12.8	3.6	14.3	12.0	-2.3	25.3	34.5	9.3	17.6	21.0	3.4
Campania	18.6	12.0	-6.7	18.1	13.5	-4.6	10.7	10.6	-0.2	34.2	42.8	8.6	18.3	21.2	2.8
Puglia	28.6	16.3	-12.3	14.9	14.9	-0.1	11.5	9.7	-1.8	28.1	38.9	10.9	16.9	20.2	3.3
Basilicata	31.0	20.2	-10.8	8.9	9.3	0.5	18.2	16.6	-1.6	23.0	32.3	9.3	18.9	21.5	2.7
Calabria	23.0	19.1	-3.9	7.0	6.3	-0.7	17.4	14.2	-3.1	31.7	37.5	5.7	20.9	22.9	2.0
Sicily	21.8	14.1	-7.7	10.6	8.0	-2.6	16.0	12.9	-3.1	33.4	43.2	9.8	18.2	21.7	3.5
Mezzogiorno (excluding Sardinia)	22.9	14.6	-8.3	13.8	11.9	-1.9	13.5	11.6	-1.9	31.6	40.9	9.2	18.2	21.0	2.8
West	49.5	45.0	-4.5	12.3	12.5	0.2	8.5	7.3	-1.1	17.7	21.4	3.7	12.0	13.7	1.7
North-east	36.6	30.2	-6.4	21.9	23.7	1.8	8.9	6.0	-3.0	19.3	24.3	5.0	13.3	15.9	2.6
Central	44.0	36.6	-7.4	18.6	20.9	2.3	9.0	7.8	-1.2	17.0	21.1	4.2	11.5	13.6	2.1
Islands	32.0	14.1	-17.9	11.9	11.2	-0.7	12.3	10.6	-1.8	28.9	45.1	16.2	14.8	19.0	4.3
Crete	51.0	48.3	-2.7	9.0	9.2	0.2	8.1	7.3	-0.9	19.2	22.0	2.9	12.7	13.2	0.4
Attica	1.8	1.4	-0.4	29.1	26.2	-3.0	10.2	6.3	-3.9	35.9	39.1	3.2	22.9	27.1	4.1
Greece	29.2	23.9	-5.3	20.9	20.9	0.0	9.4	6.8	-2.6	24.6	29.3	4.7	16.0	19.1	3.1

NB: Mezzogiorno 1980-90, Greece 1981-90.

Source: Labour force survey for Greece and Italy.

TABLE 9.A. Regional composition of value-added and variation, 1981-88

(%)

	Agriculture			Manufacturing			Construction			Private services			Public services		
	1981	1988	1988/ 1981	1981	1988	1988/ 1981	1981	1988	1988/ 1981	1981	1988	1988/ 1981	1981	1988	1988/ 1981
Abruzzi	10.0	7.0	-3.0	22.5	27.5	5.0	9.8	7.5	-2.3	43.0	45.0	2.0	14.7	13.0	-1.7
Molise	11.3	10.4	-0.9	16.4	21.9	5.5	12.6	10.3	-2.3	42.2	42.5	0.2	17.5	14.9	-2.5
Campania	9.0	7.7	-1.3	20.0	18.6	-1.4	7.3	7.6	0.2	45.8	48.7	3.0	17.9	17.4	-0.5
Puglia	12.9	11.3	-1.6	17.6	20.8	3.1	10.2	7.7	-2.6	42.3	44.8	2.6	17.0	15.5	-1.5
Basilicata	13.5	12.3	-1.2	14.7	14.0	-0.7	14.0	12.5	-1.5	38.4	41.3	2.9	19.4	19.9	0.5
Calabria	11.0	8.6	-2.5	20.3	10.8	-9.5	11.1	10.5	-0.6	39.8	49.3	9.5	17.7	20.7	3.1
Sicily	11.1	9.6	-1.6	16.2	17.2	1.0	9.2	7.5	-1.7	46.4	48.7	2.3	17.1	17.1	-0.1
Mezzogiorno (excluding Sardinia)	10.9	9.2	-1.7	18.5	18.7	0.2	9.4	8.0	-1.3	44.0	47.2	3.2	17.3	16.8	-0.4
West	35.4	29.5	-6.0	18.0	18.5	0.5	8.3	8.1	-0.3	28.3	31.0	2.7	10.0	13.0	3.0
North-east	23.7	23.8	0.1	25.9	26.6	0.6	8.7	6.8	-1.9	29.6	29.0	-0.6	12.0	13.8	1.8
Central	28.7	28.7	0.0	32.7	29.2	-3.5	8.4	7.7	-0.7	22.3	25.1	2.8	8.0	9.3	1.3
Islands	18.9	14.6	-4.3	17.6	13.4	-4.2	10.6	8.4	-2.1	41.9	52.2	10.3	11.1	11.4	0.3
Crete	34.2	28.6	-5.6	12.6	10.3	-2.3	7.7	7.1	-0.6	35.2	40.9	5.7	10.3	13.0	2.7
Attica	2.0	2.4	0.4	24.6	23.8	-0.7	5.6	5.1	-0.5	47.0	48.2	1.2	20.9	20.5	-0.3
Greece	18.8	17.4	-1.4	24.2	23.3	-0.8	7.5	6.6	-0.9	35.4	37.3	1.9	14.2	15.4	1.2

NB: Mezzogiorno at 1980 prices, Greece at 1985 prices.

Sources: National accounts of Greece; ISTAT.

**TABLE 10.A. Number of cattle, pigs, sheep and goats**

	(1 000)			
	Cattle	Sheep	Pigs	Goats
Central Mediterranean	2 254	14 127	1 875	6 626
Greece	777	10 353	1 127	5 904
Mezzogiorno	1 477	3 774	748	722
EUR 12	80 726	100 385	102 029	13 130

Sources: Eurostat; ISTAT; Greek Ministry of Agriculture.

**TABLE 11.A. Agricultural production by type in the central Mediterranean area**

Mezzogiorno: Gross total production by type (GTP)				Greece: GTP of principal production type			
	1980	1989	Difference 1989/1980		1980	1989	Difference 1989/1980
Cereals	10.3	5.4	- 4.9	Wheat (soft)	10.9	3.5	- 7.4
Legumes	0.7	0.4	- 0.3	Wheat (durum)	4.9	5.6	0.6
Potatoes/vegetables	22.7	25.5	2.8	Barley	3.7	1.7	- 1.9
Plants	3.1	3.7	0.6	Corn	6.5	6.4	- 0.1
Feed	0.2	0.1	0.0	Sugar beet	2.0	2.2	0.2
Ornamental flowers	2.3	5.1	2.8	Cotton	6.1	13.5	7.4
				Tobacco	7.6	8.9	1.3
Wine	12.2	12.0	- 0.1				
Olives	12.4	10.8	- 1.6	Wine (must)	2.7	3.2	0.5
Citrus	8.9	9.9	1.0	Olive-oil	14.0	14.1	0.1
Fresh fruit	8.1	8.3	0.2				
Others	0.4	0.5	0.1	Beef	7.1	5.3	- 1.8
				Lamb	7.8	6.4	- 1.4
Meat	12.2	11.6	- 0.6	Goat	2.0	3.7	1.6
Milk	4.8	4.8	0.0	Pork	7.0	6.0	- 1.1
Eggs, other	1.8	1.8	0.0	Poultry	4.8	4.9	0.1
				Milk	12.9	14.7	1.8
Total	100.0	100.0		Total	100.0	100.0	

Sources: Greek Ministry of Agriculture; ISTAT.

**TABLE 12.A. Land use<sup>1</sup>**

(1 000 ha)

	Arable land	Permanent grassland	Permanent crops	Kitchen gardens	Agricultural used area	Wooded area
Central Mediterranean	5 214 (51%)	2 453 (25.3%)	2 519 (23.5%)	35 (0.3%)	10 221 (100%)	7 339
Greece	1 807 (50.9%)	1 101 (31%)	642 (18.1%)	–	3 550 (100%)	5 755
Mezzogiorno	3 407 (51.7%)	1 352 (20%)	1 877 (28%)	35 (0.3%)	6 671 (100%)	1 584
EUR 12	67 846 (52.6%)	48 531 (37.6%)	11 744 (9.4%)	407 (0.3%)	129 233 (100%)	53 776

<sup>1</sup> For Greece 1989, for Mezzogiorno 1990.

Sources: ISTAT; Eurostat.

**TABLE 13.A. Land use of EUR 12**

(%)

	Arable land	Permanent grassland	Permanent crops	Kitchen gardens	Agricultural used area	Wooded area
Central Mediterranean	7.7	5.4	21.5	8.6	8.0	13.3
Greece	2.7	2.6	5.5	–	2.8	10.7
Mezzogiorno	5.0	2.8	16.0	8.6	5.2	2.9
EUR 12	100.0	100.0	100.0	100.0	100.0	100.0

<sup>1</sup> For Greece 1989, for Mezzogiorno 1990.

Sources: ISTAT; Eurostat.

**TABLE 14.A. Production of the most important cultivation of the area, 1990**

(1 000 t)

	Wheat (soft)	Wheat (durum)	Corn	Sugar beet	Tobacco	Wine	Olive-oil	Fruit	Citrus	Tomato
Central Mediterranean	1 418	3 029	2 119	4 516	332	5 408	1 025	3 610	1 394	5 462
Greece	949	1 145	1 724	2 717	166	519	313	2 232	983	1 655
Mezzogiorno	469	1 884	395	1 799	166	4 889	712	1 378	411	3 807
EUR 12	67 837	6 714	28 579	95 232	:	21 253	:	21 713	8 429	11 235

Sources: Eurostat; Ministry of Agriculture.

**TABLE 15.A. Mezzogiorno imports/exports by sector (foreign countries; 1987)**

	Agri- culture	Energy	Ferrous	Non-metallic manufac- tured products	Chemical	Metallic manufac- tured products	Trans- port equip- ment	Food	Textiles	Others	Total
Imports (% of value-added)	14.3	101.6	99.3	7.6	38.3	23.7	62.8	30.6	24.8	28.3	38.5
Exports (% of value-added)	7.2	27.8	56.6	13.1	51.4	24.8	76.5	27.2	49.3	18.8	25.3
Balance (% of value-added)	- 7.1	- 73.8	- 42.6	5.5	13.2	1.2	13.7	- 3.5	24.6	- 9.6	- 13.2
Degree of openness	21.45	129.43	155.87	20.72	89.67	48.53	139.37	57.83	74.13	47.12	63.72
Specialization index	- 33.0	- 57.0	- 27.4	26.8	14.7	2.4	9.8	- 6.0	33.1	- 20.3	- 20.7

NB: Total = Agriculture + industry;

Degree of openness = (Imports + exports)/value-added\*100

Index of specialization = Balance/(imports + exports)\*100.

Source: ISTAT.

**TABLE 16.A. Greek goods import/export composition and specialization**

	1981			1990			1981	1990
	Imports	Exports	Balance on GDP	Imports	Exports	Balance on GDP	Index speciali- zation	Index speciali- zation
Food and beverages	11.2	23.8	- 0.01	13.4	26.6	- 0.03	- 6.38	- 19.24
Raw materials	14.2	8.8	- 0.05	13.0	9.4	- 0.07	- 58.90	- 60.65
Petroleum products	32.1	16.4	- 0.13	14.4	7.2	- 0.09	- 64.94	- 70.77
Manufactures	42.0	49.8	- 0.11	59.0	54.1	- 0.30	- 34.00	- 52.46
Unallocated	0.4	1.3	-	0.1	2.7	0.01	-	-
Total	100.0	100.0	- 0.30	100.0	100.0	- 0.49	- 41.24	- 49.20
Total (million ECU)	10 272	4 274	-	14 883	5 068	-	-	-

NB: Index of specialization = Balance/(imports + exports)\*100.

Sources: Bank of Greece; Eurostat.



TABLE 17.A. Percentage of employees by size of enterprise and sector in the Mezzogiorno, 1989

NACE	1	2	3	4	5	6	7	8	9	Total
<i>Employees</i>										
1-9	5.1	21.4	19.0	29.4	47.2	62.8	15.1	27.2	29.3	35.6
10-99	20.3	41.9	30.4	51.4	43.1	32.7	25.4	16.2	39.4	37.3
100-499	14.7	20.8	18.7	15.1	8.2	3.3	13.9	18.6	20.5	13.1
> 500	59.9	16.1	31.9	4.1	1.5	1.2	45.6	38.0	10.8	13.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Chamber of Commerce, 1989.



## 3. Infrastructure

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### 3.1. Existing state of development

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#### *A picture of inadequacy and inefficiency*

Infrastructural development in the central Mediterranean region has the common characteristics of lagging regions coupled with a high degree of spatial fragmentation. This fragmentation is observed both at the level of each national region and of the central Mediterranean as a whole. There are only a few weak linkages between the Mezzogiorno and Greece such as the transportation linkage between western Greece and the Adriatic coast and the planned underwater cable joining the respective electric power distribution networks.

Although the weak nature of linkages is closely connected with the geophysical configuration of the region, the potential for other linkages in air and sea transport, communications and information systems is underutilized.

The conditions that created deficiencies in almost all infrastructure components in the central Mediterranean region can be traced to the historical evolution, geographic configuration and location, and to the economic development restrictions of the respective national States. The differences that appear in some infrastructure categories between the Mezzogiorno and Greece can also be explained by the quite different historical, economic and social development of Italy and Greece.

In broad terms, Greece is lagging in most components of the technical infrastructures examined. Exceptions to this rule are electric energy, air transport and sea trans-

portation facilities, as well as conventional telecommunications. Impressive differences occur in the road and rail systems. The Mezzogiorno has a satisfactorily modernized road system extending from the north while Greece has a system created in the late 1950s, an important project for that period which has not been greatly improved since. A more extreme disparity occurs with rail, since the basic network in Greece has not been substantially improved since it was first installed in 1880. Both systems are currently under modernization programmes initiated in the last decade.

The situation in air transportation and to a certain extent in the harbour system is that the Mezzogiorno appears weaker than Greece in those components. Traditionally, Greece has been dependent on sea transportation, the dominant mode until World War I, mainly because of the absence of any functional land transportation systems and the obvious geographical morphology peculiarities. Similar factors played an important role in the development of an air transportation system in Greece during the 1960s that operates both domestic and international flights at lower levels than the national Italian system.

A qualification has to be made for the case of systems such as air transport, harbour, as well as communication and advanced information systems that make comparisons between the Mezzogiorno and Greece rather schematic if only quantitative data are compared. What these systems have in common is that they are created on a national scale and function as parts of international networks. Therefore, since the Mezzogiorno is a segment of a national State one has to make parallel comparisons taking into account data at the national level.

### 3.2. Prospective developments of infrastructure

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#### *The Mezzogiorno — a question of utilization and improvement* *Greece — a question of major public works*

The situation in the Mezzogiorno is quite different from that in Greece. The Mezzogiorno has acquired a higher level of infrastructure as the 'poor brother' of an advanced national State while Greece as a whole has remained behind, not enjoying such subsidies until its relatively recent incorporation into the EC.

Current planning in the region suffers from well-known weaknesses, and efforts to overcome them are as yet too recent for their effectiveness to be fully evaluated. There are two main areas of concern affecting infrastructure development programmes:

- (i) the capacity and effectiveness of institutions and implementation bodies to absorb available funds and implement well-staged and well-functioning parts of the programmes;
- (ii) the recent scarcity of financing within a general climate of austerity for both national States of the central Mediterranean area.

Although the above two points at first glance seem rather contradictory, they describe very well in general terms the situation both in the Mezzogiorno and Greece. Efforts to render the actions of public bodies more effective seem to be based mostly on the recently adopted policy of privatization. This process is well under way in Italy and in its very initial stages in Greece. In Italy, infrastructural investment, which used to be solely the concern and responsibility of public corporations, is now following a model of mixed public and private investment.

In the Mezzogiorno, infrastructural development has slowed in this period. Traditional national policy providing transfers to weaker regions — the so-called *Intervento straordinario* — is undergoing drastic reform. The process of privatization of public companies on the other hand is well under way in sectors traditionally controlled solely by the State. Private sector involvement in other areas is also increasing, for example in the national rail company, 'Ferrovie dello Stato', a new investment policy has just begun to be planned under which investment in rail transport will be 40% public and 60% private.

In Greece, although steps for privatization have been taken in recent years, current investment in infrastructure is still entirely from the public sector and strongly financed by the EC.

The general state of infrastructural planning, especially in the case of Greece, presents a paradox. On the one hand a rather logical and well-functioning network has been established, integrating and extending the European network, while on the other there are serious questions concerning the financing ability of both the EC and the national States to implement such an ambitious programme.

### 3.3. Transport

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#### *Low levels of development within a region of severe geographic barriers*

The basic element that renders the central Mediterranean region unique and points to its Mediterranean 'character' is the interdependence of the two basic modes of land and sea transport. Achieving a well-functioning and integrated transport system in the central Mediterranean region for both freight and passengers requires completion of a system of nodes and linkages that coordinate the peculiarities and intrinsic differences of separate systems with distinct technical and administrative limitations.

Existing transport in the whole region has the common characteristic of a provision of a basic infrastructure network that greatly fails to meet the actual demand.

In addition to economic development restrictions that limited public investment for transportation infrastructure, the spatial pattern of the resulting transportation network for all modes has also been largely restricted by geographic barriers and the discontinuities created by them.

Both the Mezzogiorno and Greece have in common similar geographic characteristics that hinder easy and inexpensive solutions for achieving a uniformly integrated transport system. Both are peninsulas with islands and extensive mountain ranges between coastal areas.

The extensive Mediterranean coastline and the islands present further problems in developing an integrated system of transportation that must coordinate several modes.

The Mezzogiorno system comprises two linear coastal axes which are weakly connected by transversal linkages that lead to an island, Sicily. The system in Greece essentially comprises a single major axis in the eastern continental part from Athens to Thessaloniki and the Balkan continental areas with branches south-west to Patras and north-east to Kavala: the 'S' axis.

The most distinctive similarities between the two sub-regions are:

- (i) transport facilities that are well below the European average standard;
- (ii) road transportation is the dominant mode, above the EC average, and both regions depend on the road system, which is highly developed in the case of the Mezzogiorno and in contrast to a poorly functioning network in Greece;
- (iii) both regions have poorly functioning rail systems, in the Mezzogiorno due to underutilization of existing basic technical infrastructure, and in Greece due to an undeveloped and antiquated network.

The reason for the substantial difference between the Mezzogiorno and Greece in the area of transport is the fact that for Italy, and eventually for the Mezzogiorno, even before World War II and the following decades, certain steps were taken with the development of basic infrastructure, such as railways and motorways, while in the case of Greece actual public action towards the same standard is still currently in the implementation stage.

In terms of the level of development, the basic conclusions for transport in the region, apart from the inefficiencies that exist in general, are that the Mezzogiorno has a more satisfactory road-rail-harbour infrastructure while Greece has severe weaknesses in all systems. Current planning in the Mezzogiorno is distinctively different from that in Greece. Current development consists of improvements along two main lines:

- (i) the strengthening of intermodality with emphasis on the rail and harbour system;
- (ii) the introduction of a high-speed railway system as an extension of the European network.

In Greece, where the existing transport network is in a state of complete disarray and collapse, the develop-

ment plan is to create a virtually new system of roads and rail linked to modern harbours. If this plan is implemented, it will result in a spectacular change in linkages and journey distances, as well as border area connections with all neighbouring non-EC countries.

Planning in the Mezzogiorno follows the national transport plan (PNT) which was instituted in 1986 and was revised in 1991. It does not, however, incorporate any clear picture as to the necessary investment, financing or completion time. This lack of both careful planning and a coherent long-term strategy appears to be the greatest handicap of State intervention in general in the Mezzogiorno.

A similar, if not weaker, picture in planning terms holds for Greece. Not only is there no comprehensive transportation plan, but no less than four ministries are involved in the decision-making processes related to transport matters: the Ministry of the Environment, the Ministry of Communication, the Ministry of Justice and the Ministry of National Economy.

Road network and major harbour planning is administered by separate agencies of the Ministry of the Environment and Public Works, rail transport planning is the responsibility of the National Rail Organization, while marinas for recreational vessels are planned by the National Tourism Organization. There are serious questions as to the coordination of programmes and the effective use of financing as well as control of negative environmental impacts.

### **3.3.1. Passenger and freight transport patterns**

#### *The monoculture of car and lorry domination*

Passenger and freight transport in the region as compared with the EC average modal split present some distinctive differences that reflect basic technical infrastructural deficiencies.

The basic difference is the overwhelming domination of road transportation over all other modes; road transportation at the EC mean level accounts for 55% of movements, an index already identified as too high. In the Mezzogiorno, movements by road account for 85.4% (car and bus) and in Greece for 90%.

The reason for this is the weakness of the rail system, which renders it unable to compete with road transport. In Greece the situation is even more severe than in the

Mezzogiorno with only 4.5% of passenger movements utilizing the rail system (30% for the EC), despite the low efficiency of the road network.

In general, the freight modal split for Italy is about the same as the EC composite figures. In contrast, the picture for Greece is quite unbalanced: freight movement by rail is almost non-existent, compared with 12% in Italy and 55% in the EC as a whole.

Pipeline transport does not exist within Greece, although there are several outlets receiving oil by sea transportation. A gas pipeline does not exist at all.

An important factor in Greece is the recent large increase in freight movements by lorry, corresponding to an increase in the lorry fleet. In 1969 lorries accounted for less than 80% of freight transport, while in 1990 their share was estimated at over 90%.

In the Mezzogiorno the total road network comprises 90 000 km. In Greece it is some 40 000 km. In terms of network density indices, there are extreme disparities between the two subregions. This can be only partially explained by the fact that the majority of continental Greece is mountainous and does not in its core contain any major production locations or major urban centres; a similar situation exists in some Mezzogiorno regions

such as Basilicata and Molise. The density factor for the Mezzogiorno is 2 km/100 km<sup>2</sup> and for Greece 0.2 km/100 km<sup>2</sup>, while the serviceability index for the Mezzogiorno is 111 km/million inhabitants and for Greece 26 km/million inhabitants.

In terms of the quality of road characteristics, standards and efficiency, disparities between the Mezzogiorno and Greece are also large. This is mainly due to the fact that Italian national infrastructure development programmes have already implemented a basic motorway system in the Mezzogiorno while the corresponding programme in Greece is in its initial stages of implementation. This is very well illustrated by the fact that the total motorway system in Greece consists of only a few fragments totalling some 270 km, compared with the almost integrated Mezzogiorno system of 2 042 km.

The major peculiarity of the national highway system in Greece is the domination in functions and traffic volume of the major highway connecting Athens to Thessaloniki and the Balkans which was constructed in the early 1960s. Although it does not provide a motorway-level service, it carries most of the intercity and intercontinental traffic of goods and passengers in Greece.

In addition to the highly fragmented motorway provision in Greece, the low design and maintenance standards

**TABLE 1. Percentage distribution of interurban passenger and goods transport by mode, 1989**

Passenger			Freight				
Mode	Italy <sup>1</sup> %	Greece <sup>2</sup> %	Mode	Italy (1989) <sup>1</sup> Million tkm	%	Greece (1975) <sup>2</sup> Million tkm	%
Bus	13.8	40.2	Road	111 219	62.60	23 420 <sup>4</sup>	85.33
Car	71.6	49.9 <sup>3</sup>	Rail	21 556	12.13	525	1.91
Rail	12.5	4.5	Boat	33 484	19.97	3 500	12.75
Boat	0.6	2.4	Air	31	0.02	4	0.01
Air	1.5	3.0	Pipeline	9 257	2.21	–	–
Total	100.0	100.0	Total	177 676	100.00	27 449	100.00

<sup>1</sup> Source: Ministry of Transport.

<sup>2</sup> Source: Hellenic Institute of Transport Engineers.

<sup>3</sup> Motorcycles included.

<sup>4</sup> Urban included.

combined with heavy usage combine to give the national motorway system in Greece one of the highest accident rates in Europe. This is a disturbing fact, especially if the expected trend of a rapid increase in car ownership materializes.

In the Mezzogiorno, the primary road system is almost approaching the general European standard both in density and serviceability. However, within the region the network has certain discontinuities in east to west movements since it is made up of two rather weakly connected north to south axes (Tyrrhenian coast, Adriatic coast) which are connected only through the Naples-Bari highway in the northern Mezzogiorno regions.

### 3.3.2. Road transportation

#### *A dominant mode on the verge of transformation and adaptation*

Two different modernization issues apply to the Mezzogiorno and Greece corresponding to distinctly separate policies and levels of investment: existing levels of road infrastructure in the two subregions are remarkably different especially when motorway networks are compared. The motorway network figures in Table 2 demonstrate this difference only too clearly.

Planned road infrastructure aims to complete the Mezzogiorno network and almost completely change the picture for Greece (see map 'Motorway network — long-term plan'). Total long-term planned investment for road connections of motorway standard in the region is

estimated at ECU 17 000 million. Approximately 76% of this investment will be allocated to Greece and 24% to the Mezzogiorno. The development planned includes an upgrading of existing links to motorway standard as well as the construction of new roads necessary in order to complete the trans-European road network by the year 2002.

In the Mezzogiorno some 900 km of new linkages or improvements are to be provided, connecting Puglia directly with Palermo in Sicily through the completion of the Palermo-Messina motorway. Construction of this system will complete an already reasonably developed road system in the Mezzogiorno.

Planning for the next decade in Greece is of an entirely different nature. About 3 000 km of essentially new motorways are projected,<sup>1</sup> completely reversing the current picture. If we assume full implementation of this programme by 2002 Greece will have a network with a density of 2.6 km/100 km<sup>2</sup>, ranking it somewhere between the current indices of France and Germany. As far as the network to population index is concerned, this comparison is even more spectacular, since 329 km/million inhabitants achieves an index comparable to current indices for the United States.

The above comparisons, however, require some qualifications concerning the ability of existing implementation mechanisms to absorb such investment in a 10-year period and implement a programme that so drastically

<sup>1</sup> As a long-term plan, 1 300 km of motorways are projected in the next 10 years.

**TABLE 2. Existing motorway network, 1991**

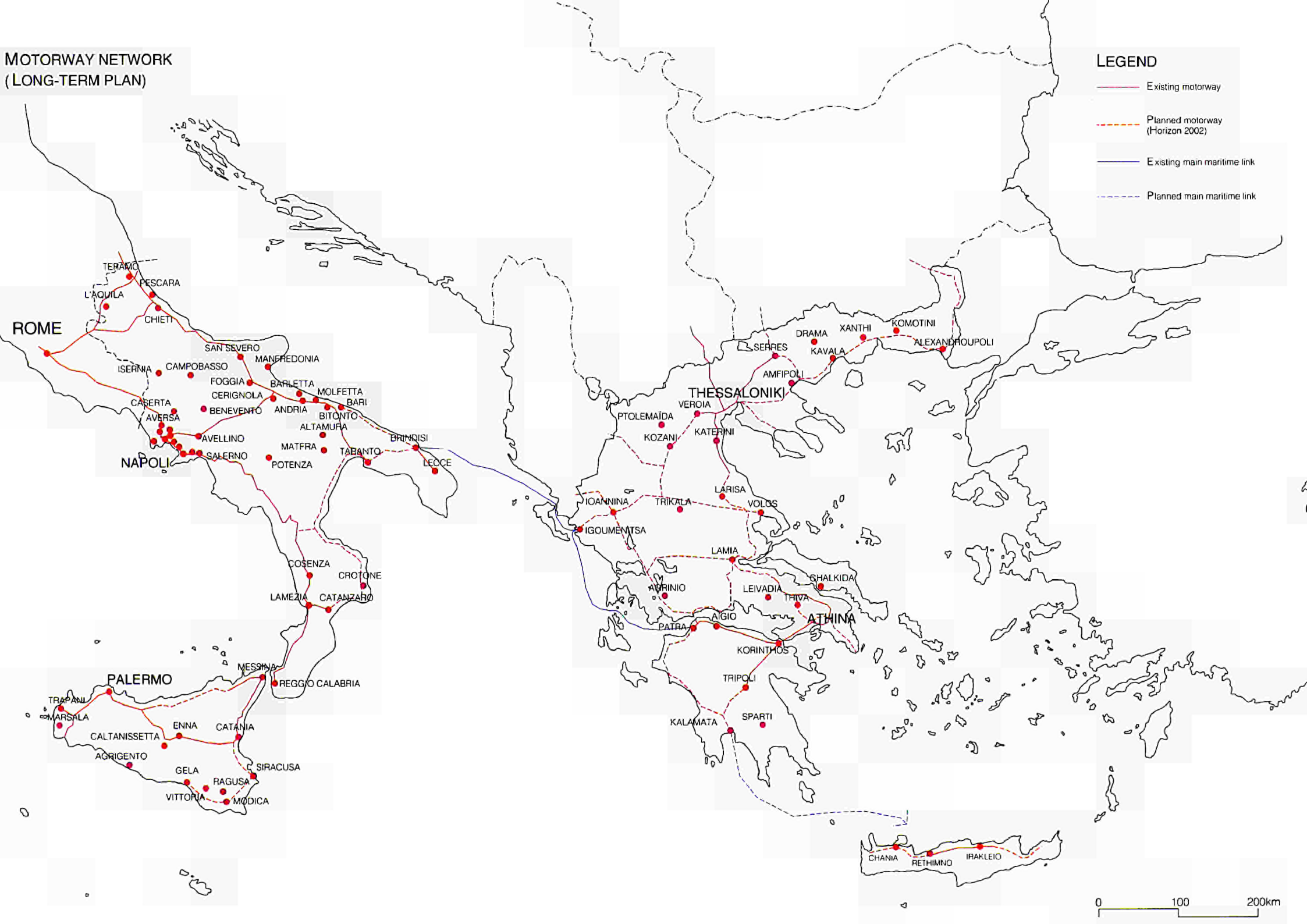
	Road network (km)	Density (km/100 km <sup>2</sup> )	Serviceability (km/million inhabitants)
Greece	270	0.2	26.3
Mezzogiorno	2 042	2.0	111.0
Central/north Italy	4 151 6 195	2.3 2.0	113.0 109.0
France	7 467	1.4	108.6
Germany	8 721	3.5	138.1

Sources: ISTAT; ESYE; Eurostat.

# MOTORWAY NETWORK (LONG-TERM PLAN)

### LEGEND

- Existing motorway
- Planned motorway (Horizon 2002)
- Existing main maritime link
- Planned main maritime link





**TABLE 3. Planned motorways**

	Mezzogiorno			Greece		
	km	km/100 km <sup>2</sup>	km/million inhabitants	km	km/100 km <sup>2</sup>	km/million inhabitants
Existing	2 042	2.0	109.0	270	0.2	26.3
Planned	2 939 <sup>1</sup>	2.9	155.7	1 609	1.2	156.7
Long-term plan	-	-	-	3 380 <sup>1</sup>	2.6	329.3

<sup>1</sup> Cumulative figures.

upgrades the entire Greek road network. Thus, for the purposes of evaluating alternative trends, we have to estimate 'the most likely' implementation at somewhat more conservative levels according to which only 50% of funded projects will actually be put in operation by the year 2002.

### 3.3.3. Rail transportation

#### *Two distinct questions of modernization for Greece and the Mezzogiorno*

There are acute deficiencies in the rail transportation system in the central Mediterranean. In the Mezzogiorno the installed system could potentially be developed to compete with other modes of land transport. However, it requires some infrastructural modernization and a radical reorganization in order to overcome the large management inefficiencies.

In Greece the situation is more critical. The antiquated system, covering only part of the territory, is unable to compete with other modes both in terms of its technical characteristics and efficiency of operation.

The total rail length in Greece is 2 479 km of which 63% is of normal, international standard gauge along the Piraeus-Athens-Thessaloniki, and Thessaloniki-Istanbul axes. Most of the network is still single line. The remaining 37% of the network is narrower gauge, providing a very low-level service in the Peloponnese, Thessaly and western Macedonia.

In spatial terms the rail system essentially excludes the entire western continental Greece, and provides no linkage to the corresponding network in Puglia.

The Mezzogiorno already has a fairly adequate rail infrastructure with a density of 5.3 km/100 km<sup>2</sup>, comparable

**TABLE 4. Rail network length, 1991**

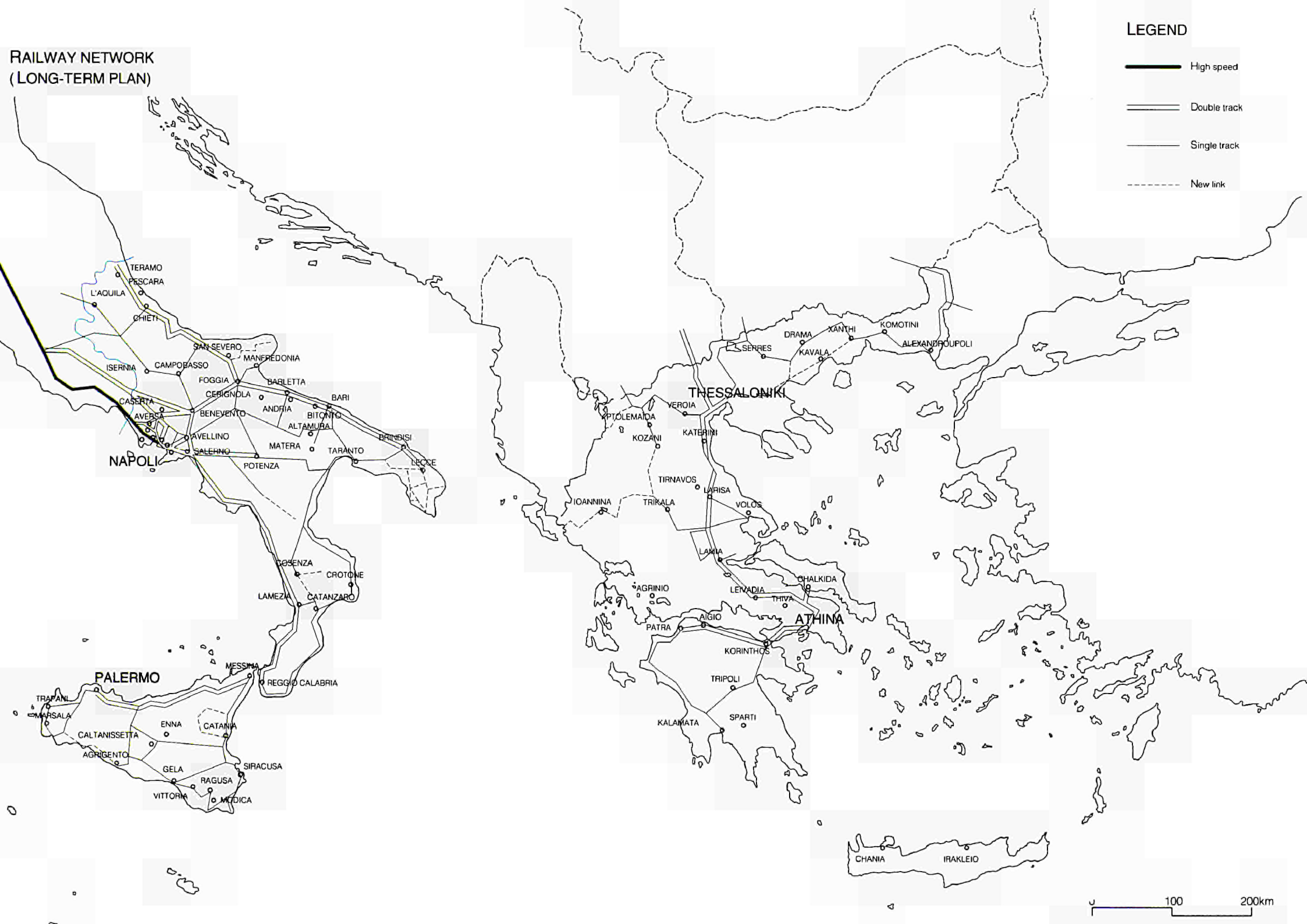
Regions	Total length	Electrified	Non-electrified	Density
	(km)	(km)	(km)	(km/100 km <sup>2</sup> )
Mezzogiorno	5 311	2 221	3 090	5.3
Greece	2 479	0	2 479	1.9
Italy	16 030	9 443	6 587	5.3
France	34 322			6.3
Germany	27 045			11.0
EUR 12	124 022			5.5

Sources: ISTAT; ESYE; Eurostat.

**LEGEND**

- High speed
- Double track
- Single track
- New link

**RAILWAY NETWORK  
(LONG-TERM PLAN)**



with the Italian national standard but still far behind other European countries. However, the qualitative indices of double-line provision and electrification show that the network is much weaker in the Mezzogiorno: only 42% of the network is electrified, as against 67% in northern Italy and only 35% of the Mezzogiorno network has double-line service.

In addition to these weaknesses, policies have in the past concentrated on provision of long- and medium-distance services, neglecting the demand for local services, which continue to be monopolized by road transport.

Planned investment in rail infrastructure in the region is estimated at ECU 5 600 million for Italy and ECU 3 700 million for Greece. The major improvement for Italy, accounting for ECU 1 800 million, is the establishment of a high-speed network, which will extend the existing European network to Venice and Rome-Naples (see map 'Railway network — long-term plan'). Considerable improvements are planned for the east-west link Naples-Foggia and Naples-Brindisi. The remainder of the programme consists of improvements and modernization (double track and increased speed).

Planned infrastructure for rail in Greece (see map) follows a programme similar in ambition to the road system. Most current construction focuses on the existing line from Athens to Thessaloniki and the Yugoslav border. The modernization effort on this line will continue, resulting in an upgraded, mostly double track, electrified system.

Future plans for the development of the rail system consist of the modernization or improvement of existing lines as well as the establishment of new lines. These improvements aim eventually to eliminate the non-standard width lines in Thessaly and the Peloponnese. In the case of the Peloponnese network, the change to standard track width is still under evaluation.

The new lines will further integrate the system, providing major east-west links from Igoumenitsa to Volos, from western Thessaly to Kozani and the littoral areas of eastern Macedonia and Thrace (Thessaloniki-Kavala-Xanthi).

The planned system would integrate very well with international routes: through the potential connections across the northern border areas to the Balkans with a new line from Florina to Albania; and with the improvement of existing connections, two to the former Yugoslavia, two to Bulgaria and two to Turkey.

### 3.3.4. Sea transportation

#### *A traditional mode of transportation in the Mediterranean*

Sea transportation plays an important role in the region and could complete the integrated transportation system if it were efficiently combined with land transportation systems both in terms of location and optimum hierarchy (see map 'Harbours').

In Italy as a whole there are 136 harbours, of which 95 are commercial. Within the 7 456 km of coastline, this corresponds to one harbour for every 78 km. This harbour density is however far higher in northern and central regions (one harbour for every 55 km of coastline) than in the Mezzogiorno. Sea traffic is also concentrated in the north which accounts for 40% of the shipping routes. The principal harbours are also located in this area: Genoa, Savona, La Spezia and Livorno along the Tyrrhenic coast, and Venice, Trieste and Ravenna on the Adriatic.

The Mezzogiorno does not have harbours that in terms either of goods or passenger transport hold an equivalent position in the Italian harbour system to those in northern Italy. The harbour network is thus heavily polarized towards the north.

The Greek harbour system comprises about 140 harbours. Within the 15 021 km of coastline, this corresponds to one harbour for every 107 km of coastline. Most harbour activity in quantitative terms is however concentrated in the Attica region, where the two major ports of Piraeus and Elefsina account for 24% of goods and 30% of the total passenger transportation. As in the case of the Mezzogiorno, the major component of goods transportation is liquid fuels and, in certain locations in Greece, bulk ore.

The remaining major harbours have a secondary role in the system, but due to their position and relationship to major road and rail modes they possess a specialization that highlights their strategic role and implies increasing importance in the future. Outside Attica, the most important port is Thessaloniki, which, although it has negligible passenger traffic, has steadily increasing freight traffic, especially at the international level.

Patras harbour on the other hand, supported by the other two ports of western Greece, Igoumenitsa and Corfu, handles almost 90% of international passenger traffic.

Thus the Adriatic-Ionian axis shows evidence of emerging trends of growth.

The most important peripheral harbour in terms of both cargo and passengers in the Aegean is Iraklion, Crete.

The system is completed by the harbours in the islands which, although small in terms of size and facilities, create a radial network with Piraeus harbour, especially for domestic passenger and goods transport and tourist travel in the summer.

Volos harbour is the major harbour of central continental Greece and has in the past been a node for sea connections to the eastern Mediterranean and the Middle East. This activity has been discontinued. In the spatial sense, the Igoumenitsa and Volos harbours define a major east-west transportation axis that has not as yet been realized and could potentially ease congestion of the Attica harbour complex, providing, at the international level, an east-west axis extending across the Mediterranean.

**TABLE 5. Harbours — Total arrivals and capacities, 1977 and 1988**

	1977			1988		
	Arrivals	1 000 tsn	%	Arrivals	1 000 tsn	%
Mezzogiorno	54 929	76 648	27.6	86 401	97 839	26.7
Italy	260 781	285 296	100.0	345 774	366 203	100.0
Greece <sup>1</sup>	163 392	112 179	100.0	180 217	177 896	100.0

NB: 1 tsn = 2 832 m<sup>3</sup>.

<sup>1</sup> Data for Greece 1975, 1978.

Sources: ISTAT; ESYE.

**TABLE 6. Domestic and international goods and passengers transported in harbours, 1989**

	Goods (1 000 tonnes)			Passengers		
	Loaded	Unloaded	Total	Arrivals	Departures	Total
<i>Domestic</i>						
Mezzogiorno	27 107	14 498	41 605	4 281 268	4 786 385	9 067 653
Italy	61 417	61 417	122 834	21 107 622	21 107 622	42 215 244
Greece (1988)	19 101	19 101	38 202	10 207 000	10 267 000	20 474 000
<i>International</i>						
Mezzogiorno	11 911	58 929	70 840	549 414	620 850	1 170 264
Italy	38 654	216 419	255 073	1 879 878	2 008 632	3 888 510
Greece (1988)	24 447	31 638	56 089	799 000	842 000	1 641 000
<i>Domestic and international</i>						
Mezzogiorno	39 018	73 427	112 445	4 830 682	5 407 235	10 237 917
Italy	100 071	277 830	377 907	22 987 500	23 116 254	46 103 754
Greece (1988)	43 548	50 739	94 287	11 006 000	11 099 000	22 105 000

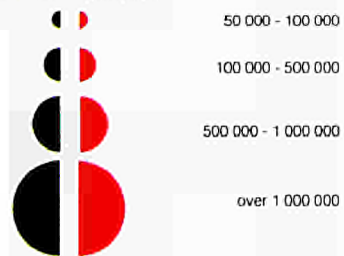
Sources: ISTAT; ESYE.

**HARBOURS—  
INTERNATIONAL, DOMESTIC,  
PASSENGERS & GOODS (1989)**

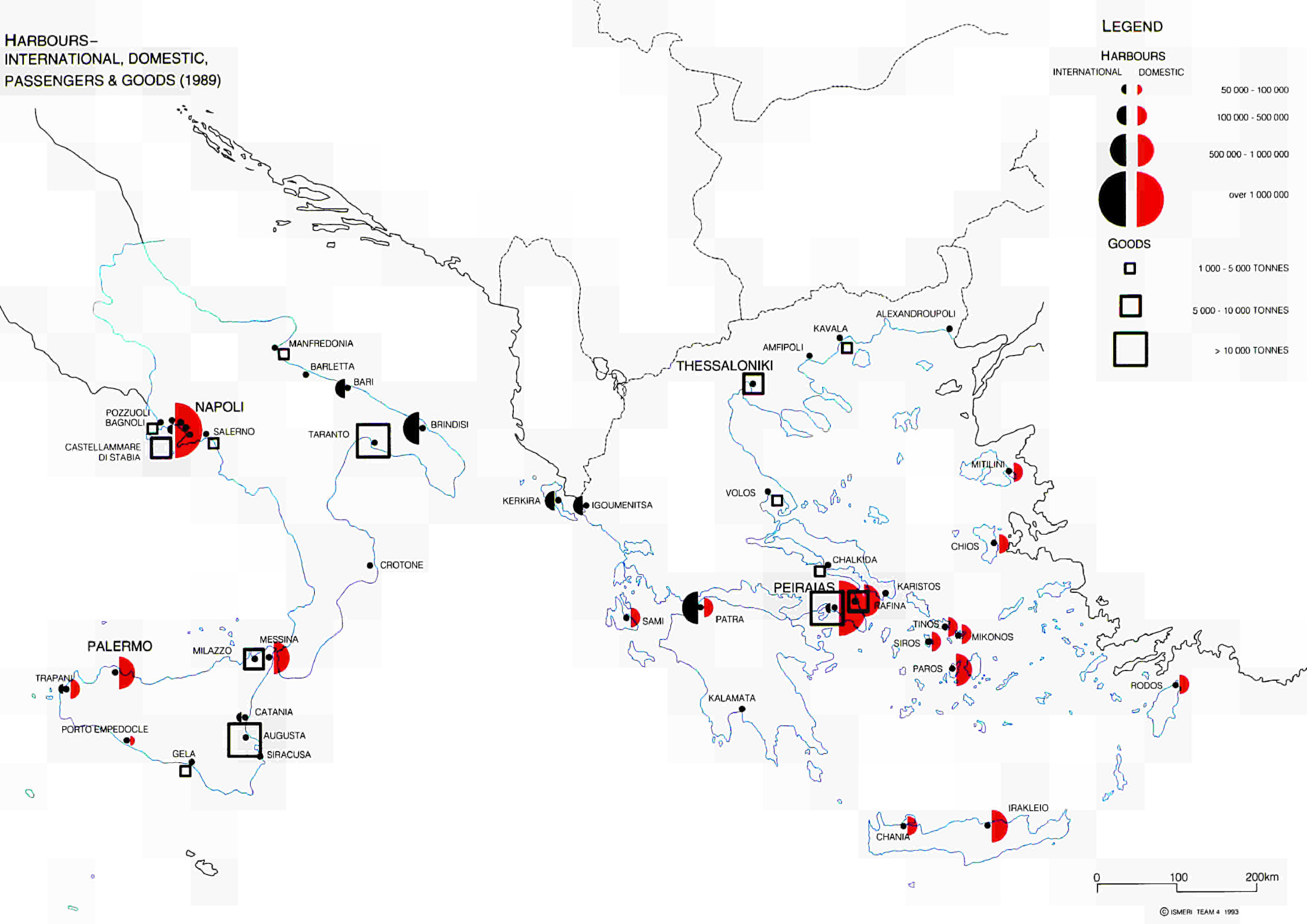
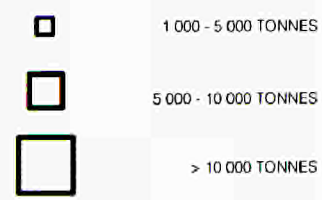
**LEGEND**

**HARBOURS**

INTERNATIONAL DOMESTIC



**GOODS**



The basic conclusions from comparative data for the Mezzogiorno and Greece are that:

- (i) Mezzogiorno harbours account for 48% of the arrivals and 55% of the capacity of Greek harbours;
- (ii) in terms of goods transported, distribution in the region as a whole is uniform, with oil transport dominant;
- (iii) passenger transportation by sea in the Mezzogiorno is less than 46% that of Greece, which has a much larger domestic travel component due to tourism and the geographic configuration of islands;
- (iv) international passenger movements are almost balanced, due to the fact that only a single route exists: the passenger connection from southern Italy to Greece. There are no other significant international lines functioning in the central Mediterranean area.

#### 3.3.4.1. Harbour planning

There is no comprehensive harbour planning in the central Mediterranean area. According to recent studies, the Mezzogiorno harbour system will require an investment of about ECU 4 700 million, while no specific investment is currently planned.

A similar situation exists in Greece where the long-term development of the harbour system is vague in terms both of investment allocation and of the functional aspects of the harbour system as a whole. Nevertheless, in the case of Greece, current short-term investment is providing useful improvements.

The harbour system in Greece is largely dominated by the ports of the Attica region, organized around Piraeus, and the northern harbour of Thessaloniki. This forms a strongly centralized system which is congested in the urban area of Piraeus and Elefsina. Although almost all current investment is actually directed to the port of Piraeus, future planning moves in the direction of harbour decentralization.

Decentralization of the ports of Attica is planned on two scales, functional decentralization within the Attica region and the long-term decentralization efforts aimed at the creation of a comprehensive harbour system covering the entire Greek territory.

#### 3.3.4.2. Short-term interventions (Greece)

The modernization of the port of Piraeus concentrates most current projects on construction and consists of the following:

- (i) functional differentiation between passenger and freight facilities;
- (ii) development of transport infrastructure serving passenger facilities;
- (iii) development of freight facilities in the nearby area of Keratsini and expansion of ro-ro (roll on/roll off) facilities;
- (iv) expansion of the Rafina port facility to take passenger loads away from Piraeus.

Various planned projects also give an indication of trends on a regional scale. Most important are the following:

- (i) Igoumenitsa harbour development, especially in terms of freight facilities. This is the so-called western Greece gate which could potentially develop and play an important role if it is integrated with development of the east-west road and rail infrastructure.
- (ii) New port facilities at Patras.
- (iii) Iraklion (Crete) port development.
- (iv) Karistos (Evia) port development.

Under these assumptions a system of harbours is emerging in the Ionian and the Aegean along the following spatial axes and nodes:

- Northern Greece: east-west system/Alexandroupolis-Kavala-Thessaloniki with potential development of a new port at Amfipolis.
- Western Greece: north-south system/Igoumenitsa-Patras-Kalamata.
- Aegean nodes: Rhodes and Iraklion (Crete).

#### 3.3.4.3. The recreational harbour system

Most of the present demand for marina services is concentrated in the Attica region along the Saronikos coast.

A large segment of this demand is created by residents of the Greater Athens area. Recently, such development was planned to be financed by the private sector in the context of privatization.

Marinas for the remainder of Greece are planned for the areas that have intense tourist activity. This programme is managed by the National Tourism Organization (EOT). Those plans most likely to be implemented are for the marinas of Rhodes, Rethymno (Crete), Mykonos and Itea. The critical issue for these marina developments has to do less with the waterfront facilities than with the development of adequate service facilities in the areas adjacent to the proposed marinas.

### 3.3.5. Air transportation

Air transportation in the region could offer some advantages with respect to geographical barriers, in spite of the intrinsic limitations of this mode, especially in the area of goods transport. However, this mode of transport is not exploited within the central Mediterranean, largely because the network of air transport is structured on a spatial scale which is functionally above that of the central Mediterranean territory. It thus depends on an integrated system with the major European airports as nodes.

Within the central Mediterranean region, one can visualize the triangle of Milan, Rome and Athens as the major organizing node.

The major differences between the Mezzogiorno and Greece in the configuration and functions of their airport systems is that airports in Greece play a more important role both in domestic and international passenger transport.

The only airport of some relative importance in the Mezzogiorno is Naples. In future, it is planned that Naples airport will ease the congestion of Rome-Fiumicino. Within the next few years, journey time between Rome and Naples will become much shorter with the completion of the high-speed rail link, scheduled to open in 1997. Air traffic moving south from the north will thus no longer pass through the Rome-Fiumicino airport only.

The idea is to create a metropolitan area which covers the areas of Rome and Naples together, giving better access to Naples harbour. It is necessary to underline that there are some weak points in this project. Most importantly, Naples is too far from all the important

southern urban centres, and, therefore, there will not be great benefits for the south in terms of links with the north. The main benefit of the project will in fact be the decongestion of the Rome area.

The Athens airport (Elliniko) with its present facilities cannot even handle existing loads and is unable to cope with future traffic growth, especially in the summer tourist peak period. Although certain improvements are currently in progress, it is evident that Athens will need a new airport in another location in Attica. Planning for this airport was initiated as early as 1979, when the site was selected in the Mesogia area of Attica and an adequate area of farm land was expropriated. Since then, however, planning has been erratic and serious financing has never been allocated.

Currently, more decisive steps are being made by the central government to enable construction to begin, but there is still strong disagreement about the environmental impact for the Attica region. Despite this delay in the airport construction programme, the development of transportation infrastructure oriented towards the linking of the new airport to an integrated transportation system planned for Attica is in progress.

The air network functions in the whole region with two major nodes, Athens and Rome. The total air traffic is about 240 000 departures and arrivals in Greece, and 43 000 in the Mezzogiorno (most of which are local in nature). It is questionable whether an airport on the scale of Athens is required or can be supported in the southern Mezzogiorno (i.e. Sicily). Current plans project increased capacity and expansion of services for Naples airport, mainly to solve congestion problems in neighbouring Rome-Fiumicino airport.

The basic characteristic of the network in Greece, as in all other transport networks, is the concentration of air traffic in Athens. Traffic volumes are much lower in the rest of the network, but in general remain higher than those in the Mezzogiorno. It is indicative of the short-distance nature of air transport that only the two Sicilian airports, Catania and Palermo, have traffic volumes comparable to the major peripheral airports in Greece.

The quality of infrastructure and general facilities of Greek airports is poor compared with the volume of air traffic served. The level of service in passenger handling is unacceptable in most airports and the air traffic control system mostly out of date. The most acute problem

TABLE 7. Major air traffic<sup>1</sup>

Airport	Aeroplanes landed (Number)	(%)	Passengers (%)	Goods (%)
Rome <sup>2</sup>	111 979	35.0	37.6	55.1
Naples	13 406	4.2	4.3	0.8
Palermo	8 479	2.7	3.2	1.3
Catania	8 362	2.6	3.3	1.0
Other Mezzogiorno airports	12 285	3.8	0.6	0.9
Rome + Mezzogiorno	154 509	48.3	49.0	59.1
Italy	319 584	100.0	100.0	100.0
Athens	112 677	47.0	46.5	71.1
Thessaloniki	18 073	7.5	6.9	13.4
Rhodes	17 654	7.4	9.5	2.6
Iraklion	16 716	7.0	11.0	4.0
Corfu	12 983	5.4	7.8	1.4
Other airports	61 405	26.0	18.3	7.5
Greece	239 508	100.0	100.0	100.0

<sup>1</sup> Italy 1990; Greece 1989.

<sup>2</sup> Although outside the Mezzogiorno, Fiumicino and Ciampino airports form the major node for the Mezzogiorno system.

Sources: ISTAT; ESYE.

appears at Athens airport which handles almost half the total traffic and 70% of air cargo.

In the rest of the airports, basic infrastructure facilities, such as runway standards etc., are reasonable in several peripheral airports, a fact that has more to do with defence policies and investment since many of these airports have combined military and civilian use. The rest of the services and especially the ability to receive special charter flight tourist traffic are unsatisfactory at most airports.

In contrast, the Mezzogiorno airport infrastructure does not seem to have similar acute problems since it serves lower volumes and especially lower numbers of tourists.

### 3.3.6. Spatial implications of transport

#### *The central European versus the Mediterranean orientation*

Spatial integration of the combined multimodal transport system in the region (see map 'Spatial superposition of

land and sea transport') is strongly dependent on two major parameters: the fluid geopolitical situation, preventing any long-term predictions for the role of the Balkan territory in the wider European spatial evolution, and the unique geography of the central Mediterranean region with its extremely complex coastline, mountain and island characteristics. Given these fundamental geopolitical uncertainties and geographic constraints, infrastructural development strategy is forced to be flexible in nature and adaptable to long-term developments.

A closer look into transport trends shows that the region is at present separated into two parts. Strong infrastructure is located along two separate axes: the Tyrrhenian coastal axis (Palermo, Messina, Naples, Rome to the north) and the western Aegean axis (Patras, Athens, Thessaloniki to the Balkan north). Both these axes, however, suffer from congestion in many places and the fact that Greece is very isolated from the rest of Europe.

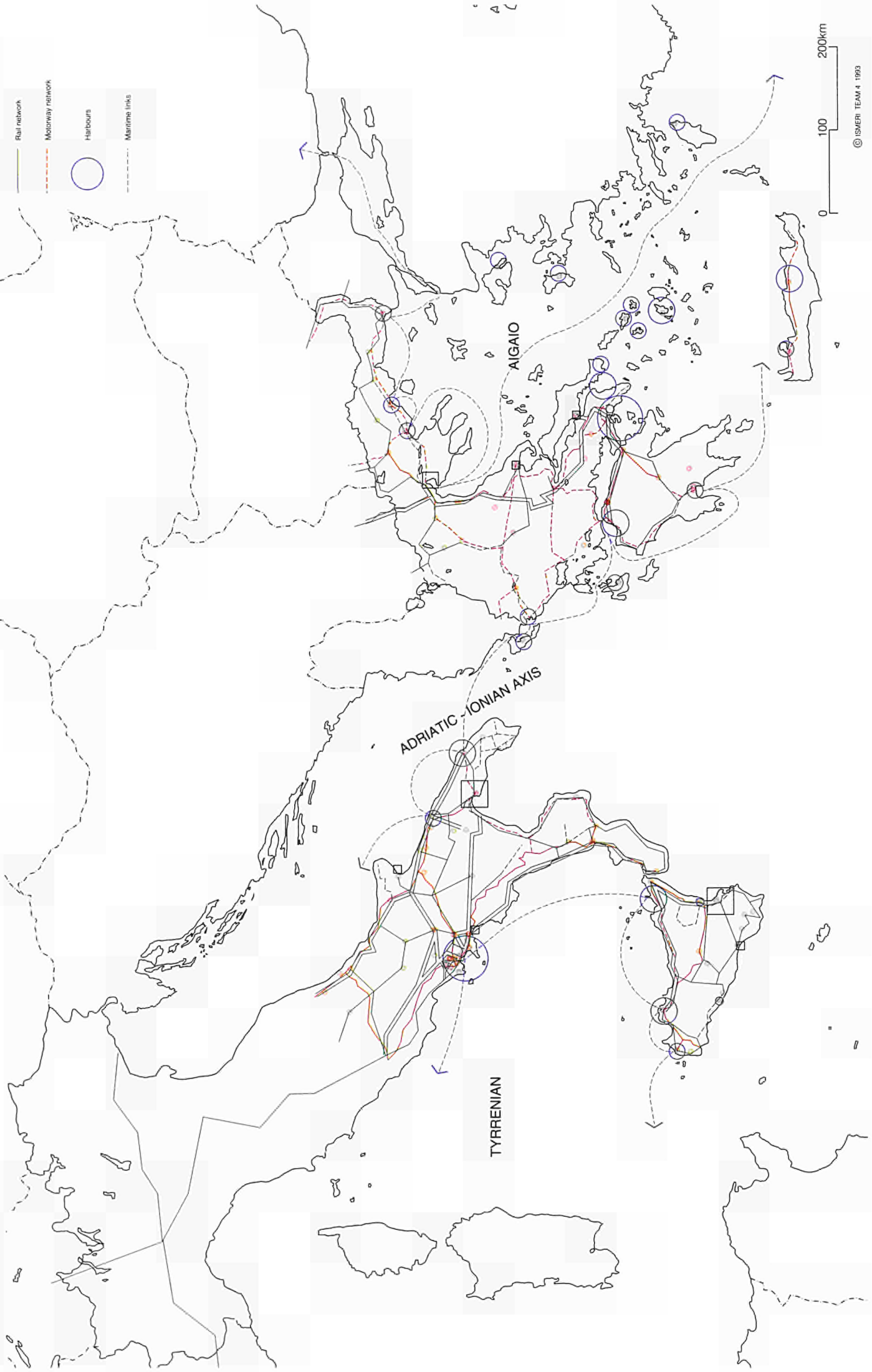
Within this context, a new complementary axis is emerging connecting the two subregions: the Adriatic-



SPATIAL SUPERPOSITION  
OF LAND & SEA TRANSPORT

LEGEND

- High speed rail network
- Rail network
- Motorway network
- Harbours
- Maritime links



Ionian axis. With new east-west links, this connects the traditional 'S' axis in Greece and the Tyrrhenian axis in the Mezzogiorno.

The Adriatic-Ionian axis is structured along a chain of harbours (Bari, Brindisi, Igoumenitsa, Patras, Kalamata, Iraklion) which could increase their role both in integrating the region as well as providing an international outlet for the EC to the entire eastern Mediterranean.

#### 3.3.6.1. Spatial implications of planned road and rail networks

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In the Mezzogiorno, the basic spatial change in road connections is the integration of a south-west to north-east road axis which will be ultimately completed by the construction of the Messina-Reggio di Calabria bridge, a project still under discussion and evaluation.

In Greece, the main result is the creation of three major new axes:

- (i) the western north-south axis (western Greece, western Peloponnese);
- (ii) the northern Greece west-east axis (Igoumenitsa to the Turkish border);
- (iii) the Igoumenitsa-Volos west-east cross-axis.

It is important to point out that this new network provides connections to all land border areas in expectation of corresponding infrastructural development in the neighbouring non-EC countries. One connection is provided to Albania, two to Bulgaria, two to the European region of Turkey, while the existing connection to the former Yugoslavia is upgraded.

The central Mediterranean region is not to be connected to the trans-European high-speed rail network which is only projected to reach Naples at the far northern point of the Mezzogiorno. Thus an intermediate high-speed system is required for an efficient integration with northern Italian systems as well as the Balkans.

In Greece, the implementation of the rail expansion programme will introduce the railways as an alternative mode of transport, which is practically non-existent at present. In a spatial sense a new axis will be introduced connecting western Greece with both northern Greece and Thessaly, largely eliminating the isolation created by the Pindus mountain range. The integration of a circle in

the western Thessaly plains (Kalambaka-Kozani line) will provide connections to areas traditionally isolated because of their distance from coastal areas. The system thus provides for a new, secondary, continuous inland north-south axis along the eastern foothills of the Pindus range.

The spatial impact in northern Greece where a new line is planned along mostly coastal areas (Thessaloniki-Kavala-Xanthi) will be the reverse. Here a coastline rail system is planned along a parallel route with the new motorway.

It is important to point out that no corresponding north-south rail connection, which would follow the pattern of the road system, is planned for western Greece. Thus the rail transport system retains its strong focus along its traditional north-south axis (Athens-Thessaloniki) and the transcontinental axis towards Anatolia. However, a western Greece north-south axis for the rail system is under discussion. This relates very well to the conclusions of this study.

### 3.4. Telecommunications and information network

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#### *Reasonable adaptation to a complex geography*

Communications development meets less implementation difficulties than other infrastructure systems. In regions such as Greece and the Mezzogiorno, implementation of transport infrastructure projects is entangled in a series of complex problems related to bureaucratic procedures, time-consuming land expropriation procedures and weak project management.

The development of telecommunications and advanced information systems appears to meet fewer difficulties, since by its intrinsic nature it is more flexible. Technology is standardized and ready for implementation and the industry as a whole is more readily adaptable to privatization procedures. Thus it is expected that the 'absorption' into the private sector of this sector will be faster than transport and, to a certain extent, energy.

The existing state of development of conventional telecommunications in the region in strictly quantitative terms is more or less acceptable and presents few regional disparities.

**TABLE 8. Subscribers and telephone connections, 1990**

(per 100)

	Density	
	Subscribers	Telephones
Mezzogiorno	29.3	40.1
Italy	38.7	55.3
Central/north	40.3	64.3
Greece	38.5	45.8
France	45.6	
Germany	46.4	
EUR 12	39.5	

Sources: SIP; OTE; Eurostat.

The quality of services in the whole region is, however, rather low and in certain areas the system is congested beyond any possibility of improvement without a renewal of the conventional outdated technology in use.

The basic telephone network in the whole region is undergoing an almost complete overhaul.

#### 3.4.1. Programmes in progress (the Mezzogiorno)

- STAR programme (completion in 1993): the financial resources invested amount to ECU 350 million (supported by the EC). It aims to support small and medium-sized enterprises through a telematic network and it covers different areas of the Mezzogiorno. An example is the case of the Vibrata valley (Abruzzi), where a telecommunications (TLC) centre has just been completed.
- FESR programme (start-up in 1992): an investment of ECU 235 million for the strengthening of the telephone network in the Mezzogiorno.
- BEI south: ECU 1 530 million, with the financial support of the European Investment Bank (EIB), that aims to integrate the investments planned by SIP in the basic telephone infrastructures. It covers the entire area of the Mezzogiorno.

In addition, there are some regional programmes (financed with national resources) involving Sicily and Calabria.

- TLC Sicily programme (ECU 880 million) which aims to complete a TLC network in Sicily through agreements with the public authorities of the region (start-up in 1993).

- TLC Calabria programme (ECU 240 million, starting up in 1995).

The most important investments seem to be the BEI south and the FESR, as they aim to increase the capacity and the efficiency of the telephone network.

#### 3.4.2. Programmes planned (the Mezzogiorno)

- The southern TLC programme: ties up all the regional TLC plans, which aim to complete a TLC network in the area. This project is in the planning phase.
- Technological parks will be located in Sicily (Palermo and the east coast) and in Calabria, as well as one park planned in Abruzzi, in the area of L'Aquila, Pescara and Chieti.

All these projects, with some difference between the regions, have just been planned, with no financial resources yet allocated.

#### 3.4.3. Programmes in progress (Greece)

The National Telecommunications Corporation (OTE) has formulated the so-called CRASH programme (CP), a total investment of ECU 105 million supported by the EC.

The central objective of the CP is to achieve substantial improvements in the quality and availability of telecommunications services over the next two years. In addition, the CP aims to begin the process of sectoral reforms required.

The projects which make up the CP can be grouped under four main headings:

- (i) regulatory reform;
- (ii) organization;
- (iii) networks;
- (iv) special projects.

### **Regulatory reform**

(a) Institutional reform: the objective is to establish the institutional framework for the future regulation of telecommunications into Greece.

(b) Introduction of mobile telephone services: the objectives are to establish the regulatory framework and licensing regime to allow the introduction of mobile telephone services into Greece.

### **Organization**

(a) Subscriber interface management: the objectives are to enable the waiting list to be managed more effectively to help reduce waiting time and to keep potential customers better informed.

(b) Pricing: introduction of local call timing and phasing out free local calls.

### **Networks**

(a) Local networks: the project aims to upgrade the existing telephone and public cardphone network in specific sectors of the Greater Athens area by implementing a comprehensive local line network expansion programme and a comprehensive local line plant rehabilitation programme.

(b) Olympic rings: the long-term strategic objectives of infrastructural development are:

- (i) to establish an overall digital network structure throughout Greece to provide comprehensive customer service;
- (ii) to replace analogue network systems;
- (iii) to establish a national digital overlay network for transit traffic;
- (iv) to establish regional digital infrastructures to support the provision of new services, improvements in quality of performance and expansion of the customer base;
- (v) to establish an analogue replacement programme and manage the transition from analogue to digital network utilization during the 1990s.

(c) Network efficiency: the objective is to introduce selected monitoring and testing of equipment which will enable OTE to:

- (i) monitor live traffic to identify circuits and equipment in the analogue network in order to deviate congestion;
- (ii) generate test call patterns to identify faulty routes and equipment;
- (iii) monitor the network to assess the quality of services offered;
- (iv) develop a computerized congestion reporting management system providing automatic report generation using common standards.

### **Special projects**

(a) Services for Rhodes: the scope is to improve telecommunications for Rhodes with the broad aim of evaluating and demonstrating solutions which could be implemented more widely in Greece. The objectives for Rhodes are:

- (i) to improve existing services within a short time-scale;
- (ii) to introduce new advanced services;
- (iii) to act as a high-profile demonstration for other areas in Greece.

(b) Packet switched data network: the aim is to accelerate the development of OTE's switched data network, 'Hellaspac'.

#### **3.4.4. Programmes planned (Greece)**

The National Telecommunications Organization (OTE) has prepared a business plan which describes its long-term objectives.

According to this business plan, the new mission of OTE is:

- (i) to improve service quality to EC average levels, or better, by the year 2000;
- (ii) to eliminate the waiting list for new subscribers;
- (iii) to achieve a sustained growth in earnings on behalf of shareholders;

- (iv) to provide a rewarding environment for its employees;
- (v) to make a fitting contribution to the communities in which it conducts business.

OTE's management should be charged with achieving financial objectives, such as:

- (i) earning a return on capital employed of 20% a year by the year 2000;
- (ii) maintaining a gearing ratio of 50%, or less;
- (iii) funding 50% of capital investment from internal sources.

OTE should seek to achieve a range of operational targets, including:

- (i) reduction of average waiting times for new telephone connections to two weeks by 1996 and one week, or less, by 2000;
- (ii) call failure rates due to equipment faults and congestion of less than 1% by 1996;
- (iii) no more than 10 faults per 100 exchange lines per year, by 2000;
- (iv) clearance of 95% of exchange-line faults by the next working day, by 2000.

### ***Service development plan***

In terms of priorities the primary objectives are:

- (i) to satisfy outstanding demand;
- (ii) to introduce digital services and data communications;
- (iii) to meet availability and coverage targets;
- (iv) to meet quality targets;
- (v) to improve responsiveness to customers.

### ***Network plans***

The main elements of the programme for infrastructure development are:

- (i) the installation of local exchange equipment and local line plant with a capacity of four million lines by

the year 2000 (2.2 million for replacement purposes and 1.8 million to cater for growth);

- (ii) the construction of a fully digital overlay trunk network;
- (iii) the introduction of a new digital international gateway exchange;
- (iv) the installation of one, or more, new digital local exchanges per regional area equipped with remote line units;
- (v) the progressive replacement of the majority of the existing analogue local exchanges.

## **3.5. Energy**

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### ***Prolonged dependency within an environmentally sensitive region***

Energy production in the region is limited by the scarcity of natural resources and is correspondingly concentrated in certain areas (see map, 'Energy'). Thus the region is expected to continue to import energy in different forms from a wider international network of energy production and transmission. Demand will continue to increase not so much for industrial use but rather as a result of a growing tertiary sector and higher consumer standards.

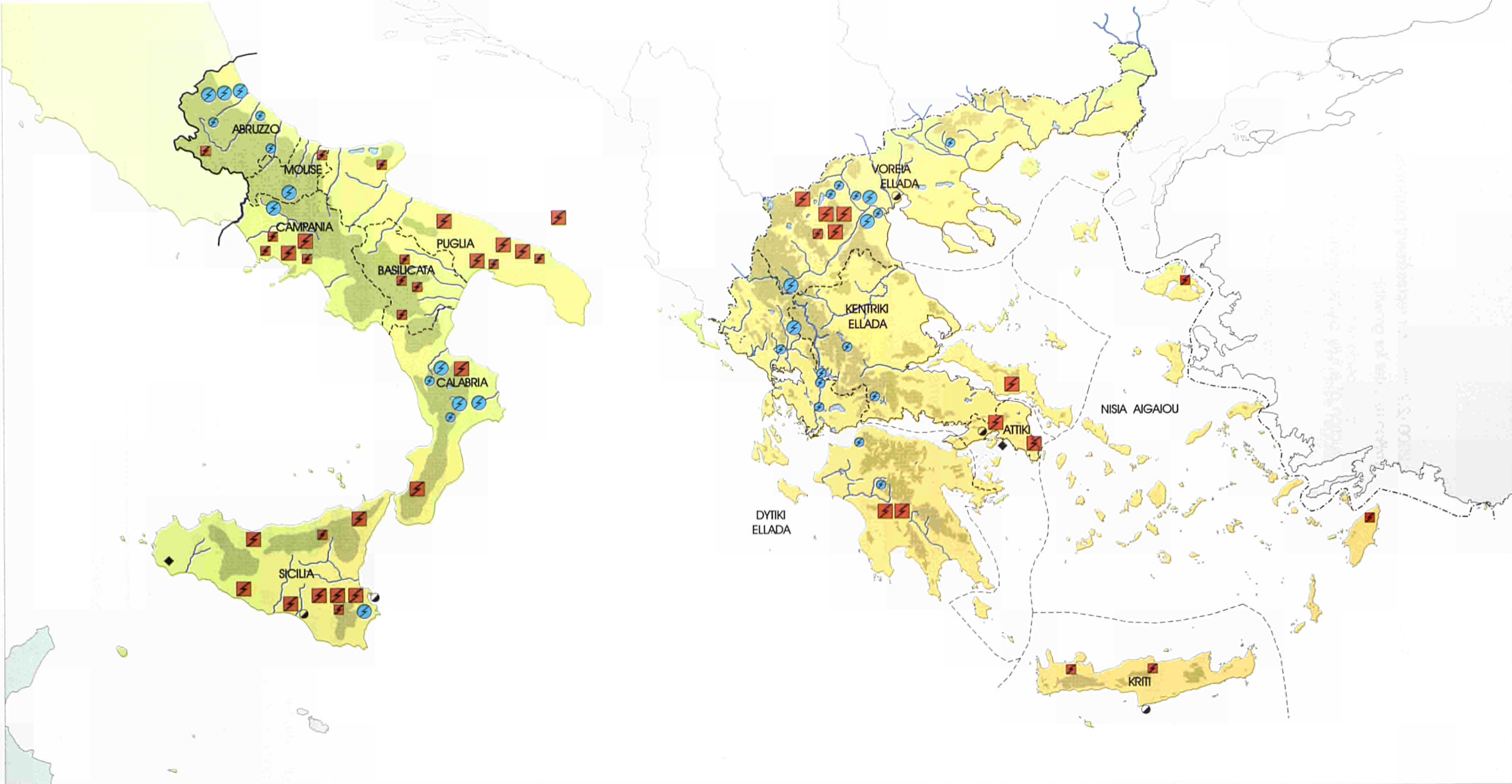
The limited local production capabilities provide enough energy to bridge only part of the gap in the balance of payments and to play a regulatory role in the production and distribution system.

Within the region, Greece seems to hold a better position in electric energy balance mainly due to its lignite resources. On the whole, the region's major problem, in common with most European countries, is oil dependency.

### **3.5.1. Electricity**

The generation system in Greece consists of an interconnected mainland system with major centres in north central Greece, central Peloponnese and a secondary centre in Evia, with a great number of isolated systems in the islands.

The mainland system extends to and connects some of the Cycladic islands close to Attica. The mainland















ENERGY



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LEGEND

- |   |  |   |                         |
|---|--|---|-------------------------|
| Mountain zones  |  | Electricity production  |                         |
|  | 0 - 800 m  |  | Hydroelectric > 100 MW  |
|  | > 800 m  |  | Hydroelectric < 100 MW  |
|  | Lake   |  | Thermoelectric > 100 MW |
|  | Principal rivers   |  | Thermoelectric < 100 MW |
|  | Administrative boundaries<br>(Group of NUTS2 for Greece) |  | Gas land terminal       |
|  | National boundaries                                      |  | Oil land terminal       |

**TABLE 9. Energy sources**

	<i>(1 000 toe)</i>				
	Oil	Gas	Solid	Electricity	Total
<i>Mezzogiorno</i>					
Production	3 543	4 084	330	576	8 533
Imports (net)	27 845	3 782	6 403	2 300	40 330
Total	31 388	7 866	6 733	2 876	48 863
<i>Greece</i>					
Production	1 221	113	5 790	788	8 092
Imports	19 031	–	1 206	259	20 496
Exports	7 536	–	79	96	7 771

Sources: ISTAT; ESYE.

system comprises both thermal and hydroelectric stations, while island systems are entirely thermal with the exception of a 0.6 MW unit in Crete.

In the Mezzogiorno there are 123 hydroelectric and 94 thermoelectric stations. The spatial distribution of hydroelectric and thermoelectric stations in Italy creates an imbalance, since most power is generated in the north and central regions. As a result, 79% of electricity consumed in the Mezzogiorno is imported, while north and central regions import just 37%.

Greece's main energy resources are lignite, peat and hydropotential. The contribution of the various energy sources to the production of electricity (total for 1990: 31 285 GWh) in Greece is: lignite 73.1%, oil 20.6%, water 6.3%. In 1990, 79.4% of total electricity generation in the mainland system was covered by domestic energy sources.

Lignite is Greece's most important energy source. It is still abundant, with lignite reserves estimated at 6.4 billion tonnes. The largest lignite fields are in northern Greece, at the open-cast mines of Ptolemaida-Aminteo, which produce about 80% of the country's lignite, and at Megalopolis, in the Peloponnese. About 95% of the total lignite production is used for electricity generation. Today 19 lignite stations are in operation with a total installed capacity of 4 123 MW.

There are 20 hydroelectric stations in operation in Greece with a total installed capacity of 2 514 MW and

annual energy production of 5 341 GWh. This represents only 25% of the country's hydroelectric potential.

By the year 2000 the following will have been constructed and put into operation:

- (i) six large hydroelectric stations with total installed capacity of 762 MW and annual energy production of 2 034 GWh;
- (ii) 30 small hydroelectric stations with a total installed capacity of 150 MW.

The mainland transmission network in Greece is interconnected with the networks of the following neighbouring countries: Albania, the former Yugoslavia and Bulgaria.

Through the interconnection with the former Yugoslavia, the Greek electricity system is synchronized and in parallel operation with the interconnected system of Western Europe (UCPTE).

ENEL in Italy is allocating 43% of its 1992-2000 investment programme to the Mezzogiorno. Of the total ECU 20 000 million, more than ECU 9 500 million will be invested in the construction of thermoelectric stations, the dominant mode of production. The programme for Greece, too, focuses strongly on thermal stations but there is also a substantial effort to expand the hydroelectric network, as well as experimentation with various renewable energy sources in island regions.

ENEL is also studying the feasibility of linking Puglia and Greece via an underwater cable crossing the Adriatic. This cable would carry electricity generated in Taranto to the Greek mainland. This interconnection is planned for commissioning in 1997 with a total capacity of 600 MW (2 x 300 MW).

When completed, this connection will provide the only physical link between the Mezzogiorno and Greece.

Particular problems arise in Greece in relation to the distribution of electricity in the island areas. A major project, which is projected to be completed by 1996-97, is the connection of the island of Crete to the mainland system. This project, which introduces fairly advanced engineering technology, consists of two underwater cables which will be laid on the seabed at depths of up to 1 100 m. It represents an investment of ECU 275 million.

### 3.5.2. Natural gas

Most of the problems in the region concerning the utilization of gas are connected with the distribution networks that are insufficient to absorb the available supply. In the Mezzogiorno, ENEL is investing a great deal of its resources in the production of electricity with gas as the raw material, mainly as a long-term environmental strategy. Italy is supplied from the north by a pipeline originating from the former Soviet Union and from the south from Algeria. The gas distribution network covers 90% of the Mezzogiorno and efforts are being made in the areas Reggio di Calabria, Bari, Palermo and Catania to extend this infrastructure and complete the system.

Consumption of natural gas in Italy has been increasing in recent years (22.8 toe in 1980 to 41.7 toe in 1991).

Greece has not yet installed a national gas system. Small quantities of gas are produced locally in Attica with a distribution network that covers the central core area of Athens.

In 1988, an agreement was signed with the Soviet Union for the supply of 50 billion m<sup>3</sup> of natural gas for a period of 25 years. An agreement also exists between Greece and Algeria for the provision of 12 billion m<sup>3</sup> of liquefied natural gas for a period of 21 years. The whole project includes a gas line between the border with Bulgaria and Athens, main feeder lines, LNG stations, ancillary installations, high-pressure grids and distribution grids.

However, not much progress has been made, especially in the construction of the main trunk pipelines. There are thus serious doubts as to whether or not the public power corporation (DEH) will be in a position to absorb quantities of gas from the main pipeline coming from the former Soviet Union that have already been contracted for.

### 3.5.3. Renewable sources of energy

#### *A testing ground for alternative sources*

Most of the facilities for the exploitation of renewable energy sources in the region are located in the Aegean Islands. In the Mezzogiorno two installations are to be put into experimental operation, a wind power unit in Frosolone (Molise) and a solar unit of 3 MW in Salerno (Campania).

Projected production figures for Greece show that wind, geothermal and solar stations will produce an added capacity of only 90 MW, compared with the 1 180 MW of hydroelectric and some 3 000 MW of thermoelectric power. These low levels of production indicate that alternative sources of energy production can at best only play a significant role in remote island areas where demand levels are low, and can thus be justified as an investment only in terms of the costs involved in electricity transmission linkages and the environmental benefits that they offer.

### 3.5.4. Nuclear power

There are no nuclear plants in the central Mediterranean area. Current energy planning does not include development of nuclear power facilities for several reasons, of which one of the most important is the earthquake vulnerability of the whole region, and especially the Greek territory.

## 3.6. Environmental implications of infrastructural development

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### *The need to protect a sensitive region with a rich natural and historic heritage*

The development of physical infrastructure in the region raises several environmental issues.

In Greece in particular, where an impressive programme of large-scale construction works is anticipated, environmental assessment and adaptation is imperative.



Two scales of environmental analysis and assessment must be separated.

- The larger scale concerns the territory through which major motorway and rail systems are to be constructed in terms of the implications for valuable natural areas as well as negative land-use changes.
- The smaller scale concerns the environmental 'quality' of the construction, planning and engineering of these major projects, especially with respect to natural landscapes, estuaries, wetlands, archaeological sites and historic places.

The financing of these projects ought to be accompanied by sufficient funds for environmental assessment as well as engineering and construction that is related to the rehabilitation of the landscape.

### **3.6.1. Road and rail environmental implications**

For the Mezzogiorno, entirely new road and rail line construction is rather limited. This will not raise serious environmental impact issues. This is not the case for Greece, where, if it is not controlled, planned construction will create the conditions for possible environmental damage, especially in sensitive areas such as biotopes, along coastlines and in mountain areas. The threat of a negative construction impact is 'however' much less for rail lines than for motorways.

Special attention is required for the new motorways such as Igoumenitsa-Trikala that penetrates the Pindus mountain area, the improvement of the existing highways through the Tempi valley near Mount Olympus, and the new coastal highway and rail line (Thessaloniki-Xanthi) that crosses the Amphipolis archaeological area and the Nestos river valley estuary.

These examples demonstrate the necessary environmental awareness that must accompany such projects, especially in environmentally sensitive areas.

Although recent environmental legislation in Greece provides a framework for environmental impact assessment (EIA), there are questions as to the effectiveness of this tool in counteracting the negative impacts not only of new construction, but also of uncontrolled urban development along the new motorways.

### **3.6.2. Environmental implications of harbour development**

The complexity of coastal configurations and small island groups in the Aegean raises critical environmental issues connected with harbour development for both passenger and freight or for purely recreational purposes. Indicative of these issues is the conflict recently created by the subsidized development of organized fisheries along the coast. These fisheries tend to locate within small natural bays which are also particularly suitable for the creation of an integrated system of recreational harbours. In general, harbour development can have a negative impact on the environment which is not easily controlled by common environmental control practices.

Most harbours are traditionally located in close proximity to the urban core of coastal cities. Extreme conflicts can be created by the antagonistic growth of land areas at the expense of cities which suffer from a lack of open spaces. A good example of this phenomenon is the trend for proliferation along the coast of the Greater Athens area. A combination of high demand combined with privatization procedures by local municipalities tends to create extensive construction along the coastline with unpredictable negative consequences.

### **3.6.3. Environmental implications of energy projects**

There are environmental implications for both thermo-electric and hydroelectric projects. In Greece, the expansion of lignite plants will further degrade the environment (land, air) specifically in the areas of Kozani-Ptolemaida and Megalopolis.

Hydroelectric plants are also under environmental-impact examination, which, inadequate as it is at present, must determine the various threats to the environment with respect to the benefits of water management, electricity production and irrigation systems for agricultural production.

Such discussions are particularly pertinent to the so-called Acheloos river diversion project which is under construction in the very sensitive area of the Pindus range, and where there are serious questions as to the relative definition of the limits of sustainable development.

Another indirect effect of oil dependency is the environmental threat associated with oil shipping traffic throughout the region. Many of the coastal areas — of

recreational or natural value — are under continuous threat from oil-tanker accidents. Except for short-term measures, such as regulations and safer double hull ships, such risks can be diminished only if there is a progressive decrease in oil traffic.

This fact provides support for the EC policy of encouraging the development of natural gas as a 'cleaner' source of energy, beyond its well-known and obvious advantages.

### 3.7. Current and past policies on infrastructure

#### 3.7.1. EC policies on infrastructure

In the CSF for the period 1989-93, the Community dedicates 45% of its budget to support investment in infrastructures in the Mezzogiorno (about LIT 5 200 billion in 1989); the total cost of these investments in 1989 was LIT 11 000 billion.

EC structural policies currently provide a significant contribution to infrastructural improvement, addressing the infrastructural shortfall in the Mezzogiorno as one of the principal obstacles to development.

The resources allocated from the EC budget are, however, somewhat less than the national allocation, with total EC funding for the period 1989-93 almost equal to the annual budget for national infrastructural expenditure.

EC resources for infrastructural provision primarily support basic infrastructures, the basic telephone and gas networks, irrigation projects, and some 'qualitative' projects, such as alternative energy sources (Valoren), the Italy-Greece electricity connection, and some research projects.

#### 3.7.2. The Intervento straordinario and policies for infrastructure in the Mezzogiorno

In the past, until the mid-1980s, infrastructural policies at the national level in Italy directed a significant amount of resources to the Mezzogiorno. In the last few years, however, this level of expenditure has diminished under the pressure of the public debt constraint.

At the beginning of the 1980s, per capita expenditure for public works in the Mezzogiorno was more than double

that in the centre-north of Italy; by 1987, per capita expenditure had become almost the same in these two regions. This was due primarily to two factors that have developed over the last few years: the public debt constraint diminished the amount of resources available for infrastructural expenditure, and there has been pressure to increase the level of infrastructural provision in the more-developed areas, which prevailed over the objective of improving regional equilibrium.

The already slow pace of infrastructural development in the Mezzogiorno, due largely to the poor planning and implementation capability of the public administration, has thus been further constrained by a reduction in the resources available to finance public expenditure.

An indication of the scale of this expenditure bottleneck is given by the fact that at present, in Italy, the use of about ECU 28 billion, already allocated for public works expenditure, is blocked by bureaucratic inefficiency. In March 1993, the national government, under the pressure of rising unemployment, approved an Act obliging local institutions to spend this money in the current year; however, the efficiency with which these resources can be used, even if all are spent within the specified time, is far from certain.

**TABLE 10. National expenditure in public works, 1980-87**

	Mezzogiorno	Centre-north	Italy
	% of GDP		
1980	6.3	1.7	2.8
1984	6.1	2.0	3.1
1987	3.3	1.6	2.0
	Billion ECU		
1980	5.0	4.2	9.1
1984	8.1	7.9	16.3
1987	5.4	7.9	13.2
	1 000 ECU per capita		
1980	0.25	0.12	0.16
1984	0.40	0.22	0.29
1987	0.26	0.22	0.23

Source: Ismeri Europa elaboration on ISTAT data.

### 3.7.2.1. The lack of a clear strategy for infrastructural policy in the Mezzogiorno

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In Italy over the last 30 years, policies of investment in infrastructure have had as their principal objective the task of reducing the gaps in infrastructural provision that exist with the more advanced countries of Europe. Additionally, there has not been a strategy for the development of infrastructure in such a way as to reduce the regional disequilibrium. The spatial endowment of infrastructures, therefore, continues to reflect the differences in the level of regional development.

In the Mezzogiorno the low initial level of development together with the lack of intermediate city networks, the concentration of the population, and the physical fragmentation of the space have all contributed to the extremely slow rate of completion of even the most basic infrastructures.

Low demand for infrastructures has been another important reason for the low level of provision in the Mezzogiorno. Fragmented and small-scale industrial activity, and the lack of organized social pressure in cities have rendered investment decisions as solely the responsibility of the central political organs.

An example of this was the last major effort to industrialize the Mezzogiorno, which involved the creation of chemical and steel poles at the end of the 1960s. This produced a distorted increase in infrastructural endowment: concentrated in few areas, disconnected from social infrastructures (housing and education facilities), and incapable of increasing the level of development of the production system.

The only infrastructure that has been greatly improved is the road system. This provided the most important and direct connection with the northern economy. More generally, only large projects, involving the whole national territory (motorways, gas pipeline and distribution networks, and electricity production and distribution systems), have achieved a sufficient rate of completion.

All infrastructures with localized importance, such as water supply, environmental public works and regional transport connections, have been limited by incompetence, and by highly fragmented initiatives, at the level of local administration. Last, but not least, we must also note that in the public works sector, there has been an especially high level of corruption.

### 3.7.3. The case for Greece

#### 3.7.3.1. The lack of a national policy for infrastructure

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Having no 'north' to subsidize and plan infrastructure, Greece has followed a type of 'defensive maintenance' strategy for existing infrastructural networks. This has produced erratic and largely unplanned segmented improvements to the system.

In general terms there is the absence of a national policy which is independent of external factors such as EC plans, policies and financing.

In recent years steps have been made to formulate national policies mainly by the necessity to adapt to the various EC programmes. Here again, either through administrative or financing criteria, the emerging national policy is nothing more than a detailed expression of EC policies presented more concretely at the regional and local level.

The Mezzogiorno, having the previous experience of subjugation to directives from the Italian north, is more advanced both in planning and in actual levels of implementation of infrastructure.

Most inefficiencies and inadequacies observed in the Mezzogiorno over the last decades through the *Intervento straordinario* policy are thus to be anticipated in the relationships that develop between EC policy and the administration of Greece at all levels: national, regional, local.

Valuable lessons can be learnt from past Mezzogiorno policies in the hope that the same mistakes are not repeated in Greece.

#### 3.7.3.2. The ability of policies to reduce territorial imbalance is moving in the right direction

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In Greece, policies are evolving in such a way as to be able to have a significant impact in reducing regional imbalances. This difference with respect to the Mezzogiorno is due to two factors. The first is historical in nature and is strongly related to the overconcentration of urbanization, industrial activity and population in Attica: national policies for infrastructural decentralization have failed completely. This is mainly because funds allocated were just enough to solve only some of the acute problems of the congested metropolitan areas, and of the 'S' axis territory to some degree.

TABLE 11. Evolution of investment in infrastructure — Greece, 1989-93

(ECU, 1992)

	Actual expenditure 1989-91	Actual expenditure 1992	Allocation 1993	Total
Transport	465 795	268 260	587 243	1 321 298
Motorways	60 625	121 110	228 383	410 118
Rail	98 300	92 300	113 600	304 200
Athens underground railway	156 870	54 850	245 260	456 980
Various road and rail	150 000	—	—	150 000
Communications	771 840	206 957	392 516	1 371 313
Telecommunications	219 344	146 636	215 796	581 776
Various telecommunications	256 000	—	—	256 000
CRASH programme	207 600	—	176 720	384 320
STAR	88 896	60 321	—	149 217
Energy	60 403	119 892	282 869	463 164
Electrification	13 281	44 154	20 520	78 025
Natural gas	15 312	18 688	262 279	296 279
Valoren	31 810	57 050	—	88 860

Source: Ministry of National Economy.

Current EC policies, especially through the regional programmes, are tending to reverse this picture since new criteria have been established with emphasis on the regional balance, lagging regions, border areas and islands.

In Greece, therefore, EC policies, whether adaptable or not to the particularities of the region, have for practical purposes produced a *de facto* national policy.

### 3.8. Policy conclusions and recommendations

#### 3.8.1. The weakness of infrastructural endowment

Existing infrastructure in the Mezzogiorno suffers from severe regional and functional imbalances. Although infrastructural endowment is substantial, the various

networks do not work in a synergistic manner which would efficiently support economic activities.

The Mezzogiorno will thus over the next decade have to adopt policies and practices which are entirely different to those of the past. This is all the more inevitable since the subsidy dependence period of the *Intervento straordinario* is to all intents and purposes over.

National policies on infrastructure in Greece have been characterized by a chronic situation of inadequate investment allocations within a climate of inefficient administration by the numerous public agencies involved.

Different conditions hold for transport, communications and energy. Transport has been traditionally managed by numerous public agencies with overlapping, conflicting or vague responsibilities.

Although in the post-war period voluminous planning studies have been made, a comprehensive national transport plan for Greece has never been adopted.

Telecommunications and energy, on the other hand, have been managed by public corporations (OTE and DEH) which present a better picture of organization, but which have suffered from strong interference from central government.

At present, the EC and the respective central Mediterranean governments must thus face two principal challenges:

- (i) to provide an adequate level of infrastructural provision and to reinforce infrastructural linkages with the north;
- (ii) to promote a new strategy for the internal integration of infrastructures (local networks, intermodal linkages and east-west connections).

A new strategy for infrastructural endowment must thus envisage the infrastructural development of the space as an opportunity, and not a neutral factor; it must also plan intervention on a small scale, and not merely on a large scale as in the past.

### **Community policy**

There are two main difficulties faced by EC policies for infrastructure:

- (i) the inefficiency of the local administration (complexity of procedures, planning incompetence, low implementation capacity);
- (ii) the lack of a transnational framework to coordinate intervention.

The first of these problems is common to all EC initiatives in the central Mediterranean, but is more a problem for national policy and organization. The second is becoming more urgent due to the creation of the single market. This implies the need for the following.

- Definition of an integrated plan for infrastructural development among the southern Member States

For the Mezzogiorno and the central Mediterranean as a whole, it is imperative to increase the endowment of basic infrastructure, but, at the same time, it is necessary to address new infrastructural provision within a coherent model of development for the whole of southern Europe.

A good example of this type of policy is the improvement of irrigation provision in order to enable diversification of production activities and reduce the excess of supply in Mediterranean output of certain agricultural products.

- Establishment of a clear and coordinated framework for the completion of a European transnational transport system

Transport and information systems, currently operating in a very localized manner, could also greatly improve production conditions if they were efficient at the national and Community level.

- Local infrastructure could come to a state of collapse

It is a well-known fact that EC regional policies provide financing for integrated infrastructure systems of some size and importance within larger European networks. Local and intermediate systems are more or less left to national or even local authority funding which is often inadequate.

- Given the current national fiscal crisis, particularly in Greece, we can anticipate that negligible resources will be allocated for the development or even maintenance of infrastructure, since available funds will be allocated almost exclusively to large projects

This could lead to future infrastructural imbalances, especially in the case of transport. Greece will start to develop — in the context of the most optimistic scenario — only primary interregional or even international infrastructure while local and intermediate systems will be degraded or even cease to function altogether.

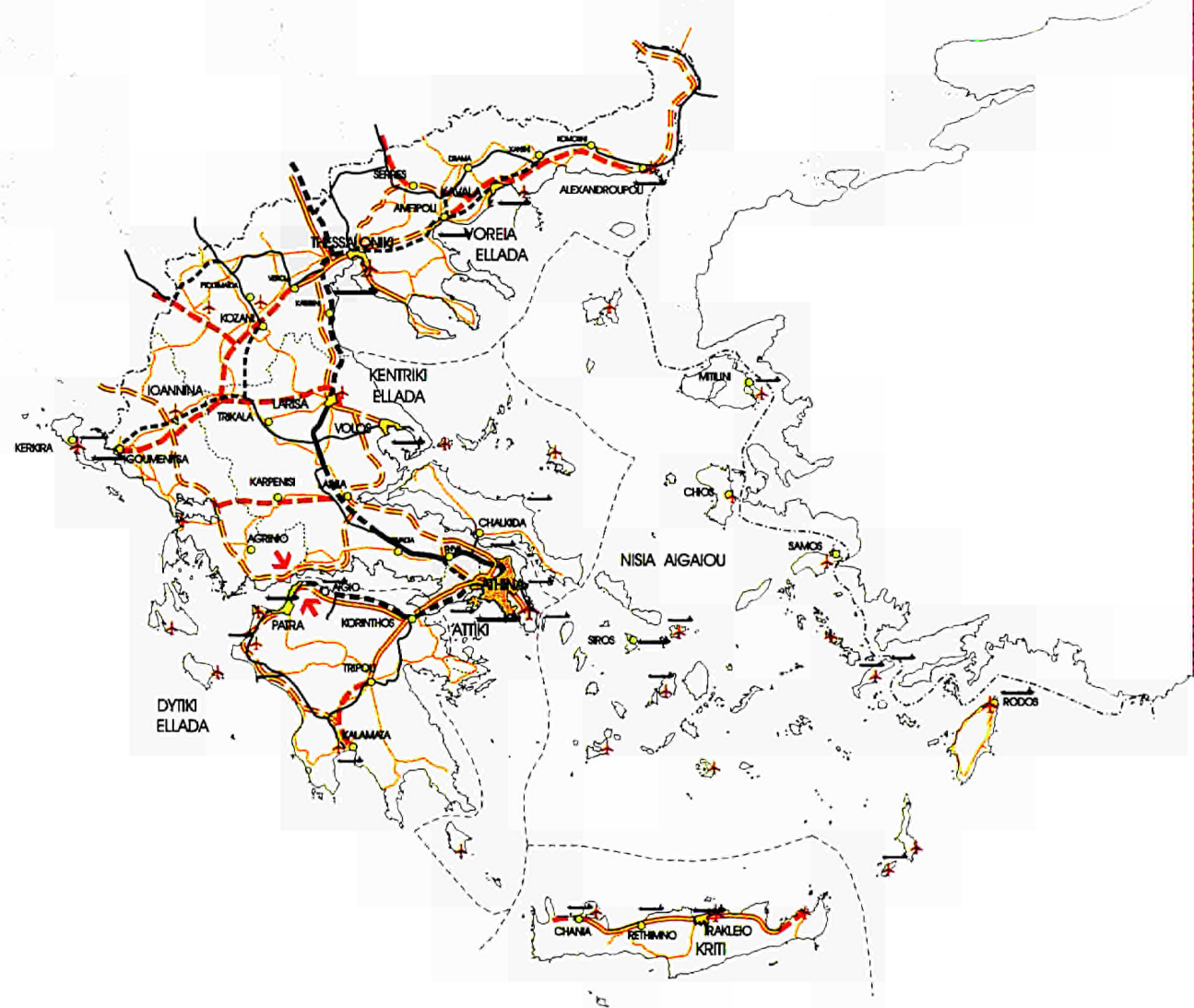
- Only economic recovery at the national level, and the allocation of funds independent of EC policies, can permanently solve the problem of local infrastructure

EC planning over the next five years could, to a limited extent, adopt a new function by integrating major public works with central Mediterranean local and intermediate systems and linkages.

### **National policy**

- Definition of a clear and detailed national transport plan in both Greece and Italy, which comprehensively orders priorities for roads, rail and harbour systems, at a level above that of political strategy

In many cases, projects for new infrastructures in the Mezzogiorno have been fragmented at the regional and



TRANSPORT

0 100 200 km

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**LEGEND**

**Roads**

- Motorways
- Improvement to motorway (Existing highway)
- New motorways
- Secondary roads

**Railways**

- High-speed line
- Principal line
- Secondary line

Missing links

Seaports

Airports

Urban centres

Administrative boundaries (Group of NUTS for Greece)

National boundaries

local level and their completion has lasted for many years. This is due mainly to the weak planning capability of the local and national administration, the complex bureaucratic procedures required for infrastructural investment expenditure, and the numerous institutions involved in the authorization of this expenditure. As we have said, these constraints are stronger at present because of the diminishing resources available for public expenditure.

We can anticipate a great weakness in this respect due to administrative inefficiencies since the major factor in decision-making is the need to absorb EC funds within a specified time-limit. This overshadows all other planning and functional criteria, which from the point of view of efficient implementation ought to take precedence in the planning process.

- Greater coordination between national policies and those in neighbouring countries in order to increase complementarities as the European transport network is increasingly developed

Infrastructures planned for road and rail that are linked to the European transnational system require clear definition in terms of priorities and implementation phases. This definition of stages of implementation is especially important for the completion of subsections that form functional intermediate networks. These segments can then be put into service immediately after construction, before the complete network has been finished.

### ***The priorities for development of transport infrastructures***

- Reinforce the provision of motorways and ordinary roads with appropriate investments, particularly in the national road network

East-west connection of Palermo-Messina-Taranto-Lecce.

Completion of Alexandroupolis-Thessalonika-Igoumenitsa axis.

Completion of Athens-Thessaloniki and Athens-Igoumenitsa links.

Southern extension of motorway connections to the Peloponnese and Kalamata.

- Strengthen rail transport

In the Mezzogiorno, this implies the completion of high-speed lines permitting the connection of intermediate

cities with the national network, and the implementation of double track on important routes (for example, Palermo-Naples).

Particularly important is the completion of the high-speed line Rome-Naples, and the planning (in terms of land expropriation and basic surveying, etc.) for new high-speed lines in anticipation of funding along the following routes:

Athens-Thessaloniki  
Naples-Bari  
Naples-Reggio di Calabria.

- Reinforce public transport, particularly in congested urban centres (Naples, Palermo) and in the areas where the demand for transport is weaker (rural and less-developed regions)

Specifically for large urban centres such as Athens and Thessaloniki, current development of an underground railway and airport system must be accompanied by the development of intermediate systems (buses, trams).

- Development of transport nodes (cities, harbours, airports, stations, and intermodal centres) which are poor in terms of both number and functionality

The development, localization, and management of modern transport nodes will require the allocation of a large amount of financial resources. A greater response to market forces and increasing financial involvement of the private sector are required.

### ***The priorities for energy infrastructures***

The principal shortfalls in the region as a whole in energy provision and supply are:

- (i) the insufficient level of electricity generation and incomplete provision of distribution networks;
- (ii) the incomplete gas distribution network.

The resistance of local residents and institutions is increasing due to the risk of pollution from new generating stations. It is therefore necessary to simplify procedures and to guarantee a sustainable environmental impact for the new investments.

For energy-generation plants the administrative and procedural complexity is greater than for other infrastruc-

tures. This complexity creates severe delays and confusion in the allocation of responsibilities.

The risk of pollution is especially high for some locations in Greece where old technology plants are located within urban areas, for example the Keratsini plant that is within the Athens basin, and various smaller plants in the islands.

Establishment of a gas network in Greece, and completion of the network in Mezzogiorno is a major priority.

Alternative sources of energy — wind-powered, geothermal, solar — seem to be the answer for many islands in the Aegean where consumption is on a small enough scale that it can be satisfied by such energy systems.

Island regions cannot easily be connected to the 'cleaner' energy system of gas. In these areas, small oil-fired electricity generation plants create additional risks connected to the frequent oil shipments they require.

### ***The priorities for water infrastructures***

The scarcity of drinking water remains one of the biggest problems. Significant progress has been made only in the supply of water for irrigation.

Water resources are concentrated in a few places, mostly far from the areas of high demand; the level of infrastructural provision is very low and the jurisdiction over water supply highly fragmented.

It is estimated that approved investment in the Mezzogiorno could increase the supply of drinking water by about 20%.

In terms of reorganization of jurisdiction, the government has proposed the centralization of planning functions under a new public company, with responsibility chiefly for water infrastructures.

The major priority is within the Greater Athens area where supply projections for the next 10 years produce a constant deficit. The Evinos river dam project is of major importance as the only solution in the long term.

Completion of major irrigation projects within a clear and well-designed, coordinated framework would greatly reduce water wastage and competition between the various uses.

One of the most important of these projects is the Acheloos river project which will increase very significantly the production capacity of the Thessaly plain. There are also some smaller systems planned on the island of Crete.

### ***Local policy***

In the field of infrastructure, the key role for local policy is to promote and assist the development of connections with the private sector in infrastructural development, particularly in the management of infrastructures and in design, evaluation and construction.

Territorial planning activity of the public administration is very weak.

Only two regions in the Mezzogiorno (Puglia and Sicily) have defined a transport plan, as requested by the national ministry. The regions must:

**TABLE 12. Losses incurred by transport companies in Italy per passenger trip, 1990**

City — company	Deficit (million LIT)
Salerno — ATACS	2 010
Palermo — AMAT	1 057
L'Aquila — ASM	748
Bari — AMTAB	631
Catanzaro — AMAC	551
Rome — ATAC	420
Perugia — ASP	382
Trento — Atesina	357
Cagliari — ACT	291
Florence — ATAF	169
Pordenone — ATAP	164
Genoa — AMT	155
Padua — ACAP	150
Milan — ATM	123
Venice — ACTV	101
Turin — ATM	88
Udine — ATM	87
Sassari — ACTP	68

Source: Federtrasporti.



- (i) invest capital efficiently in transport provision;
- (ii) increase the supply capability of the public sector with respect to the private sector;
- (iii) control the financial deficits incurred by public transport systems;
- (iv) ameliorate the negative environmental impact of transport infrastructures.

The above priorities hold all the more for Greece since a great part of infrastructure development consists of new roads and rail lines; planning has to follow two stages.

First, a general transport plan must be adopted at the national level, defining construction priorities.

Second, a transport plan by region must be adopted, providing local linkages to the primary network and ordering priorities at the regional as well as local level.

The instruments necessary to provide access to intermediate and soft infrastructures for local industry are

technological parks, industrial areas and research infrastructures.

In recent years these instruments have been supported by public expenditure and promoted in many areas. However, as in other fields, inappropriate use and low efficiency severely reduce the beneficial impact they have on the industrial sector and the economy in general.

To improve their effectiveness a programme of development of industrial areas within a more general framework of spatial organization is required.

The management of public transport companies is economically inefficient.

The increasing demand for transport cannot be satisfied by a continuous increase in supply. It is necessary to guarantee an efficient use of existing infrastructure. At present in the Mezzogiorno there are high financial losses in the operation of passenger transport systems.

**TABLE 1.A. Synthetic indicator of productive infrastructures**

Regions	Synthetic indicator (EC = 100)	EC ranking
Campania	63.6	118
Abruzzi	64.1	116
Molise	38.2	138
Puglia	55.7	125
Basilicata	34.7	145
Calabria	49.3	132
Sicily	89.3	87
Italy	88.8	
Greece	48.5	
East continental islands <sup>1</sup>	53.7	130
Islands of eastern Aegean	45.8	133
Peloponnese	38.1	139
Epirus	36.3	142
Crete	35.5	143
Eastern Macedonia	22.2	151
Thessaly	19.4	158
Thrace	17.8	162

NB: Productive infrastructures: transport, communications, energy, education.

<sup>1</sup> Regional division for Greece is different from regional division selected for study.

Sources: Ecoter; Confindustria.

**TABLE 2.A. Percentage distribution of interurban passenger transport by mode, 1989**

Mode	Italy <sup>1</sup>	Greece <sup>2</sup>
Rail	12.5	4.5
Bus	13.8	40.2
Car	71.6	49.9 <sup>3</sup>
Boat	0.6	2.4
Air	1.5	3.0
Total	100.0	100.0

<sup>1</sup> Source: Ministry of Transport.

<sup>2</sup> Source: Hellenic Institute of Transport Engineers.

<sup>3</sup> Motorcycles included.

**TABLE 3.A. Distribution of interurban goods transport by mode**

Mode	Italy (1989) <sup>1</sup>		Greece (1975) <sup>2</sup>	
	Million tkm	%	Million tkm	%
Road	111 219	62.60	23 420 <sup>3</sup>	85.33
Rail	21 556	12.13	525	1.91
Boat	33 484	19.97	3 500	12.75
Air	31	0.02	4	0.01
Pipeline	9 257	2.21	—	—
Total	177 676	100.00	27 449	100.00

<sup>1</sup> Source: Ministry of Transport.

<sup>2</sup> Source: Hellenic Institute of Transport Engineers.

<sup>3</sup> Urban included.

**TABLE 4.A. Road network length, 1991**

Region	Road network (km)				Density (km/100 km <sup>2</sup> )	Serviceability (km/million inhabitants)
	Motorways	National	Others	Total		
Abruzzi	357	2 256	11 876	14 489	3.3	293.0
Molise	36	915	1 978	2 929	0.8	110.0
Campania	440	2 672	13 824	16 936	3.2	81.0
Puglia	315	2 955	13 318	16 588	1.6	81.0
Basilicata	29	1 987	4 515	6 531	0.3	48.0
Calabria	295	3 347	12 220	15 862	2.0	143.0
Sicily	570	3 606	16 501	20 677	2.2	116.0
Mezzogiorno	2 042	17 738	74 232	94 012	2.0	111.0
Central/north	4 151	27 267	165 818	197 236	2.3	113.0
Italy	6 193	45 005	252 134	303 332	2.0	109.0
Greece	270	9 256	31 301	41 125	0.2	26.3
Western Greece	80				0.2	43.5
Northern Greece	90				0.2	34.6
Central Greece	60				0.2	45.8
Aegean Islands	0				0	0
Crete	0				0	0
Attica	40				1.1	11.4
France	7 467		798 396	812 357	1.4	108.6
Germany	8 721		485 000	508 504	3.5	138.1

NB: For France and Germany, national and others.

Sources: ISTAT; ESYE; Eurostat.

**TABLE 5.A. Vehicle fleet**

Vehicles	Mezzogiorno				Greece			
	1977		1988		1977		1988	
	Number	%	Number	%	Number	%	Number	%
Passenger cars	3 710 583	79.5	6 481 108	86.0	620 755	62.2	1 507 952	62.3
Buses	15 374	0.3	22 555	0.3	14 538	1.5	19 077	0.8
Lorries	264 363	5.7	495 115	6.6	265 015	26.6	688 894	28.5
Motorcycles	677 415	14.5	532 904	7.1	97 230	9.7	203 582	8.4
Total	4 667 735	100.0	7 531 682	100.0	997 538	100.0	2 419 505	100.0

Sources: ISTAT; ESYE.

TABLE 6.A. Planned motorways (long-term plan)

Connection axes	Length (km)	Added density (km/100 km <sup>2</sup> )	Added serviceability (km/million inhabitants)
Bari-Brindisi-Otranto	192		
Brindisi-Taranto-Sibari-Catanzaro-Lamezia	410		
Catania-Syracuse	60		
Messina-Palermo	235		
Mezzogiorno	Total	897	0.9
Patras-Corinth-Athens-Lamia-Volos-Thessaloniki/ border with the former Yugoslavia <sup>1</sup>	237		
Patras-Antirrio-Lamia	180		
Corinth-Tripoli-Kalamata	70		
Igoumenitsa-Antirrio-Patras-Kalamata	480		
Igoumenitsa-Ioannina-Metsovo-Thessaloniki-Kavala- Alexandroupolis/Turkish border	740		
Metsovo-Volos	200		
Kavala-Serres/Bulgarian border	50		
Thessaloniki-Serres	130		
Alexandroupolis-Serres/Turco/Bulgarian border	115		
Ioannina/Albanian border	60		
Northern Crete axis	310		
Elefsis-Thiva <sup>2</sup>	60		
Elefsis-Stavros-Spata-Lavrio <sup>2</sup>	105		
Greece	Total	3 083	2.3

<sup>1</sup> Improvement of existing main axis.

<sup>2</sup> Greater Athens area decongestion axis.

Source: Ypehode.

TABLE 7.A. Evolution of motorway infrastructure – Greece

Existing			Ten-year plan			Long-term plan (Total)		
km	Area index (km/ 100 km <sup>2</sup> )	Population index (km/million inhabitants)	km	Area index (km/ 100 km <sup>2</sup> )	Population index (km/million inhabitants)	km	Area index (km/ 100 km <sup>2</sup> )	Population index (km/million inhabitants)
309	0.2	30.1	1 609	1.22	156.7	3 380	2.56	329.3

Source: Ypehode.

**TABLE 8.A. Rail network length, 1991**

Region	Total length (km)	Electrified (km)	Non- electrified (km)	Density (km/100 km <sup>2</sup> )
Abruzzi	532	296	236	4.9
Molise	258	34	224	5.7
Campania	1 005	635	370	7.4
Puglia	857	369	488	4.4
Basilicata	337	17	340	3.5
Calabria	854	349	505	5.7
Sicily	1 448	521	927	5.6
Mezzogiorno	5 311	2 221	3 090	5.3
Italy	16 030	9 443	6 587	5.3
Greece	2 479	0	2 479	1.9
Western Greece	645	0	645	1.7
Northern Greece	962	0	962	2.3
Central Greece	691	0	691	2.3
Aegean Islands	0	0	0	0
Crete	0	0	0	0
Attica	181	0	181	4.7
France	34 322	–	–	6.3
Germany	27 045	–	–	11.0
EUR 12	124 022	–	–	5.5

Sources: ISTAT, ESYE, Eurostat.

**TABLE 9.A. Planned rail network – Greece**

Connection axes		Length (km)	Added density (km/100 km <sup>2</sup> )	Added serviceability (km/million inhabitants)
Upgrading of existing network	Total	2 580	1.9	251.0
<i>New lines</i>				
Thessaloniki-Amfipolis-Xanthi		210	–	–
Igoumenitsa-Kalambaka		150	–	–
Florina/Albanian border to Bogradets		50	–	–
Kalambaka-Kozani		100	–	–
	Total network	3 090	2.3	301.0

Source: OSE.

**TABLE 10.A. Harbours — Total arrivals and capacities**

	1977			1988		
	No of arrivals	1 000 tsn	%	No of arrivals	1 000 tsn	%
Mezzogiorno	54 929	76 648	27.6	86 401	97 839	26.7
Italy	260 781	285 296	100.0	345 774	366 203	100.0
Greece (1975, 1978)	163 392	112 179	100.0	180 217	177 896	100.0

NB: 1 tsn = 2 832 m<sup>3</sup>.

Sources: ISTAT; ESYE.

**TABLE 11.A. Domestic and international goods and passengers transported in harbours, 1989**

	Goods (1 000 tonnes)			Passengers		
	Loaded	Unloaded	Total	Arrivals	Departures	Total
<i>Domestic</i>						
Mezzogiorno	27 107	14 498	41 605	4 281 268	4 786 385	9 067 653
Italy	61 417	61 417	122 834	21 107 622	21 107 622	42 215 224
Greece (1988)	19 101	19 101	38 202	10 207 000	10 267 000	20 414 000
<i>International</i>						
Mezzogiorno	11 911	58 929	70 840	549 414	620 850	1 170 264
Italy	38 654	216 419	255 073	1 879 878	2 008 632	3 888 510
Greece (1988)	24 447	31 638	56 089	799 000	842 000	1 641 000
<i>Domestic and international</i>						
Mezzogiorno	39 018	73 427	112 445	4 830 682	5 407 235	10 237 917
Italy	100 071	277 836	377 907	22 987 500	23 116 254	46 103 754
Greece (1988)	43 548	50 739	94 287	11 006 000	11 099 000	22 055 000

Sources ISTAT; ESYE.

TABLE 12.A. Airports and air traffic: Italy — Mezzogiorno, 1990

	Aeroplanes (number)	Landed (%)	Passengers (%)	Goods (%)
Naples	13 406	4.2	4.3	0.8
Bari	4 295	1.3	1.3	0.2
Brindisi	2 185	0.7	0.7	0.1
Catanzaro	6	0.0	0.0	0.0
Lamezia Terme	2 469	0.8	0.7	0.2
Reggio di Calabria	1 566	0.5	0.5	0.1
Trapani	697	0.2	0.2	0.1
Pantelleria	579	0.2	0.2	0.0
Palermo	8 479	2.7	3.2	1.3
Lampedousa	486	0.2	0.2	0.1
Catania	8 362	2.6	3.3	1.0
Mezzogiorno	42 530	13.4	11.4	4.0
Central/north	257 836	86.6	88.6	96.0
Italy	319 584	100.0	100.0	100.0

Source: ISTAT.

TABLE 13.A. Airports and air traffic: Greece, 1989

	Aeroplanes (number)	Landed (%)	Passengers (%)	Goods (%)
Elliniko Athens	112 677	47.0	46.5	71.1
Aktio	1 212	0.5	0.3	0.0
Alexandroupolis	1 618	0.7	0.9	0.9
Andravida	64	0.0	0.0	0.0
Araxos	696	0.3	0.3	0.0
Zakynthos	2 540	1.1	0.9	0.1
Iraklion	16 716	7.0	11.0	4.0
Thessaloniki	18 073	7.5	6.9	13.4
Ioannina	1 200	0.5	0.5	0.1
Kavala	1 636	0.7	0.7	0.2
Kalamata	826	0.3	0.4	0.1
Karpathos	2 498	1.0	0.1	0.0
Kassos	759	0.3	0.0	0.0
Kastellorizo	248	0.1	0.0	0.0
Kastoria	639	0.3	0.0	0.0
Kerkyra (Corfu)	12 983	5.4	7.8	1.4
Kefalonia	1 927	0.8	0.6	0.2
Kozani	710	0.3	0.0	0.0
Kithira	827	0.3	0.1	0.0
Kos	6 487	2.7	3.7	0.9
Larissa	272	0.1	0.1	0.0
Leros	2 396	1.0	0.0	0.0
Limnos	2 396	1.0	0.5	0.5
Milos	1 366	0.6	0.1	0.0
Mykonos	7 321	3.1	0.9	0.1
Mitilini	4 882	2.0	1.6	0.9
Paros	3 610	1.5	0.2	0.0
Rodos (Rhodes)	17 654	7.4	9.5	2.6
Samos	3 641	1.5	1.5	0.6
Santorini	3 012	1.3	1.0	0.3
Sitia	371	0.2	0.0	0.0
Skiathos	3 277	1.4	0.9	0.1
Skyros	411	0.2	0.0	0.0
Chania	3 896	1.6	2.2	1.8
Chios	2 147	0.9	0.8	0.6
Greece	239 508	100.0	100.0	100.0

Sources: ISTAT; ESYE.



**TABLE 14.A. Major air traffic<sup>1</sup>**

Airport	Aeroplanes (number)	Landed (%)	Passengers (%)	Goods (%)
Rome <sup>2</sup>	111 979	35.0	37.6	55.1
Naples	13 406	4.2	4.3	0.8
Palermo	8 479	2.7	3.2	1.3
Catania	8 362	2.6	3.3	1.0
Other Mezzogiorno airports	12 285	3.8	0.6	0.9
Rome + Mezzogiorno	154 509	48.3	49.0	59.1
Italy	319 584	100.0	100.0	100.0
Athens	112 677	47.0	46.5	71.1
Thessaloniki	18 073	7.5	6.9	13.4
Rhodes	17 654	7.4	9.5	2.6
Iraklion	16 716	7.0	11.0	4.0
Corfu	12 983	5.4	7.8	1.4
Other airports	61 405	26.0	18.3	7.5
Greece	239 508	100.0	100.0	100.0

<sup>1</sup> Italy 1990, Greece 1989.

<sup>2</sup> Although outside the Mezzogiorno, Fiumicino and Ciampino airports form the major node for the Mezzogiorno system.

Sources: ISTAT; ESYE.

**TABLE 15.A. Subscribers and telephone connections in the Mezzogiorno, 1990**

	No of subscribers	Telephones	Density (per 100)	
			Subscribers	Telephones
Abruzzi	454 110	636 928	35.7	50.0
Molise	106 736	136 310	31.7	40.5
Campania	1 707 270	2 216 355	29.2	37.9
Puglia	1 242 310	1 582 860	30.4	38.8
Basilicata	184 136	233 928	29.5	37.4
Calabria	598 928	766 549	27.8	35.6
Sicily	1 693 274	2 205 618	32.6	42.5
Mezzogiorno	5 986 764	7 778 548	15.5	20.2
Central/north	16 353 306	24 243 309	40.3	64.3
Italy	22 340 070	32 021 857	38.7	55.3
France	25 450 423	–	45.6	–
Germany	28 412.358	–	46.4	–
EUR 12	–	–	39.5	–

Sources: SIP; Eurostat.

**TABLE 16.A. Subscribers and telephone connections in Greece, 1990**

Region	No of subscribers	Telephones	Density (per 100)	
			Subscribers	Telephones
Western Greece	567 801	658 304	30.9	35.8
Northern Greece	898 359	1 001 031	34.5	38.5
Central Greece	396 450	450 533	30.3	34.4
Aegean Islands	171 217	241 926	37.6	53.1
Crete	174 960	227 385	32.6	42.3
Attica	1 738 827	2 119 631	49.4	60.2
Greece	3 947 614	4 698 810	38.5	45.8

Source: OTE (Hellenic Telecommunications Organization).

**TABLE 17.A. Telex network, 1990**

Region	Subscribers	No of communications		
		National	International	Total
Mezzogiorno	7 036	2 953 373	1 340 394	4 293 767
Italy	60 942	31 063 220	27 089 059	58 152 279
Greece	24 430	–	8 149 340	–
France	143 916	–	–	–
Germany	165 246	–	–	–

Sources: ISTAT; OTE; Eurostat.

**TABLE 18.A. Overall energy balance in the Mezzogiorno, 1989**

	(1 000 toe)				
	Oil	Gas	Solid	Electricity	Total
<i>Sources</i>					
Production	3 543	4 084	330	576	8 533
Imports(net)	27 845	3 782	6 403	2 300	40 330
Total	31 388	7 866	6 733	2 876	48 863
<i>Consumption</i>					
Transformation in electricity	6 273	3 295	2 412	11 980	0
Consumption and losses in the energy sector	3 790	70	1 046	9 716	14 662
<i>Total consumption</i>	21 325	4 051	3 275	5 140	34 241
Industry	2 940	2 627	3 075	2 178	10 820
Transport	9 833	38	–	93	9 966
Civil use	1 640	1 177	200	2 766	5 783
Agriculture	770	5	–	103	878
Non-energy uses	4 590	654	–	–	5 244
Bunkers	1 550	–	–	–	1 550

Source: ISTAT.

TABLE 19.A. Overall energy balance in Greece, 1987

(1 000 toe)

	Oil	Gas	Solid	Electricity	Total
<i>Sources</i>					
Production	1 221	113	5 790	788	8 092
Imports	19 031	–	1 206	259	20 496
Exports	7 536	–	79	96	7 771
Total	12 716	113	7 097	951	20 877
<i>Consumption</i>					
Transformation in electricity	– 1 563	–	– 5 652	7 215	0
Consumption and losses in the energy sector	563	30	–	1 529	2 122
<i>Total consumption</i>					
Industry	1 891	8	1 004	2 889	5 792
Transport	4 837	–	1	5	4 843
Civil use etc.	2 279	6	45	3 755	6 085
Non-energy uses	257	73	108	–	438
Bunkers	1 848	–	–	–	1 848
Total	11 112	87	1 158	6 646	19 006

Source: ESYE.

TABLE 20.A. Electricity – Total installed capacity in MW, 1990

	Hydroelectric stations		Thermoelectric stations		Solar, wind geothermal stations		Total	
	No	MW	No	MW	No	MW	No	MW
Greece								
Mainland	19	2 408	31	5 647	–	–	–	8 055
Islands	2	1	–	753	–	3	–	757
Total	21	2 409	–	6 400	–	3	–	8 812
Mezzogiorno	123	2 844	94	9 906	–	–	217	12 750
Italy	1 572	19 394	516	41 834	–	–	2 268	61 228

**TABLE 21.A. Planned investment in electrical energy**

	Mezzogiorno		Greece	
	Population index		Population index	
	Million ECU	(ECU/inhabitant)	Million ECU	(ECU/inhabitant)
Thermal	9 411		3 187	
Hydroelectric	794		1 476	
Distribution	5 588		2 559	
Renewable	:		91	
<b>Total</b>	<b>15 793</b>	<b>821</b>	<b>7 313</b>	<b>712</b>

Sources: ENEL; DEH.

**TABLE 22.A. New stations planned in the Mezzogiorno**

	Capacity (MW)	Start-up year
<i>A. Thermoelectric stations</i>		
1. Brindisi Sud	2 508	1993
2. Melfi	300	1997
3. Larino	260	1993
4. Garigliano	300	1995
5. Gloia Tauro	2 508	1998
<i>B. Hydroelectric stations</i>		
1. Giacomo (Abruzzi)	324	1996
2. Scontrone (Abruzzi)	14	1996
3. Satriano (Calabria)	50	1993
4. Palazzo (Calabria)	70	1995

Source: ENEL.

TABLE 23.A. New stations planned in Greece

	Capacity (MW)	Start-up year
<i>A. Thermoelectric stations</i>		
1. Lavrio	600	1995
2. Agios Dimitrios	300	1996
3. Aliveri	600	1997
4. Komnina	300	1999
5. Florina	300	2000
6. Drama	600	2001
7. Chania	135	1996
8. Rhodes	40	1996
9. Aegean Islands	100	2000
	2 975	
<i>B. Hydroelectric stations</i>		
1. Thesavros	300	1996
2. Platanovrisi	100	1996
3. Temenos	18	1996
4. Mesochora	140	1996
5. Pournari	31.5	1994
6. Ilarion	180	1998
7. Sykia	66.5	1998
8. Agios Nikolaos	200	1999
9. 30 small units	150	1999
	1 186	
<i>C. Total Greece</i>	4 161	

Source: DEH.

TABLE 24.A. Projected demand growth — Greece

Year	Capacity (MW)	Energy (GWh)
<i>A. Interconnected mainland system</i>		
1992	5 110	30 904
2002	7 210	43 590
<i>B. Crete</i>		
1992	240	1 150
2002	425	2 030
<i>C. Rhodes</i>		
1992	70	315
2002	130	580
<i>D. Islands isolated systems</i>		
1992	199	792
2002	350	1 480
<i>E. Total</i>		
1992	5 619	33 161
2002	8 115	47 680

Source: DEH.

TABLE 25.A. Renewable energy sources in Greece

	Capacity (kW)	Start-up year
<i>A. Wind power units</i>		
1. Kythnos	165	1993
2. Karpathos	450	1993
3. Lavrio	1 000	1994
4. Andros	1 875	1996
5. Skiros	200	1993
6. Chios	3 500	1996
7. Samos	2 900	1995
8. Limnos	1 140	1993
9. Icaria	385	1993
10. Samothraki	220	1993
11. Lesvos	2 000	1996
12. Evvia	5 000	1996
13. Crete	50 000	2002
14. Psara	2 000	1994
	70 835	—
<i>B. Solar units</i>		
1. Kythnos	100	1993
2. Antikithira	25	1993
3. Gavdos	20	1993
4. Agios Roumeli	50	1993
5. Arki	25	1993
6. 70 small stations in 26 small islands (26 x 700)	18 200	1993
	18 420	—
<i>C. Geothermal units</i>		
1. Milos		1994
2. Lesvos	(breakdown	1994
3. Kimolos	of data	1993
4. Nisyros	not available)	1996
	50	—

## 4. The environment

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### 4.1. Introduction: the state of the environment

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#### 4.1.1. Soil

Soil erosion affects more than one third of the surface area of Greece; 82% of the area of the Mezzogiorno is vulnerable to geological risks, and 50% of its coast is subject to constant erosion (see map 'Environment').

Demographic movement and the exploitation of natural resources have diminished in the last year, but the abandonment of the countryside and consequent urbanization are still continuing. In particular, illegal and thus unplanned construction, without adequate services, is widely spread in the Mezzogiorno and is becoming increasingly so in Greece.

The extension of the protected land area that has taken place in recent years is only the first step towards the resolution of the problem of soil erosion. In many cases, in Greece and the Mezzogiorno, the creation of protected areas has not been supported by the necessary measures for their management and control. Under this situation of purely 'paper' protection, very little can be done to reduce the degradation of the land.

In addition to problems of soil erosion, in some specific areas of the Mezzogiorno there is a very high-level risk due to volcanic activity (above all in the urban agglomerations around Vesuvius and Mount Etna). In these cases it is only possible to improve the level of monitoring and civil protection, but here too there is room for a great deal of progress.

#### 4.1.2. Water

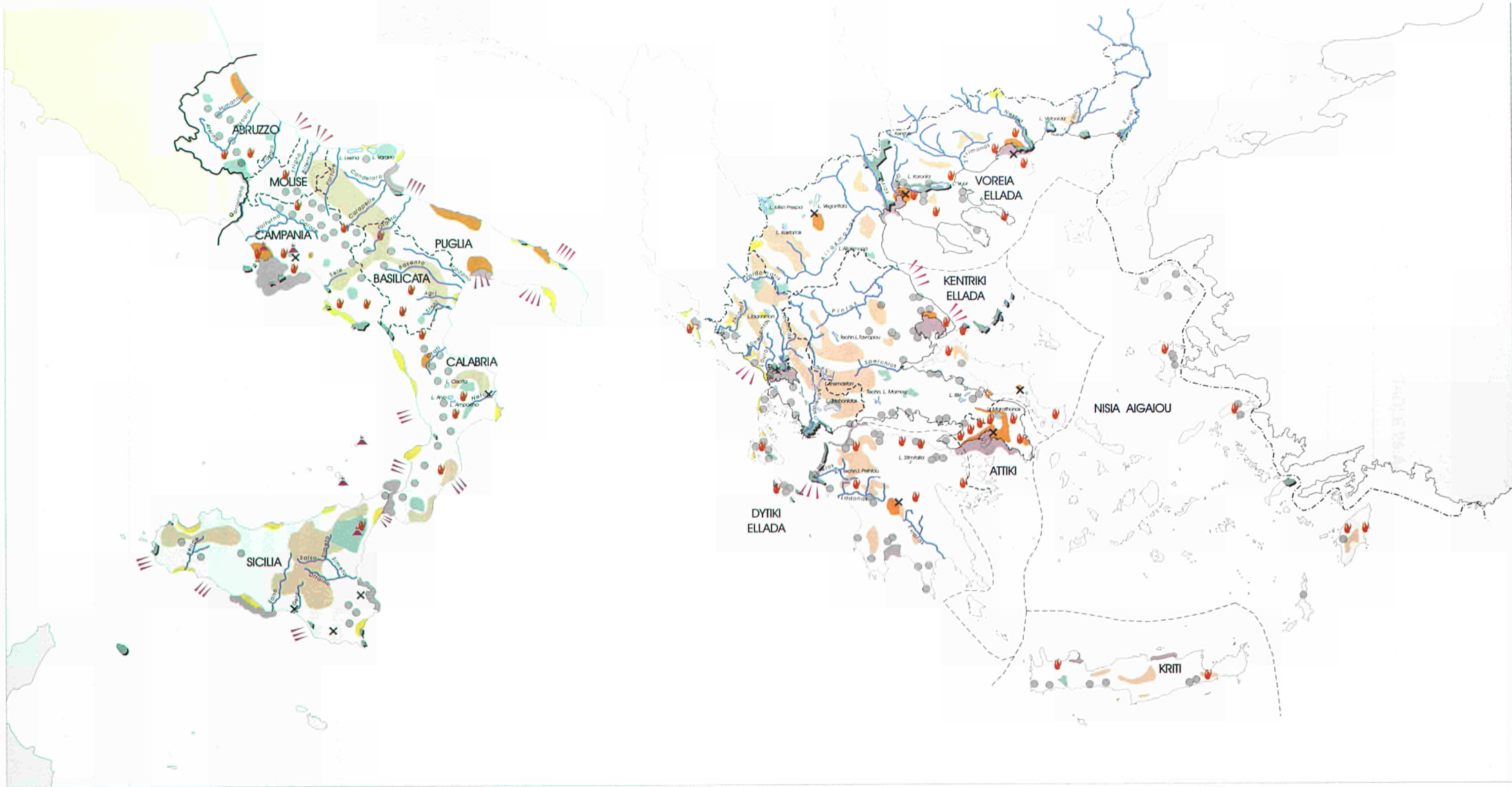
In the Mezzogiorno, the scarcity of drinking water represents one of the primary difficulties. In Greece, the supply of drinking water is abundant, but there are increasing problems in the urban area of Athens. However, in Greece the problem of pollution of drinking water is increasing.

In the Mezzogiorno, the primary cause of the scarcity of drinking water is the inefficiency and obsolescent nature of the distribution infrastructure. The insufficient level of intervention in this field and the constantly increasing demand for water will worsen this situation in the future.

To combat this lack of intervention, legislative action is foreseen in order to reorganize the structure of water management. This is now highly fragmented at the local level, impeding both the planning and realization of investment programmes in large areas.

The pollution of rivers and of the sea, largely from urban waste, is a common problem for Greece and the Mezzogiorno. Moreover, the absence of a purification system (in the Mezzogiorno, an existing but underutilized system) is the cause of the continuing degradation of water systems.

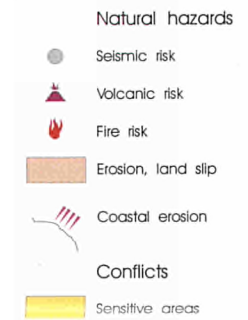
Aside from the problem of urban waste, 'imported' pollution of the sea, for example from maritime transport, must also be taken into account. In this area it could be possible for the Mezzogiorno and Greece to produce common measures of prevention and intervention.



ENVIRONMENT



LEGEND



0 100 200 km

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### 4.1.3. Air

Air pollution in the central Mediterranean is concentrated in the large cities and depends, above all, on the number of cars. The pollution from industry and from the heating of buildings also contributes to air pollution but is of secondary importance. Pollution of this type is significant, affecting about 30% of the Mezzogiorno population and almost 40% of that in Greece relative to the metropolitan area.

Under this perspective, the air pollution problem is similar to that in other European cities. There is a great difference, however, in the level of development of alternative modes of transport, which is lagging far behind in the central Mediterranean. This will further increase the problem of urban pollution for some time to come.

In Italy urban pollution is now subject to more careful monitoring which forces the local administration to intervene when the pollution level exceeds tolerable limits. This intervention requirement has, in the past year, enabled the adoption of 'emergency' measures to combat pollution (for example, the restriction on the use of cars in Naples, Palermo, Catania and Bari so that cars with odd and even registration numbers can only be driven in these cities on alternate days).

Although they may alleviate problems in the short term, these emergency measures do not in any way help to reduce the long-term problems of pollution. Additional action is urgently required in order to alter the urban structure in such a way as to reduce pollution more permanently. In Athens, limited action of this type is being implemented: a new line for the underground railway system is under construction, and intervention in order to reorganize public transport and to renew the city bus fleet is planned.

The difficulty lies in the fact that in both the Mezzogiorno and Greece very few measures to structurally modify the transport system have been adopted, and it will thus be some time before the major causes of air pollution are substantially reduced. There is, however, the possibility that Community measures regarding the use of catalytic converters and the diffusion of unleaded petrol will have a positive impact in the coming years.

### 4.1.4. Waste

In the Mezzogiorno and in Greece the illegal dumping of solid waste is a common problem; it is estimated that in

the central Mediterranean area as a whole, this illegal dumping accounts for more than 50% of the total waste produced. Moreover, in the Mezzogiorno, the prevalence of this illegal action favours the absorption of excess waste from the north of Italy.

There is a significant barrier to the solution of this problem in the inability of the area to mobilize the necessary resources to dispose of waste properly, to clean up illegal dump sites, and to overcome the hostility of many local communities in order to find suitable dump sites.

In 1990, in the Mezzogiorno, the plans to provide for the proper disposal of all waste were completed by the regions and the Ministry of the Environment. Since then, however, only a few of the planned dumps have been completed, and only a few others are currently under construction because of a shortage of resources and low administrative efficiency.

## 4.2. Pollution problems

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### 4.2.1. Air pollution

#### 4.2.1.1. The five major polluting emissions

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The problems of local air pollution (from a national point of view) come from city pollution produced by traffic, the heating of buildings, and the presence of factories and power stations, and the discharge of pollutants from local industrial installations.

Air pollution is caused by two types of outflow:

- (i) the emission into the atmosphere of gaseous, volatile and particle substances from many 'small' sources, from the chimneys of public and industrial installations, from power stations and from the exhaust pipes of vehicles (cars, lorries, buses, motorcycles, tractors, aeroplanes, ships, etc.);
- (ii) mass leakages coming from machines and installations.

Both of these types of pollution are greatly influenced by the level of technology.

From the location of these two types of source, we can say that the main polluted areas are certainly the big cities and those areas which are situated near factories and power stations.

The indicators used to analyse the quality of air are related to the five main air pollutants, all of which are generally well-studied, and have relatively well-understood impacts on the environment. Monitoring systems for these pollutants exist in most EC countries and control technology has been developed to reduce emission levels:

1. Sulphur oxides (SO<sub>x</sub>), given mainly as quantities of sulphur dioxide (SO<sub>2</sub>); these negatively affect human health and contribute to acid deposition through acid rain. They thus have very negative effects on aquatic ecosystems and buildings, and may have negative effects on crops and forests.
2. Nitrogen oxides (NO<sub>x</sub>), given as quantities of nitrogen dioxide (NO<sub>2</sub>); man-made NO<sub>x</sub> emissions mainly stem from the burning of fossil fuels at high temperatures; these are also connected with acid rain as well as photochemical oxidant pollution.
3. Particles (particulate matter); these contribute significantly to visibility reduction and, as a carrier of toxic metals and other toxic substances, have negative effects on human health; the energy sector is the predominant source of this form of pollution.
4. Carbon monoxide (CO); this has adverse health effects, in particular because it interferes with the absorption of oxygen by red blood cells.
5. Hydrocarbons (HCs); these are considered, together with NO<sub>x</sub>, to be the main precursor of photochemical air pollution.

Data on chlorofluorocarbons (CFCs) and carbon dioxide (CO<sub>2</sub>) are not available for the area considered in this report. CFCs are man-made chemicals used as propellants in aerosol spray products, blowing agents in foamed plastics, and chillers in refrigeration and air-conditioning applications; they contribute to stratospheric ozone depletion.

CO<sub>2</sub> is a natural component of the earth's atmosphere; it plays an important role in the carbon cycle and is essential for the photosynthesis of plants. Carbon dioxide is also produced by man largely as a result of fossil fuel combustion. Moreover, the carbon cycle is affected by other factors such as forests and the sea. The increase in carbon dioxide concentrations in the atmosphere may lead to climatic changes which have direct or indirect environmental, economic and social effects.

Generally, the presence of these pollutants is easily identifiable in the urban areas by effects such as loss of visibility or soiling.

#### 4.2.1.2. Sources of polluting emissions

Tables 1 and 2 show the percentages of emissions according to the different sources: transport (pollution generated by motor vehicles), industry and energy plants (fuel combustion, industrial processes, etc.) and home heating (fuel combustion, particularly gas oil). For Greece, the data relate to the Athens area only.

TABLE 1. Emissions by source — Mezzogiorno, 1986 (estimates)

Pollutant	(%)		
	Transport	Industry <sup>1</sup>	Heating
SO <sub>2</sub>	5	93	2
NO <sub>2</sub>	52	46	2
Particles	64	27	9
CO	95	1	4
HCs	94	2	4

<sup>1</sup> Industry plus energy sector.

Sources: Italian Ministry of the Environment (1990), 'Relazione sullo stato dell'ambiente 1989', Roma, Istituto Poligrafico e Zecca dello Stato; Greek Ministry of the Environment, Physical planning and publications, various years, Ypexhode, Athens.

TABLE 2. Emissions by source — Athens, 1990 (estimates)

Pollutant	Emissions by source (%)		
	Transport	Industry <sup>1</sup>	Heating
SO <sub>2</sub>	8	71	21
NO <sub>2</sub>	76	20	4
Particles	—	100	—
CO	100	—	—
HCs	79	21	—

<sup>1</sup> Industry plus energy sector.

Source: Greek Ministry of the Environment, Physical planning and publications, various years, Ypexode, Athens.

The industry and energy sectors are responsible both in Greece and in the Mezzogiorno for most SO<sub>2</sub> emissions, though fuel combustion for home heating in Greece also has a significant role due to the widespread use of gas oil instead of less-polluting fuels (e.g. natural gas).

NO<sub>2</sub> emissions come mostly from traffic, but in the Mezzogiorno we must consider the significant role of industry.

The major sources of particle pollutants differ between the two central Mediterranean regions: in Greece, they come mostly from industry and the energy sector, while in the Mezzogiorno they come from motor vehicles.

Large quantities of CO and HCs come in both regions from the emissions of motor vehicles; in Greece, a relatively important contribution, 21%, originates in the industrial sector.

Table 3 analyses in detail the trend of the pollutant emissions between 1980 and 1986 (the latest year available) and gives a comparison among some of the most industrialized countries. The data for Greece are largely incomplete.

In 1980, the pollutant emissions in the central Mediterranean were much lower than those in the larger EC countries; this was due to the low level of industrialization.

A comparison between the two years considered is possible only for the Mezzogiorno and a few EC countries. The data show a decrease in emissions of sulphur oxides only (coming mostly from industry and the energy sector), while there is an increase (albeit a small increase) in all others.

Greece presents difficulties in the analysis of pollution problems due to the lack of data on many important variables. However, useful insights into the nature of pollution problems in the region can be gained through an analysis of the particular problems of the area.

In Greece, the most polluted areas, Athens, Thessaloniki, Volos, Kavala and Ptolemais, are also the most populated. Athens is a highly complex metropolitan area; it is also heavily populated (over three million inhabitants) and industrialized.

The industrial area of Eleusis-Aspropyrgos is situated near the populous area of Pireo. Polluting emissions come from the metallurgical industry, from the power station and from the heavy traffic. High levels of industrial emissions have been regulated; however, emissions generated by motor vehicles are even more significant and these remain unchecked; between 1975 and 1985 the sources of polluting emissions (cars, lorries, etc.) doubled. Table 4 clearly shows the problems of the Greek capital; the NO<sub>2</sub> (µg/m<sup>3</sup>) emissions are markedly higher than those in many other EC urban areas.<sup>1</sup>

In the Mezzogiorno, the main metropolitan areas similarly produce most of the large amount of pollution coming from industrial plants, traffic and home heating. The data given in Table 3 show that the most polluted regions in the Mezzogiorno are Sicily, Puglia and Campania. These

<sup>1</sup> Data are only available for 1982, though these provide an indication of the prevailing situation. We should remember that the number of vehicles and other sources of pollution have increased significantly since then.

**TABLE 3. Emission of sulphur oxides (SO<sub>x</sub>, given as quantities of SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>, given as quantities of NO<sub>2</sub>), particles, carbon monoxide (CO), hydrocarbons (HCs), 1980 and 1986 (estimates)**

(1000 tonnes)

Region	SO <sub>2</sub>		NO <sub>2</sub>		Particles	
	1980	1986	1980	1986	1980	1986
Greece	546.00	–	217.00	–	40.00	–
Abruzzi	21.12	8.66	19.32	21.19	6.38	8.06
Molise	8.67	1.66	5.21	5.17	2.78	2.83
Campania	107.50	59.36	73.19	89.21	19.57	23.01
Puglia	265.10	107.69	106.82	95.83	30.87	23.54
Basilicata	11.77	3.61	9.04	8.83	3.43	3.69
Calabria	85.55	58.04	49.85	56.09	8.54	11.22
Sicily	337.65	241.38	115.35	124.30	32.26	32.40
Mezzogiorno	837.36	480.40	378.78	380.32	103.83	104.76
Total area	1 383.36	–	595.78	–	143.83	–
EUR 12	20 112.00	10 741.00 <sup>1</sup>	11 174.00	9 677.00 <sup>1</sup>	2 230.00 <sup>2</sup>	1 875.00 <sup>3</sup>
Italy	3 197.00	1 983.00	1 493.00	1 473.00	374.00	422.00
Germany	3 187.00	2 223.00	2 935.00	2 969.00	696.00	562.00
France	3 512.00	1 583.00	1 861.00	1 698.00	483.00	360.00
United Kingdom	4 836.00	3 871.00	2 264.00	2 217.00	290.00	270.00

Region	CO		HCs	
	1980	1986	1980	1986
Greece	695.00	–	130.00	–
Abruzzi	113.22	117.96	13.81	16.74
Molise	27.67	29.17	3.88	4.57
Campania	372.86	369.39	44.14	50.01
Puglia	301.52	275.60	40.20	39.70
Basilicata	43.62	44.54	5.78	6.63
Calabria	142.55	142.52	17.86	19.72
Sicily	361.72	372.81	42.72	48.95
Mezzogiorno	1 363.33	1 350.99	168.60	186.32
Total area	2 058.33	–	298.60	–
EUR 12	35 651.00 <sup>4</sup>	28 272.00 <sup>5</sup>	9 328.00 <sup>6</sup>	6 109.00 <sup>7</sup>
Italy	5 347.00	5 488.00	678.00	770.00
Germany	11 708.00	8 926.00	2 486.00	2 426.00
France	6 620.00	6 431.00	1 972.00	–
United Kingdom	4 999.00	5 076.00	2 241.00	2 321.00

<sup>1</sup> Data not available from Belgium, Greece, Spain.

<sup>2</sup> Data not available from Belgium, Denmark, Greece, Spain, Luxembourg.

<sup>3</sup> Data not available from Belgium, Denmark, Greece, Spain, Luxembourg, Portugal.

<sup>4</sup> Data not available from Belgium, Greece, Luxembourg.

<sup>5</sup> Data not available from Belgium, Greece, Spain, Luxembourg, Portugal.

<sup>6</sup> Data not available from Denmark.

<sup>7</sup> Data not available from Belgium, Denmark, Greece, Spain, France, Luxembourg, Portugal.

Sources: Eurostat (1990), *Environmental statistics, 1989*, Office for Official Publications of the European Communities, Luxembourg; OECD (1989), *Environmental data. Données OCDE sur l'environnement. Compendium 1989*, Paris; OECD (1983), *Politiques de l'environnement en Grèce*, Paris; Italian Ministry of the Environment (1990), 'Relazione sullo stato dell'ambiente 1989', Roma, Istituto Poligrafico e Zecca dello Stato.

**TABLE 4. Concentration of nitrogen dioxide in some EC urban areas ( $\mu\text{g}/\text{m}^3$ )**

Urban area	Year	Concentration	
		Minimum	Maximum
Athens	1982	80	260
Antwerp	1982	55	113
Brussels	1979-80	35	262
Frankfurt	1980	30	151
London	1981	35	157
Paris	1981	40	170

Source: European Commission (1987), *L'état de l'environnement dans la Communauté européenne, 1986*, Office for Official Publications of the European Communities, Luxembourg.

regions include the most populated coastal areas and the main industrial centres of the south of Italy. There are in fact over four million people living in the metropolitan area of Naples, over 700 000 in Bari, 600 000 in Catania and 800 000 in Palermo. Pescara, Taranto and Messina are also heavily populated areas. We must also stress that there are many thermoelectric power stations situated in these regions.

In Greece air pollution monitoring stations have been installed in 11 provincial cities. These are connected to the automatic teletransmission system, which already exists in the Athens network and consists of eight automatic and three semi-automatic air pollution monitoring stations.

The available data (1992) are sufficient to provide indicators for air pollution trends in Athens only.<sup>1</sup> The relatively short period of seven years for which data are available does not allow definitive conclusions to be made, since air pollution is strongly dependent on the meteorological phenomena which vary from year to year. We can however indicate trends:

- The levels of smoke and suspended particles have been reduced, due to the measures taken for controlling smoke emissions from all sources.
- The sulphur content of fuels has been continuously reduced and is now 0.7% for heavy oil and 0.3% for light fuel. Since 1977, when heavy oil was prohibited for central heating, the level of  $\text{SO}_2$  has been reduced.

<sup>1</sup> Trends in air pollution in Athens for the years 1984-90 are given in Table 10.A of the statistical annex to this chapter (mean annual values).

- There has been a reduction in the lead content in petrol from 0.4 to 0.15 g/l since 1983; this has also led to a reduction in the lead concentration in the atmosphere.
- Photochemical pollutants ( $\text{NO}_2$ ,  $\text{O}_3$ ) are increasing: this is due to the increase in the number of vehicles and their emissions. The  $\text{O}_3$  level shows a mean increase of about 15% per year.
- No significant trend has been found for CO concentration over the years. CO is directly related to traffic, therefore high levels have been found at central monitoring stations but the levels are very low at peripheral stations.

The limited data available from the three monitoring stations in Thessaloniki (1988) are also given in the statistical annex. The data collected from the area of Ptolemaida (where there are a great number of polluting industries and power stations) indicate high levels of suspended particles in the air. This is highly dependent on wind strength and direction.

#### 4.2.2. Sea pollution

European Community Directive 76/160/EEC introduced procedures for monitoring the quality of bathing water with two objectives: to protect public health and to safeguard the quality of the environment.

The situation in the central Mediterranean area in 1988 and 1989 with reference to the parameters selected for monitoring under this Directive are given in the following table.

TABLE 5. Sea pollution

Greece							
Parameter	1988		1989				
	No of areas sampled	%AC <sup>1</sup>	No of areas sampled	%AC <sup>1</sup>			
<i>Microbiological</i>							
Total coliforms	247	96.8	554	96.4			
Faecal coliforms	247	95.1	532	96.2			
Faecal streptococci	0	0	33	100.0			
<i>Mezzogiorno</i>							
Number of sampling points in bathing areas:			1988 = 1 446	1989 = 1 989			
Number of samples:			1988 = 16 938	1989 = 22 391			
Number of samples in compliance:			1988 = 13 863	1989 = 19 214			
% of samples in compliance:			1988 = 81.8	1989 = 85.8			
Parameter 1988/89			%SC <sup>2</sup>				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
<i>Microbiological</i>							
Total coliforms	92.0	100.0	86.2	99.8	100.0	98.5	93.3
	97.5	100.0	85.7	99.4	100.0	99.4	95.1
Faecal coliforms	84.3	95.7	68.3	97.9	85.3	78.8	82.7
	94.8	100.0	71.8	98.6	85.2	90.8	85.2
Faecal streptococci	87.2	100.0	72.8	98.2	96.4	79.3	93.0
	95.9	100.0	75.5	98.7	95.5	91.0	92.0
Salmonella	-	-	100.0	100.0	100.0	100.0	100.0
	-	-	100.0	-	100.0	-	99.8
Enteroviruses	-	-	100.0	100.0	100.0	100.0	100.0
	-	-	-	-	-	-	100.0
<i>Physico-chemical</i>							
pH	100.0	100.0	99.9	100.0	100.0	99.6	100.0
	100.0	100.0	99.9	99.9	100.0	99.9	99.9
Colour	97.5	100.0	97.9	99.9	100.0	99.7	99.2
	100.0	100.0	96.2	100.0	100.0	99.8	98.6
Mineral oils	100.0	100.0	99.9	100.0	100.0	99.9	100.0
	100.0	100.0	99.9	100.0	100.0	99.9	99.9
Surface-active substances	100.0	100.0	99.5	99.9	100.0	89.6	99.6
	100.0	100.0	99.3	99.8	100.0	94.1	99.6
Phenols	100.0	100.0	100.0	100.0	100.0	99.8	99.4
	100.0	100.0	99.9	100.0	100.0	100.0	99.6
Transparency	96.0	100.0	96.7	99.9	99.4	99.2	98.3
	100.0	100.0	95.5	99.9	100.0	99.0	95.9
Dissolved oxygen	96.4	98.4	98.2	99.4	95.6	98.7	98.6
	100.0	100.0	97.6	99.3	98.5	99.4	97.4

NB: (1) Abruzzi; (2) Molise; (3) Campania; (4) Puglia; (5) Basilicata; (6) Calabria; (7) Sardinia.

<sup>1</sup> %AC = percentage of bathing areas in compliance with the mandatory values laid down in Directive 76/160/EEC or stricter values of national legislation.

<sup>2</sup> %SC = percentage of samples in compliance with the mandatory values laid down in Directive 76/160/EEC or stricter values of national legislation.

Sources: European Commission (1991), *Quality of bathing water, 1989-90*, Office for Official Publications of the European Communities, Luxembourg; Italian Ministry of the Environment (1990), *Relazione sullo stato dell'ambiente, 1991*, Roma, Istituto Poligrafico e Zecca dello Stato; Ministero della sanità (1990), *Rapporto sulla qualità delle acque di balneazione, 1989*, Roma, Sistema informativo sanitario.

The pollution of coastal waters is linked with the following elements:

- (i) an increase in the population, a strong tendency to urban concentration, and, as a consequence, an increase in urban waste drained directly into the sea;
- (ii) intensive methods of cultivation in agriculture and the increasing use of fertilizers; concentration of zoo-technical breeding;
- (iii) industrialization and the consequent increase in waste production, particularly nutrient substances (nitrates and phosphorus) and heavy metals.

The resulting problems have negative effects on tourism, fishing and aquaculture in this area.

The unusual geography of Greece (15 000 km of coast and 3 000 islands) hinders communications and the systematic monitoring of water quality in some bathing areas.

About 12 000 km of the coastline are not used for bathing mostly because of the geology and typology of the coast, which does not permit public access from the land or because these areas are used as harbours and marinas. These coasts are in excellent condition and in most cases of special aesthetic value.

Serious pollution is, however, occurring in certain places, mainly in the gulfs where the major Greek cities lie, namely Saronikos (Athens), Thermaikos (Thessaloniki), Patraikos (Patras) and Pagassitikos (Volos).

The length of coastline used for bathing and recreation is 2 747 km (1 745 km on the mainland, 1 002 km on the islands). This coastline can be classified as in Table 6.

The data available for the Mezzogiorno, covering more than 3 300 km of coastline, are much more detailed. The

main problem is that the coastal waters are linked to changes in the microbiological and trophic characteristics, marine water pollution being caused chiefly by microbiological elements (total coliform, faecal coliform, faecal streptococci). In many areas of the Mezzogiorno, the coastal waters are heavily polluted: the figures for Campania (Naples gulf and Salerno gulf) and Sicily (Palermo coast and Messina strait) are particularly alarming, and there are some stretches of polluted coastal waters in Calabria and Abruzzi. As shown in Table 7 below, in 1991, due to excessive pollution levels shown by Italian Ministry of Health data, bathing was not allowed along 11% of the coast.

Another source of pollution for waters and coasts in the central Mediterranean is the spillage of oil. Hydrocarbons reach the marine environment not only from accidental oil spills but also via streams and coastal industries, from the transport sector, and from operational discharges of ballast waters at sea. There have been some especially large spills from tankers in Greek seas.<sup>1</sup>

The main offshore oil platform in Greece is located in the Prinos/southern Kavala area. It produces 25 000 barrels of oil and 15 000 barrels of gas per day. In total, there are seven oil wells and one gas well in operation.

Over the central Mediterranean as a whole, the activities having the greatest impact on the sea environment are oil transport by tankers and ships (see map 'Coastal vulnerability by oil transport'), and oil-refineries along the coast.

With the aid of satellite monitoring, it has been found that oil pollution is concentrated along the tanker route, Libya-Crete-Piraeus, and along the north-east of the Aegean Sea, which is due to traffic to and from the Bosphorus and other oil ports in Turkey.

<sup>1</sup> For example, in 1980, 102 000 tonnes spilled.

**TABLE 6. Quality of coastline**

Quality	Length of coast (km)	Percentage of sampling points
Excellent/very good/good	2 409	87.7
Moderate	140	5.1
Questionable	118	4.3

COASTAL VULNERABILITY BY OIL TRANSPORT

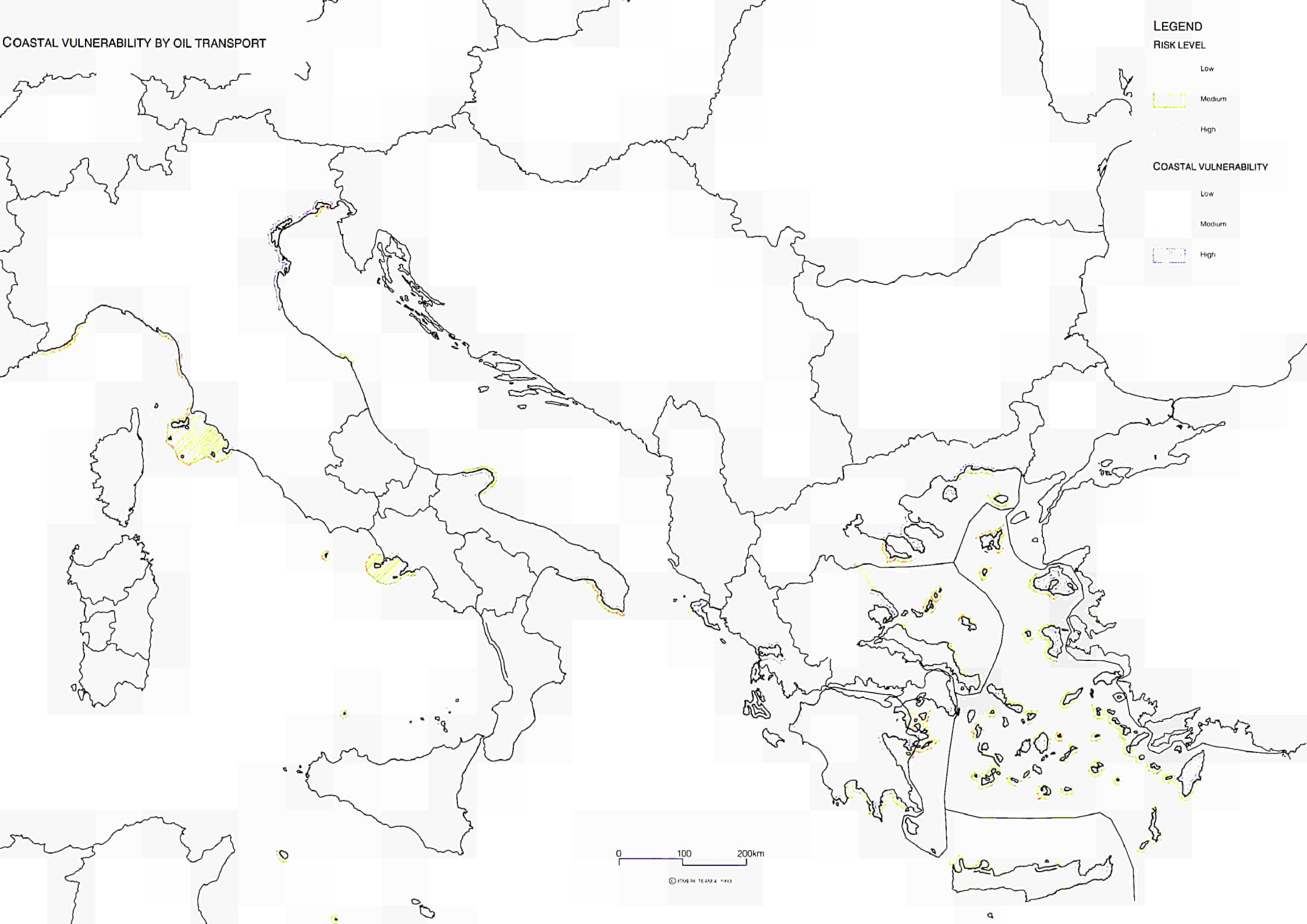
**LEGEND**

**RISK LEVEL**

- Low
- Medium
- High

**COASTAL VULNERABILITY**

- Low
- Medium
- High



0 100 200km

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**TABLE 7. Polluted coastline in the Mezzogiorno by region**

(km)

Region	(A)	(B)	(C)	(D)	(E)	(F)
Abruzzi	189.3	0.6	15.6	3.0	0.0	84.0
Molise	32.5	0.3	0.6	0.0	0.0	4.5
Campania	474.9	32.9	147.3	0.8	0.0	0.1
Puglia	800.2	49.2	12.1	0.0	0.0	108.8
Basilicata	59.7	0.3	1.3	0.0	0.0	27.1
Calabria	695.3	1.5	29.9	0.0	139.9	91.9
Sicily	1 039.6	82.7	57.1	89.5	2.9	496.4
Total	3 291.5	167.5	263.9	93.3	142.8	812.8

NB: (A) = length of coast. (B) = coast forbidden without connection with sea water pollution. (C) = coast forbidden because of pollution in consequence of administrative measures. (D) = coast forbidden because of pollution not included in administrative measures. (E) = coast where very few analyses were made. (F) = coast not monitored.

The coasts of Sicily, Calabria and Puglia in the Mezzogiorno and the whole Aegean Sea in Greece are in fact at risk from oil pollution: in the Mezzogiorno there are coastal zones in which there are oil-refinery plants, particularly in Sicily (Priolo, Gela), in Puglia (Taranto, Brindisi) and Campania (Naples gulf), while in Greece there are the busy harbours of Corinth, Syros, Piraeus, Thessaloniki, Kavala and Elefsis.

#### 4.2.3. Inland water resources

The statistics available on inland water systems do not present complete data for the whole area. We have consequently had to use quantitative data which are separate for the two central Mediterranean regions of Greece and the Mezzogiorno.

These different data sets show different problems. In the Mezzogiorno the lack of infrastructures for collecting, supplying and distributing water is the greatest problem. In Greece, where the availability and quality of water is very good, the problem of inland water pollution is now beginning. Over the whole area, waste water treatment before discharge into internal waterways or into the sea is an important issue.

##### 4.2.3.1. The Mezzogiorno: water resources and infrastructures for water supply

The average annual precipitation in Italy amounts to about 296 billion m<sup>3</sup>. This corresponds to an average maximum precipitation of 1 000 mm; this is above the European average of 646 mm.

About 30% of the total volume (91 billion m<sup>3</sup>) falls in the Mezzogiorno, with an average maximum which varies from 1 500 mm in the Apennines to about 300 mm at the lowest level; there is a strict connection between maximum precipitation and orography.

Despite this high volume of precipitation overall, available surface water resources amount to only 37 billion m<sup>3</sup> (falling to 4.9 billion m<sup>3</sup> in Sicily).

In comparison with the rest of Italy, water is a scarce resource in the Mezzogiorno, not only because of insufficient precipitation in some areas, but also because of the particular hydrogeological characteristics of the area: distances between the main urban centres and areas of high rainfall and water collection are generally large.

In the Mezzogiorno, the major problems with water availability are due to the low-level infrastructural provision in this field, and in many cases also to the extremely low level of operational efficiency.

There are about 1 500 populated centres with less than 250 000 inhabitants that have no waterworks at all.<sup>1</sup> Furthermore, only 26% of the populated centres in the Mezzogiorno have a water supply which is adequate for the whole year (82% in northern Italy), while more than 45% of the populated areas have insufficient water for two or more quarters in the year.

<sup>1</sup> 1988. Source: ISTAT (1991)/ 'Statistiche ambientali, 1991', Roma, Istituto Poligrafico e Zecca dello Stato.

**TABLE 8. The Mezzogiorno — Rainwater and surface water resources**

	Rainwater		Surface water resources	
	Billion m <sup>3</sup>	%	Billion m <sup>3</sup>	%
Italy	296.0	100.0	155.0	100.0
Mezzogiorno	91.1	30.8	37.0	23.9
North Italy	121.0	40.8	81.8	52.8
Central Italy	65.6	22.2	30.1	19.4
Sicily	18.8	6.4	4.9	3.2

Source: Greek Ministry of the Environment, Physical planning and publications, various years, Ypehede, Athens.

**TABLE 9. The Mezzogiorno — Water withdrawn, poured into the water system, supplied; dispersion per region, 1987**

Region	Water (million m <sup>3</sup> )		Dispersion ((a) minus (c), lowest level of dispersion)		
	(a)	(b)	(c)	(d)	(e)
	Withdrawal	Poured	Supplied	Million m <sup>3</sup>	%
Abruzzi	216	203	143	3	33.8
Molise	51	47	30	21	41.7
Campania	628	611	484	144	22.9
Puglia	474	406	314	161	33.8
Basilicata	94	81	64	31	32.5
Calabria	340	306	239	101	29.6
Sicily	544	526	381	163	30.0
Mezzogiorno	2 347	2 180	1 655	694	29.6
Italy	7 940	7 334	5 798	2 144	27.0

Source: Italian Ministry of the Environment (1992), 'Relazione sullo stato dell'ambiente, 1991' (forthcoming).

This means that more than 13 million people live in populated centres which do not have sufficient drinking water; just over 30% of the population has an adequate supply.

The situation is made worse by large leakage losses due to obsolete and/or inefficient infrastructures. Leaks in the collection phase amount to 9.2% of the total volume, and those in the supply and distribution phase to 23.7%, giving a total loss due to leakage of 30%.<sup>1</sup> These

<sup>1</sup> This is not, in fact, much higher than the average for the whole of Italy.

values are considerably higher than those given by international literature on equipment standards (15%).

Leakage in the collection phase is highest in Abruzzi, Molise and Sicily, and in the supply phase in Puglia, Basilicata and Molise.

The distribution of water uses shown in Table 10 reveals that the highest consumption is for household use (81.1%) with only 8.6% used in productive activities. In

**TABLE 10. The Mezzogiorno – Water consumption per sector, 1987**

Region	Percentage of water supplied			
	Household sector	Productive sector	Public use	Total
Abruzzi	72.9	11.6	15.5	100.0
Molise	77.5	12.4	10.0	100.0
Campania	80.3	7.9	11.7	100.0
Puglia	76.7	11.4	11.9	100.0
Basilicata	87.7	4.9	7.4	100.0
Calabria	83.6	8.2	8.1	100.0
Sicily	86.1	6.7	7.2	100.0
Mezzogiorno	81.1	8.6	10.3	100.0
Italy	76.5	14.5	8.9	100.0

Source: Italian Ministry of the Environment (1992), 'Relazione sullo stato dell'ambiente 1991', (forthcoming).

**TABLE 11. The Mezzogiorno – Water consumption mean annual indices, 1987**

Region	Water consumption indices (litres/ inhabitant/day) <sup>1</sup>				
	Resident population	Water poured	Water supplied	Domestic use	Floating population <sup>2</sup>
Abruzzi	1 256 059	442.6	311.3	226.8	650 795
Molise	334 437	359.4	223.9	173.6	29 345
Campania	5 710 929	290.7	230.3	185.0	730 171
Puglia	4 034 573	275.9	213.0	163.4	582 886
Basilicata	620 883	373.2	294.4	258.0	58 044
Calabria	2 143 012	390.5	305.1	255.2	696 012
Sicily	5 126 708	281.0	203.8	175.4	475 091
Mezzogiorno	19 226 601	308.9	235.6	191.6	3 222 344
North and central Italy	36 577 795	371.2	298.1	221.7	–
Italy	57 451 900	348.6	275.4	210.8	–

<sup>1</sup> Daily water consumption per inhabitant.

<sup>2</sup> Tourist numbers: equivalent population.

Source: Italian Ministry of the Environment (1992), 'Relazione sullo stato dell'ambiente 1991' (forthcoming).

comparison with the strongly industrialized areas in the north of Italy, this figure is low.

Table 11 shows the availability and use of drinking water in relation to the resident population. We must underline

the important but negative characteristics of water supply in the regions of the Mezzogiorno as compared with Northern Italy, particularly as regards Sicily, Puglia, Campania and Basilicata.

#### 4.2.3.2. Greece: water resources and related international problems

Although Greece has adequate quantities of water, the quantities available in reality and the ease of utilization are considerably reduced by several factors: the physical morphology of the land; the geological characteristics; the uneven distribution of precipitation both in time and space; and the uneven distribution of activity in the different parts of the country which alter regional consumption patterns.

At present, in order to provide an adequate supply of water to all regions of the country given the above constraints, it is necessary to improve infrastructural provision in this field in order to store water during the rainfall season and to carry it from water-rich to water-deficient areas. It is also necessary to carry out large-scale exploration of existing underground water resources.

The country's water potential and consumption patterns are shown in the table below.

Estimates of future water demand suggest that water needs could increase by over 90% between 1980 and 2000. Over the same period, demands for household use should be met increasingly by groundwater, which is already a significant source of water for irrigation.

In 1990, 36% of the total Greek population used surface water as the source for domestic use, while the needs of the remaining 64% were covered by groundwater. At the beginning of the next century, there is a risk that

demand for groundwater may exceed sustainable yields in some areas. This could lead to drought, loss of groundwater pressure and salinization of some veins. Growing competition for water is expected to lead to increasing conflicts between uses, for instance, between the use of reservoir storage for irrigation, industrial or domestic purposes and tourism.

The management of water resources in Greece is well developed at the national level, but the responsibilities for management and protection of supply are shared by a great number of ministries and public agencies.

Among the largest rivers in Greece, those which irrigate the rich cultivated plains of Macedonia and Thrace, rise in other countries to the north of Greece (Albania, the former Yugoslavia, Bulgaria, Turkey). These rivers thus have international importance, and there are specific agreements between Greece and the neighbouring countries with regard to international cooperation and common action over their use. It is not surprising, moreover, that Greece attaches great importance to the full application of the rules of international law which specify the rights of downstream countries with regard to the quantity and quality of the management of international rivers.

#### 4.2.3.3. Water pollution

In Greece the quality of water is generally very good. There is, however, pollution from the discharge of untreated domestic sewage and industrial waste. There is also concern in some areas about pollutants coming from agricultural activity.

**TABLE 12. Water potential and consumption patterns**

Types of water potential	m <sup>3</sup> /year (billion)	%
Surface	59	85
Karstic (groundwater)	7	10
Other	3	5
Total	69	100
Consumption sectors	m <sup>3</sup> /year (billion)	%
Agriculture	5.66	81
Domestic	1.15	16
Industry	0.14	2
Energy	0.08	1

**TABLE 13. Greece — Pollution data on the six longest Greek rivers, 1990**

River	River length (km)	Total Greek part (km)	Cl (mg/l)	NO <sub>3</sub> (mg/l)	NH <sub>4</sub> (mg/l)	P (mg/l)	Cd (mg/l)	Hg (mg/l)
Acheloos	220	220	0.6	1.59	0.03	0.01	< 0.0002	0.0003
Pinios	257	257	0.7	13.34	0.07	0.07	< 0.0002	0.0003
Aliakmonas	320	320	0.1	0.90	0.10	0.02	< 0.0002	0.0003
Axios	318	82	0.6	8.59	0.07	1.01	0.0003	0.0004
Strimonas	360	122	0.2	4.68	0.04	0.11	0.0002	0.0003
Nestos	234	130	0.2	3.45	0.05	0.12	0.0002	0.0003

Source: Greek Ministry of the Environment, Physical planning and publications, various years, Ypexode, Athens.

**TABLE 14. Greece — Pollution data on Greek lakes, 1987**

Lake	pH	P (ppm)	NO <sub>3</sub> (ppm)	NO <sub>2</sub> (ppm)	NH <sub>4</sub> (ppm)
Mikri Prespa	7.3	< 0.016	< 0.44	0.005	< 0.060
Megali Prespa	7.4	< 0.012	< 0.44	0.004	< 0.042
Begoritida	7.8	< 0.025	0.47	0.369	< 0.262
Petra	7.5	0.084	< 0.49	< 0.012	< 0.450

Source: Greek Ministry of the Environment, Physical planning and publications, various years, Ypexode, Athens.

Measurements of water samples from rivers and lakes have led to the following statements.

- (i) No extensive pollution has been discovered in the surface water.
- (ii) The water of rivers and lakes is suitable for irrigation and fish farming.
- (iii) Small and occasional increases in the concentration of ammonium, nitrites and nitrates have been found in some rivers and lakes; this shows pollution by municipal sewage and chemical fertilizers as follows:
  - (a) the concentration of phosphates, ammonium and nitrates has been found above normal limits in the Evros river and the concentration of phosphates in the Axios river (1987-90);
  - (b) seasonal increases of phosphates and nitrates have been found in the water of the Pinios river,
- (iv) The concentration of cadmium and mercury in the water of most rivers is lower than the permitted limits.

in Thessaly, and in the lakes of Prespa, Ioannina, Begoritida and Kastoria.

At present there are no recent data available on the quality of river water in the Mezzogiorno. The main rivers are the following: Pescara, Tirso, Ofanto, Volturno, Basento, Neto, and Simeto. According to recent unpublished research,<sup>1</sup> all rivers show a high degree of pollution. This is, for the most part (90% of the samplings made), of civil origin. We should note that at present less than 30% of the purification plants are now working.

<sup>1</sup> Lega Ambiente — AGIP, 1992.

**TABLE 15. Greece and selected EC countries — Water quality indicators for selected rivers: nitrate (NO<sub>3</sub>), ammonium (NH<sub>4</sub>), phosphorus (P), 1985**

		NO <sub>3</sub>	NH <sub>4</sub>	P
				<i>(mg/l)</i>
Germany				
	Rhine	18.60	0.63	0.48
	Weser	22.50	0.13	0.37
Greece				
	Strimonas	4.85	0.10	0.12
	Axios	6.76	0.09	0.61
	Pinios	6.38	0.02	0.08
	Acheloos	0.34	0.38	0.00
Spain				
	Guadalquivir	14.32	1.11	0.72
	Ebro	10.91	0.16	0.79
France				
	Seine	27.32	1.04	1.01
	Loire	9.81	0.12	0.04
Italy				
	Po	10.63	0.26	0.26
	Tevere	6.07	1.51	0.24
United Kingdom				
	Thames	33.26	0.35	1.32
	Severn	28.03	0.27	0.71

The main lakes in the Mezzogiorno are the following: Lago di Pozzillo, Lago di Piana degli Albanesi, Lago di Pergusa, and Lago di Varano. Of these, the first two show a significant eutrophic condition, with high levels of nitrogen, phosphorus and carbon.

In Sicily in particular, there is a great lack of water for both civil supply and agricultural irrigation. There are 31 lakes in the region, located mostly in the north-west and mid-east of Sicily. Of these, three are completely natural, two are natural but artificially enlarged and 26 artificial. Most have shown a very low level of oxygen in their water, evidence of a strong eutrophy. Research carried out by the Consiglio Nazionale delle Ricerche (1992) has pointed out that while there are no oligotrophic lakes, nine are mesotrophic, 15 are eutrophic, and five are

even hypertrophic. The estimate of the phosphorus content in these lakes points to untreated urban waste as the main cause of these alterations.

#### 4.2.3.3. Water treatment

In Greece, 70 to 90% of the population of the six largest cities is connected to the sewage system, whereas in the smaller cities this figure does not exceed 30%. Those people who do not have access to the sewer network are adequately served by septic tanks.

Of the total waste water flows produced by urban populations, 84% is, directly or indirectly, discharged into the sea, and only 16% into surface water bodies, mainly into rivers. However, if the number of discharges are taken

into account, we estimate that the ratio of inland to coastal discharges is approximately 3:2.

Today, three of the six major cities in Greece (Athens, Thessaloniki and Volos), together representing 40% of the total population, have primary water treatment facilities (nearly completed); one (Larissa) has a full secondary treatment plant and the remaining two (Patras and Iraklion) have no facilities at all. They simply discharge their effluents into the sea without any treatment.

In total, in Greece, there are 49 constructed waste water treatment plants with a total capacity of 1 548 558 population equivalents, 49 with a capacity of 4 355 000 population equivalents under construction, and 151 with a capacity of 2 891 632 population equivalents planned.

In the Mezzogiorno, provision for waste water treatment is much poorer than in Greece. There are, in fact, so few treatment plants relative to population levels that there is a serious environmental risk, particularly in the big cities along the coast, where the few existing water treatment plants often do not work.

The following table, provided by the Italian Ministry of the Environment, shows the number of plants, either existing or under construction. It also shows the big gap between the population provided with waste water

treatment plants and the resident population: less than 20% of the population is provided with these plants.

The provision of waste water treatment plants is particularly inadequate in Puglia, Calabria, Sicily and Campania. Campania has the greatest number of purification plants, but only 20% of them work. In most of Sicily less than 15% of these plants are in operation.

#### 4.2.4. Solid waste

Using available data, we estimate that the total solid waste output is about 40 000 tonnes per year in the central Mediterranean area.<sup>1</sup> This, for the most part, comprises industrial or public waste.

The output of urban waste is about 11 000 tonnes per year; i.e. 330 kg per year per capita, which is comparable to other European countries (but it is lower than the USA, Canada and Japan).

The production of industrial special waste and waste from demolition and excavations (about 70% of total waste) is greater than the production of urban waste; however, we must point out that the output of this type

<sup>1</sup> Data for Greece are particularly scarce.

TABLE 16. The Mezzogiorno – Waste water treatment plants, 1990

Region	Resident population (1 000)	Connected/connectable	Plants' number	Population equivalents (1 000)
Abruzzi	1 256	421	276	1 518
Molise	334	:	133	359
Campania	5 711	1 897	188	12 003
Puglia	4 035	13	141	3 173
Basilicata	621	:	30	447
Calabria	2 143	166	182	1 182
Sicily	5 127	905	466	7 613
Mezzogiorno	19 000	3 402	1 416	26 295
Italy	57 400	26 988	6 321	88 297

<sup>1</sup> Existing, in construction, planned.

Source: Italian Ministry of the Environment (1992), 'Relazione sullo stato dell'ambiente, 1991' (forthcoming).

**TABLE 17. EUR 12 and selected countries — Amount of municipal waste generated (t/year) and amount per capita (kg/capita/year), 1980 and 1989**

	Amount of municipal waste		kg/inhabitant	
	1980	1989	1980	1989
EUR 12	90 608	—	286	—
Belgium	3 082	—	313	—
Denmark	2 046	—	399	—
Germany	21 417	20 233	348	331
Greece	2 500	3 147	253	315
Spain	8 028	12 546	218	322
France	14 000	17 000	260	303
Ireland	640	—	188	—
Italy	14 041	20 453	249	356
Luxembourg	128	—	351	—
Netherlands	6 925	6 900	489	467
Portugal	1 985	—	214	—
United Kingdom	15 816	17 737	319	312
Mezzogiorno	—	6 538	—	340
Canada	12 600	16 400	524	625
Japan	41 511	48 253	355	394
Sweden	2 510	—	302	—
USA	160 000	208 760	703	864

Source: Eurostat (1991), *Statistical yearbook*, Office for Official Publications of the European Communities, Luxembourg.

of 'special' waste is not in general as high as that in the more industrialized areas of northern Europe.

The main problems relating to solid waste in the central Mediterranean are the treatment difficulties and the extremely low level of political will in favour of 'waste differentiation'<sup>1</sup> and recycling.

There are 4 850 landfill areas in Greece, but only a few of them comply with the conditions requested by the health authorities; 1 620 are licensed and 3 230 illegal.

Recycling has only recently been adopted in pilot plants, the share of waste that is recycled is thus extremely low. At present 128 678 tonnes per year of urban and industrial waste are recycled, 60 000 tonnes per year of used oils (55% regenerated) and 500 000 tonnes per year of gypsum.

<sup>1</sup> As, for example, in the small number of bottle-banks in use for the collection of glass that can then be recycled.

**TABLE 18. Greece — Waste produced annually**

Type	Quantity (million t/year)
Urban waste	3
Toxic and dangerous	0.328
Industrial inert (gypsum)	0.5
Used oils	0.06
Hospital waste	280 000 m <sup>3</sup> /year

Source: Greek Ministry of the Environment, Physical planning and publications, various years, Ypohode, Athens.

In the Mezzogiorno the situation as regards solid waste processing is very serious indeed. The first problem is that of illegal landfill sites: research carried out in 1 300 municipalities registered 580 sites illegally designated for landfills. There are also areas in which there is no facility



**TABLE 19. The Mezzogiorno – Amount of municipal waste, estimates, 1991**

(1 000 t/year)

	Urban assimilable	Urban	Urban special waste			Inert
			Mud from water treatment	Hospital waste	Car-demolition waste	
Mezzogiorno	6 538	928.5	855.0	27.7	273.6	11 506.0
Italy	20 453	3 165.0	3 433.0	140.8	1 362.6	34 374.4

Source: Italian Ministry of the Environment (1992), 'Relazione sullo stato dell'ambiente, 1991' (forthcoming).

**TABLE 20. The Mezzogiorno – Amount of industrial special waste, estimates, 1991**

(1 000 t/year)

	Inert	Special	Toxic and noxious	Total
Mezzogiorno	3 737.2	4 970.6	540.6	9 248.4
Italy	12 337.0	19 126.4	3 244.8	34 708.2

Source: Italian Ministry of the Environment (1992), 'Relazione sullo stato dell'ambiente, 1991' (forthcoming).

**TABLE 21. The Mezzogiorno – Industrial special waste, estimates of treatment's capacity of existing infrastructures and additional needs**

(1 000 t/year)

Region	Annual capacity of existing infrastructures		
	Landfill	Plants	Total
Abruzzi	–	–	–
Molise	–	–	–
Campania	150	19	169
Puglia	415	–	415
Basilicata	7	–	7
Calabria	22	–	22
Sicily	59	3	62
Mezzogiorno	65	22	675
Italy	10 450	1 985	12 435

Region	Additional needs		
Abruzzi	498	147	645
Molise	169	39	208
Campania	1 674	295	1 969
Puglia	3 425	660	4 085
Basilicata	441	102	543
Calabria	481	260	741
Sicily	1 609	298	1 907
Mezzogiorno	8 297	1 801	10 098
Italy	21 864	9 490	31 354

Sources: Our elaboration from the Italian Ministry of the Environment data; ISTAT (1991), 'Statistiche ambientale, 1991', Roma, Istituto Poligrafico e Zecca dello Stato.

for waste treatment whatsoever. This is particularly true for industrial waste (Abruzzi, Molise, Campania).

In general, there are significant shortfalls in waste treatment and disposal facilities in most regions of the Mezzogiorno, particularly in the more heavily populated and industrialized areas (see Table 21). Differential collection and recycling activities are either very small scale and localized or, more usually, non-existent.

#### 4.2.5. Soil

Soil pollution originates chiefly from two activities: industry and agriculture. There is little data available on the magnitude of these problems, particularly as regards the regions that are polluted by the storage of waste products, and by illegal dumping.

The main problem is the industrial areas, especially those with industries which produce chemical products or energy. In Greece there are two main power stations: Ptolemaida-Amyntaio, in the north, and Megalopolis in the south. In the Mezzogiorno the Gela-Priolo-Ragusa-Augusta area in Sicily and the Taranto-Brindisi-Manfredonia area in Puglia present the greatest pollution problems.

The table below, giving the numbers of factories which are 'high risk' because of their working processes and of the danger of possible accidents, gives an indication of the scale and diffusion of highly polluting activities.

**TABLE 22. 'High-risk' polluting factories in the Mezzogiorno, 1989**

Region	No of factories
Abruzzi	25
Molise	7
Campania	80
Puglia	59
Basilicata	8
Calabria	27
Sicily	52
Mezzogiorno	258

Source: Italian Ministry of the Environment (1990), 'Relazione sullo stato dell'ambiente, 1989', Roma, Istituto Poligrafico e Zecca dello Stato.

The mining industry and open-cast mining activities are a further source of soil pollution. In Greece there is large-scale surface extraction of bauxite; this has in fact seriously degraded the soil and the environment in the mountainous regions of Giona, Elikona and Pixarias over an area of more than 1 500 ha. This type of mining activity is also a problem in central and northern Greece as well as in some islands in the Aegean Sea (Santorini and Milos).

The following table shows the number of open-cast mines per region in the Mezzogiorno.

**TABLE 23. Open-cast mines in the Mezzogiorno, 1980**

Region	No of open-cast mines
Abruzzi	212
Molise	54
Campania	348
Puglia	622
Basilicata	74
Calabria	152
Sicily	726
Mezzogiorno	2 188

Source: Italian Ministry of the Environment (1990), 'Relazione sullo stato dell'ambiente, 1989', Roma, Istituto Poligrafico e Zecca dello Stato.

The salinization of soil is another important aspect of soil pollution in Greece. Salinized soils are mainly located in recent shallow deposits near the sea (river deltas). The total area of these soils is estimated at about 30 000 ha.

The salinization of soil is in general the result of inadequate drainage and/or poor water quality. Many of the problems are moreover linked to irrigation activities. Irrigation leads to salinization of soils in many different ways. In the islands or in the coastal plain areas the overextraction of groundwater for irrigation reduces the groundwater pressure that acts as a barrier against the inflow of sea water. Continuous irrigation with this salinized water without the necessary precautions of adequate drainage then leads to the concentration of salts in the soil at levels that are too high for normal plant growth. Yields of agricultural crops fall and, at the extreme, plants will not grow at all.

In other areas, away from the sea, fertilizers and other chemical products employed in agricultural production, used in conjunction with inadequate irrigation levels, represent a source of pollution for both soil and underground water resources.<sup>1</sup>

The long-term use of chemical fertilizers has changed the biological and chemical qualities of soil. Moreover, it is one of the contributory causes of the well-known process of eutrophication of surface waters and pollution of underground waters. The need to increase soil fertility with the use of chemical agents for fertilization interrupts important natural biological, geological and chemical cycles; but above all it results in the loss of the humus<sup>2</sup> in areas where large-scale intensive monoculture is a common method of agricultural production (Campania, Puglia, Sicily, Macedonia, Thessaly).

Zootechnical activities are also related to the process of soil and water pollution. This is due to the problems of liquid and solid waste excrement, which were once considered useful products for the vegetal cycle, but have now become polluting agents due to the large concentrations of cattle in some of the central Mediterranean regions.

### 4.3. Recent environmental intervention programmes

#### 4.3.1. The Mezzogiorno

In Italy, an impulse directed at more integrated environmental policy intervention came at the end of the 1980s from the Ministry of the Environment. In many cases, however, the intervention is still only diagnostic.

The Ministry has signed an accord with all Italian regions in order to finance and implement different intervention programmes within a logical structure of priority and coordination.

In addition, between 1989 and 1991, an agreement between the Ministry of the Environment and the Ministry of the Mezzogiorno defined some operative programmes for the Mezzogiorno regions and assigned resources for this purpose (see Table 24).

As a result, the following programmes have been planned.

<sup>1</sup> Soil and water pollution result particularly from fertilizers (nitrogen, phosphorus, potassium) and phytomedicine (fungicides, insecticides, weedkillers).

<sup>2</sup> Fertile top soil.

**TABLE 24. Triennial programme for the safeguarding of the environment: resource distribution for the Mezzogiorno, 1989-91**

	<i>(billion LIT)</i>
Waste dumping	418.5
Water purification	736.7
Reduction of air and noise pollution	144.7
Environmental information system	95.6
Protection of flora and fauna	8.0
Relocation of risk industries	89.6
New occupations	500.0
Areas at risk	450.4
Other	526.2
<b>Total</b>	<b>2 969.7</b>

Source: Italian Ministry of the Environment.

#### **1) Functional recovery of existing plant and infrastructure for water purification**

This action incorporates an evaluation phase, the survey of plants and verification both of their proper operation, and of effective demand, and a planning phase in order to train personnel, reactivate purification plants, and to define technological standards for operation.

#### **2) Recovery of available water**

The programme foreseen incorporates different action for water resources and for infrastructure. In particular, in the diagnostic phase, there will be verification of the quality of the sources and of the supply network, updating of the urban water network plans, and location of leaks in the system and of points of illegal water extraction. In the planning phases there will be definition of a standard model of plant diagnosis and management, repair of the distribution network, and evaluation of results based on water balance.

#### **3) Waste dumping and cleaning of areas contaminated by illegal dumping**

In this field a survey is likely first of all of degraded areas, of storage facilities for oil and coke, of illegal dumps, and disposal of toxic waste.

#### **4) Development of protected areas (with priority for Aspromonte, Pollini and Serre)**

The programme will increase the facilities of these areas and the development of parallel socioeconomic activities.

## 5) Environmental recovery of high-risk areas

Campania: Naples, Agro Nocerino-Sarnese; Puglia: Taranto, Brindisi; Calabria: Crotona; Sicily: Gela, Priolo, Augusta.

For these areas there will be specific projects and 'emergency' intervention.

### 4.3.2. Greece

In anticipation of the 1993 single European market, Greece is carrying out several activities aimed at:

- (i) restructuring and/or strengthening in basic economic sectors;
- (ii) prevention of pollution or degradation of the environment through appropriate planning;
- (iii) protection and management of important or endangered ecosystems;
- (iv) reduction of pollution mostly affecting water, with specific emphasis on the sea and the environment around big cities.

A brief description of the community framework for assistance (CCA), which incorporates the major programmes and activities, is presented below.

CCA is cofinanced by the European Community and covers development activities at national and regional level for the period 1990-93, including restructuring of industry and agriculture, use of natural gas, construction of the Athens underground railway and other major projects.

Apart from several sectoral activities financed by the public investment programme, which are indirectly related to the preservation of the environment, there are specific major programmes aimed directly at environmental protection.

#### 1) Delimitation, zoning and management of certain ecosystems

This covers programmes such as the Ramsar wetlands, Corine biotopes, wild avifauna, protection of monk seals (northern Sporades marine park), marine turtles (Zakynthos island) and endangered birds of prey (forest of Dadia, Macedonia).

## 2) Protection of the marine environment

This involves the extension of the monitoring system of marine waters and of bathing areas, prevention of pollution of the main gulfs and coasts by constructing modern sewage systems and treatment plants in the biggest cities (149 plants are planned to be ready by 2005), construction of port-reception facilities, etc.

### 3) Abatement of air pollution

These programmes concern mainly the Greater Athens area, and include the reorganization of public transport and the gradual replacement of ageing urban buses, the extension of the network of the Athens underground railway, the use of catalytic converters in cars and the improvement of fuel, the construction of additional parking areas, etc. Additionally, there are measures to reduce emissions from industry and to apply antipollution regulations.

### 4) Other activities

- (i) Protection of forests from fires and overgrazing;
- (ii) promotion of land reclamation in mined areas;
- (iii) monitoring of noise pollution and preparation of traffic noise maps for the big cities;
- (iv) establishment of industrial parks and promotion of new 'clean' technologies and recycling;
- (v) use of environmental impact assessment;
- (vi) monitoring of oceanographic parameters in the Aegean and the Ionian seas (POEM/IOC programme), using the oceanographic vessel *Aegaion*.

## 4.4. Policy conclusions and recommendations

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The slowing of migration from internal areas to coastal cities and of demographic pressure may slightly reduce the aggravation of environmental problems in the central Mediterranean, but it certainly will not remove them.

The lack of land management policies before the last decade has created an environmental imbalance that recent legislation cannot correct within a short period of time. Moreover, the central Mediterranean area is not

autonomously capable of generating the resources necessary for sustained and effective environmental policies; in Greece, environmental policy currently depends solely on Community funding.

The lack of the necessary resources for the protection of the environment is not the only constraint on an inversion of the current trends. In many cases, local administrations do not have the capability to plan and manage the long-term programmes required, nor do the necessary 'cultural' and organizational traditions exist to accurately monitor the state of the land.

Social awareness of the environmental problem is at least becoming widespread, creating a good starting point for the development and expansion of environmental intervention programmes.

Overall, the environmental condition of the central Mediterranean area can hardly become worse, and it is, in fact, necessary to reverse the present trends of degradation in the very near future in order to guard against excessive and irrecoverable environmental destruction.

The most important conclusion is that environmental problems will require a modification in producer and consumer behaviour, and, above all in the large cities, a social reorganization in terms of behavioural patterns (transport, waste dumping, etc.). At present in the central Mediterranean the structural framework for these modifications exists, but there has been insufficient progress in order to have any real effect on the state of the environment.

Within this context, we can divide the requirements for environmental policy and management as follows.

### **Community policy**

- The development of a framework for the strategic evaluation and management of Structural Fund actions within the requirement of maintaining the environmental equilibrium

This requires the encouragement, through the Structural Fund programmes, of an environmentally sustainable pattern of development within the Community. Structural Fund actions must be evaluated against their environmental impact as well as more conventional social and economic benefits, and balanced with national and local actions in order to ensure the protection and exploitation of the environment in a sustainable rather than detrimental way.

- The development of Community environmental policy guidelines for the Mediterranean regions

This is necessary not as a strongly interventionist policy instrument, but in order to provide guidelines and coordination among the intervention programmes of the various Mediterranean EC countries, and, on a wider scale, of the remaining Mediterranean non-member States. This will enable the Mediterranean countries to successfully coordinate national policies that impact on the Mediterranean ecosystem, and particularly the Mediterranean Sea, between themselves and the non-member States. Increased intervention and coordination is vital in order to protect coastal areas and offshore fisheries from rapidly increasing pollution.

- Resources for environmental protection in poorer regions (especially Greece)

Continued resource transfers for environmental policy intervention are particularly necessary over the medium term in Greece, where at present all action on this front is financed through the European Community.

### **National policy**

- Development of environmental policy, including appropriate institutions and infrastructures, in order to provide coordination, guidelines and resources for environmental management at the local level

This requirement includes the need to provide the local authorities with the legislative power necessary to monitor environmental use and abuse, curb infractions and block illegal activities. The process of prosecution for illegal environmental abuse must be clear and simple, and backed up by evidence from a comprehensive monitoring programme.

- Planning in specific fields: water management and supply (especially drinking water)
- Evaluation system for other aspects of national policy to ensure concrete environmental impact assessment of all new projects
- Protection of areas of particular natural beauty and/or natural importance through the creation of national parks

Legislation, management, funding, and appropriate means of access for the public are important. The creation of marine park areas particularly in coastal regions

would facilitate increased policing and awareness of sea pollution.

- Support for the creation of an 'environmental market'

It is important to realize that environmental policies offer a great opportunity to increase job creation. The creation of an environmental market in the central Mediterranean will help to avoid the inefficient monopolization of this sector by the State, encouraging private sector firms to participate in management and control of the environment.

### ***Local policies***

- Environmental management and control

Management and control over the environment must in most cases be carried out at the local level due to the

specific and complex localized nature of many environmental problems. The local authorities must be supported by the appropriate legislation and enlist private sector companies in management operations.

- Careful monitoring of the local environment

This must cover all aspects of pollution and abuse, river and sea pollution, urban waste, illegal construction, industrial activity, air pollution, soil pollution, agricultural activity, and so on.

It will enable correct action to be predicted and taken as and when needed to protect the environment, thus possibly preventing large-scale and irrecoverable damage; polluters and law-breakers to be caught, and adequate evidence provided; the generation of increased environmental awareness through publicity etc.

TABLE 1.A. National parks

The national parks in Greece are:
Enos-Cephalonia <sup>1</sup>
Vikos-Aoos <sup>2</sup>
Iti <sup>1</sup>
Olympus <sup>1</sup>
Parnassos <sup>1</sup>
Parnitha <sup>1</sup>
Prespa <sup>3</sup>
Lefka Ori (Samaria) <sup>2</sup>
Cape Sounio
Pinde <sup>1</sup>
The national parks in the Mezzogiorno are:
Abruzzi <sup>1</sup>
Calabria <sup>1</sup>
Aspromonte <sup>1</sup>
Pollino <sup>1</sup>

In late 1991 five new national parks were established in the Mezzogiorno, by the new Italian Law on protected areas:

Gran Sasso <sup>1</sup>
Maiella <sup>1</sup>
Cilento e Vallo di Diano <sup>1</sup>
Vesuvio <sup>1</sup>
Gargano <sup>1</sup>

<sup>1</sup> Mountain.

<sup>2</sup> Gorge.

<sup>3</sup> Lake.

TABLE 2.A. Wetlands

Amvrakikos gulf	G
Lake Mikri Prespa	G
Elos Koburaus	G
River Evros delta	G
Mesologgi coast	G
Lakes Porte Lagos, Burnu, Arogi, Mesi Mitriku, Karakatsali	G
River Aliakmoas	G
River Nestos delta	G
Lakes Volvi, Koronia, Lagada	G
Lake Kotihiou	G
Lake Barrea	M
Le Cesine	M
Saline di Santa Margherita di Savoia	M
Torre Guaceto	M
Bacino dell'Angitola	M
Riserva di Vendicari	M
Biviere di Gela	M

**TABLE 3.A. Species of flora threatened by extinction in the Mezzogiorno**

Abres nebrodensis — Sicily
Brassica macrocarpa — Sicily
Calendula maritima — Sicily
Cistus Clusii — Puglia
Cyanidium caladrium — Campania
Cyperus polystachyus — Campania
Caltis aetnensis — Sicily
Ipomea stolonifera — Campania
Kochia saxicola — Campania
Leopoldia gussonei Pari — Sicily
Sedum aetnensis — Sicily
Serapias orientalis — Puglia
Stapelia (carelluma) europea — Sicily
Woodwardia radicans — Campania
Pinus heldreichii — Basilicata and Calabria
Salix pentandra — Molise
Quercus ithaburensis — Puglia

**TABLE 4.A. Animal species of scientific importance in Greece**

Species	Area
Monk seal ( <i>Monachus monachus</i> )	Northern Sporades
Sea turtle ( <i>Caretta caretta</i> )	Zakyntos
Wild goat ( <i>Capra aegagrus cretica</i> )	Crete
Brown bear ( <i>Ursus arctos</i> )	Macedonia
Black vulture ( <i>Aegypius monachus</i> )	Evros
White tailed eagle ( <i>Heliacetus albicilla</i> )	Evros
Imperial eagle ( <i>Aquila heliacea</i> )	Evros
Lesser spotted eagle ( <i>Aquila pomarina</i> )	Evros
Wild horse and wild pony	Six areas

**TABLE 5.A. Italy — mammals — species at risk**

Species	(1)	(2)	(3)	(4)	(5)
<i>Rhinolophus ferrumequinum</i>	x			x	
<i>Rhinolophus hipposiderus</i>		x		x	
<i>Canis lupus</i>		x		x	
<i>Ursus arctos</i>	x			x	
<i>Martes martes</i>		x		x	
<i>Martes foina</i>		x		x	
<i>Mustela putorius</i>		x		x	
<i>Lutra lutra</i>	x			x	
<i>Hystrix cristata</i>	x			x	
<i>Orcinus orca</i>			x	x	
<i>Globicephala melaena</i>			x	x	
<i>Monachus monachus</i>			x	x	
<i>Marmota marmota</i>		x		x	
<i>Meles meles</i>		x		x	
<i>Felis silvestris</i>			x	x	
<i>Cervus elaphus corsicanus</i>			x	x	

NB: (1) = in danger; (2) = vulnerable; (3) = rare; (4) = fully protected; (5) = partly protected.

Source: Italian Ministry of the Environment (1992), 'Relazione sullo stato dell'ambiente, 1991' (forthcoming).



TABLE 6.A. Italy – birds – species at risk

Species	(1)	(2)	(3)	(4)	(5)	Species	(1)	(2)	(3)	(4)	(5)
Hydrobates pelagicus	x			x		Porphyrio porphyrio			x	x	
Phalacrocorax carbo	x			x		Haematopus ostralegus			x	x	
Phalacrocorax aristotelis		x		x		Eudromias morinellus	x			x	
Botaurus stellaris	x			x		Vanellus vanellus			x		x
Ixobrychus minutus		x		x		Tringa totanus			x		x
Ardeola ralloides		x		x		Limosa limosa			x	x	
Ardea cinerea		x		x		Gallinago gallinago			x		x
Plegadis falcinellus	x			x		Himantopus himantopus			x	x	
Phoenicopterus ruber		x		x		Recurvirostra avosetta		x		x	
Anser albifrons			x	x		Buhrinus oedicnemus		x		x	
Anser fabalis			x	x		Glareola pratincola		x		x	
Tadorna tadorna	x			x		Larus melanocephalus			x	x	
Netta rufina	x			x		Larus ridibundus			x	x	
Aythya nyroca		x		x		Larus genei	x			x	
Mergus serrator		x		x		Larus audouinii		x		x	
Oxyura leucocephala	x			x		Chlidonias niger	x			x	
Accipiter gentilis		x		x		Chlidonias hybrida	x			x	
Hieraaetus fasciatus	x			x		Gelochelidon nilotica	x			x	
Aquila chrysaetos			x	x		Sterna caspia			x	x	
Neophron percnopterus	x			x		Sterna hirundo		x		x	
Gypaetus barbatus	x			x		Sterna albifrons		x		x	
Aegypius monachus	x			x		Columba oenas			x	x	
Gyps fulvus	x			x		Clamator glandarius			x	x	
Circaetus gallicus		x		x		Bubo bubo		x		x	
Circus pygargus		x		x		Aegolius funereus			x	x	
Circus aeruginosus		x		x		Glaucidium passerinum			x	x	
Falco biarmicus		x		x		Picoides medius			x	x	
Falco peregrinus		x		x		Picoides leucotos			x	x	
Falco elenora			x	x		Picoides tridactylus			x	x	
Falco subbuteo			x	x		Hirundo daurica			x	x	
Falco naumanni		x		x		Lanius senator		x		x	
Lagopus mutus			x	x		Lanius minor		x		x	
Bonasia bonasia			x	x		Ficedula hypoleuca			x	x	
Tetrao tetrix			x	x		Locustella luscinioides		x		x	
Tetrao urogallus			x	x		Sylvia nisoria			x	x	
Alectoris graeca			x	x		Oenanthe leucura			x	x	
Tetrax tetrax		x		x		Turdus pilaris			x		x
Crex crex	x			x		Emberizia melanocephala			x	x	

NB: (1) = in danger; (2) = vulnerable; (3) = rare; (4) = fully protected; (5) = partly protected.

Source: Italian Ministry of the Environment (1992), 'Relazione sullo stato dell'ambiente, 1991' (forthcoming).

**TABLE 7.A. Italy — reptiles — species at risk**

Species	(1)	(2)	(3)	(4)	(5)
Testudo hermanni		x			x
Caretta caretta	x			x	
Chelonia mydas	x			x	
Dermochelys coriacea	x			x	
Lacerta lepida	x				
Coluber hippocrepis	x				
Elphe quatuorlineata			x		
Elaphe situla			x		
Telescopus fallax		x			
Vipera ursinii	x				

NB: (1) = in danger; (2) = vulnerable; (3) = rare; (4) = fully protected; (5) = partly protected.

Source: Italian Ministry of the Environment (1992), 'Relazione sullo stato dell'ambiente, 1991' (forthcoming).

**TABLE 9.A. Italy — fish — species at risk**

Species	(1)	(2)	(3)	(4)	(5)
Petromyzon marinus		x			
Lampetra zanandrei		x			
Lampetra sp.		x			
Acipenser sturio		x			
Acipenser naccarii		x			
Huso huso		x			
Salmo trutta marmoratus		x			
Salmo trutta macrostigma		x			
Thymallus thymallus		x			
Cottus gobio		x			
Salmo trutta trutta					x
Salmo trutta carpio					x
Salvelinus alpius					x
Coregonus					x
Coregonus macrophthalmus					x
Esox lucius					x
Barbus meridionalis					x
Salaria fluviatilis					x

NB: (1) = in danger; (2) = vulnerable; (3) = rare; (4) = fully protected; (5) = partly protected.

Source: Italian Ministry of the Environment (1992), 'Relazione sullo stato dell'ambiente, 1991' (forthcoming).

**TABLE 8.A. Italy — amphibians — species at risk**

Species	(1)	(2)	(3)	(4)	(5)
Proteus anguinus		x			x
Euproctus platycephalus			x		
Discoglossus pictus			x		
Discoglossus sardus			x		
Pelobates fuscus	x				x
Pelodytes punctatus		x			x
Rana latasei		x			x

NB: (1) = in danger; (2) = vulnerable; (3) = rare; (4) = fully protected; (5) = partly protected.

Source: Italian Ministry of the Environment (1992), 'Relazione sullo stato dell'ambiente, 1991' (forthcoming).

TABLE 10.A. Air pollution in Greek cities

Athens — Level of polluting emissions: smoke ( $\mu\text{g}/\text{m}^3$ )

Year	Monitoring stations										
	1	2	3	4	5	6	7	8	9	10	11
1984	–	–	–	33	38	–	192	–	123	89	45
1985	–	–	–	44	33	–	172	–	130	84	43
1986	–	–	–	–	25	–	140	–	91	60	34
1987	–	–	–	–	29	43	165	–	118	71	38
1988	–	–	–	37	27	35	147	61	94	63	37
1989	–	–	–	32	24	26	123	45	69	37	29
1990	21	–	34	27	–	22	104	44	64	42	29

Athens — Level of polluting emissions:  $\text{SO}_2$  ( $\mu\text{g}/\text{m}^3$ )

Year	Monitoring stations										
	1	2	3	4	5	6	7	8	9	10	11
1984	11	26	–	18	26	18	55	–	35	50	26
1985	11	12	–	26	26	20	48	–	32	–	26
1986	8	25	–	17	32	14	47	–	44	75	39
1987	–	15	–	21	27	18	57	–	46	57	28
1988	–	17	–	21	42	19	82	39	59	61	43
1989	–	53	–	25	–	22	87	42	–	59	–
1990	17	30	27	16	–	21	80	47	–	50	–

Athens — Level of polluting emissions:  $\text{NO}_2$  ( $\mu\text{g}/\text{m}^3$ )

Year	Monitoring stations										
	1	2	3	4	5	6	7	8	9	10	11
1984	–	24	–	37	–	23	105	–	–	80	–
1985	–	14	–	34	–	20	113	–	–	98	–
1986	–	25	–	47	–	29	107	–	–	92	–
1987	–	24	–	57	–	33	105	–	–	80	–
1988	–	34	–	61	–	40	117	89	–	88	–
1989	–	–	–	66	–	41	121	87	–	75	–
1990	42	36	71	55	–	29	120	84	–	76	–

TABLE 10.A. (continued)

Athens — Level of polluting emissions: O<sub>3</sub> (µg/m<sup>3</sup>)

Monitoring stations											
Year	1	2	3	4	5	6	7	8	9	10	11
1986	–	65	–	31	–	24	24	–	–	–	–
1987	–	64	–	49	–	34	29	–	–	–	–
1988	–	76	–	60	–	42	27	–	–	50	–
1989	–	94	–	52	–	46	31	–	–	55	–
1990	56	80	40	61	–	43	37	57	–	49	–

Athens — Level of polluting emissions: CO (1 h) (µg/m<sup>3</sup>)

Monitoring stations											
Year	1	2	3	4	5	6	7	8	9	10	11
1984	1.2	1.3	–	1.3	–	2.0	8.9	–	–	–	–
1985	1.2	1.2	–	1.4	–	1.9	7.7	–	v	4.2	–
1986	0.8	1.1	–	1.1	–	1.8	6.0	–	v	4.4	–
1987	–	1.2	–	1.3	–	1.6	6.7	–	–	4.3	–
1988	–	–	–	1.8	–	1.7	7.4	4.1	–	4.7	–
1989	–	–	–	1.8	–	1.9	8.4	4.9	–	5.2	–
1990	1.7	–	2.8	1.5	–	1.8	7.4	4.2	–	4.1	–

Athens — Level of polluting emissions: suspended particles (µg/m<sup>3</sup>)

Monitoring stations												
Year	1	2	3	4	5	6	7	8	9	10	11	12
1984	–	–	–	–	183	–	129	–	192	–	209	137
1985	–	–	–	–	167	–	140	–	173	–	181	138
1986	–	–	–	–	136	–	94	–	155	–	188	138
1987	–	–	–	–	129	–	118	–	161	–	151	129
1988	–	–	–	–	149	–	–	–	161	–	198	120
1989	–	–	–	–	–	–	–	–	153	–	160	158
1990	–	–	–	–	–	–	–	–	142	–	171	125

TABLE 10.A. (continued)

*Athens — Level of polluting emissions: Pb ( $\mu\text{g}/\text{m}^3$ )*

Year	Monitoring stations											
	1	2	3	4	5	6	7	8	9	10	11	12
1987	-	-	-	-	0.36	-	-	-	0.70	-	0.42	0.31
1988	-	-	-	-	0.30	-	-	-	0.67	-	0.49	0.30
1989	-	-	-	-	-	-	-	-	0.50	-	0.39	0.29
1990	-	-	-	-	-	-	-	-	0.57	-	0.34	0.18

*Thessaloniki — Level of polluting emissions: smoke ( $\mu\text{g}/\text{m}^3$ ), 1988*

	Monitoring stations		
	1	2	3
Mean annual	63	62	123
Maximum (24 hours)	288	249	358
Minimum (24 hours)	12	7	17

*Thessaloniki — Level of polluting emissions:  $\text{SO}_2$  ( $\mu\text{g}/\text{m}^3$ ), 1988*

	Monitoring stations		
	1	2	3
Mean annual	158	129	80
Maximum (24 hours)	456	303	253
Minimum (24 hours)	66	47	10

TABLE 10.A. (continued)

*Thessaloniki – Level of polluting emissions: CO ( $\mu\text{g}/\text{m}^3$ ), 1988*

	Monitoring stations		
	1	2	3
Mean annual	1.6	1.6	5.7
Maximum (24 hours)	7.0	4.7	10.9
Minimum (24 hours)	0.2	0.7	2.7

*Thessaloniki – Level of polluting emissions: suspended particles ( $\mu\text{g}/\text{m}^3$ ), 1988*

	Monitoring stations		
	1	2	3
Mean annual	252	291	293
Maximum (24 hours)	622	765	742
Minimum (24 hours)	94	81	80

Source: Greek Ministry of the Environment, Physical planning and publications, various years, Ypehode.

## 5. Spatial organization

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### 5.1. The physical dimension

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#### 5.1.1. Geography

##### *A region of complex natural barriers*

The most distinctive geographic characteristic of the central Mediterranean area is territorial discontinuity due to the configuration of the continental land areas, island complexes and the severe barriers created by mountain ranges (see map, 'Geomorphology'). Historically, this spatial fragmentation led to the emergence of specific areas of human activity connected by limited channels of communication both within the area and with neighbouring regions.

Both the Mezzogiorno and continental Greece are peninsulas, disconnected from each other and highly differentiated in terms of coastline complexity. Both are extensions of larger geographical systems — the Italian peninsula and the Balkans. Mountain ranges extending from the north divide both peninsulas in the middle, separating the region into loosely connected segments, contributing with economic development factors to regional disparities.

The Mezzogiorno seen in relief is structured along the Apennine chain which extends down into Sicily, beyond the Straits of Messina. Spreading from this mountain chain is an extensive area of hills, leaving rather restricted areas of flat land along the coastline. The major plains are located in Campania, north and south of Naples, in Basilicata at the Gulf of Taranto, and in Puglia. Flat land accounts for no more than 12% of the total area (Table 1).

**TABLE 1. Land distribution by elevation**  
(%)

	Mezzogiorno	Greece
Plains	12	29
Hills	50	29
Mountains	38	42

The territory of Greece is sharply divided into two geographically distinct categories: island complexes (Aegean, Ionian) and the main continental area. The relief morphology includes, as in the case of the Mezzogiorno, a continuous mountain range dividing the territory into the two clearly identifiable regions of western Greece and the eastern (Aegean) side. Mountain areas are larger than those in the Mezzogiorno. Furthermore, elevations drop rather abruptly and as a result Greece does not have extensive hill areas and more than 50% of the area has slopes with gradients over 10%.

Most of the plains in Greece are located in the central-eastern and north-eastern areas where major productive agricultural activity is located.

Certain geographical configurations can be identified for the region, pointing to some unique characteristics.

Island regions contain a variety of small islands which in the case of the Aegean are located in a manner forming identifiable complexes (Cyclades, Sporades, Dodecanese) or, as in the case of the Ionian chain, are rather disconnected and related to the corresponding nearest

continental region. The Peloponnese, on the other hand, is considered part of the continental body but retains some 'island' characteristics since it has potentially only two points of connection, one existing in Isthmia connecting it to Attica, and potential connection of the Rio-Antirio straits, near Patras. There is a certain geographical similarity between the issue of this connection and the Mezzogiorno parallel of the Straits of Messina. Furthermore, this similarity of the configuration of Sicily raises questions about the extent to which Sicily can be considered an island or simply a weaker extension of the continental area.

A similar analysis is also pertinent for Evvia a 'quasi-island' extending all along central Greece which, although in close proximity to highly developed areas, continues to retain the characteristics of lagging development.

### 5.1.2. Geophysical considerations

#### *A combination of unique environmental conditions dialectically connected to natural risks*

The geophysical profile of the Mezzogiorno and Greece is very similar, except for some differences in the risks connected to volcanic action, landslides and floods, which are of no particular importance in Greece.

There is a significant volcanic risk in the Mezzogiorno.

Current spatial organization trends in southern Italy are encumbered by a number of problems regarding hydrogeological conditions, seismic and volcanic phenomena which set limitations on or even endanger residential settlements and the organization of production. These environmental risks depend, from a geophysical point of view, on the age of the geological structure, the unstable nature of the terrain and the extreme variability of climatic conditions.

All southern Italy, Sicily included, is prone to earthquakes, with the exception of Puglia which is further from the Apennine ridge, the main axis of this geological instability. Besides this, we must also take into account the areas subject to volcanic risk, particularly the Campania region (Vesuvius and the Phlegrean fields) and Sicily (Etna and the Aeolian Islands).

Knowledge and evaluation of these risks has progressed significantly, especially since the 1980 earthquake in Irpinia. Improvements have been made in classifying seismic areas, while volcanic areas have been cat-

egorized according to the probability of destructive events. Further advances in this field should make possible more effective preventive strategies and, even more important, provide detailed information for the planning of urban settlements and infrastructures.

The greatest concern is with areas where high population density is coupled with high volcanic risk, particularly the areas around Naples and Catania.

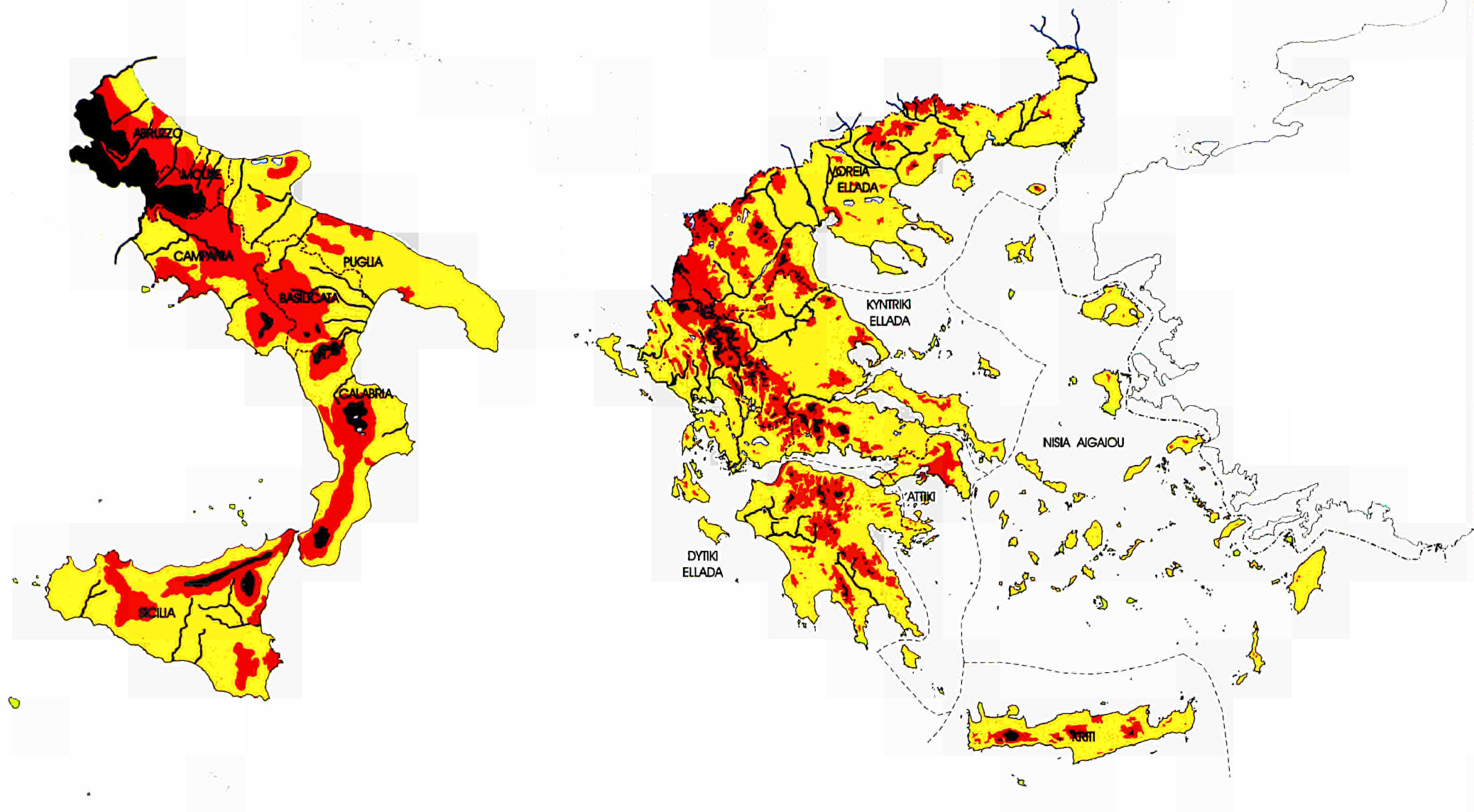
Over 700 000 people live within a radius of 10 kilometres from Vesuvius while near Etna, some 400 000 people are exposed to the risk of volcanic vents opening on the lower slopes of the volcano. Although the phase of sharp population growth is now over in these areas, it leaves behind a demographic load that would be difficult to deal with in an emergency situation. In fact, volcanologists and other experts have repeatedly pointed out how, in these areas, volcanic risk is coupled with an 'evacuation risk' due to the urban congestion and the slowness with which the authorities responsible are drawing up evacuation plans. In the area of Vesuvius, for example, even a false alarm could lead to a disaster under the present conditions.

Another high-risk area is the Aeolian Islands (Stromboli and Vulcano). Here, tourism has brought about a massive increase in the number of buildings close to the craters and, during the summer, the sharp increase in population would make evacuation very difficult.






The traditional weakness of the hydrogeological system of southern Italy also provides a geological risk. This is true particularly for the argillaceous Apennine slopes, where landslides and floods often follow heavy rains. Recent studies have found the average number of areas affected by landslides to be 27 per 100 kilometres in Basilicata, and 10 per 100 kilometres in Molise. The values in other regions are only slightly lower. This hydrogeological instability is aggravated by the chaotic urban development in many risk-sensitive areas.



To put these 'natural risks' into perspective, the precarious hydrographical situation should also be taken into account. Scant rainfall in recent years has greatly reduced the discharge of rivers and springs, threatening to dry up certain major bodies of water and making it difficult to satisfy the fast-rising demand for drinking water. To this one must add the problem of groundwater pollution, which is typical of heavily industrialized areas. Such pollution is still in its early stages in the south but is rapidly increasing due to slack control over unauthorized refuse dumping.





**LEGEND**  
Mountain zones

-  Main urban centres
-  Lake
-  Principal rivers
-  Administrative boundaries  
(Group of NUTS2 for Greece)
-  National boundaries

-  0 - 200 m
-  200 - 800 m
-  800 - 1500 m
-  > 1500 m

**GEOMORPHOLOGY**

0 100 200 km

Water shortages increasingly spark disputes over the use of water resources for agriculture, industry, or tourist and residential purposes. There is also clearly an excessive allocation of water resources to agriculture, a sector of diminishing importance.

The drive towards the development and improvement of the network of water bodies and waterworks is hampered by problems related to the administration of the resources, which is all too often fragmentary and negatively influenced by local pressures or political ends.

In the effort to achieve greater control over the various forms of environmental risk present in the south, there has been significant progress both in pertinent knowledge and public awareness of the dangers. A decidedly negative role continues to be played by the inefficient, chaotic political and administrative systems, which have often exploited catastrophic events in order to obtain special extra funding, only to hand it out to political cronies.

There are two major problems of a geophysical nature in Greece: seismic activity and water shortage.

The entire Greek territory is subjected to earthquake activity to a greater extent than the Mezzogiorno. There are some areas of lower seismic activity located along the Pindus range, the western part of northern Greece and Thrace, parts of central Macedonia and Attica, and Cycladic Islands area. Nevertheless, there is hardly any area of urban development that is not subject to some degree of earthquake risk.

There are earthquake zones of serious intensity along the entire Ionian coast, forming an arc along the southern Peloponnese through Crete to Rhodes, and a zone covering all the eastern Aegean Islands. Other high-risk areas are more localized along Korinthiakos bay, from Patras to Corinth, most of the Thessaly plain (Volos) and in proximity to Thessaloniki (Chalkidiki).

Although Greece has some 39 volcanoes defined in geological terms as active, none of them is considered to be of any serious threat to settlements as in the case of the Mezzogiorno.

Recent efforts concerning earthquake defence in Greece provide a framework to be further developed in the future. The strategic components of this framework are:

- (i) scientific monitoring by research institutions and new research in the field of earthquake forecasting which is still in its early stages;

- (ii) prevention of damage through the use of new building codes for earthquake-resistant construction;

- (iii) research for the site evaluation of areas suitable for urban development.

The issue of water shortages is directly connected to poor management in most areas of Greece, insufficient infrastructure for the development of water reserves, and degradation of vegetation and subsequent erosion. The most acute current problem is the low capacity and poor performance of the Greater Athens area water supply system in coping with increasing urban and industrial demand.

Strong similarities in climate and vegetation exist within the central Mediterranean region. The Alpine landscape penetrates deeper into continental Greece, forming regions with similarities to northern and central Italy along the Pindus range that essentially extend well south into the Peloponnese, and the east to west Rodopi mountain range which borders the Balkans.

## 5.2. The urban dimension

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### 5.2.1. The urbanization process

A process that is highly differentiated from the Italian and European 'north'.

Both in the Mezzogiorno and Greece, the majority of the population live in urban centres. However, the urban population percentage in the region is still much lower than that of northern European regions. The sharp differences in the type of urbanization and the process itself within the region, and the corresponding process that took place in the more-developed regions in Europe, are to be explained both in terms of historical evolution and of the current role and economic activity of the urban centres, their interrelationships and their relationship with their surrounding rural areas.

The development of urban centres in the region follows a similar pattern to that of the European and Italian north only in the way growth occurs with respect to the immediate proximity.

Urban centres in the south have not developed the economic and other relationships that would create a functional, organized urban network. Growth is therefore

more or less determined solely by their size and their economic and administrative role.

The evolution of the urban centres is often strongly influenced by administrative decisions showing the great interdependency of economic activity and administrative actions that characterize the region. The limited development of an integrated urban network has negative effects in terms of attracting new extraregional enterprises. It is thus unable to respond easily to evolving production patterns.

The region's urban networks can hardly be described as cohesive in the sense that the nodes of the network, the urban centres of any size, do not function in a complementary way either in terms of social infrastructure (services) or in terms of their respective production patterns in the secondary and tertiary sectors.

Despite this high level of spatial fragmentation, social services tend to be organized at a regional or national level within the public realm and as a result they display certain complementarities to the extent that their operation is largely determined by national administrative and planning structures.

#### 5.2.1.1. The proliferation of tertiary activity

The development of the secondary and tertiary sector within the urban network displays few complementarities, producing a picture of highly segmented operation.

The sectors that appear to be functionally integrated within the urban network are particularly those sectors developed in a spatial sense by economic policy intervention. This intervention, however, is mainly by the central government of the respective national States rather than through private economic initiatives.

Here again the basic common characteristic of 'transfer dependent' regions arises both for the Mezzogiorno and Greece. Transfers in the public realm (either by the respective national States or the European Community), combined with investment by emigrant workers, create a situation of high growth both in consumption and construction connected with urban development or tourism. Thus cities and smaller urban centres present a picture of change and modernization that does not really correspond in economic terms to the productive potential of these regions. Specifically, there is excessive growth and development in tertiary activity without the corresponding industrial growth required to sustain it.

Closely connected to the above process are the parallel economic activities that take place on the margin of officially monitored activities. These activities, although they have a negligible contribution to a rational transformation of the productive pattern, in turn tend to strengthen consumption and construction activity.

#### 5.2.1.2. The weaknesses of the public sector

The processes described above, coupled with a weak and poorly managed administrative framework, complete a system of weak economic interrelationships within the urban network.

Public administration at all levels seems to be unable to shape or guide the emerging transformations, reacting to them in many cases in a haphazard manner. The weakness in the performance of the various public administration bodies is rooted mostly in the ineffective institutional structures and their interaction.

New patterns of development require a supply of highly trained and dynamic administrative and managerial personnel which is lacking in the region.

Two reasons can explain this particular deficiency in the employment supply. On the one hand, the past internal and external emigration patterns outside the region to northern Europe, as well as to northern Italy in the case of the Mezzogiorno, and, on the other hand, on training deficiencies in the region compared with similar more successful educational processes in the north.

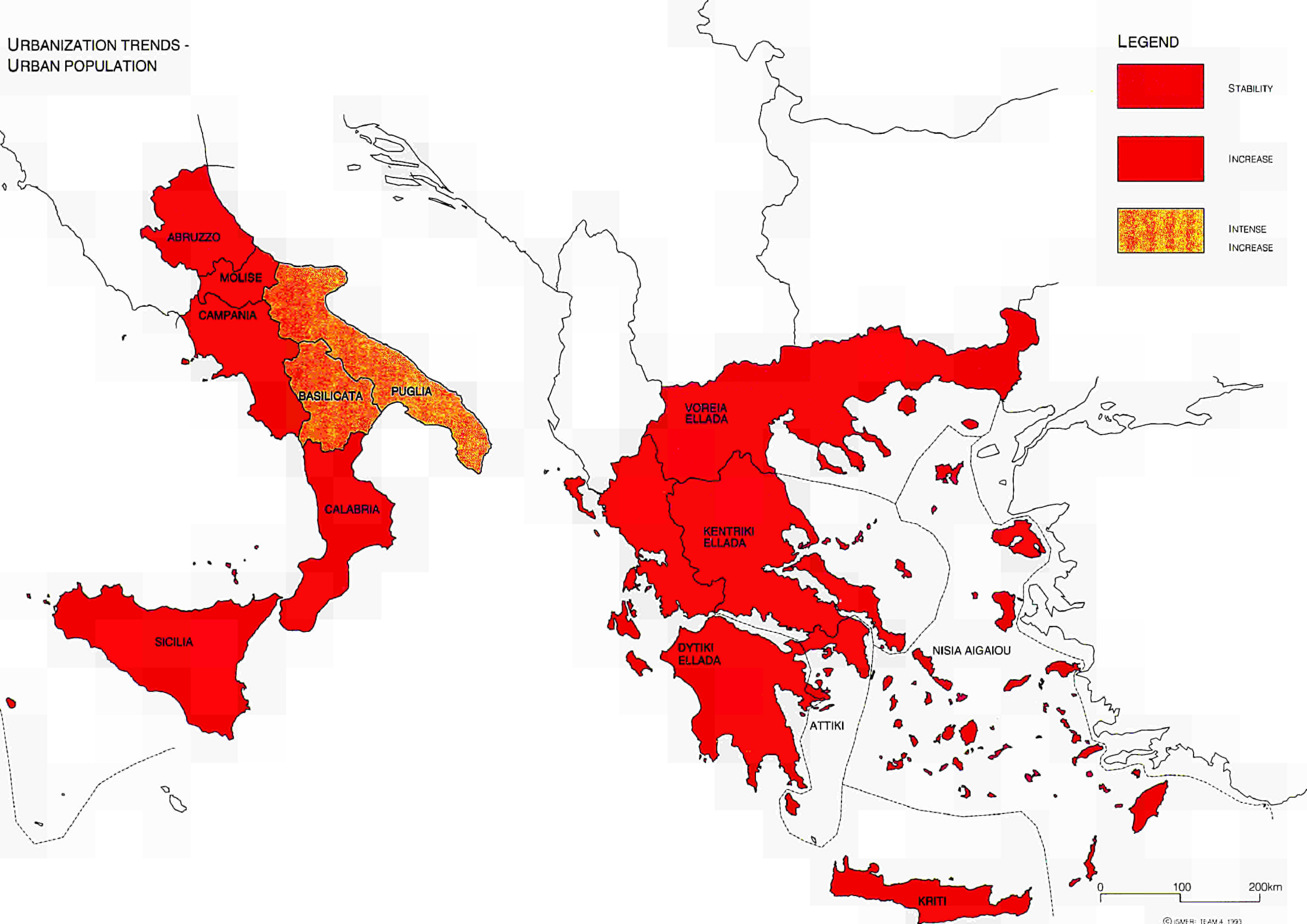
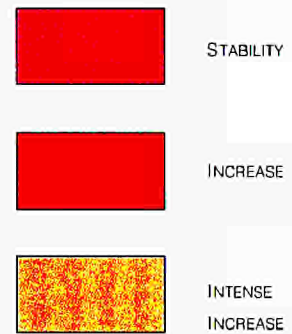
An additional problem concerns the rapid rate of urbanization followed in the recent past. Urbanization in the region took place much later than in the northern urban areas and at a much faster rate. As a result, urban centres failed to keep pace in providing the planning and implementation of the necessary urban infrastructure. A situation has developed in almost all large and medium-sized urban centres in the region where there has been a generally steady and sufficient growth of housing and related activities, while the public component of urban infrastructure, which is highly dependent on public investment, is lagging far behind. This has led to congestion, urban functional inefficiencies and a steady degradation of the urban environment.

#### **5.2.2. Urban/rural population evolution**

Urbanization is through patterns of economic and social behaviour rather than in physical or spatial terms.

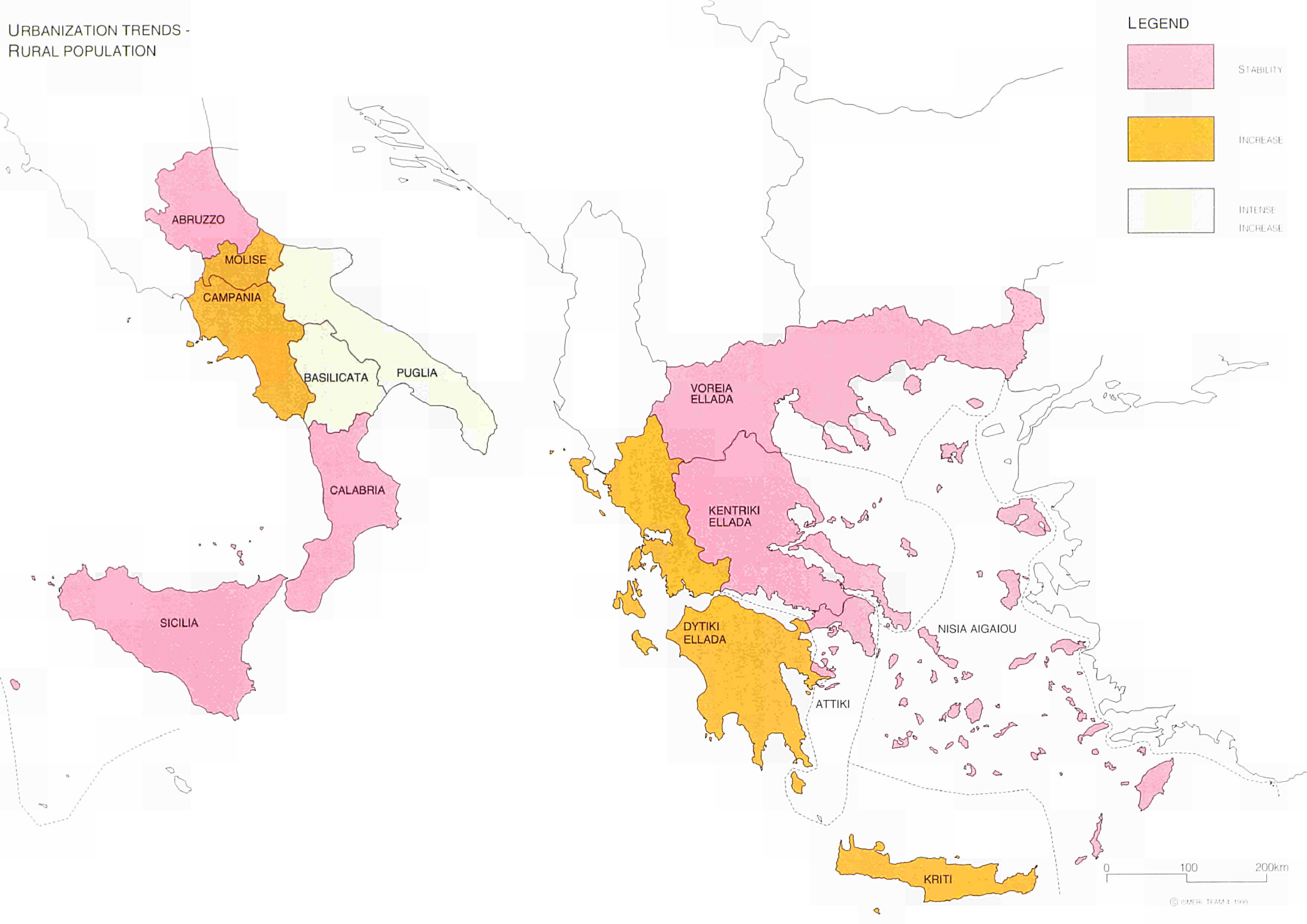
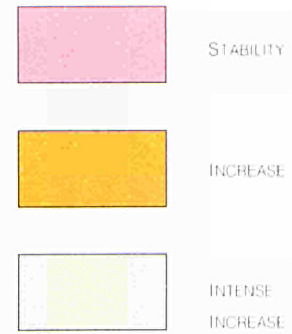
# URBANIZATION TRENDS - URBAN POPULATION

## LEGEND



# URBANIZATION TRENDS - RURAL POPULATION

## LEGEND



The population of the central Mediterranean area is reaching 30 million inhabitants, about two thirds of which live in the Mezzogiorno and one third in Greece. The total land area of the region is 231 000 km<sup>2</sup>, of which 99 000 km<sup>2</sup> or 43% is in the Mezzogiorno and 132 000 km<sup>2</sup> or 57% is in Greece. It is obvious that population density differs sharply. Southern Italy has 2.5 times the density of Greece and almost all the Mezzogiorno regions have densities higher than the regions in Greece. The only exception is Basilicata which has a density slightly lower than Crete, the highest population density region in Greece. The case of region 6 (Attica), which has the highest population density in the central Mediterranean, is not very important, reflecting the definition of regions for the purpose of this study: for all practical purposes, Attica corresponds to the Athens metropolitan area.

In both Greece and the Mezzogiorno over the period 1971-91 (southern Italy data for 1989), the total population has been increasing. As a whole, in southern Italy rural population decreased uniformly over the whole period. In Greece rural population decreased somewhat more slowly in the 1970s, with the rural exodus increasing in the 1980s.

Urban population, on the other hand, has been constantly increasing over the last 20 years in the entire region. The rates of increase were higher in Greece in the 1970s, and higher in the Mezzogiorno in the 1980s. The total rate of population growth in the Mezzogiorno is relatively low but is steadily increasing, while rates of increase in Greece are declining (see maps 'Urbanization trends', urban and rural).

The consequence of these trends is increasing urbanization in the Mezzogiorno, where urban centres apart from their natural 'internal' population growth, attract population from rural areas. In Greece, on the other hand, urbanization in the period 1981-91 was occurring at steadily decreasing rates due to the apparent stabilization in rural areas.<sup>1</sup>

The trend of increasing rural population in Greece can be further qualified if we include in the urban category

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<sup>1</sup> The above analysis is based on official census data and a qualification ought to be made on the effect of substantial movements of the population in Greece on the day of the census from urban centres to rural areas. Although this phenomenon has not been quantified, it is assumed to contribute a significant factor of error.

some centres with a population under 10 000, which by their special location in islands or mountain areas could be considered as 'urban' in terms of actual structure and regional role.

#### 5.2.2.1. Regional urbanization trends in the Mezzogiorno

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Urbanization trends in the regions of the Mezzogiorno follow different rates. The growth rates are more rapid in certain typically rural regions, such as Abruzzi, Molise and Calabria, and slower in regions, such as Puglia and Sicily, where large cities have been present for some time. In any case, the urban/rural population data vary above all according to traditional patterns of settlement, whether spread out over a broader area or concentrated in small or large urban centres.

Statistics confirm that a greater portion of the rural population continues to occupy the vast inland zones of southern Italy, where the prevalent type of settlement is in small towns (under 10 000 inhabitants). This need not be seen as a negative factor but simply as a constituent element of the human geography of these areas. The fact that population depletion has ceased in certain predominantly rural zones may well be a positive feature.

In any case, if the dynamics of rural/urban population change are studied in as broad a perspective as possible, urbanization is not merely represented by quantitative values (based only on the size of towns) but is seen in terms of the rise and diffusion of typically urban values and functions. In this light, certain qualitative evaluations can be made on the advance of the urbanization process in southern Italy.

Urban spread is taking place in southern Italy at a rather slower rate than in the more advanced areas of Europe and central-northern Italy. It is generally the bigger centres, relatively isolated from the rest of the territory, that are urbanized; the spread of urbanization in the small and medium-sized towns takes place at a slower rate than in the more-developed cities.

The trends along the coast are different from those in the inland areas. Along the coast a constant influx of immigrants and the development of industrial, commercial and tourist activities have brought about the spread of urban lifestyles to even the small towns, whereas inland the spread of urbanization has influenced almost only the large centres. From this standpoint, it is significant to note that the inland provincial capital towns have a leading role as the depositor of urban status.

Over recent years, the inland areas of southern Italy have been swept by the waves of change as a result of the spread of industry, tourism and commerce into the Apennine zones, along avenues created by public works, mainly the construction of communication infrastructures and incentives for production.

However, the overall relative improvement in living conditions has not meant an end to demographic collapse in certain inland areas of southern Italy, although the phenomenon is much more limited than in the past.

#### 5.2.2.2. Greece: rising urban and rural populations

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In contrast to the Mezzogiorno where the regions of Abruzzi, Calabria and Sicily show an increase of rural population within a general trend of decrease, rural population is increasing in all regions in Greece with the exception of Attica. In Attica, population growth is mainly in the perimeter of the metropolitan area in some towns that are in the process of developing a suburban character.

The urban population of all regions in Greece is increasing in the same manner as in the Mezzogiorno, with intensities that vary with respect to the dynamism of the urban system of each particular region. Outside Attica, two regions have fairly high urbanization indices: northern Greece, where the second largest urban centre is located (Thessaloniki) and the region of Crete. In the case of Crete, a bipolar urban system is evolving along the east-west axis on its northern coast, containing two medium-sized urban centres along with some smaller centres.

All other regions show an urbanization index in the range 31 to 35%, following the general trend.

In spite of the fact that urbanization in Greece follows the population size hierarchy, in the last period medium-sized urban centres display trends of increasing dynamism.

#### 5.2.3. Settlement system classification and size

The population concentration pattern is similar in both the central Mediterranean regions, with a few differences mainly in the trends concerning metropolitan centres and their effect on the total network. In both regions the definition of a settlement is administrative and refers to a municipality or local authority unit (LAU).

The Mezzogiorno has a total of 2 132 LAUs, while Greece has 5 790 LAUs, showing a rather extensive network of very small settlements in the case of Greece. In the smallest size category 82.3% of the LAUs contain 28% of the population in the Mezzogiorno, while 99% of LAUs contain 41% of the population of Greece.

The remaining population of the Mezzogiorno occupies a network of 384 units which correspond to 49% of the population, while in Greece, in the same category, 63 units contain only 16.3% of the population.

There are 14 large and medium-sized urban centres in the Mezzogiorno and six in Greece, including the two metropolitan centres, Naples and Athens (see map 'Urban centres'). The impressive difference in this category could be qualified by the fact that the statistical definition of the two major metropolitan areas is not quite the same.

In spite of this difference within its rural areas, the region as a whole is characterized by an urban network with more or less common hierarchy, structure and elements of dynamism.

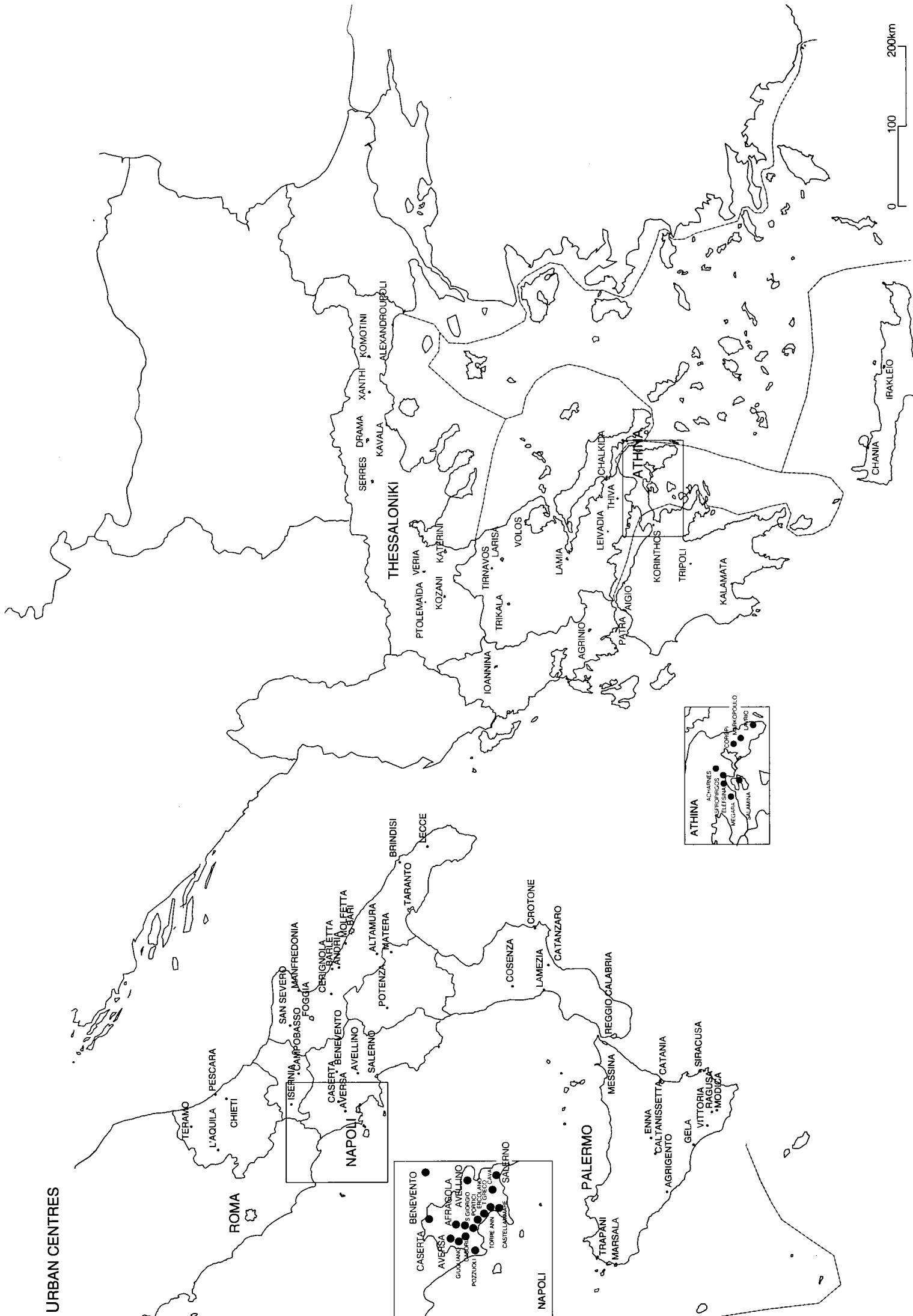
The conditions these three qualitative elements describe are moreover similar in the urbanized areas of the central Mediterranean region in spite of the quantitative urban/rural population differences in terms of absolute numbers.

The urban network hierarchy in both Italy and Greece consists of a major metropolitan centre with a population of over 1 000 000 inhabitants (Athens, Naples) as well as a second centre with a population approaching 1 000 000 inhabitants, which is also metropolitan in many of its functions (Thessaloniki, Palermo). In the Mezzogiorno, there are, in addition, three other large cities in the 250 001 to 1 000 000 inhabitants class (Catania, Messina, Bari) while in Greece, Thessaloniki is the only one. There are only nine urban centres in the category 100 001 to 250 000 inhabitants in the Mezzogiorno, with four in Greece. By far the greatest number of urban centres in both subregions are within the range of 10 000 to 100 000 inhabitants forming the base of the 'hierarchy pyramid'.

The structure of this hierarchical pyramid does in fact display a fairly stable pattern over time in the whole central Mediterranean region.

Thus, while the structure is stable, transformations tend to take place within each category, displaying the

URBAN CENTRES





dynamism of each specific urban centre or group of spatially proximate urban centres.

The rural settlement pattern of the region displays an even greater stability over time. The rural population in Greece is much higher than in the Mezzogiorno and is tending to decrease at what should be considered a low rate compared with the corresponding processes in regions of northern Europe. In contrast to this trend, the population of small urban centres (10 000 to 100 000 inhabitants) is tending to increase uniformly within the whole region.

A reverse trend seems to characterize the future development of the major urbanized centres and the two metropolitan centres.

Although in absolute terms population is still increasing in these centres the increases are at lower rates than those observed in past decades.

Therefore, in strictly population size terms, the relative importance and impact of these metropolitan centres is tending to hold a diminishing share of the total urban population for both the Mezzogiorno and Greece.

#### 5.2.4. Urban population analysis

Population evolution in urban centres follows different patterns in Greece and the Mezzogiorno. Although urban population is increasing in both regions, it is not increasing uniformly within the respective urban networks (see map 'Urban networks — population evolution'). With the exception of the Ionian island town of Corfu, all other urban centres in Greece display population increases that tend to be at higher rates in the medium-sized urban centres (100 000 to 200 000 inhabitants) than comparable rates in the metropolitan centres and in the small centres as well.

##### 5.2.4.1. Fragmented urban poles in the Mezzogiorno

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In the Mezzogiorno there was a decrease in population in the period 1981-90 in a number of cities (Pescara, Naples, Castellamare, Torre Annunziata, Torre del Greco, Salerno, Bari, Molfetta, Cosenza Catania), while within the same period population in other cities increased.

In more detail, the weak cohesion of the regional urban fabric in the Mezzogiorno can be represented schematically by forms such as polarized networks, multicentre

networks and weak systems (see map 'Urban networks — functional classification').

Campania is the only region of southern Italy with a polarized urban structure. The metropolitan system of Naples is clearly predominant, while the medium-sized centres are weak, being still caught up in the coils of the greater system, which does not seem to spare even the provincial capital towns from being suffocated.

Greater Naples, a vast area with 4.3 million inhabitants (about half of the entire urban population of southern Italy) is the only territorial centre in the south of Italy big enough, and with a sufficient volume and continuity of exchange among its components, to be defined as a metropolis. From a structural standpoint, the area around Naples is very complex. Besides the main fulcrum, flanked by two belts of suburban communities, there are three lesser poles (Caserta, Avellino, and Salerno), each with its own suburbs undergoing rapid demographic expansion. Furthermore, there are several axes of development, the most important of which follow the highways branching off from Naples to the provincial capitals, and an axis that is still incomplete in the direction of Benevento.

The effects of suburbanization and urban spread towards outlying areas come together and often clash in this vast area. It would appear recently that functions of control are being developed and reassigned more efficiently, with greater responsibilities for medium-sized centres and the achievement of a certain, but by no means sufficient, re-equilibrium.

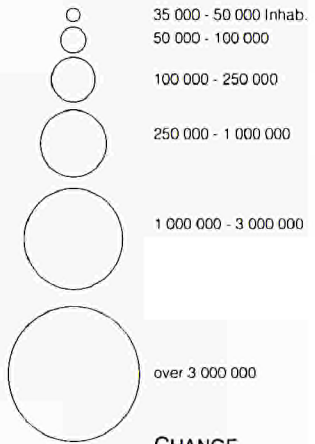
However, in most southern Italian cities the situation, region by region, is such that no other truly urban system can be said to exist. Not only is there a lack of directionally dominant urban centres, but the fabric of the medium-sized towns is weak and discontinuous. Regions representative of this urban discontinuity are Molise, Basilicata, Calabria, and most of Abruzzi.

Until recently Molise was nothing more than a southern Italian hinterland, but currently a type of urban/rural polarity appears to be developing. In the wake of recent industrial growth, which has caused a greater percentage increase in enterprises than in any other Italian region, certain centres located along the lower limits of the region (especially Termoli) have emerged. Campobasso and Isernia also show rather unexpected signs of developing a certain local dominance on account of their administrative functions.

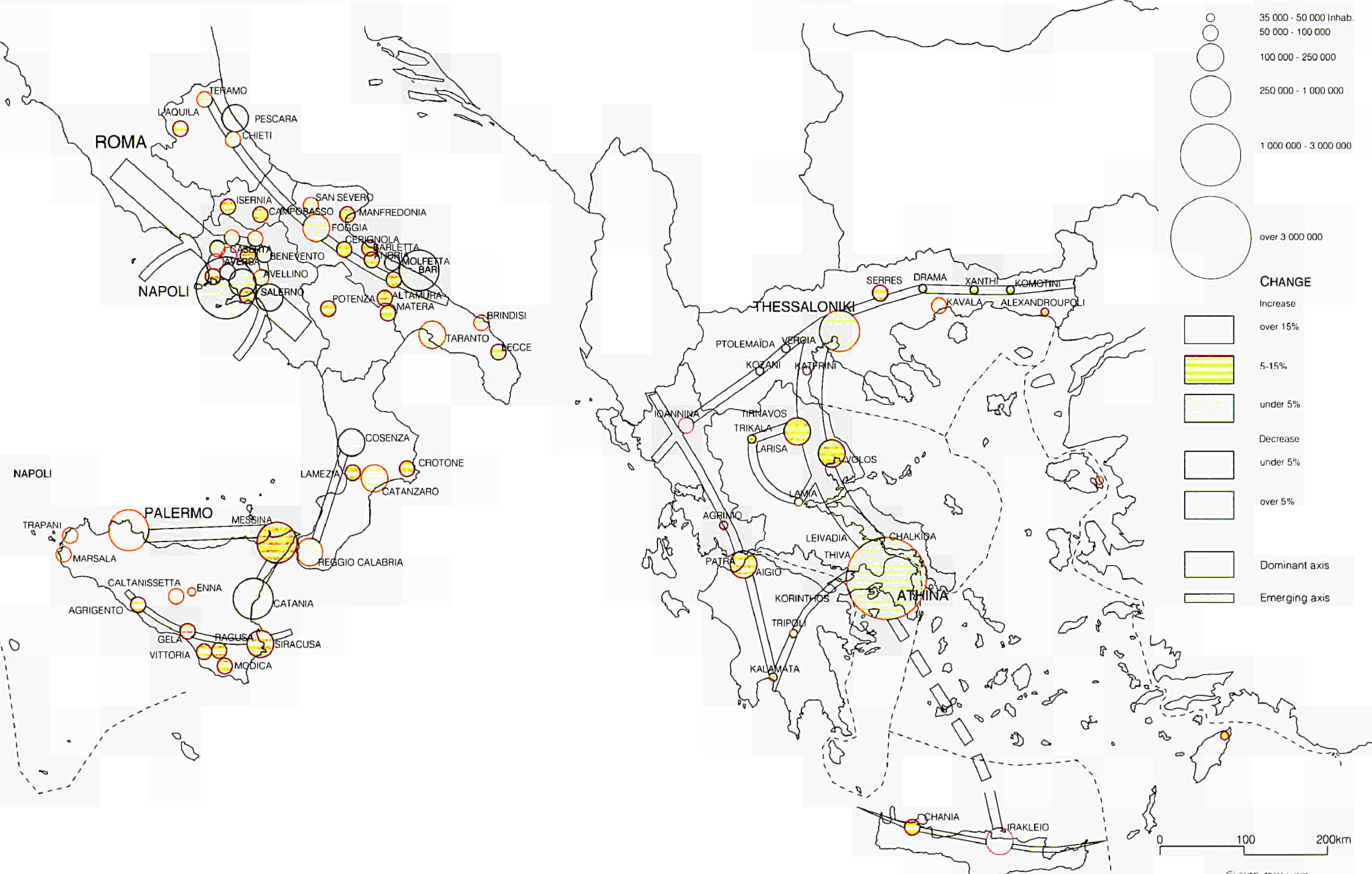
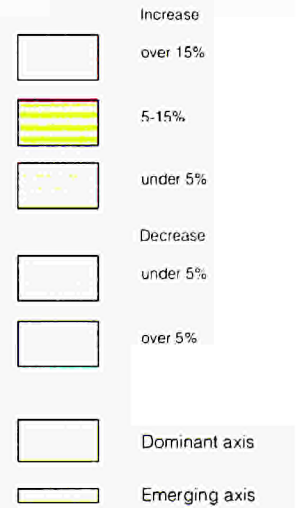
URBAN NETWORKS — POPULATION EVOLUTION  
TRENDS OF EXISTING STRUCTURE

LEGEND

SIZE









CHANGE

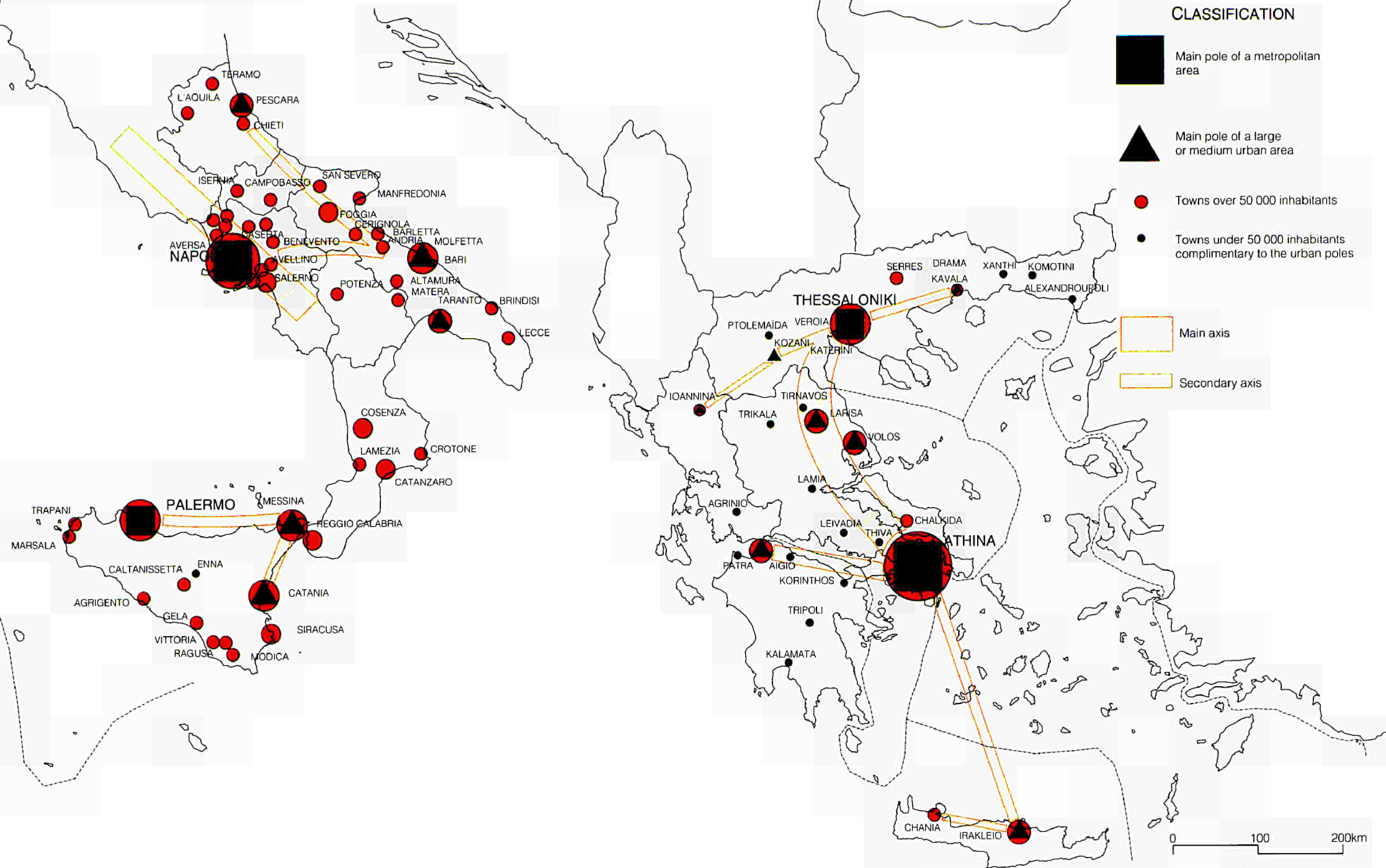


**URBAN NETWORKS — FUNCTIONAL CLASSIFICATION**  
**EXISTING INTERRELATIONSHIPS**

**LEGEND**

**CLASSIFICATION**

-  Main pole of a metropolitan area
-  Main pole of a large or medium urban area
-  Towns over 50 000 inhabitants
-  Towns under 50 000 inhabitants complimentary to the urban poles
-  Main axis
-  Secondary axis



In Basilicata and Calabria too, there are some faint signs suggesting that some urban and suburban areas may be emerging. However, there are doubts as to the productive potential and effective capacity for modernization of these still weak poles. In fact, almost everywhere, what seems to prevail is a marked tendency for the bigger centres to simply drain resources produced elsewhere, rather than to generate the base for an autonomous propulsive capacity. The instances of linkage are in any case quite sporadic and weak.

In Abruzzi, on the other hand, the transformations in course have been going on for some time and appear strong enough to favour a quick transition from a very incomplete, discontinuous urban structure to a fluid pattern typical of the advanced models of settlement of central Italy. In the province of Teramo there are increasingly evident signs of economic and social vitality, a favourable development along the lines that have been successfully followed by Pescara and Chieti. The latter seem to have achieved a consolidated articulation of urban functions, supported by small and medium-sized industries that are largely of local origin.

This dynamic evolution extends along dozens of kilometres of the coast; the northern tract lacks a fulcrum of reference whereas the central tract relates to the steady growth of Pescara. A complex coastal network of tourist enterprises and industries, with avenues of penetration inland, is in the making and promises to be a full partner in central and northern Adriatic area development.

Between these extremes of polarized networks and weak urban fabrics, one also finds intermediate urban situations, in the sense that they are more closely tied to a widespread patrimony of medium-sized cities such as the multicentre networks in Sicily and Puglia.

The dynamics of the 1970s have produced an urban organization in Sicily that is quite well balanced structurally, given the number and growing strength of medium-sized towns, although there is still an imbalance in terms of territorial connections. Once again the coastal areas tend to be well urbanized, whereas the inland areas are almost wholly lacking in significant city development.

The Palermo area is more highly centralized than any other, with scarcely any spread into surrounding areas, although some connections are developing along the coast. The urban complex centred about Catania is more well developed, given that Catania itself now holds no more than 60% of the overall population, and the towns of the surrounding belt, especially towards Mount Etna,

show rapid population growth. Moreover, there are axes of a certain consistency towards Syracuse, on the one hand, and Taormina and Messina, on the other. A noteworthy phenomenon in south-western Sicily is the emergence of a multicentre urban structure which, given time, may grow in strength and ultimately equilibrate an urban system which, up to now, has been bipolar.

Puglia, however, is the region with the most satisfactory urban system in southern Italy, both in terms of the size of the centres and their territorial distribution. The most solid urban fabric is located in the middle of the region, with a double alignment of centres along the coast and just inland, extending from Barletta and Andria to Brindisi and Francavilla, and towards the Ionian gulf in the direction of Taranto.

The large Bari urban area has been gaining in strength since the 1970s, due to a suburbanization trend involving a group of towns that were recently industrialized or strongly residential. In addition, especially to the north, along the coast, there is an important urban belt that takes in Bisceglie, Trani and Barletta. As for the rest of the region, Taranto and Lecce have been growing in strength ever since the 1970s, with the prospect of becoming integral structures of the regional urban system. The district of Foggia, however, still preserved in a state of isolation, shows only the faintest signs of recovering some vitality, while Brindisi is suffering acutely from the crisis of the local chemical works.

New trends and new demographic patterns in the southern cities are evident in the tables illustrating developments in centres with upwards of 50 000 inhabitants as of 1989 (see annex, Tables 4.A and 5.A)

The first aspect to be noted is the differences in demographic patterns over the period in consideration (1981-89).

All the larger urban organisms show a progressive fall in population, especially in Bari and Catania, whereas the population increase in the medium-sized centres, which counterbalanced this loss, has diminished recently. Many medium-sized provincial capitals show no significant gain and in some cases (for instance Pescara, Avellino, Cosenza) even a slight overall decrease. The progressive population reduction in these centres suggests that they will fall into line with the downward trend of the larger towns.

Generally, especially in the most recent period, the population pattern in medium-sized and medium-small

towns (100 000 to 250 000 and 10 000 to 100 000 inhabitants) has been more dynamic, whereas the small centres (under 10 000 inhabitants) remain stationary, indicating that the migratory phase is over. There has been significant growth in centres surrounding the major cities, much more so than in peripheral towns further from the hub.

This evidence would seem to be common to all the major urban settlements in the south; however, the meaning of these statistics must be interpreted case by case. Thus, in both Naples and Catania, the chaotic expansion of the periphery depends mainly on population shifts from the overcrowded urban centre.

The swelling of the periphery of Naples is due to a dynamic demographical movement in an area with an excessive population and to the consequences of the 1980 earthquake, which led to the construction of housing complexes mostly concentrated on lots fairly close to the central urban core.

In Naples, the data show that centres in the inner ring have been growing at a slower rate than in the past (especially the larger towns), whereas there is a higher growth rate in the towns of the outer circle. It is unlikely that this phenomenon indicates the beginning of a process of counterurbanization; rather it is the start of another phase, during which every free nook and cranny is being filled, in the course of a decentralization that is mainly residential, due more than ever before to the growing problems in the city of Naples, especially in the housing market.

Likewise in Catania there has been a sharp population rise in the centres surrounding the city. The city continues to swell beyond its borders towards towns, even small ones, in the countryside near Etna and the plain of Catania, just as during the last decade, with no sign of abatement. The population thrust from the city of Palermo towards the expanding periphery is no less dynamic, although in a more limited space, confirming the considerable diffusion of suburbanization processes. In Palermo there is a more limited scope for growth in the inner belt of the city and, hence, a certain margin is left for construction, to the advantage of local land speculation.

In contrast, Bari, the regional capital of Puglia, shows more balanced growth, due to the pre-existing peripheral settlements that already possessed considerable economic autonomy. There are still other situations in small and medium-sized communities, such as the group of centres along the Teramo coast and, further

south, around Chieti and Pescara; taken together, these towns constitute a unified system to which the smaller centres along the communication lines leading towards the inland areas of Abruzzi are linked.

The extension of the conurbation of Cosenza towards the Tyrrhenian Sea has interesting prospects, as does the dynamic situation in Lecce and the surrounding area and the notable urban spread following the decline of the centre of Taranto.

To sum up, the demographic charts of southern Italy as of the 1980s show two significant trends:

- (i) the phenomenon of suburbanization, which, on the whole, is present in all the major southern cities, in direct relation to their population decline;
- (ii) the presence of certain new trends, more closely connected with urban spread, which are typical of conurbations about to consolidate with small or medium-sized centres, located in less-peripheral positions, or emerging as a result of their economic vitality or their proximity to areas of revitalization.

There is a progressive merging taking place among the most dynamic urban areas of southern Italy, along the Adriatic coast from northern Abruzzi to the easternmost tip of the peninsula. Indeed, the urban centres that are slowly gathering strength and consistency along the extreme margins of this long coastline are those promising new urban development in southern Italy during the 1990s.

#### 5.2.4.2. The urban fabric in Greece

As a whole, Greece contains an urban network structured around two poles of differing importance, one in the southern part of the country and one in the northern part, Athens and Thessaloniki respectively (see map, 'Urban networks — functional classification').

A series of satellite cities of different sizes occupy the periphery of the two metropolitan centres within a zone defined more or less by the daily journey patterns from the core of these metropolitan centres.

The urban set is completed by the secondary urban centres and towns with special characteristics based as a rule on their administrative role.

In western Greece, there is significant population intensity in the city of Patras. This is based on the role of this

city as a dynamic centre in the region, combining all the typical characteristics of an urban pole (harbour, administrative centre, service and industrial concentrations). In the northern segment of the region, Ioannina retains the role of the major administrative commercial and cultural centre of north-western Greece.

Still in the region of western Greece, Kalamata and Agrinio play an important role as secondary central poles due to the relatively wealthy agricultural areas surrounding them.

In northern Greece, a series of urban centres are developing with a certain dynamism, along with the metropolitan centre of Thessaloniki. These centres function either as central poles within agricultural areas or as centres specialized in specific sectors (Kavala — fertilizers, oil production and refining; Kozani — energy production), or again simply as administrative centres.

In central Greece, a network is developing in the perimeter of the plain of Thessaly comprising centres with varying populations.

As a rule, most important Greek cities are situated on the edges of plains or plateaux, while relatively new towns established in the 19th century are situated in coastal areas. Thus the urban network in the spatial sense comprises three arcs:

- (i) northern cities (Kozani to Komotini);
- (ii) western cities (Igoumenitsa, Ioannina to Kalamata);
- (iii) central cities.

Considering the main nodes of these three systems, the major development axis of Greece emerges, the 'S', formed along the string of cities: Patras, Athens, Volos/Larissa, Thessaloniki, Kavala.

The basic similarity between the urban network of the Mezzogiorno and Greece is their hierarchy and the structure around two metropolitan centres with comparable population concentration within each region but with a reverse spatial and geographic relationship which the couples Naples-Palermo and Athens-Thessaloniki possess.

Within this framework, other centres of lower hierarchy are clustered, functioning not so much as parts of an integrated urban system but rather as autonomous or even isolated centres.

A strong difference between the two systems is the far greater network density in the Mezzogiorno, and the far more sustainable rural population in Greece where small towns are relatively weak.

### 5.2.5. Urban centres with populations over 100 000

In the whole region there are 20 urban centres with populations over 100 000 inhabitants, 14 located in the Mezzogiorno and six in Greece.

#### *The Mezzogiorno*

In 1989 there were 14 cities with more than 100 000 inhabitants in the Mezzogiorno: three in Campania (Naples, Torre del Greco, Salerno), one in Abruzzi (Pescara), three in Puglia (Foggia, Bari, Taranto), three in Calabria (Cosenza, Catanzaro, Reggio di Calabria), four in Sicily (Messina, Palermo, Catania, Syracuse).

The distribution of these centres reflects the structure of the different regional and subregional networks. In Campania there is one big centre, besides Naples, Torre del Greco, which is now a satellite of the metropolis of Naples with little urban autonomy. There is also a strong pole of the coastal line of the metropolitan area of Naples, Salerno, which has strong autonomous characteristics, and its own urban subregion. For all three, but especially for Naples, between 1971 and 1981 there was a sharp drop in employment in the secondary sector, symptomatic of an ongoing process of de-industrialization of central areas.

In Abruzzi, Pescara is the major development pole situated along an Adriatic axis that has been growing steadily since the 1970s (with a more limited drop in employment in the secondary sector). In Puglia, a growing region, there are historically three main poles, Foggia, Bari and Taranto, each with its own particular features: Foggia is still linked to the grain production of the surrounding farm lands, Taranto is a centre for heavy industries, and Bari, the main pole of the southern Adriatic, is characterized by a process of diversification of productive activities.

Three similar historical poles appear in Calabria: Cosenza in the north, Catanzaro on the Ionian Sea, and Reggio along the Straits of Messina. All three have low employment in the secondary sector (which is decreasing). In Sicily the distribution of centres with more than 100 000 inhabitants again corresponds to the typical division of the island into subregions: Palermo in the

central-western area; Messina dominating the straits and Catania and Syracuse in the east.

Against the background of a general increase of activity in the tertiary sector, an analysis of the distribution of the active population according to profession can lead to some additional conclusions.

All the southern Italian centres with more than 100 000 inhabitants (except one) classify as centres sufficiently developed to exercise directional functions, with a prevalence of the tertiary sector (24% managers and white-collar workers, and 3.8% entrepreneurs and self-employed professionals). The only exception is Torre del Greco, which is somewhat weaker in this respect than the other urban centres.

As far as the distribution of employment by profession is concerned, the same pattern is found in all the provincial capitals of southern Italy (except Ragusa), including those with less than 100 000 inhabitants.

Seen together, the data analysed, with their limitations, point out that the urban situation in southern Italy is shifting. The old relationship between town and country has changed; many areas that used to be marginal have entered the category of emerging areas, while new poles of territorial gravitation are appearing.

What remains to be understood, however, is whether the amount of peripheral spread of the population growth in the south is somehow correlated with the growth and redistribution of functions more closely connected with economic development, such as those of industry and the tertiary sector.

The role and size of southern industries have been modified substantially over the last 15 years, presenting an increasingly more complex and diversified picture. The productive structure has undergone a particularly strong transformation, becoming more diversified and complex, less-sharply divided between heavy versus light industry, and shifting the balance of sectoral composition.

The manufacturing system in the south has evolved according to trends which are very different from those to be found in the rest of the country and in Europe as a result of differences in the degree of 'maturity' in the productive apparatuses that previously existed in the two areas.

During the crisis years, the central-north area, on the basis of a system already fully formed and advanced,

was able to decentralize, reconvert and restructure its plans. Southern Italy, instead, with its limited industrial base substantially centred on big factories connected to outside sources and markets, responded to the crisis in an anomalous fashion during the early years: during the first half of the 1970s, the big factories underwent further expansion, but from 1976 onwards, investment in large industry declined in relative terms. At the same time, there was a significant but inherent growth of small local initiatives.

This redesigning of southern industry took place in different ways all over the territory, according to the specific role of local innovational energies, which became an essential factor in the complex transformation of the territory, remodelling spaces, relations, hierarchies, and strongly determining how the cities, especially the major ones, were organized.

We must stress from the start that the processes of restructuring and technological modernization were generally less pervasive in the southern productive system than in the centre and north. This is abundantly clear, for example, from the comparative statistics on the number of enterprises that introduced technological innovations during the 1980s.

From a strictly territorial point of view, with respect to the relationship between urban development and innovative industry, there is little room for optimism when we look at the 1980s. First of all, there was the extreme weakness of vast areas of southern Italy (south-eastern Sicily, southern Puglia) and whole regions (Basilicata) that had benefited in the past from the construction of certain large plants, especially in primary industries.

Providing no less cause for concern was the situation in many of the provinces where the major urban centres were located. Naples, Bari and Palermo, historical cores of southern growth, did not seem to have gained any strength in terms of innovational potential. Naples seemed incapable of exercising a propulsive function in the transformation of its productive system, and in Bari, at the start of the 1980s, it looked as if the few timorous processes of economic and spatial integration within and without the region, which had seemed to have taken hold in the previous years, would be interrupted.

Between these two productive systems, the distant peripheries and the big cities, an internal connective northern line was being strengthened (Caserta, Chieti, Frosinone, and Latina), with sturdy industrial development (due to small enterprises and certain modern sectors). This, together with the dynamic Adriatic axis,

played a leading role in southern Italy, forging a continuous link between a series of centres located along the coastal countryside of Abruzzi and branching off further south as far as the province of Lecce. Both these axes, as we have observed, could rely on support from medium-sized centres that were gradually developing functional ties with other large and small towns. Between these two lines, a net of connecting axes and spatial poles emerged and gained in strength especially in Abruzzi and Molise and between Avellino and Foggia-Bari.

One of the most obscure aspects of southern economics is the weakness of the tertiary sector. Although certain modern services, such as credit and loans, insurance, transportation and trade, which support material productive sectors, have expanded, along with the emergence in some cities of good-quality consumer services, nevertheless most of the expansion in tertiary employment would seem to have taken place in the so-called 'sponge sector' (especially public administration), which absorbs far too much of the labour force. In this sense, the southern developmental model can still be defined as one in which retarded industrialization coexists with premature development of the tertiary sector.

In the 1981 census, the consumer tertiary sector showed a strong advance, with a high level of supply, spread out over all the area, indicating that the big, medium-sized and small urban centres in the south were coming closer to northern levels. But it should not be forgotten that this greater closeness was generally dependent on their role as 'centres of expenditure', and that, among the various promotional factors contributing to a broader supply of tertiary services in the south, a considerable share was due to public subsidies, which produces strong support for income levels and thus, above all, for the purchase of consumer goods.

It must nevertheless be pointed out that, although services to families cover vast areas of the southern territory at present, there are some surprising vacuums, such as certain medium-sized towns in Calabria and Basilicata and even in Puglia. Furthermore, some fairly large urban centres in the Naples area still rely on the city of Naples for the most banal consumer services. Many inland towns in Campania and several large towns in Lucania are completely lacking in the facilities required for the supply of most services of this type.

If we look at services to enterprises, which are more closely connected to the modernization process, their territorial distribution is even more limited. On the whole,

there is a strong polarization, especially for the activities with a higher threshold of demand, that is closely tied to productive activities. The lack of demand explains why so many vacuums are found in vast areas of southern Italy, and why we find, in just these more marginalized areas, that the presence of services catering to enterprises is often nothing more than a 'label' that indicates advanced functions, whereas the suppliers are without the necessary know-how and technology, and merely act as go-betweens for the supply centres in other regions of the country.

Suppliers, even small ones, fulfilling the needs of local enterprises can be found only in limited segments of the territory: mainly in Naples and Bari, but also in a few other towns, which are generally provincial capitals.

We can therefore say that the intermediate support structure for urban life has reached only a small part of southern Italy and the lack is felt especially in the more heavily populated cities. There are a few exceptions, mainly along the Adriatic belt.

Thus, on the one hand, there is confirmation of the tendency for this type of service to be located where the urban setting is more favourable (due also to the presence of a cultural fabric, an entrepreneur class, etc.) and, on the other hand, medium- and high-range functions are not at present, in southern Italy, being decentralized.

Of course, this presumed central role of the larger cities as suppliers of advanced services tends to lose its importance if considered at the national or European scale, where even the major cities of the south are dependent on outside suppliers.

Among highly qualified activities, only scientific research is present in southern Italy in significant concentrations, but even these activities fall short of the needs of providing a sufficient level of qualification for metropolitan top management. Although in recent years the National Council of Research has undertaken a more resolute policy on the needs of southern Italy, research institutions in the south employ no more than 8% of those employed in this sector in Italy as a whole. Most of these are concentrated in Campania (Naples), Sicily (Palermo and Catania), and Puglia (Bari).

In effect, we are dealing with a series of metropolitan functions that exist in a barely skeletal form. They are insufficiently integrated not only nationally and internationally, but also at the regional level.



## Greece

In Greece, excluding Athens and Thessaloniki, only Patras, Volos, Larissa and Iraklion have a population over 100 000 inhabitants. These urban centres, together with Kavala and Kozani, form the secondary urban system of intraregional importance where almost all urban functions are concentrated. If we add Iraklion on the island of Crete to this set, we have the complete second level of the hierarchy with one centre per region.

Most of the secondary centres combine with other centres of regional importance forming local subsystems. Population growth in these centres is much faster than in metropolitan centres where the population is merely shifting from the traditional central core to peripheral suburban areas.

Industry in metropolitan areas is also shifting from traditional areas, near central business districts and harbours, to locations along major national highways. Thus Athens and Thessaloniki are expanding in such a way that they will eventually occupy and urbanize the entire area of their respective prefectures (*nomos*).

In Greece, 40% of the population is concentrated in these two metropolitan centres, creating an extremely polarized population distribution. In addition, all administrative and economic functions, as well as all those functions that can create networks with the corresponding centres of the European Community, are also concentrated in these two centres. In this respect, the two metropolitan centres of Greece can establish relations with, and be connected to, other European urban centres of several sizes.

With the exception of Larissa, a classical agricultural urban centre on the Thessaly plain, where administrative functions intermingle with agricultural industry activities, all other secondary centres are harbours. Patras, Volos and Iraklion are city-harbour, administrative, commercial and cultural centres. Patras offers linkage to the west (Italy), and Volos to the east (Syria). Iraklion offers linkage to continental Greece, the major function being the transport of agricultural products to the north.

In all secondary centres, the concentration of industrial activities reflects the specialization of each region. Thus Patras has traditionally been a centre for the textile and paper industries, Volos specializes in the metal industries, while all three are involved in the tourism sector. Patras is the major gateway to and from the west, Irak-

lion the major entry point in Crete, and Volos the major node of tourism for Mount Pelion and the north Sporades island complex.

At all three levels in the hierarchy of urban centres, a process of modernization is starting to take place indicating efforts to alter production patterns and transform them into poles attracting modern production units, not only through obscure short-term incentives but rather through the display of their dynamism and opportunity potential.

This transformation is developing in some fields such as in the establishment of institutions of higher education, research centres and technopoles and the eventual interconnection with cities that have similar characteristics and dynamism elsewhere in the Community.

### 5.2.6. Employment in urban centres

#### *Adaptation to economic crisis rather than modernization and restructuring*

The picture of the urban system in the region is completed with the examination of the employment patterns of urban centres with populations over 100 000 inhabitants, in the case of Italy and over 50 000 inhabitants in the case of Greece, following the difference in scale that characterizes the two networks.

A set of 26 centres has been examined, 14 in the Mezzogiorno and 12 in Greece.

During the period under consideration (1971-81), there was an increase in the number of employees in all cities in Greece and in most cities in the Mezzogiorno. The exceptions to this pattern were Naples, Salerno, Foggia, Messina and Catania, where there was an absolute decrease over the period.

As far as sector employment is concerned, there was a decrease in agricultural employment in most cities both in Greece and in the Mezzogiorno. The exceptions to this general trend are Ioannina and Larissa in Greece, and Torre del Greco and Catanzaro in southern Italy.

The basic difference between the two subregions lies in the employment trends in the industrial sector, where employment generally increased in Greece (except in Chania and Ioannina), while it suffered a uniform decrease in the Mezzogiorno. A similar pattern exists for the tertiary sector, where employment increased in all Greek cities and most Mezzogiorno cities, again with the

exception of Naples, Salerno, Foggia, Messina and Catania.

The juxtaposition of the above employment trends, with the evolution of population and spatial organization into either strong or weak urban networks, leads us to general conclusions about urban dynamics in the region.

Cities in Greece are in a transition period moving from traditional patterns to a modern urban structure with decreasing employment in agriculture, and parallel increasing activity in industry and the service sector.

This transition in employment is taking place not so much within the framework of a modern development process but rather as a late response to past needs.

The 'historical' urban system of the Mezzogiorno, a sub-system of the entire Italian urban framework, is underrestructuring to the extent that major metropolitan areas are losing importance relative to their immediate, neighbouring satellite cities, while most medium-sized cities are displaying dynamic growth.

Changes in employment in the different sectors are indicative of specialization required by the immediate environment of the cities rather than trends of wider sectoral transformation.

Employment analysis by occupational status provides a further insight into differences between the two urban systems.

The number of employers in the period 1971-81 increased in all the Mezzogiorno cities but in only two cities in Greece, Corinth and Iraklion. These two cities have unique characteristics since one is within the Athens daily journey distance while the other is a dynamic centre of tourism in Crete.

The number of self-employed workers is decreasing in all the Mezzogiorno cities except Pescara, Torre del Greco, Reggio di Calabria and Palermo, while it is increasing in all Greek cities except Seres.

The number of salaried employees is increasing in all cities in Greece and in almost all Italian cities at a substantially higher rate than in Greece.

These trends imply that Greek cities are evolving in a uniform pattern according to which the number of employers is decreasing and those of employees and

self-employed workers are increasing. This can be both a sign of restructuring as well as a sign of crisis, elements characterizing the current economic situation.

The reverse is true in the Mezzogiorno cities where the numbers both of employers and employees are increasing while that of self-employed workers is falling.

### 5.3. Urban network developments

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#### *Uniformity and strong hierarchy in Greece, some regional responsiveness in the Mezzogiorno*

The urban network of Greece, characterized by a strong hierarchy, tends to evolve uniformly as a whole and is spatially concentrated in the eastern regions. In the Mezzogiorno, the hierarchy of the urban network is influenced in many different ways by the particular dynamism of each region. In spatial terms, most dynamic phenomena appear in the string of centres along the Adriatic coastal areas, while there is a diffused pattern of growth along the Tyrrhenian, Adriatic and eastern Sicily axes.

These urban geographic processes are closely connected with the development process in each particular region of the Mezzogiorno and Greece, and they are greatly affected by the current climate of crisis both in the public and private sectors.

The private sector addresses the situation in various ways, depending on the particular characteristics of each production sector. Thus, traditional sectors, such as textiles, cannot adapt to the changes taking place. Furthermore, problems of adaptation, independent of the production sector, characterize all industries located in remote areas, which are entrenched in a framework of strong incentives established by the central government.

Nevertheless, the large number of small and medium-sized enterprises that have not been endowed with insurmountable weaknesses seem to adapt, almost satisfactorily, to the transformations taking place.

The public sector, on the other hand, has been completely unable to follow the fast growth of the urban centres since, in a climate of austerity, neither regional nor central governments could provide the necessary infrastructure. Although the Mezzogiorno cities have

acquired higher levels of infrastructure than those in Greece, they are clearly lagging when compared with those in northern Italy and the northern European regions.

This gap can hardly be bridged in the present climate of weak public finances. The problem is closely related to the actual size of the urban centres. Thus, acute problems are concentrated within the metropolitan centres, Athens, Naples, Thessaloniki and Palermo, giving rise to a process of suburbanization which in turn might create a new set of urban problems connected with the inadequate expansion of infrastructure.

The amelioration of this situation would require the allocation of EC funds within a framework of strategic decisions for the central Mediterranean urban networks, which, in the European context, have rather unique characteristics.

### **5.3.1. The urban network of the Mezzogiorno**

#### ***Emergence of dynamic elements within a framework of congestion in large cities***

The most dynamic urban systems of southern Italy are currently those located along the Adriatic coast, in Abruzzi, Molise and Puglia. The transformations that have been taking place for some time along the coast of Abruzzi and Molise, especially in the districts of Teramo and Pescara-Chieti, are bringing these areas closer to the more advanced urban systems of central Italy which are characterized by high-quality urban functions and the emergence of small and medium-sized industrial operations.

The coast of Puglia, and even the more southern areas of the Adriatic, and the Ionian coast also appear to be developing. The processes of urbanization taking place around Brindisi, Lecce and the province of Taranto are integrating the regional urban network, which is already at a satisfactory level in the areas of Bari and Foggia.

The urban network in the inner areas of Molise and Basilicata is in a phase of relative expansion but remains centred on the Tyrrhenian and Adriatic axes. This is especially true for Basilicata, where, notwithstanding unquestionable improvements, the district of Potenza is still mainly under the influence of Naples, while Matera is under that of Puglia.

The remaining urban systems located along the Tyrrhenian coast, at least as far south as northern Calabria, are

passing through a critical period and gravitating towards the area of Naples.

Among the regional urban networks of southern Italy, Campania displays most of the contradictions and problems which are heavily centred around the Naples metropolitan area. While, on the one hand, this is the area most richly endowed with urban facilities in the south, an area still expanding in terms of population and size, it is also affected by a number of problems that seriously hinder its development and could bring about a decline in the future.

The urban network in Calabria is very weak, and its expansion seems to be based, as in other weak areas of the south, on the inflation of its administrative role or on external resources (public funding) rather than on its autonomous capability. The coastal Calabrian axes, both Tyrrhenian and Ionian, are being subjected to intense tourist development, with a high demand for land for property development.

The situation in Sicily is traditionally more balanced and multicentred. However, urban problems have arisen in the major centres, especially Palermo. Growth is more dynamic in eastern Sicily, along the Messina-Catania-Syracuse axis, while in the south-western area of the region a potential alternative to the bipolar Palermo-Catania axis is emerging. All Sicily, and most of southern Italy as well, suffers from the ineffectiveness of government action especially in areas dominated by organized crime.

Population levels are declining in major cities, along with slower expansion in medium-sized to large cities. Population levels in the regional capitals are generally stable or, in some cases, declining slowly. Medium-sized and small to medium-sized centres, however, appear to be more dynamic in all southern Italy. It is evident that the stagnant situation in major cities has transferred growth to smaller ones.

In areas such as Naples, Catania, and Palermo, a continuous process of suburbanization is in progress. While previously entailing a transfer of urban growth from the main pole to peripheral centres, this process now tends to overflow still further, gradually taking up whatever space is left in between. Thus, small and medium-sized centres tend to become satellites of major ones, with very little autonomy. Especially in the area of Naples and Palermo, this process is bringing disorganization and degradation in its wake, threatening to undermine the future development of these areas.

Among the major urban areas, Bari and Puglia have grown in a more balanced fashion. In Abruzzi, around Teramo and in the Pescara-Chieti area, a new network of medium-sized centres is developing, which effectively connects the network of smaller centres to the axes running into the interior.

Two fundamental phenomena are discernible in the demographic trends in southern Italy over the 1980s. The first is suburbanization, which basically affects all major southern cities and is directly connected to their recent decline. The second is a tendency towards a different type of development, more akin to urban spread.

This trend affects certain small and medium-sized centres, either located in less-peripheral positions or possessed of autonomous economic vitality. Even a casual glance at the map, however, reveals the most prominent phenomenon: the gradual fusion of the most dynamic urban areas of the south, extending along the Adriatic coast from the area of Teramo to the Salentina peninsula; in fact, the two gradually strengthening coastal areas are the only really promising prospect for the 1990s in all the urban south.

In small inland towns, with the exception of certain cases where a situation of severe crisis persists, the previous demographic collapse seems to have come to a halt, and the situation is now stable, often due to a limited but significant development of inland areas.

The evolution of the economic urban situation in southern cities is dependent on certain main factors: big industries from outside the area have withdrawn, whereas small local industry has tentatively begun to develop; the service sector has developed intensely, although it still remains 'weak', being based on activities characterized by low productivity and relatively unqualified labour; the above factors are also linked with growing unemployment, especially among young people, and a sharp rise in the number of irregular businesses, some of them illegal.

In the future evolution of this situation, a major role will be played by innovation, which has become an essential factor in territorial transformation, the generation of new patterns of spatial organization, relationships and hierarchies.

The layout and conceptual force of cities, particularly the major ones, are also strongly influenced by the level and effectiveness of innovative pressure.

From this point of view, the whole productive apparatus of the urban south is clearly lagging behind the rest of Italy. Certain regions (Basilicata, Calabria) and vast sub-regions (south-eastern Sicily, southern Campania, inner Molise) are particularly weak and unable to exploit the innovative forces present in major urban areas such as Naples, Bari, and Palermo.

However, two of these productive areas have been noticeably strengthening their communication links with the large cities. An island northern axis is emerging (Caserta, Chieti, Frosinone, and Latina) with fairly intense industrial development (small industry and a few modern sectors). Another axis is located along the Adriatic, which now links, without a break, all the towns located on the hilly coast of Abruzzi and is beginning to branch out with a good number of intermediate nodes further and further south towards the Salentina peninsula. Both axes can rely on the support of medium-sized centres, which are serving all the more as functional connections with other smaller and larger urban areas. Between these two axes, a link is developing around certain inner axes or poles, particularly in Abruzzi-Molise and Irpinia.

### 5.3.2. The urban network of Greece

#### *Segmented modernization*

Although the urban network of Greece has evolved uniformly, it is located mainly along the eastern regions of the Aegean Sea. Athens and Thessaloniki are the main poles around which the network evolves. The population of both of these metropolitan centres continued to grow, albeit at slower rates than before, in the period 1981-91. They still account for 40% of Greece's total population. In territorial terms growth is still high, due to the suburbanization process. Thus the Greater Athens area tends to be identified with the entire Attica region.

Athens remains the sole decision-making centre in all matters concerning administrative, political, economic, scientific and cultural functions, in spite of the dynamism displayed by Thessaloniki in the last three of these functions.

The second tier of the urban hierarchy comprises a group of centres which have common characteristics in terms of population size, dynamism and patterns of employment. Most administrative functions, as well as higher education institutions and vocational schools, are concentrated in Patras, Volos, Larissa, Kalamata and

Iraklion. Traditionally these centres tended to specialize in industries such as textiles (Patras), metal industries (Volos) and, in more recent years, energy generation (Kozani) or chemical industries (Kavala). However, most of the large or medium-sized industries are to varying degrees under public control, and most face serious fiscal problems and are currently undergoing restructuring following a recent privatization policy that has had ambivalent results, leading to uncertainty about the ultimate success of this reform.

The last group of small urban centres, the administrative centres of the prefectures (*nomoi*), are tending increasingly to concentrate population and employment, with the result of greater polarization within each region's non-urban territory. This phenomenon is common to all regions.

The Greater Athens area is the major centre of the country, where all urban functions at any level are located. The problems created here over the years have their roots both in the steady overconcentration of population and of these functions, and in the fairly rapid development of this overconcentration, which has led to congestion and a severe lack of the basic infrastructures required to support the administrative functions. The result is extreme degradation of the environment (air, land and sea) within the Athens basin and some degree of excessive degradation in most areas of the whole Attica region.

A form of suburbanization process is taking place as a result of the inefficiencies of urban functions within the Athens basin and its city core, the Athens municipality. This suburbanization process is coupled with parallel, mostly unorganized, development of the so-called second summer home along the entire Attica coastal area and the other coastal areas of Evvia, Argolida and Viotia, within a two-hour journey time.

Most of the Greater Athens area population is closely packed within the basin, while satellite communities of around 10 000 inhabitants are scattered outside the basin forming an urban continuum with virtually no public open spaces and weak social and technical infrastructure.

Medium-sized urban centres are located in the periphery of the metropolitan area, within commuting distance of Athens. Some of these, Corinth, Livadia, Thebes and Chalcis, given the improved infrastructure that is planned for commuter rail and motorways, will progressively tend to integrate with Athens.

The major urban centres of central Greece are in Thessaly. Larissa is the traditional urban centre serving this major agricultural region, while Volos is a traditional industrial centre and a major harbour providing a link with the Middle East (Syria), although at present this service has been discontinued. In the interior of the Thessaly plain, small urban centres are located along the foothills of the mountain range. Trikala and Karditsa, complemented by smaller agricultural centres like Farsalia, Tirnavos, Kalambaka and Elasona, form an urban subsystem that mostly retains its traditional character in spite of its dependency on the metropolitan and secondary centres.

The regions of northern Greece and Thrace are dominated by the dynamic centre of Thessaloniki, which is located centrally along a linear east-west string of smaller centres. These centres, which are all located along the transition areas between plains and mountains, grow uniformly in population terms drawing people from the agricultural hinterland, and display a trend of economic dynamism. They seem to differ from the corresponding system in Thessaly to the extent that post-war as well as recent instability in the Balkans has had a negative effect on the trade relationships with the northern neighbouring countries, a condition influencing the international trade relations of Thessaloniki.

The string of cities in Thrace is formed by the cities of Xanthi and Komotini, leading to the harbour city of Alexandroupolis. These centres display a peripheral character with respect to other secondary centres in northern Greece, showing at the same time a dynamism which is the result of local resources combined with rather strong incentive policies for this region.

The urban network of western Greece is weak in terms of the potential for development, except for certain weakly linked and isolated centres: Patras, Ioannina and Agrinio. Similar geopolitical factors, comparable with the situation in northern Greece, contribute to the isolation of Ioannina, which only recently started to establish some relations with regions of Albania. As far as domestic linkages are concerned, the major reason for this isolation is the lack of efficient transportation infrastructure and the rather difficult geomorphology of the region.

The major industrial centre of the region is Patras, located at the origin of the main development axis of the country. Traditional industry in Patras suffered the consequences of the recent crisis. Although the University of Patras is a well-established institution, attempts to

integrate it in a dynamic way with the city's development, like the recently planned technological park, have not yet shown any substantial results.

The urban picture of western Greece is completed by the two small Peloponnese centres, Tripolis and Kalamata, which function in a more radial fashion, directly connected with, and dependent on, Athens, rather than as parts of a north-south directed axis.

The island regions of the Aegean and Crete, as well as the islands of the Ionian Sea, retain quite special characteristics in all aspects, which influence the form and the function of their network of small centres. Urban centres are small both in terms of size and of dynamism due to the particular geographic configuration.

Traditional economic patterns still prevail in the form of single-crop production such as olive growing, while tourism displaces traditional patterns of economic activity on many islands, forming another kind of single-crop service. This is mostly evident and well-illustrated in towns such as Rhodes, Corfu and the small centres of the Cycladic complex, Mykonos and Santorini.

Crete, on the other hand, because of its size and location, presents a different, more complex pattern of development. These traditional patterns of agricultural production are enhanced and complimented by modern high-return intensive agricultural production, supported by the favourable climatic conditions of the region. The urban centres are all located along the northern coastal areas dominated by the bipolar system of Iraklion and Chania.

Crete and the Aegean Islands are strongly linked radially to Athens and Piraeus.

The Ionian island chain does not differ from the islands of the Aegean as far as the productive pattern evolves. In terms of linkages this urban system has developed a pattern of relationships of each of its small centres with the corresponding centres in the mainland of western Greece.

The development of the urban network in Greece seems to evolve in sharply contrasted and disconnected elements, even within the relatively small national territory.

Urban conglomerations such as Athens and Thessaloniki have elements of both dynamism and urban crisis in economic and in environmental terms. In close proximity, island regions 'live in their own world' of traditional

structures and modern tourist services. Remote mountain areas, on the other hand, separate the two major continental networks leaving western Greece in a low state of development without signs of dynamism such as those observed across the Ionian in Puglia.

### 5.3.3. Emerging trends

Based on the analysis of the existing situation, the following trends can be projected for the short-term evolution (15 years) of the urban network (see map 'Urban network trends'):

- (i) stable hierarchy and homogeneity combined with a uniform evolution of all its elements (the case in Greece);
- (ii) a hierarchical network, of a rather extreme variety in the evolution of its different elements (the case in the Mezzogiorno);
- (iii) the spatial fragmentation and the weak development of intermediate links;
- (iv) the international linking of its cities and the potential development of interrelationships that are complementary by the nature of their common problems;
- (v) the prospect of the strengthening of medium-sized or large urban centres and their linkages for the purpose of attracting new productive functions.

Each of the abovementioned trends can influence changes or transformations within the urban system to varying degrees.

The first two represent long-established structures that can undergo transformations in the long term through slow processes. On the contrary, the last three can have a significant influence in the short term only as a result of specific and positive spatial and economic development policy.

#### ***Excessive territorial fragmentation and weakness of intermediate networks***

What emerges clearly from the present research is that vast areas are completely isolated, while the links between various parts of the urban and regional systems of southern Italy are scarce. In particular, the following aspects have emerged.

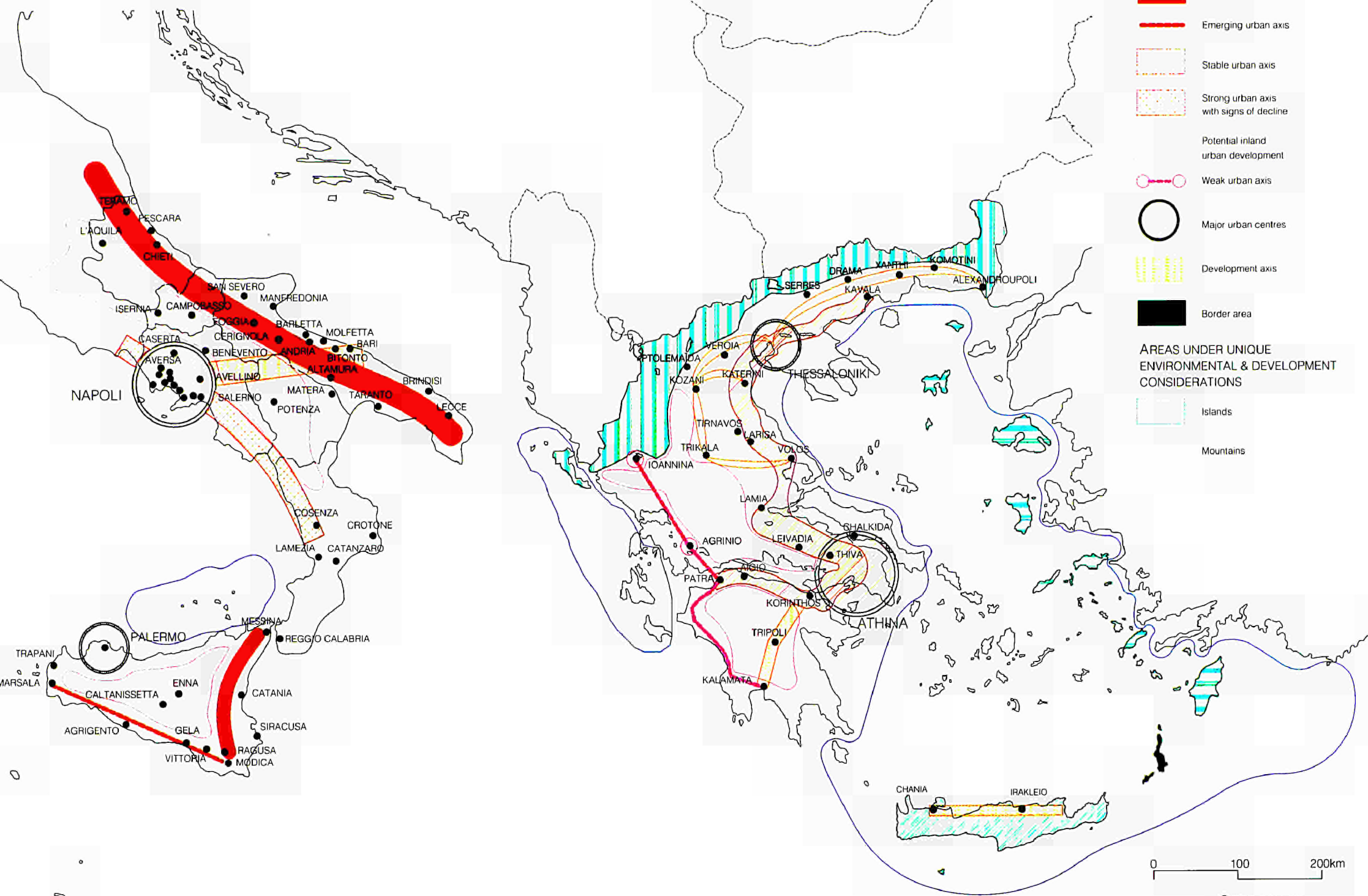
# URBAN NETWORK TRENDS

## LEGEND

- Dynamic urban axis
- Emerging urban axis
- Stable urban axis
- Strong urban axis with signs of decline
- Potential inland urban development
- Weak urban axis
- Major urban centres
- Development axis
- Border area

## AREAS UNDER UNIQUE ENVIRONMENTAL & DEVELOPMENT CONSIDERATIONS

- Islands
- Mountains



- (i) A lack of cohesion between the two main axes, the Adriatic, which is the most dynamic, and the Tyrrhenian, traditionally stronger but currently showing signs of stagnation. In the former, there is an evident expansion of the 'Adriatic model' of development (small industrial districts) all the way down to the extreme point of the Italian peninsula, albeit with conspicuous interruptions. On the Tyrrhenian side, in the area south of Naples, the extensions are mainly residential (summer houses, etc.).
- (ii) A lack of integration between sparsely populated inner areas with negligible functions (or, in any case, without significant economic functions and adequate social articulations) and certain highly congested coastal areas (Greater Naples, Palermo and Catania).

Despite the pessimism in many cases of the current trends, there are phenomena working against territorial fragmentation that have emerged in the analysis. We refer to the expansion of urban and industrial development along certain axes, that are either internal or peripheral with respect to traditional urban areas. One of the most prominent axes starts from the metropolitan area of Naples and extends eastwards across Irpinia and the northernmost section of Basilicata (area of Melfi). This might turn out to be a series of new areas of industrial development, spurred on by the State policy of *Intervento straordinario* during the 1980s and characterized by a massive presence of big private industry (Fiat group). This axis could eventually become a new connecting route with the Adriatic coast, taking advantage of the Naples-Bari highway, but for the time being it remains highly fragmented.

Even if other potential axes were to functionally reconnect the territory in the south, the main obstacle would still be the lack of integration between physical and functional networks, on the one hand, and productive apparatuses, on the other. Indeed, integrating clusters of small local industries among themselves appears to be no easy matter, let alone tying them in with the large and medium-sized industries from outside the given territories. Furthermore, in regard to the possible east-west integration mentioned above, one should note, among other things, that no plans exist for a high-speed railway connection between Naples and Bari.

As far as the role that medium-sized centres could play, we should keep in mind that even the centres in Puglia and Sicily, which are the most advanced, are still func-

tionally deficient (especially in their social and cultural components) and are hence unfit to function as connecting areas.

Equally fragmented is the urban network of Greece. Activity is overwhelmingly concentrated along the Patras-Athens-Volos-Larissa-Thessaloniki-Kavala axis, while all parts of the mountainous areas have scarcely any activity at all. The east-west chain of cities and small urban centres of northern Greece define at the same time the spatial limits of development to the north. Western Greece contains a scattered group of centres that are not linked with the rest of the country, with the exception of the crossing of Korinthiakos bay to Patras.

This region, western Greece, appears to be a focal point for the injection of future new development in the event of a restructuring spatial policy. Since little dynamism is shown at the regional level except for the centres of Ioannina, Patras and to a certain extent Kalamata, the role of the catalyst for development will have to be played by strategic infrastructural developments that are of European importance, such as the north-south motorway axis, the Igoumenitsa-Volos rail and motorway axis and the development of the harbour system (Igoumenitsa, Patras, Kalamata) with connections as far away as Crete.

This major intervention will provide an integrated system of links as a framework of future urban development and complete the existing lopsided S-shaped axis of the eastern mainland regions.

### ***Urban international links***

There is little interest in high-level international networks (research networks, interuniversity cooperation) in comparison with what is found in the rest of Italy and Europe. However, there are some positive signs, such as joint projects between Naples and Bari and other European centres, particularly in scientific and industrial sectors, but we are still in the very early stages of the process. Another very interesting exception, since it goes in the direction of a strengthening of East-West international relationships, is the technical advice provided by Bari for scientific parks or small and medium-sized industrial activities in Montenegro and areas of the former Yugoslavia.

The same discussion applies in the case of Greece, where potential relationships with Albania and Bulgaria could be foreseen. However, in spite of some signs of development in the private sector, especially services, it



is safe to assume that economic reconstruction in these countries, contrary to earlier projections, will take some time.

The development of advanced technology parks in Greece is at a very initial stage. These types of centre seem to have a potential for development in cities such as Patras and in Crete in close cooperation with regional universities, also in traditional, 'hubs' of higher education, Athens and Thessaloniki. Vaguer plans include possible locations within weaker regions such as the Aegean Islands.

### ***Problems concerning the enhancement of the urban potential in major centres***

Besides the serious problems already mentioned, the major southern Italian cities are beset by very backward public administration, which weighs heavily on growth and progress. There is especially an evident inability (with the exception, perhaps, of Bari) to perceive the importance of projecting a positive image ('selling' the city), favouring a new economic and social centrality. The material degradation, besides the loss of prestige, in major cities (particularly Naples and Palermo) influences the development of the entire southern urban network, which is consequently unable to become an integrated system, mainly on account of the lack of cities truly capable of setting the pace.

Plans for the creation of scientific parks (apart from the ones in Bari, there are projects in Naples and in all major cities) and for urban renewal are currently the most important components in the efforts that major southern centres are making to improve their position in urban marketing. Both, indeed, tend to improve the urban environment and to create the prerequisites for either attracting from the outside or creating *ex-novo* new advanced enterprises in the industrial and service sectors.

These efforts, however, are hindered by a number of problems.

- The number of scientific park projects is sharply increasing all over Europe. In the absence of any coordination, there is the risk that the supply, particularly in economically weaker areas, will exceed the actual demand for these places. Hence, for a scientific park project to be successful, it is essential to strengthen international relationships, on a global level, and establish relationships with similar enterprises on a regional and transnational level, for example by creating or linking up with telematic networks.

In this way, besides increasing its chances of success, the scientific park would become an institution capable of encouraging the diffusion of advanced telematic technology for connected industries and all others, instead of serving, at best, as a technological forerunner with few or no ties to its territory.

- Finally, the issue of urban requalification is connected to the inefficiency of the public administration in southern Italy to plan and guide the change. In fact, both in this field as in that of scientific parks, there are intense political interests at play which threaten to undermine the positive content of these efforts.

The rapid population growth of Greek cities, the lack of planning at the urban level and, above all, the lack of political and economic means to implement it, coupled with lagging infrastructural development, is leading to a gradual degradation of the urban environment for all centres of any substantial size.

Reversing this trend will require drastic intervention both within the public and private sectors of cities, an intervention that has to do with public infrastructure and services as well as modernization of the housing sector. Only then will those centres be able to attract modern enterprises. A major step in this direction is the establishment of higher education institutions and research units as well as organized technological parks (still in the initial stages of planning) which contribute to a transformation of the urban centre at the functional level both in the domestic and the international dimension.

### **5.4. Specific problems (border areas)**

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A number of problems classified as pertinent to border areas should be partially reconsidered in the light of the current evolution of the geopolitical balance in the Mediterranean, especially given the uncertainty over the outcome of certain events such as those taking place in the former Yugoslavia.

The agglomeration composed of Sicily and the islands of the Sicilian channel, once the vanguard of the NATO defence system in the Mediterranean, is changing its strategic role. Now that the military tension between the East and the West has diminished, Sicily's favourable position in the Mediterranean could be valued as an area for mediation rather than one of military and strategic control.

On the eastern border, the Adriatic coast from Abruzzi to Puglia could find itself in a favourable position once the conflict in the former Yugoslavia subsides and new countries are created. In such a situation there would inevitably be a need for foreign capital, which small and medium-sized Italian entrepreneurs would be ready to supply. In this respect we should mention that Italy is playing a major role in the effort to cope with the current crisis in Albania which, according to certain experts, might foreshadow a massive effort on the part of the Italian Government to enhance Albania's water resources.

The analysis of current trends confirms the conclusions of our first report as to the inflow of immigrant workers into Italy. This trend will consolidate itself in Sicily with a massive influx of workers from North Africa, while as far as the Adriatic coast is concerned the situation remains uncertain, since, after the arrival of immigrant workers from Albania was stopped, no significant immigration from the former Yugoslavia and Albania has occurred.

On the south-western border, Sicily's role as an area of transition and connection seems securely established and probably on the increase, due to a lowering of military tension. On the eastern border, however, the question is whether it will be possible, in the light of geopolitical changes occurring in the Balkans, to create a stable economically integrated area along the east-west axis, between Italy (specifically, in this case, southern Italy) and the countries of the Balkan peninsula.

This integration, often called for, especially in Italy, would be the true alternative scenario, but until now has been difficult to develop due to the overpowering strength of north-south economic relationships. In addition to the evolution of the international situation, much will depend on the ability of certain high-growth sectors of the Adriatic coast to compete, and even more on their capability of functioning as the hub of a new axis of economic integration.

As far as border developments in Greece are concerned, we could schematically point out that of the groups of regions selected for this study only two, Attica and central Greece, do not contain substantial border areas.

Historically, development prospects in border areas have been hindered by geopolitical barriers currently still manifested by the fluid situation in the Balkans and the former Yugoslavia in particular, as well as the stagnant situation characterizing Greek-Turkish relations.

Strong policies were adapted over the years for the establishment of industries in most of those zones. However, the results have not been spectacular as far as viable evolution in several sectors is concerned, either in terms of economic performance or of substantial intervention in prevailing employment conditions.

Efforts connected to the decentralization of the higher education system have been more successful. This is a policy that, in the last two decades, established a peripheral system of universities in Ioannina (Epirus), Ionian (Corfu), Thrace, the eastern Aegean and Crete. The growth and impact of these institutions vary greatly from region to region. Of those the universities of Crete located at Iraklion, Rethimnon and Chania seem to be most successful both in terms of their local as well as their international impact.

The common characteristic of island and border regions is their remoteness, which is combined with an intrinsic weakness to develop or even stabilize traditional settlement and production patterns. This results in a progressive destructuring of productive and social relations leading eventually to population emigration. This situation persists in spite of efforts by the central government which consist of administrative measures supporting private investment. Such incentives fail to reverse a situation where remoteness from the primary dominant axis of development marginalizes these border and island regions.

Dynamic activity in Greece is highly dependent in the spatial sense on proximity to the axis of development. The distribution of this activity does not have any spatial continuity since it bypasses problem areas and then resurfaces beyond the political national borders.

It is therefore quite obvious that effective policy or incentives must closely relate to processes and relationships that extend well beyond the national borders.

Wider regions can be defined in geographic and economic terms — integrated into various scales according to each activity — incorporating within them these problem areas. Application of this logic to the northern Greece border areas demonstrates that for most sectors development is absolutely dependent on a corresponding development process in the Balkan countries.

These arguments have to be qualified for the islands where three other major factors determine their role.

The first is the geographic limitation in the islands due to their size. Thus only islands above a certain size can sustain complex productive activities (agriculture, services, small industry). In this category, excluding Crete, we can single out some of the eastern Aegean islands such as Mitiilini, Khios, Samos and Kos and Rhodes in the Dodecanese complex, as well as and some of the Ionian islands of western Greece.

The second factor that determines future development in island regions in contrast to border areas is the decisive role of tourism. Thus smaller islands, such as the Cycladic complex in the Aegean, tend to orient towards this single activity which has strong seasonal characteristics.

A third category of islands consists of those which due to their immediate proximity to continental areas develop all the above characteristics, but also some additional elements of a 'continental nature'. Evvia and Levkada are good examples of such geographic configurations which with an appropriate direct link, usually a bridge, tend to lose their island characteristics and become appendages of their respective continental regions.

## 5.5. Policy conclusions and recommendations

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Until now, the space of the central Mediterranean has been considered 'neutral' in the development debate in the sense that it has not been a factor in the determination of development strategies and policies. This is no longer possible. The importance of the 'spatial dimension' in policy determination must be recognized and taken into account. Rather than speaking explicitly of a spatial policy, we stress that all policies, infrastructural, urban, environmental, etc. must therefore be considered within the framework of spatial integration.

We attempt to outline the more general requirements and the need for a concrete urban and spatial policy at the national level in order to equip the space of the central Mediterranean. We emphasize that at present neither a spatial policy nor a spatial framework for the implementation of national and regional policies exists within the central Mediterranean. A spatial management policy framework must therefore be developed.

Spatial policy must be composed of many components such as infrastructural development, environmental

preservation and economic integration. These have been dealt with elsewhere in this report. Here, therefore, we concentrate on the final critical aspect of spatial policy: policies for urban regeneration and a strengthening of the extremely weak urban network.

### 5.5.1. Urban policies

The large urban centres of the area suffer from many common problems, of which the most serious and urgent are excessive congestion, environmental degradation, and administrative paralysis.

These problems may be traced to three principal sources:

- (i) rapid population growth, and the consequent rise in demand for basic infrastructures;
- (ii) weaker demand than in the more-developed Community regions for an efficient urban system due to a lower level of social expectations;
- (iii) uncontrolled construction activity.

This has led to progressive degradation of the urban centres in both the Mezzogiorno and Greece. The effects of this degradation may be synthesized as follows:

- (i) the chaotic physical expansion of urban areas without a coherent plan for urbanization, often overlapping into neighbouring municipalities, and characterized by illegal construction and the absence of public parks;
- (ii) overconcentration of industry and tertiary activity, with increasing polarization towards the city centre, and rapidly rising congestion;
- (iii) a high level of illegal construction within, and in the periphery of, metropolitan centres that comes into direct conflict with other land-use such as parks, forests and prime agricultural land;
- (iv) the lack, or absence, of adequate management of existing infrastructure (technological networks, purification plants, local public transport systems).

Expansion of the urban system has thus produced disorderly land-use patterns characterized by anarchy, even where construction follows official administrative controls.

### 5.5.2. The urban initiatives of the 1980s in the Mezzogiorno have been ineffective

In 1978, two special projects for metropolitan areas were initiated in the Mezzogiorno. The first was directed to the realization of harbour, transport and commercial infrastructure, and the building of 400 flats in Naples. The second was directed to the completion of the industrial and water infrastructure in Palermo.

These projects have been insufficient to meet the shortfall in provision in these cities, and their implementation was greatly delayed because of a great lack of clarity in the division of responsibility between the local authorities and Agensud,<sup>1</sup> which funded the projects.

### *Procedural changes for the Intervento straordinario*

In 1986, with the new phase of the Intervento straordinario, which altered the procedures for expenditure, new emphasis was given to the regeneration of metropolitan areas. This included a clearer division of responsibility between the local authorities and Agensud.

However, the intervention programmes financed since the beginning of 1986 (about LIT 3 000 billion) have been incoherent, being constituted of projects of low strategic relevance. Additionally, financing at the national level in the Mezzogiorno has largely been substituted by the funds made available to local authorities through the Intervento straordinario, so that overall there has not been a large increase in available resources.

### *'Special' emergency intervention*

In parallel with the Intervento straordinario, a series of special intervention projects, circumventing the usual bureaucratic procedures in resource allocation, have been developed. This was initially in order to provide assistance to areas hit by the earthquake in Campania in 1980, but was extended to cover the metropolitan area of Naples in 1984. Special intervention programmes for Palermo and Catania (1988), and Reggio di Calabria (1989), have since been implemented along the same lines.

These special programmes, characterized by a highly simplified mechanism for the allocation of funds, have failed, either because there has been a great inflation of costs, diverting a large part of the resources allocated

<sup>1</sup> Institution through which the Intervento straordinario is administered.

into the hands of organized crime, or because of great delays in the completion of construction, due to political quarrelling in the public administration over how and where money is to be spent.

### 5.5.3. Shortfall in the achievements of planning activity in Greece

Urban policies over the past decade have been much weaker in Greece than in the Mezzogiorno, largely due to the fact that the impetus and financing for such policies in the Mezzogiorno came through the north of Italy and the national government, whereas in Greece there is no corresponding 'Big Brother'.

Such policies as there have been, for example those attempting to address the extreme centralization and congestion in Athens, have come largely from the European Community and have been directed to specific programmes such as pollution control and the projected construction of an underground railway system. Thus, they have not formed part of a coordinated spatial framework, and have, in fact, had little impact on the urban network due to small-scale planning and implementation problems.

National policies in Greece for restructuring the cities and their immediate environment are dominated by planning and interventions connected to the so-called 'Operation: urban restructuring' (EPA) of the 1980s. This concerted effort undertaken by the Ministry of Planning, Housing and the Environment (Ypechode) addressed the problems of the urban network through an attempt to provide a comprehensive planning framework for the entire urban network, including towns with a population of less than 10 000.

This operation, in spite of major weaknesses, was the first comprehensive planning effort at the policy level in Greece.

The EPA has, however, been somewhat less successful than might have been hoped. A major part of the project has not been completed. This could have been anticipated given the ambitious goals and overwhelming scope of the project. This failure is due to several factors:

- (i) basic technical studies, the first step in such a planning effort, have not been completed;
- (ii) 'working' legislation to support the EPA has not been put into effect;

- (iii) financing of projected public works for infrastructure has been inadequate, with the result that projects have not been implemented;
- (iv) there have been many administrative problems due to the lengthy bureaucratic procedures and the large number of public bodies involved in the decision-making process.

There are, in fact, weaknesses relating to all participants in this operation which proved too demanding with respect to the means available.

#### **5.5.4. The need for an urban and spatial policy: lessons from the experience of the 1980s**

As is clear from the failure of such 'spatial' policies as existed in the 1980s, several steps are required in order, as an initial target, merely to begin the process of amelioration of the lack of spatial cohesion in the central Mediterranean:

- (i) a concerted effort to promote decentralization of activity from the large metropolitan centres and other large cities, which means the development of a wider network of medium-sized cities with autonomous functional capabilities;
- (ii) policies, particularly for the historic centres of large cities, to reduce pollution and degradation in general, and to support well-balanced urbanization;
- (iii) promotion of the autonomous functionality of medium-sized cities in order to give them a regional directive role and strengthen the intermediate urban network;
- (iv) provision of basic infrastructural network connecting urban centres, small and large, with one another (transport, communication, etc.);
- (v) environmental management and control policies, supported by appropriate legislation, particularly, for example, to prevent the continuation of current large-scale illegal and thus unplanned urbanization of coastal activities.

The major constraints on urban regeneration in the past have been a great lack of resources and the inability of the public administration to spend these resources productively.

What little is spent on infrastructural development does not guarantee results coherent with the objective urban recovery: in many cases, it is not sufficient that public works be completed if subsequent management and maintenance is not assured.

It is therefore necessary that a national urban policy be developed, defining the priorities and resources available at the national level for urban regeneration. These policies must then be linked with coherent regional planning that orients all policies (urban, infrastructural, social, etc.) towards the goal of territorial requalification and the recovery of urban functionality, and clearly defines the responsibility for expenditure, implementation and management at all levels of government.

The regional characteristics of intervention programmes must be given increased importance.

It is not possible to address the urban and spatial recovery of the central Mediterranean with a single comprehensive policy. The territorial differences across the Mezzogiorno and Greece are substantial, and these require more specific instruments.

At the European level, national expenditure for the recovery of urban areas must be coordinated with that from local and Community funds.

We have seen that many sporadic and isolated intervention programmes can do little to improve spatial coherence and continuity. It is also foreseen that, in the future, the private sector will need to become more involved in the management of infrastructure.

#### ***An employment emergency in the large urban centres***

Over the last few years, and particularly in recent months due to the current general economic crisis within Italy, unemployment in the larger cities of the Mezzogiorno, particularly Naples, Palermo, Catania and Reggio di Calabria, has developed into an emergency problem, reaching over 20%. This is for two principal reasons.

Firstly, mainly State-controlled, large industrial enterprises have been forced to shut down due to the paralysis of organization and the severe economic climate with the result that many jobs have been lost.

Secondly, political uncertainty coupled with the extreme inefficiency of the public administration in the large cities

has led to a virtual suspension of all public works expenditure, directly affecting the construction sector.

Employment in these sectors depends largely on State resources. It has traditionally been one of the stronger sections of the labour-market in the large cities which has provided steady and secure employment. The recent collapse will therefore have wider adverse social implications with the risk of a large expansion in activity in the black market.

Policies to tackle this urgent problem in the Mezzogiorno must provide concrete solutions, avoiding the current philosophy of emergency assistance that has no possibility of providing a long-term amelioration of the situation. Furthermore, especially in the light of increasing privatization, steps should be taken to avoid the possible development of a similar situation in the large cities of Greece (Athens and Thessaloniki).

TABLE 1.A. Regional distribution of urban/rural population – I

Region	1971	%	1981	%	1989-91	%	Annual rate (%)				
							1971-81	1981-91	1981-89	1971-91	1971-89
<i>Mezzogiorno</i>											
Rural	5 850 157	33.3	5 615 890	30.5	5 424 485	28.2	-0.41		-0.43		-0.42
Urban	11 787 273	66.7	12 778 200	69.5	13 792 619	71.8	0.81		0.96		0.88
Total	17 637 430	100.0	18 394 090	100.0	19 217 104	100.0	0.42		0.55		0.48
<i>Greece</i>											
Rural	4 102 484	46.8	4 080 889	41.9	4 231 529	41.2	-0.05	0.36		0.15	
Urban	4 665 888	53.2	5 659 528	58.1	6 032 617	58.8	1.95	0.64		1.29	
Total	8 768 372	100.0	9 740 417	100.0	10 264 156	100.0	1.06	0.53		0.79	
<i>Mezzogiorno regions</i>											
<i>Abruzzi</i>											
Rural	655 669	56.2	588 508	48.3	591 748	46.7					
Urban	511 025	43.8	629 283	51.7	674 700	53.3					
Total	1 166 694	100.0	1 217 791	100.0	1 266 448	100.0	0.43		0.49		0.46
<i>Molise</i>											
Rural	246 670	77.1	237 086	72.2	235 595	70.2					
Urban	73 137	22.9	91 285	27.8	99 753	29.8					
Total	319 807	100.0	328 371	100.0	335 348	100.0	0.26		0.26		0.26
<i>Campania</i>											
Rural	1 537 425	30.4	1 476 546	27.4	1 446 218	24.9					
Urban	3 758 887	79.6	3 921 519	72.6	4 362 487	75.1					
Total	5 296 312	100.0	5 398 065	100.0	5 808 705	100.0	0.19		0.92		0.51
<i>Basilicata</i>											
Rural	386 494	64.0	376 128	61.6	375 362	60.2					
Urban	216 570	26.0	234 058	28.4	247 813	39.8					
Total	603 064	100.0	610 186	100.0	623 175	100.0	0.11		0.26		0.18
<i>Puglia</i>											
Rural	777 940	21.7	724 350	18.7	526 434	13.6					
Urban	2 804 847	78.3	3 147 267	81.3	3 331 670	86.4					
Total	3 582 787	100.0	3 871 617	100.0	3 858 104	100.0	0.78		-0.04		0.41
<i>Calabria</i>											
Rural	1 103 309	55.5	1 071 642	52.0	1 092 359	50.8					
Urban	884 742	44.5	989 540	48.0	1 060 180	49.2					
Total	1 988 051	100.0	2 061 182	100.0	2 152 539	100.0	0.36		0.54		0.44
<i>Sicily</i>											
Rural	1 142 650	24.4	1 141 630	23.3	1 156 769	22.4					
Urban	3 538 065	75.6	3 765 248	76.7	4 016 016	77.6					
Total	4 680 715	100.0	4 906 878	100.0	5 172 785	100.0	0.47		0.66		0.56

TABLE 2.A. Regional distribution of urban/rural population — II

Region	1971	%	1981	%	1989-91	%	Annual rate (%)		
							1971-81	1981-91	1971-91
<i>Greek regions</i>									
<i>Western</i>									
Rural	1 258 132	73.6	1 216 955	70.0	1 249 340	68.0			
Urban	452 464	26.4	522 529	30.0	588 563	32.0			
Total	1 710 596	100.0	1 739 484	100.0	1 837 903	100.0	0.17	0.55	0.36
<i>Northern</i>									
Rural	1 252 880	56.4	1 249 832	50.7	1 316 993	50.6			
Urban	967 312	43.6	1 217 341	49.3	1 283 642	49.3			
Total	2 220 192	100.0	2 467 173	100.0	2 600 635	100.0	1.06	0.53	0.79
<i>Central</i>									
Rural	859 724	70.4	816 801	66.2	857 034	65.4			
Urban	361 288	29.6	416 837	33.8	453 072	34.6			
Total	1 221 012	100.0	1 233 638	100.0	1 310 106	100.0	0.10	0.60	0.35
<i>Aegean Islands</i>									
Rural	314 268	75.2	289 472	67.5	312 192	68.5			
Urban	103 508	24.8	139 061	32.5	143 571	31.5			
Total	417 776	100.0	428 533	100.0	455 763	100.0	0.25	0.62	0.44
<i>Crete</i>									
Rural	303 500	66.5	311 041	61.9	320 266	59.6			
Urban	153 120	33.5	191 124	38.1	216 714	40.4			
Total	456 620	100.0	502 165	100.0	536 980	100.0	0.95	0.67	0.81
<i>Attica</i>									
Rural	113 980	4.2	196 788	5.8	166 114	4.7			
Urban	2 628 196	95.8	3 172 636	94.2	3 356 655	95.3			
Total	2 742 176	100.0	3 369 424	100.0	3 522 769	100.0	1.06	0.53	1.26



**TABLE 3.A. Population and number of settlements**

Size class	Number of settlements	Population	% of total population	Number of settlements	Population	% of total population
Mezzogiorno		1981		1989		
0-9 999	1 756	5 615 890	30.42	1 733	5 424 485	28.22
10 000-100 000	362	8 625 895	46.72	384	9 459 709	49.22
100 001-250 000	9	1 291 622	7.00	10	1 402 195	7.30
250 001-1 000 000	4	1 713 365	9.28	4	1 726 566	9.00
1 000 001-higher	1	1 212 387	6.56	1	1 204 149	6.26
Total	2 132	18 459 159	100.00	2 132	19 217 104	100.00
Greece		1981		1991		
0-9 999	5 729	4 080 889	41.90	5 721	4 231 529	41.23
10 000-100 000	55	1 450 630	14.89	63	1 675 923	16.33
100 001-250 000	4	475 387	4.88	4	519 931	5.06
250 001-1 000 000	1	706 180	7.25	4	739 998	7.21
1 000 001-higher	1	3 027 331	31.08	1	3 096 775	30.17
Total	5 790	9 740 417	100.00	5 790	10 264 156	100.00

TABLE 4.A. Population of urban centres, 1981-91

Greece	1981	1991	% change 1981-91
1. Ioannina	44 829	56 496	26.02
Greater Patras	154 596	172 763	11.75
Corinth	22 658	28 903	27.56
Greater Egio	25 723	29 215	13.57
Greater Agrinio	45 087	48 116	6.72
Greater Kalamata	43 235	45 090	4.29
Kerkyra (Corfu)	36 901	36 875	-0.07
Tripolis	21 337	21 772	2.03
2. Greater Thessaloniki	706 180	739 998	4.78
Kavala	56 705	58 576	3.29
Kozani	31 333	32 342	3.22
Serres	46 317	50 875	9.84
Alexandroupolis	35 799	39 283	9.73
Veria	37 966	38 871	2.38
Drama	37 118	39 914	7.53
Greater Katerini	39 895	48 021	20.37
Komotini	37 487	40 522	8.09
Ptolemaida	22 109	25 190	13.93
Xanthi	33 897	37 462	10.52
3. Greater Volos	107 407	115 732	7.75
Larissa	102 426	113 426	10.74
Chalcis	44 867	51 482	14.74
Lamia	41 846	43 898	4.90
Trikala	45 160	48 810	8.08
Tirnavos	11 118	12 197	9.70
Levadia	17 769	18 885	6.28
Thivai	18 712	18 191	-2.78
4. Mytilini	24 991	25 440	1.79
Rhodes	41 425	43 619	5.29
5. Greater Iraklion	110 958	127 600	14.99
Greater Chania	61 976	65 519	5.71
6. Greater Athens	3 027 331	3 096 775	2.29

TABLE 5.A. Population of urban centres, 1981-91

Mezzogiorno	1981	1990	% change 1981-91
<i>Abruzzi</i>			
L'Aquila	63 678	67 348	5.7
Pescara	131 330	128 695	- 2.1
Chieti	54 927	57 362	4.4
Teramo	51 092	52 501	2.7
<i>Molise</i>			
Isernia	20 145	21 623	7.3
Campobasso	48 291	51 206	6.0
<i>Campania</i>			
Aversa	56 425	57 817	2.4
Caserta	66 318	67 769	2.1
Benevento	62 636	64 842	3.5
Afragola	57 367	62 359	8.7
Casoria	68 521	79 729	16.3
Castellamare	70 685	68 478	- 3.2
Ercolano	58 310	63 571	9.0
Giugliano	44 220	57 041	28.99
Naples	1 212 387	1 204 149	- 0.7
Portici	80 410	73 488	- 8.7
Pozzuoli	69 861	76 121	8.9
San Giorgio	62 129	63 052	1.4
Torre Annunziata	60 553	50 471	- 16.7
Torre del Greco	103 605	103 577	- 0.03
Avellino	56 892	55 886	- 1.8
Cava de' Tirreni	50 667	52 341	3.3
Salerno	157 385	152 159	- 3.4
<i>Puglia</i>			
Cerignola	50 819	54 549	7.3
Foggia	156 467	159 199	1.7
Manfredonia	53 030	58 920	11.1
San Severo	54 205	55 017	1.4
Altamura	51 346	56 631	10.2
Andria	84 661	89 762	6.0
Bari	371 022	355 352	- 4.3
Barletta	83 453	88 074	5.5
Bitonto	49 714	53 292	7.1
Molfetta	65 625	64 215	- 2.2
Taranto	244 101	244 512	0.1
Brindisi	89 786	92 814	3.3
Lecce	91 289	101 957	11.6
<i>Basilicata</i>			
Potenza	64 358	68 046	5.7
Matera	50 712	54 377	7.2

TABLE 5.A. (continued)

Mezzogiorno	1981	1990	% change 1981-91
<i>Calabria</i>			
Cosenza	106 801	105 349	- 1.4
Catanzaro	100 832	103 521	2.6
Crotone	58 262	61 688	5.8
Lamezia	63 898	68 985	7.8
Reggio di Calabria	173 486	178 620	2.9
<i>Sicily</i>			
Marsala	79 175	80 869	2.1
Trapani	71 927	72 837	1.2
Palermo	701 782	731 418	4.2
Messina	260 233	273 570	5.1
Agrigento	51 325	56 372	9.8
Caltanissetta	61 146	62 588	2.3
Gella	74 806	79 601	6.4
Enna	27 838	29 350	5.4
Catania	380 328	366 226	- 3.8
Modica	47 537	50 556	6.3
Ragusa	64 492	68 850	6.7
Vittoria	51 240	58 870	9.0
Syracuse	117 615	124 606	5.9

TABLE 6.A. Employment in the main urban centres, 1971-81 — I

	1971				1981			
	Primary	Secondary	Tertiary	Total	Primary	Secondary	Tertiary	Total
<i>Mezzogiorno</i>								
Pescara	873	12 536	25 310	38 719	743	10 641	32 916	44 300
Naples	5 787	123 598	186 616	316 001	5 735	77 788	212 114	295 637
Torre del Greco	2 122	6 055	15 222	23 399	2 263	5 846	17 571	25 680
Salerno	1 699	13 161	28 044	42 904	804	10 170	20 107	31 081
Bari	3 022	32 260	61 331	96 613	2 630	28 584	80 177	111 391
Taranto	2 967	28 588	28 826	60 381	2 237	23 673	41 307	67 217
Foggia	5 663	12 522	22 074	40 259	3 081	9 468	20 374	32 923
Cosenza	984	8 190	20 037	29 211	755	5 964	24 392	31 111
Catanzaro	851	7 828	15 442	24 121	988	5 556	22 965	29 509
Reggio di Calabria	4 144	12 979	28 132	45 225	2 424	9 198	36 257	47 879
Palermo	9 756	58 972	99 591	168 319	6 999	52 389	113 972	173 360
Messina	3 425	21 157	44 482	69 064	1 713	12 689	37 338	51 740
Catania	5 205	40 006	62 587	107 798	3 813	29 044	73 539	106 396
Syracuse	2 785	12 525	15 332	30 642	2 012	10 795	21 482	34 289
<i>Greece</i>								
Ioannina	240	3 840	7 720	11 800	309	3 743	8 806	12 858
Greater Patras	3 216	16 966	21 700	41 882	2 348	22 596	25 665	50 609
Corinth	520	1 740	3 440	501	3 590	8 077		
Greater Thessaloniki	4 320	77 160	104 400	185 880	2 483	101 286	123 643	227 412
Kavala	700	4 820	8 660	14 180	464	7 264	9 822	17 550
Kozani	226	3 161	4 294	7 681	178	4 263	5 565	10 006
Serres	1 820	3 600	7 500	12 920	892	5 061	8 101	14 054
Greater Volos	2 060	10 620	14 880	27 560	1 582	15 581	16 890	34 053
Larissa	1 445	8 245	14 289	23 979	2 042	12 799	18 155	32 966
Chalcis	400	5 740	5 420	11 560	341	6 932	7 101	14 374
Greater Iraklion	2 840	9 900	15 000	27 740	2 412	12 851	20 291	35 554
Greater Chania	960	5 860	9 480	16 300	790	5 593	11 804	18 187
Greater Athens	7 048	372 490	510 243	889 781	4 708	392 704	554 383	951 795

Table 7.A. Employment in the main urban centres, 1971-81 — II

	1971			1981			Change 1971-81			Total (%)
	Primary	Secondary	Tertiary	Primary	Secondary	Tertiary	Primary	Secondary	Tertiary	
<i>Mezzogiorno</i>										
Pescara	2.25	32.38	65.37	1.67	24.02	74.31	-1.60	-1.63	2.66	1.36
Naples	1.83	39.11	59.06	1.93	26.32	71.75	-0.09	-4.52	1.29	-0.66
Torre del Greco	9.07	25.87	65.06	8.81	22.76	68.43	0.65	-0.35	1.45	0.93
Salerno	3.96	30.67	65.37	2.58	32.73	64.69	-7.21	-2.55	1.03	-3.17
Bari	3.13	33.39	63.48	2.36	25.66	71.98	-1.38	-1.20	2.72	1.43
Taranto	4.91	47.35	47.74	3.33	35.22	61.45	-2.78	-1.87	3.66	1.08
Foggia	14.06	31.11	54.83	9.36	28.76	61.88	-5.91	-2.76	-0.80	-1.99
Cosenza	3.36	28.04	68.60	2.43	19.17	78.40	-2.61	-3.12	1.99	0.63
Catanzaro	3.53	32.45	64.02	3.35	18.83	77.82	1.50	-3.37	4.04	2.04
Reggio di Calabria	9.10	28.69	62.21	5.06	19.21	75.73	-5.15	-3.38	2.57	0.57
Palermo	5.79	35.04	59.17	4.04	30.22	65.74	-3.27	-1.18	1.36	0.30
Messina	4.95	30.64	64.41	3.31	24.53	72.16	-6.69	-4.98	-1.74	-2.85
Catania	4.83	37.11	58.06	3.58	27.30	69.12	-3.06	-3.15	1.63	-0.13
Syracuse	9.08	40.88	50.04	5.87	31.48	62.65	-3.20	-1.48	3.43	1.13
<i>Greece</i>										
		1971			1981			Change 1971-81		(%)
Ioannina	2.03	32.54	65.24	2.40	29.11	68.49	2.56	-0.26	1.32	0.86
Greater Patras	7.68	40.51	51.81	4.64	44.65	50.71	-3.10	2.91	1.69	1.91
Corinth	9.12	30.53	60.35	6.20	44.45	49.35	-0.37	7.51	1.48	3.55
Greater Thessaloniki	2.32	41.51	56.17	1.09	44.54	54.37	-6.39	2.76	1.71	2.04
Kavala	4.94	33.99	61.07	2.64	41.39	55.97	-4.03	4.19	1.27	2.16
Kozani	2.94	41.15	55.90	1.78	42.60	55.62	-2.36	3.04	2.63	2.68
Serres	14.09	27.86	58.05	6.35	36.01	57.64	-6.88	3.46	0.77	0.84
Greater Volos	7.47	38.53	53.99	4.65	45.76	49.60	-2.61	3.91	1.28	2.14
Larissa	6.03	34.38	59.59	6.19	38.79	55.02	3.52	4.50	2.42	3.24
Chalcis	3.46	49.65	46.89	2.37	48.23	49.40	-1.58	1.90	2.74	2.20
Greater Iraklion	10.24	35.69	54.07	6.78	36.15	57.07	-1.62	2.64	3.07	2.51
Greater Chania	5.89	35.95	58.16	4.34	30.75	64.90	-1.93	-0.47	2.22	1.10
Greater Athens	0.79	41.86	57.34	0.49	41.26	58.25	-3.95	0.53	0.83	0.68

TABLE 8.A. Employment evolution in urban centres, 1971-81 — I

	Employers	Self em- ployers	Salaried em- ployers	Non declared 'new'	Total	Employers	Self em- ployers	Salaried em- ployers	Non declared 'new'	Total
<i>Mezzogiorno</i>						1981				
	1971					1981				
Pescara	1 024	6 546	31 149	4 431	43 150	2 507	6 856	34 937	8 488	52 788
Naples	9 282	36 742	269 977	68 915	384 916	13 437	23 531	258 669	123 853	419 490
Torre de Greco	357	3 751	19 291	4 118	27 517	564	3 181	21 935	10 307	35 987
Salerno	1 467	5 587	35 850	7 473	50 377	2 048	4 434	39 254	10 999	56 735
Bari	2 500	12 428	81 685	17 074	113 687	5 768	11 309	94 313	25 752	137 142
Taranto	1 226	5 938	53 217	13 271	73 652	2 151	5 727	59 339	20 464	87 681
Foggia	864	6 405	32 990	7 809	48 068	1 553	6 211	37 544	13 656	58 964
Coscenza	863	4 226	24 122	4 794	34 005	1 282	3 228	26 601	8 639	39 750
Catanzaro	701	2 753	20 667	4 044	28 165	1 175	2 712	25 622	9 643	39 152
<i>Reggio di</i>										
Calabria	1 206	5 385	38 634	9 322	54 547	1 627	4 210	42 042	19 044	66 923
Palermo	4 150	19 808	144 361	34 150	202 469	8 044	16 411	166 517	46 975	237 947
Messina	1 601	8 821	58 642	11 409	80 473	2 833	7 017	61 109	24 832	95 791
Catania	3 563	13 947	90 198	19 413	127 121	4 995	11 830	89 571	31 101	137 497
Syracuse	706	3 608	26 682	5 063	36 059	1 062	3 815	29 412	9 104	43 393
<i>Greece</i>										
Ioannina	1 360	3 100	7 120	120	11 700	754	3 949	8 385	852	13 940
<i>Greater Patras</i>										
(Egio)	3 160	13 780	31 060	600	48 600	2 642	16 461	39 858	3 069	62 030
Corinth	260	1 900	3 380	40	5 580	294	2 600	5 380	313	8 587
<i>Greater</i>										
Thessaloniki	14 860	43 240	125 940	7 780	185 820	12 241	58 905	159 261	12 547	242 954
Kavala	1 000	3 740	9 680	280	14 700	460	4 276	12 782	842	18 360
<i>Kozani</i>										
(Ptolemaida)	540	4 100	7 360	140	12 140	385	4 618	11 237	645	16 885
Serres	720	5 660	6 620	280	13 280	674	5 017	8 713	715	15 119
Greater Volos	2 400	7 120	17 680	320	27 520	1 587	8 845	23 345	2 281	36 058
<i>Larissa</i>										
(Tirnavos)	2 280	9 200	16 500	240	28 220	1 436	11 585	23 805	1 640	38 466
Chalcis	1 020	2 720	7 880	180	11 800	536	3 511	10 205	602	14 854
Greater Iraklion	2 380	8 440	16 600	300	27 720	2 579	10 300	22 677	1 381	36 937
Greater Chania	1 240	4 680	10 020	300	16 240	865	5 094	12 046	1 058	19 063
Greater Athens	57 920	168 440	646 060	10 420	882 840	45 123	224 905	744 319	50 595	1 064 942

TABLE 9.A. Employment evolution in urban centres, 1971-81 — II

	1971				1981				Change 1971-81				Total
	Employers	Self employers	Salaried employers	Non declared 'new'	Employers	Self employers	Salaried employers	Non declared 'new'	Employers	Self employers	Salaried employers	Non declared 'new'	
<i>Mezzogiorno</i>				(%)				(%)					
Pescara	2.37	15.18	72.19	10.26	4.75	12.99	66.19	16.07	145	5	12	92	22
Napoli	2.41	9.55	70.14	17.90	3.20	5.61	61.66	29.53	45	-36	-4	80	9
Torre del Greco	1.29	13.63	70.11	14.97	1.56	8.84	60.95	28.65	59	15	14	150	31
Salerno	2.91	11.09	71.16	14.84	3.61	7.82	69.18	19.39	40	-21	10	47	13
Bari	2.19	10.93	71.86	15.02	4.21	8.25	68.77	18.77	131	-9	15	51	21
Taranto	1.66	8.06	72.26	18.02	2.45	6.53	67.68	23.34	75	-4	12	54	19
Foggia	1.80	13.33	68.63	16.24	2.63	10.54	63.67	23.16	80	-3	14	75	23
Cosenza	2.53	12.43	70.94	14.10	3.22	8.12	66.93	21.73	49	-24	10	80	17
Catanzaro	2.48	9.78	73.38	14.36	3.00	6.93	65.44	24.63	68	-2	24	138	39
Reggio di Calabria	2.22	9.87	70.83	17.08	2.43	6.29	62.82	28.46	35	22	9	104	23
Palermo	2.05	9.78	71.30	16.87	3.38	6.90	69.98	19.74	94	17	15	38	18
Messina	1.98	10.96	72.88	14.18	2.95	7.33	63.80	25.92	77	-20	4	118	19
Catania	2.80	10.97	70.96	15.27	3.63	8.61	65.14	22.62	40	-15	-1	60	8
Syracuse	1.96	10.00	73.99	14.05	2.45	8.79	67.78	20.98	50	6	10	80	20
<i>Greece</i>									Change 1971-81				(%)
Ioannina	11.63	26.49	60.85	1.03	5.41	28.32	60.15	6.12	-80	27	18	610	19
Greater Patras (Egio)	6.50	28.36	63.91	1.23	4.25	26.54	64.26	4.95	-20	19	28	411	28
Corinth	4.66	34.05	60.58	0.71	3.43	30.28	62.65	3.64	13	37	59	683	54
Greater Thessaloniki	7.99	23.27	67.78	0.96	5.04	24.25	65.55	5.16	-21	36	26	605	31
Kavala	6.80	25.44	65.85	1.91	2.51	23.29	69.62	4.58	-117	14	32	201	25
Kozani (Ptolemaida)	4.44	33.77	60.64	1.15	2.28	27.35	66.65	3.82	-40	13	53	361	39
Serres	5.42	42.62	49.85	2.11	4.46	33.18	57.63	4.73	-7	-13	32	155	14
Greater Volos	8.72	25.88	64.24	1.16	4.40	24.52	64.74	6.34	-51	24	32	613	31
Larissa (Tirnavos)	8.08	32.60	58.47	0.85	3.73	30.12	61.89	4.26	-59	26	44	583	36
Chalcis	8.64	23.05	66.78	1.53	3.61	23.64	68.70	4.05	-90	29	30	234	26
Greater Iraklion	8.58	30.45	59.89	1.08	6.98	27.88	61.39	3.74	8	22	37	360	33
Greater Chania	7.63	28.82	61.70	1.85	4.54	26.72	63.19	5.55	-43	9	20	253	17
Greater Athens	6.56	19.08	73.18	1.18	4.24	21.12	69.89	4.75	-28	34	15	386	21



## PART III — SCENARIOS

### 1. Scenario introduction

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#### 1.1. General background and framework of analysis

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##### 1.1.1. The 'borderline' condition of the central Mediterranean area

It is imperative that the central Mediterranean area be viewed as an integral part of two as yet distinct regions, firstly the European Community, and secondly, and no less importantly, the Mediterranean basin: without adopting an entirely north-centric view of future development, which is utterly impractical for the central Mediterranean area, it is impossible to isolate this part of the Mediterranean from the destiny of the basin as a whole. Furthermore, it is precisely because of this position of duality and the consequent ability to act as a bridge connecting the EC and the greater Mediterranean basin, that the development of the central Mediterranean is of such great importance to the future of the EC (see map 'The wider European context').

The 'external question' for the central Mediterranean thus hinges on developments in two major areas:

- (i) EC policy for economic and social cohesion within the Community borders;
- (ii) EC and Western stance towards north-south integration.

These two problems are moreover inseparable. The development of the central Mediterranean is not possible in our opinion without a strong external role for the central Mediterranean as a part of the EC. The outcome

of this wider process of integration, which is a choice between war and confrontation, or peace and fast cooperative growth and integration, is the most important underlying factor for any development scenario for the next 20 years.

Whether the EC Mediterranean regions have to cling desperately to the north, as reckless spendthrift cousins, tolerated rather than respected, or whether they can prosper and enjoy the strengthening of relationships based on trade, culture, natural endowments and religious diversities, is the key issue.

This constitutes the 'To be or not to be' of the Mediterranean as a structured space and of the central Mediterranean area as a portion of this space with its specific characteristics, and it will thus be at the centre of our scenarios.

Since the central Mediterranean is at the heart of the geostrategic developments of the next 20 years, we must reinforce the importance of going beyond the future of the central Mediterranean to encompass the future of the EC as a whole.

Economic and political union within the EC has correctly been viewed as a necessary condition for the EC to compete in global markets and to act as a unique entity in the world political chessboard. However, this union being only a necessary condition, the question remains as to what the remaining conditions are in order to ensure the successful development of the EC within the world economy.

The EC is in a weak position in the world economy. Europe has achieved a low level of growth over the last

20 years. A major source of world growth has been the increasing level of international trade, but the EC has failed to capitalize on this increase, steadily losing its share of foreign markets and being incapable of developing its own zones of preferential trade.

It is thus now left to the EC to create a large and integrated area of growth for itself, encompassing Africa, the Middle East, and the East European countries, as an alternative to being obliged to compete in distant markets from a disadvantageous position, or, worse, of being obliged to concentrate solely on its own internal market which is inadequate to support sufficient domestic growth in output and employment.

A second fundamental condition for the EC to compete internationally is thus that of developing a much larger structured space in order to enable political and economic exchanges to constitute the engine for balanced growth in the coming decades.

These two geostrategic scenarios for the EC, either of a wider promotion of economic prosperity, or of internal dependence, coincide directly with the alternatives of strengthening cooperation and integration, and of self-protection (not only through peaceful means) by the erection of barriers of different kinds.

To transpose this dilemma into spatial terms, we can say the alternatives are either to rebuild and reorganize the Mediterranean space, or to reconstruct the Berlin Wall south of Lampedusa island in an effort to avoid, for what could only be a limited period, the counterblow of conflict, fragmentation and immigration.

We merely need to note that the population of the southern Mediterranean countries in 1990 was only 12% greater than that of the northern Mediterranean countries and that in 2025 it will be double that in the north, to affirm that immigration could become a highly explosive problem.

From this viewpoint, apart from the obvious difficulty of erecting a wall on the water, the subsidiary scenarios of north Mediterranean regional integration are also built in a dead-end strategic perspective. The internal market is weak, too small and openly integrated to allow sufficient differential growth in weaker areas to catch up with the strong regions. In addition, the possibility of increasing direct investment in weaker regions from the economic heart of Europe does not find support in the future expectations of development in the global arena without

a significant change in the political setting of the whole Mediterranean. It therefore becomes necessary for the central Mediterranean to cling to the centre and north of Europe, which seems more interested in supporting the recovery of the East from isolation and stagnation rather than considering the south of the Community as a bridge for a cooperative policy towards the south-shore countries of the Mediterranean Sea.

### **1.1.2. EC responsibilities towards the central Mediterranean: to alleviate constraints and develop a strategy of action for the Mediterranean regions**

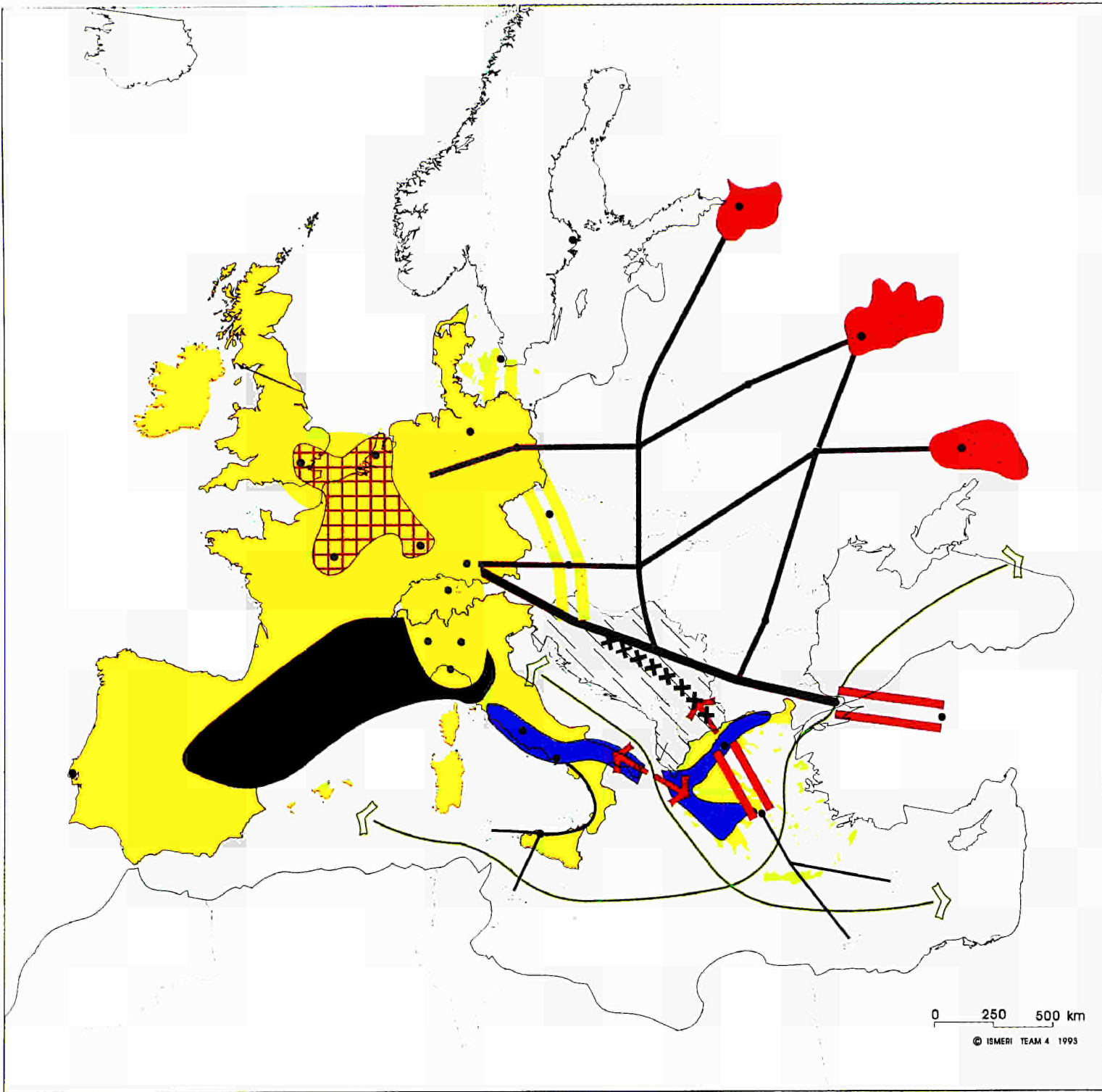
The general position of the central Mediterranean area is one of crisis. The policies of recent years have failed to provide either for an increased level of growth or for a significant reduction in unemployment rates.

The weakness of the central Mediterranean economy lies primarily in the absence of a solid industrial base in the region. Long-term external transfers have resulted in a very high proportion of activity becoming concentrated in the tertiary sector. Unless the level of industrial activity can be substantially increased, this imbalance and the dependency it generates cannot be resolved. Moreover, the central Mediterranean will not be capable of endogenous development, and the current economic decline will be destined to continue. Greater cohesion within the central Mediterranean, and between the central Mediterranean and the rest of the EC will not be possible without a significantly higher level of industrial employment.

In recent years there has been no substantial decrease in the disparities that exist between the central Mediterranean and the larger part of the EC. The poor performance of the central Mediterranean has increased the dependency of these economies, and makes it clear that the central Mediterranean is not now capable of an autonomous recovery.

In addition to the problems now faced by the central Mediterranean, the EC itself is in a state of impasse. The Member States are rallying to national rather than Community interests; the last decade has been one of poor economic performance and rising unemployment; the exchange-rate mechanism (ERM) has broken down.

The central Mediterranean countries have used devaluation to gain competitiveness in the extra-EC market, but they remain largely dependent on imports from the countries with strong currencies and low internal




### THE WIDER EUROPEAN CONTEXT

 Metropolitan centre


 Developed integrated areas

#### AREAS UNDER INIEGRATION PROCESS


 Latin arc -  
The North of the South

 Eastern arc


 Urban industrial concentrations  
former USSR

 Major potential axes

 Peripheral axes

 Basic east-west Balkan axes

 Axes in crisis

 Traditional Mediterranean routes

 Mediterranean linkages

 Prospective extension of a  
developing South

0 250 500 km

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demand in the EC market. Their high external and public deficits furthermore obliged them to maintain high interest rates and to depress investments.

The current Structural Funds, with the addition of the Cohesion Fund, will double the Community financial resources for Greece. This increased transfer could help the Greek economy to counterbalance the fall in public expenditure that has been necessary to recover the public debt.

The recovery of the central Mediterranean is not only a question of the level of transfers, which can alleviate the constraints on the development of the area, but cannot, alone, lead to a solution of current problems.

The EC must implement specific development policies and strategies tailored to the needs of the EC Mediterranean countries, the requirements of which are not generally the same as those of other less-developed regions in the Community.

We have pointed out the 'external' elements of this policy for the Mediterranean basin as a whole. Within the EC Mediterranean regions, efforts must be directed to promoting the autonomous opportunity for recovery and not only to increasing the links with the core of Europe, in the hope of future 'catching-up'.

The Mediterranean regions suffer extreme peripherality not only in geographic terms, but also in terms of their historical and social distance from the economic transformations that have characterized the advanced regions in the last decades.

In this perspective, the EC responsibility is to reinforce the infrastructural endowment and the functionality of the city networks of these regions in order to encourage and enable external investments, to favour the strengthening of existing industry with specific programmes for technology transfer and innovation in order to enlarge its basis, to promote the advantages of the area in the fields of tourism, agriculture and advanced services, avoiding destructive competitiveness, and to promote possible complementarities.

At the moment, a policy for the Mediterranean regions of the Community is not on the agenda, and the reform of the Structural Funds can no longer develop this priority, as the Objective 1 classification will now include many northern regions.

## 1.2. Scenario generation mechanisms

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It is within the framework of this uncertain environment that we present three scenarios on the possible future development of the central Mediterranean area. This development depends crucially on the strength and direction of EC policy in the coming years and on the willingness of the respective national governments to undergo drastic reform in the processes of conception, design, and implementation of domestic expenditure programmes.

In the scenarios we have taken as our starting point hypotheses on different policy developments in the areas we consider to be of crucial importance in the determination of the future path of development for the central Mediterranean.

Externally, there are the two factors discussed above.

1. EC policy for economic and social cohesion within the Community borders.
2. EC and Western stance towards north-south integration.

Internally, the question is more one of political, administrative, and economic organization than of policy direction. At present, the situation in both Greece and the Mezzogiorno is extremely negative: many expenditure programmes are marred by political interference, poor planning, and highly inefficient implementation. There is also a great lack of resources, which may be viewed in many areas as a somewhat secondary issue due to the fact that the institutions required to implement large-scale expenditure efficiently simply do not work.

The issues upon which our remaining hypotheses are constructed, concerning largely internal factors in the central Mediterranean, are as follows.

3. National policies, institutions, and the administrative mechanism.
4. The demographic dynamic and pressure on the labour-market.
5. Investment in social and economic infrastructure.

Within the framework of these five principal questions of national and EC policy, demographic trends and exter-

nal relations, the scenarios are generated under our specific hypotheses on possible future policies.

The critical analysis of the consequences of these hypotheses for the central Mediterranean area and neighbouring regions defines the scenarios, which are the results of the different policies.

### **1.2.1. The hypotheses of the first scenario: fragmentation**

This scenario is based chiefly on the hypothesis of a continuation of the existing trends embodied in past policies and also on the implicit adjustments agreed upon and required by the move towards economic and monetary union within the Community.

- A continuation of regional conflicts in the Mediterranean area. Specifically, there will thus be no short-term solution to the unrest in the Balkans and in the Middle East.
- An increase in the quantity of EC resources available for regional policies without a new policy strategy. Existing Structural Fund policies have increased with the addition of the Cohesion Fund, as recently agreed at the Edinburgh Summit. (This additional funding will, however, only double the total resource transfer for Greece and maintain the current level of transfer for the Mezzogiorno.)
- Permanent and increasing pressure on the labour-market with rising numbers of immigrants from extra-Community countries.
- The maintenance of existing national and regional policies: diminishing resources transfers to the poorer regions, pressure to reduce internal fiscal deficits; relevant part of the transfer dedicated to sustain the income; weak local intervention programmes to improve the competitiveness of the productive structure.
- The shortfall in the infrastructure endowment persists in the central Mediterranean. The level of investment in infrastructure is low, and the capacity for completion is weak.

### **1.2.2. The hypotheses of the second scenario: potential for recovery**

The second scenario is based on concrete elements in the existing economic system and on realistic develop-

ments and positive processes of change that are already under way.

This scenario thus represents a positive evolution of the existing situation in the central Mediterranean, though it may be more accurately thought of as marking a turning point in the hitherto mostly negative trends in the area rather than the beginning of a period of strong and radical improvements.

The scenario represents a position that is still a considerable distance from the resolution of the persistent contradictions which constrain the development of the area, but does at least foresee an advance in that direction.

- The 'silencing of the armies'. An end to open armed conflict, but a persisting high level of instability in the Mediterranean basin.
- An advance in the stance of EC external policy, opening the way to increased cooperation with neighbouring regions in the future.
- Increased EC transfers as necessary to sustain the process of convergence required by economic and monetary union (EMU) and a coordination of European monetary policies with lower interest rates. The internal and external constraints of the central Mediterranean are relaxed and the effectiveness of regional policies increases.
- Increasing immigration pressure from the south Mediterranean and Eastern Europe.
- More resources directed at the national level towards investment rather than the support of consumption levels.
- Reinforcement and renovation of the existing infrastructure, and of transport links between the central Mediterranean and northern Europe.

### **1.2.3. The hypotheses of the third scenario: integration**

The third scenario foresees the development of an integration process for the central Mediterranean, both into the Community economy, and within the Mediterranean area, where the central Mediterranean can play a major strategic role within the EC.

TABLE 1. Hypotheses scheme					
	External hypotheses		Internal hypotheses		
	EC external policies and the political climate in neighbouring regions	Community policies	The demographic dynamic and pressure on the labour-market	National policies and the administrative context	Investment in social and economic infrastructure
Scenario 1 Fragmentation	<input type="checkbox"/> Continuation of regional conflicts in the Mediterranean area <input type="checkbox"/> No relevant policies of integration towards the south Mediterranean <input type="checkbox"/> Strong preference for economic and political integration with Eastern Europe	<input type="checkbox"/> Continuation of existing policy trends: <ul style="list-style-type: none"> <li>• very slow reform of agricultural policy</li> <li>• low level of resources and poor coordination for structural policy</li> <li>• implementation of very small 'Cohesion Fund' as agreed at Edinburgh</li> </ul>	<input type="checkbox"/> Continuation of the existing trends: <ul style="list-style-type: none"> <li>• decreasing birth rates</li> <li>• population ageing</li> <li>• persisting immigration</li> <li>• emigration of more highly educated people</li> </ul>	<input type="checkbox"/> Restrictive fiscal policy to reduce national budget deficits <input type="checkbox"/> Increasing administrative paralysis and poor planning capability <input type="checkbox"/> Intervention policies for strengthening of the productive structure weak and ineffective	<input type="checkbox"/> Low level of investment in infrastructure and restructuring
Scenario 2 Potential for recovery	<input type="checkbox"/> End of direct conflict in Mediterranean area but continuing political instability <input type="checkbox"/> EC policy evolves to place greater emphasis on creation of links with south Mediterranean <input type="checkbox"/> Basis for future increase in regional integration established	<input type="checkbox"/> Increase in EC resources available for poorer regions to reinforce real convergence and maintain progress toward EMU <input type="checkbox"/> Slow rationalization of agricultural policy to reduce level of direct price support and integrate with structural policies	<input type="checkbox"/> Continuation of the existing trends	<input type="checkbox"/> Fiscal policy constraints eased slightly by greater EC resource transfer <input type="checkbox"/> Expenditure/transfer policies reoriented to support investment rather than consumption <input type="checkbox"/> Intervento straordinario in the Mezzogiorno replaced by new regional policy	<input type="checkbox"/> Increased investment in infrastructure and restructuring <input type="checkbox"/> Emergency policies in large cities to reduce congestion and pollution <input type="checkbox"/> Reinforcement of transport and communication links with the north of Europe
Scenario 3 Integration	<input type="checkbox"/> End of the conflicts and political instability in the Mediterranean area <input type="checkbox"/> EC policies embrace the integration process with the south Mediterranean as a strategic objective <input type="checkbox"/> Economic decentralization and development of ties among non-Community Mediterranean countries	<input type="checkbox"/> Real convergence of the EC economies is a primary policy objective <input type="checkbox"/> Strategic EC role for the central Mediterranean area with respect to integration with the south Mediterranean <input type="checkbox"/> Coordinated EC structural policies address the central Mediterranean area as a contiguous region	<input type="checkbox"/> Decreasing emigration from the central Mediterranean area	<input type="checkbox"/> More resources directed towards reduction of regional disparities <input type="checkbox"/> Investment in development of human capital <input type="checkbox"/> Comprehensive political and administrative reform <input type="checkbox"/> Policy of direct support for productive structure through development of full range of services	<input type="checkbox"/> High level of investment in infrastructure: <ul style="list-style-type: none"> <li>• strengthening of transport network</li> <li>• modernization of communication infrastructure</li> <li>• investments directed to create networks of small and medium-sized cities</li> </ul> <input type="checkbox"/> Development of R&D

TABLE 2. Results scheme			
	Geopolitical dimension	Economic dimension — patterns of growth	Spatial dimension
Scenario 1 Fragmentation	<input type="checkbox"/> Persisting peripherality of the central Mediterranean area with respect to the rest of the EC <input type="checkbox"/> Extremely limited possibilities for the central Mediterranean for trade with neighbouring countries <input type="checkbox"/> Central Mediterranean region becomes more isolated from its neighbours to the east and south	<input type="checkbox"/> Persisting financial dependence of the central Mediterranean <input type="checkbox"/> Persisting financial strain both internally and externally — slowdown in process of catching up <input type="checkbox"/> Increasing disparity between the central Mediterranean and other EC economies <input type="checkbox"/> High and increasing unemployment <input type="checkbox"/> Great difficulty in establishing any endogenous development process <input type="checkbox"/> Areas of successful growth in the 1980s begin to stagnate (e.g. Adriatic axis, 'S' in Greece)	<input type="checkbox"/> Persisting spatial fragmentation; the central Mediterranean remains a fragmented region with no collective strategies for development <input type="checkbox"/> Urban areas become paralysed by congestion and saturation of capacity of existing services <input type="checkbox"/> High level of environmental degradation; unplanned construction, pollution and poor utilization of resources (e.g. water)
Scenario 2 Potential for recovery	<input type="checkbox"/> Possibility of development in Mediterranean region created by resolution of direct conflicts <input type="checkbox"/> Low level of trade with Balkan area restarted <input type="checkbox"/> Increase in level of interaction between central Mediterranean and the rest of the EC <input type="checkbox"/> Greater role within the central Mediterranean for market forces, enabling some private sector investment in infrastructural projects and increasing trade	<input type="checkbox"/> Patchy economic regeneration that is unable to spread to the less-developed areas thus failing to alleviate problems of dependence <input type="checkbox"/> The limited level of institutional reform brings the basis for longer-term erosion of the severe administrative bottleneck <input type="checkbox"/> Insufficient growth in the demand for labour and continuing high unemployment <input type="checkbox"/> Internal fiscal crisis continues to severely restrict public expenditure <input type="checkbox"/> Insufficient level of direct investment to strengthen productive structure of central Mediterranean — non-tradable tertiary activity prevails	<input type="checkbox"/> Persisting fragmentation and increasing differentiation between strong and weak areas <input type="checkbox"/> Limited recovery of the functionality of the large cities <input type="checkbox"/> Reinforcement of the north-south axes and of the urban networks along them
Scenario 3 Integration	<input type="checkbox"/> Peace and stability in the Mediterranean region creates the environment in which international links can be developed and reinforced, providing a stimulus for growth in the region <input type="checkbox"/> The central Mediterranean assumes its role as the gateway to the south and east for the EC <input type="checkbox"/> A significant growth area is opened up for the central Mediterranean <input type="checkbox"/> Development of multilateral links increases intraindustrial trade and investment in the Mediterranean basin, especially through the private sector	<input type="checkbox"/> Better transport and communications facilities permit significant decentralization of activity <input type="checkbox"/> Significant and rapid increase in the demand for skilled labour; as income levels pick up, the demand for unskilled labour also rises <input type="checkbox"/> Infrastructural and private sector investment force a reorientation of the productive structure <input type="checkbox"/> Significant growth in industrial output <input type="checkbox"/> Increase in internal productive capacity reduces dependence of economy on external transfers <input type="checkbox"/> Relaxation of EC monetary policy enables increase in resources for expenditure <input type="checkbox"/> Renewed ability and capacity of local public administration ensures that a far higher share of public expenditure is directed towards useful and productive investment programmes	<input type="checkbox"/> Degree of spatial fragmentation steadily reduced as infrastructural development proceeds <input type="checkbox"/> Congestion and paralysis of metropolitan areas largely overcome; urban functionality returns providing the directive and supportive services to enable greater spatial dissemination of activity <input type="checkbox"/> Reinforcement not only of existing strong axes, but also development of new axes linking weak areas to growth poles <input type="checkbox"/> Network of medium-sized cities with regional directive capacity and services to support local autonomous regeneration developed

This scenario is therefore generated around the conditions necessary for the successful development of the central Mediterranean, and in particular of the emergence of an autonomous model of development in the area.

- An end to conflict in the Mediterranean area. The EC cooperation policy gains in importance and the EC views the Mediterranean basin as a crucial area for its development.
- Real convergence of EC economies becomes a primary Community policy objective. EC policies embrace the process of regional integration as a strategic objective.
- Decreasing emigration from the central Mediterranean, especially of much needed qualified labour.
- Wide-ranging institutional and administrative reform within the central Mediterranean countries. The transfer of national competence to the regions, in Greece as in the Mezzogiorno, is successful; it increases the responsibility of the local authorities in planning intervention programmes and raises the efficiency of public investments.
- Infrastructural policy is improved and its spatial effectiveness is increased in the central Mediterranean. Urban policies reinforce the networks of small and medium-sized cities and the functionality of the large cities; basic infrastructures reach a sufficient level of endowment and the quality of infrastructures for the telecommunications network and technological diffusion are improved.

### 1.3. Presentation of the scenarios

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The elaboration of the scenarios focuses on four main parameters:

- (a) the international context;
- (b) the economy;
- (c) the space;
- (d) the spatial organization.

The first parameter focuses on international geopolitical problems; it examines the possibility for geopolitical inte-

gration in order to enable the region to play a role in the global economic arena. It therefore introduces the EC's external relationship with the Mediterranean non-member countries, and with the Balkan peninsula as a key variable for the central Mediterranean prospects of growth.

The second parameter will extract the main economic variables and policies which will give rise to growth or stagnation in the area.

The third parameter analyses the importance of supporting new axes of development with an adequate network of infrastructures of decongesting the existing urban cores and of restructuring the southern space in such a way as to strengthen communications, and to enable the region to benefit from the proximity of the Middle East and North African countries.

The fourth parameter focuses on the characteristics of development of the central Mediterranean along the principal axis, which we have defined in the preceding analysis.

Finally there is the question of time scales. Political and institutional reform, and the evolution of social attitudes are slow processes; large-scale economic transformation and infrastructural development will not take place overnight. Furthermore, the fast developments of a changing world put limitations on the scope of this risky analysis. We therefore focus our attention on the medium term, limiting the analysis to the next 5 to 10 years, a period by the end of which we may only expect to begin to see the emergence of a new pattern of development for the central Mediterranean area. This constraint of time reinforces the great need for a rethinking of both EC and national policies which must be planned and coordinated within the guidelines of a longer-term framework.

As a footnote, and key to interpretation of the three scenarios as integrated rather than separate views of the central Mediterranean area, it is important to clarify the fact that the hypotheses, and hence the results that they produce, do not represent a set of distinct alternatives. The scenarios are therefore 'overlapping', in the sense that they largely represent qualitative and quantitative differences in the same variables.



## 2. First scenario: fragmentation

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### 2.1. The international context

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#### ***The central Mediterranean area surrounded by conflicts***

The political insecurity of the northern, eastern and southern borders of the central Mediterranean area will remain unless the European Community plays a significant role in promoting European regional stability.

This leads to a policy of injecting resources into the central Mediterranean area to strengthen it as the southern border outpost, without much hope of autonomous economic development in a safe economic and political environment.

Within the central Mediterranean, Greece suffers most from the conflicts: in northern Greece by the 'Macedonian questions' and elsewhere by the persisting controversy over Cyprus, which prevents the Greek economy from prospering from greater cooperation within the Aegean area.

Population movements towards the central Mediterranean from crisis regions such as Albania, Croatia or the Maghreb and Mashreq countries increase. Tight control over such movements remains the only possible response for the EC in the absence of a clear and efficient policy stance towards economic integration and the redistribution of resources.<sup>1</sup>

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<sup>1</sup> On the whole, however, one has to admit that within a 10-year perspective population movements are rather independent from a successful policy of internal restructuring and growth in the non-EC Mediterranean countries. An effective and successful policy could not diminish the pressure towards the EC, and would most probably increase the expulsion of manpower. This has been a stylized fact for most of the take-off periods of developing countries.

A further, and extremely large, possible increase in immigration pressure results from persisting crisis and instability in the Middle East. At present, there are large flows of workers into the Gulf area, originating largely in the proximate countries of North Africa. Were these flows to be blocked for some reason, either by conflict or falling demand for labour in the region, they could easily be redirected towards the central Mediterranean.

In general, the climate in the border countries is marked by the prospering of nationalistic and religious movements, causing a vicious circle of increasing conflict and poverty.

Economic relations and intra-trade of the southern countries remain limited as will the policy of economic cooperation. EC internal protection remains unchanged and the East-West relationship is still the first priority on the EC agenda.

#### ***The single market increases disparities***

It becomes clear that the central Mediterranean area does not benefit from the single market growth potential as forecast for the whole of the EC by the Cecchini report. In fact, as the forecast has already been downwardly revised for the whole of the EC, it will have to be much more drastically reduced for the central Mediterranean region of the Community.

The central Mediterranean area remains at the centre of EC policies whose final impact cannot easily be forecast. The conflict between policy objectives continues. On the one hand, a policy aimed at cutting public expenditure, reducing budgetary deficits and putting inflation in line

with the EC average has been enforced under the rules of present EMU policy. On the other hand, the implementation of a policy of economic and social cohesion, especially in Greece, allows for substantial transfers from the rest of the EC within the framework of EMU.

The outcome under these two opposite policy stances is uncertain, especially in terms of the medium-term growth perspectives. The final outcome most probably depends on two factors, the final destination of transferred resources and the growth of world demand.

More sound financial behaviour and a restructuring of aggregate demand policies can be more successfully enforced within the context of fast world growth than in a deflationary period, though this level of growth is largely an exogenous factor.

Internally, the question of resource transfers, which relates to policy decisions at the EC level, has a much more important effect. The objective must be to impact positively on investment and competitiveness: compressing costs and consumption to favour investment in restructuring, innovation and increased productivity growth.

The implementation of Community policies maintains its characteristics of sectoral fragmentation, excessive attention to agricultural price support and distinct lack of a general coordinated strategy (as in the experience of the IMPs — Integrated Mediterranean programmes).

In its capacity as a vehicle for the transfer of resources from richer to poorer sections of the Community, a necessary process for greater cohesion, the EC is unable under the existing arrangements, with the addition of the Cohesion Fund, to provide for sufficient investment in order to compensate for the severe shortfall in domestic financing.

The central Mediterranean thus remains in an extremely disadvantaged position with respect to the rest of the Community in its ability to provide an environment for competitive production.

## 2.2. The economy

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### *Slow unbalanced growth and greater dependence*

The economic growth patterns of the area remain largely dependent on the transfer of resources that in the case

of Greece come from the EC and in the case of the Mezzogiorno largely from the northern part of the country.

Growth policies in Greece combine social infrastructures with grants and production subsidies aimed at the spatial decentralization and diffusion of business activities. This policy remains in conflict with necessary stabilization policies.

On the whole the economic situation of the central Mediterranean maintains a stagflationary stance, even in the context of a recovery of world demand. Structural policies able to limit the extent of demand deflation, and therefore of unemployment and real income reductions, are not implemented.

Since some social groups suffer the impact of such policies, and some areas also remain behind, a policy of public works and income maintenance is implemented. In Greece a plan of large public works to partly absorb the excess supply of labour is already under way. In the Mezzogiorno the perspective is much the same as in Greece, as budgetary cuts will bring a combination of tax increases, and reductions in pensions and other social expenditure, both of which tend to reduce private consumption.

Regional policies and administrative activity remain highly centralized, blocking the emergence and development of a skilled local ruling class. Public investments are in many cases fragmented, with no interregional strategy, and are inadequate to prove competitive in an international confrontation.

The construction industry continues to be the greatest beneficiary of these investments; the rationality of this is policy sustained only by the scarcity of housing and by the inadequacy of planning capability.

Diminishing employment in the agricultural sector persists, especially in Greece. The large amount of investments in irrigation and cultural innovation is not correctly managed and promotes an excessive level of competition inside the Mediterranean regions.

The Mezzogiorno attracts the location of new industrial plants that are heavily subsidized by government grants, which have recently been directed towards a few large installations.<sup>1</sup>

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<sup>1</sup> At the moment, firms like Fiat, Piaggio, Texas Instruments and others are closing down plants in the north to move to the south.

Overall, the combination of deflationary demand policies and of a reinforcement of industrial supply could bring about important productivity growth in the central Mediterranean. However, industrial investments remain isolated by the logic of exploitation of government benefits, and are thus weakly connected with existing companies.

The tertiary sector continues to absorb employment, reducing productivity gains without the promotion of advanced products; advanced services remain localized in a small number of constricted nuclei, without territorial interconnections. Public administration does not guarantee an increased and adequate level of services; its only active role is to diminish pressure on the labour-market.

Under these conditions, the market is not able to play its role, internal and external financial imbalances persist unchanged, leading to a distortion of the existing social mechanisms of internal income redistribution. The limited ability to create new jobs and disequilibrium in the labour-market are destined to persist in the central Mediterranean.

This disequilibrium is further exacerbated by the migration flow from the south into illegal employment in the central Mediterranean area, and it forces the more highly educated part of the central Mediterranean labour force to migrate, draining skills which are necessary for the prosperity of the area.

### ***Persisting industrial weakness***

The persisting key problem in the central Mediterranean is the lack of any supportive industrial base. Financial transfers continue to find their way into unproductive consumption, with the result that the central Mediterranean economy remains heavily biased towards the assisted tertiary sector.

The productive sector does not succeed in creating an industrial 'system' and survives divided into efficient firms external in both their origins and their linkages, and many local firms with small markets and narrow horizons.

Firms translocated from outside the central Mediterranean find extreme difficulty in maintaining productivity because of the severe shortfall in the quality of services and infrastructure.

The net result is a complete failure to increase significantly the level of industrial employment; a factor that

constitutes a necessary condition for the recovery of the central Mediterranean economy.

## **2.3. The space**

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### ***Fragmentation and peripherality***

The continuation of existing policies maintains, or even worsens, the spatial fragmentation and the marginal position of the central Mediterranean within the EC. This is further exacerbated by the fact that the EC is strongly reinforcing its central communication networks and is slowly extending them towards Central and Eastern Europe, and towards Barcelona and Madrid to the west, neglecting the central Mediterranean area.

Linkages between the EC and the central, southern and eastern Mediterranean areas remain weak. The spatial organization of the central Mediterranean area, which is crucial to the efficiency of internal interconnections, remains highly incoherent; the Mezzogiorno and Greece are divided by the sea, the Tyrrhenian and Aegean regions of the central Mediterranean are penalized by inefficient and insufficient horizontal communication links. As a result, the connections with the north of Europe and the south of the Mediterranean appear almost non-existent.








In a phase during which the extent and impact of national and international competition is in general increasing, this weak, small-scale spatial organization diminishes the effectiveness of the productive investment.

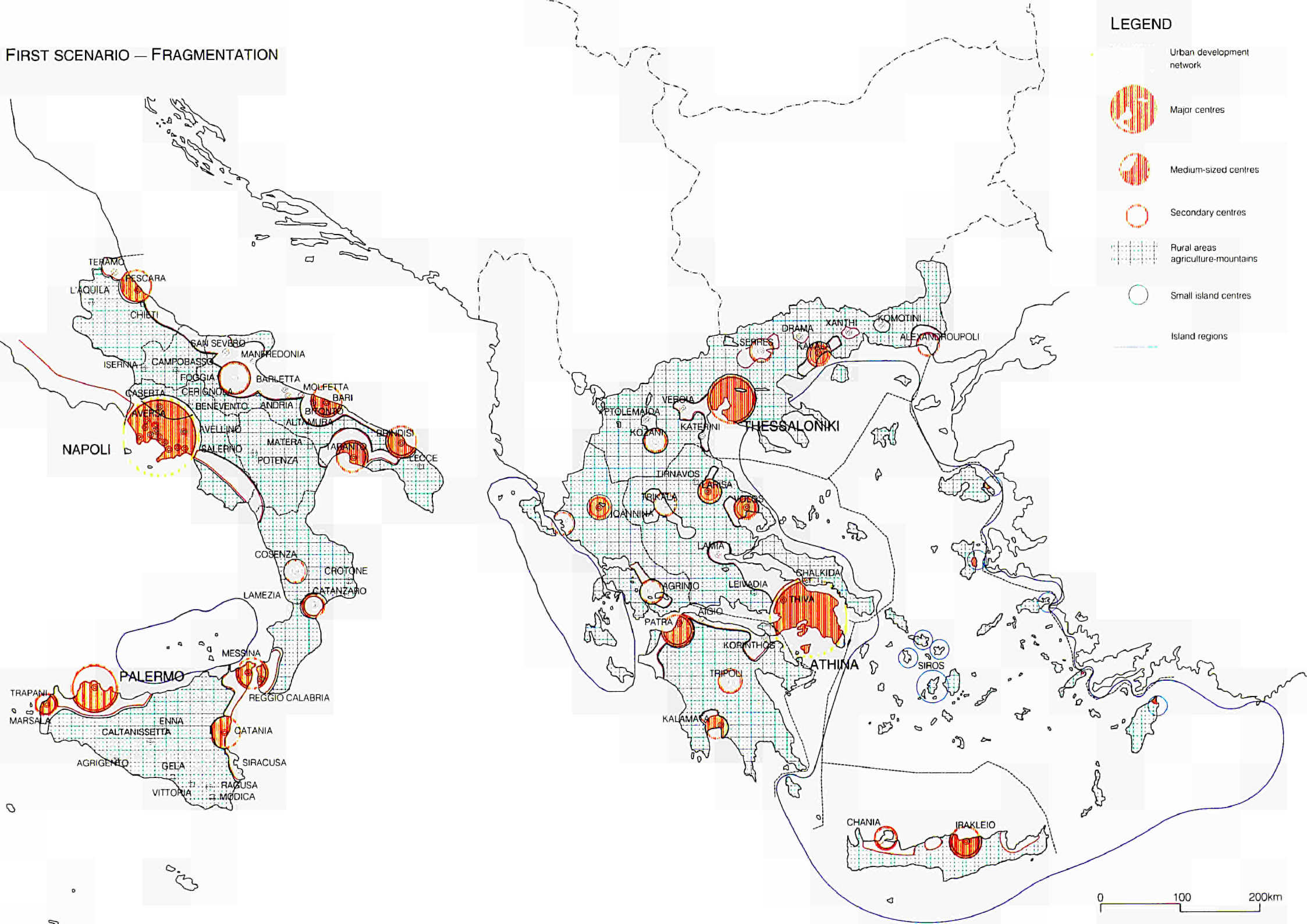
Planned infrastructural development in the Mezzogiorno and Greece is far from being capable of limiting the extent of this increasing peripheralization. The recent EC transport plan does not give satisfactory answers to this problem which will become central in the next decade, as economic development cannot come about in such a fragmented and marginal space, and the time span for the implementation of an efficient infrastructural plan is longer than 10 years.

The region therefore remains characterized by weak communication linkages between most subregion areas and especially between the eastern dynamic axis of Greece and the rest of the central Mediterranean area.

# FIRST SCENARIO – FRAGMENTATION

## LEGEND

-  Urban development network
-  Major centres
-  Medium-sized centres
-  Secondary centres
-  Rural areas agriculture-mountains
-  Small island centres
-  Island regions



### ***Persisting discontinuity in the urban networks***

The continuation of the present trends causes increasing disparities between urban and rural areas, continental and island regions, the eastern developed north-south axis and the western less-developed axis.

This is clearly shown in the first scenario map above. In the Mezzogiorno, existing connections to the north are maintained, Naples with Rome, and the relatively strong Adriatic axis, while within the region there is no east-west interconnection. The south of the Mezzogiorno and Sicily remain virtually completely isolated in this respect. In Greece, there are only isolated nodes and patches of urban networks. The only area with any real interconnection is that surrounding Athens and extending to Patras in the Peloponnese.

### ***Uncontrolled abuse of the environment***

Within the central Mediterranean, poor territorial management is largely due to the inefficiency of the administration and to the emergence of a mode of development which is based to a significant degree on illegal activities (specifically, illegal unplanned construction and urbanization, waste disposal and other pollution).

Not only are current policies and those envisaged in this scenario unable to reverse this trend, but there is, in fact, very little attempt to address this problem. Planned intervention (for example increased expenditure in the Mezzogiorno, and the provision of EC funds in Greece for the underground rail system in Athens) represents only a partial recovery, which is extremely limited both in its extent and in its capacity to generate a new system of territorial management.

## **2.4. Spatial organization**

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### ***The Adriatic axis***

The Adriatic axis is favoured by its relatively much better organized and equipped space. However, it does not succeed in establishing an autonomous pattern of growth.

This area increases its dependency on national transfers and the mode of industrialization is dependent on the relocation of northern firms. The productive fabric of SMEs suffers a strong crisis in traditional sectors and the capacity for technological innovation remains low.

The axis remains underequipped in terms of communication networks and in terms of linkages with the rest of the Mezzogiorno.

### ***The Tyrrhenian axis***

The main problem lies in the prospects of the main metropolitan centres located along the Tyrrhenian axis: Naples, Palermo, Reggio di Calabria, Messina and Catania.

In these cities, private construction interests prevail and urbanization proceeds in a chaotic manner, inhibiting their directive functions; the historic centres remain in a state of abandon, reducing the scope for tourist activities.

The future growth of the Tyrrhenian axis hangs in the balance, depending on an unlikely restructuring of industrial activity in Naples and the surrounding region and in Catania. Messina, Reggio di Calabria and Palermo are in a critical situation since there is no productive base to provide the leverage for an industrial recovery.

Unemployment in the metropolitan areas is destined to increase, rising to emergency levels. Worsening social conditions lead to increasing crime rates.

From a spatial point of view, these areas are under-equipped in terms of the physical and social infrastructures they need in order to guarantee an efficient organization of industrial activities.

The case of Sicily is particularly worrying, as the quality of its transport connections with the continent remains very low, penalizing particularly agricultural exports and tourism. Its central position in the Mediterranean Sea therefore acts as a handicap rather than as an advantage, because the connections with the south favour a significant flow of immigrants more than anything else.

### ***The Greek 'S'***

The limited number of secondary urban centres and the weakness of the axis in terms of providing potential

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<sup>1</sup> The topmost points of the axis are in eastern Macedonia and Thrace (*nomoi* of Kavala and Xanthi); the axis then passed through central Macedonia (Salonica) and western Macedonia (Kozani and Kastoria); it turned downward along the Aegean coast to touch the *nomoi* of Thessaly (Larissa, Magnisia), western and central Greece (Akhaia, Viotia, Euboea, Fthiotis) and finally reaches the Attica *nomos* of Peloponnese (Corinth).

poles of attraction, remains at the centre of the priorities for spatial policies in this axis. The productive structure of secondary urban centres is significantly affected by the inflow of labour from rural agriculture.

In a context of slow growth of industrial production, the modernization of the productive structure of urban centres is based mainly on the uniform pattern of an over-expanded tertiary sector. These urban centres do not develop a sufficient and significant export base and therefore depend on transfers from the State and from the main industrial centres.

Athens and Thessaloniki, which still attract most of the new investment and additional activity, continue to be at the centre of a very limited decentralization within the immediate vicinity. The remaining urban areas continue to rely on agricultural activities which depend heavily on the outcome of the EC common agricultural policy reform, and especially on income support expenditure.

### ***Internal and western Greece***

The continuation of conflicts in the Balkans provides the incentive to reinforce transport connections between the north-east and north-west of Greece and Puglia, providing an alternative transport artery for the central Mediterranean into northern Europe through Italy.<sup>1</sup> In this context of emergency, this solution represents only a very limited advance for the western part of Greece, supporting at best only local enterprises and a small flow of trade between Greece and northern Europe.

### ***The islands***

Emigration from the Greek islands is destined to continue. The infrastructures (transport, communications, services) are too poor to diversify activity away from the traditional dependency on tourism.

Tourism itself continues to be highly seasonal in the absence of a diversification of supply within this sector, and reduces income-generating activity in the islands to a few months of the year.

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<sup>1</sup> A further 'second best' solution would be to improve the linkages from Greece through Bulgaria and Hungary.

## 3. Second scenario: potential for recovery

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### 3.1. The international context

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#### *An end to direct conflict; barriers to cooperation remain*

The preconditions for a reduction in the geopolitical isolation of Greece, and for the opening of the international markets for the Mezzogiorno are the rapid resolution of external conflicts and greater integration between the EC and the neighbouring regions.

In the Balkans 'peace' creates a highly unstable and fragmented space. Internally, relations between the new sovereign States are thus very poor, producing a plethora of ineffectual bilateral relationships between these 'regional' countries and the Member States of the EC.

In the south Mediterranean, a reduction in the level of animosity between Israel and the Arab countries and an end to the conflict in Iraq is realized. However, the situation is still unstable, with the nation States of the Mediterranean basin maintaining their national contrasts and centralized economic structure, blocking the path towards greater regional integration.

EC policy in general in this arena remains weak, extending only to isolated initiatives to promote the development of north-south relations. Within the context of a more competitive environment, it is therefore the activities of private sector European companies which have a much more significant impact in the building of concrete economic ties with the non-member countries.

Overall, developments in the geopolitical sphere do little to drastically improve the position of the central Mediterranean, though in the long term they provide the foundation for increased integration.

#### *Softening of the constraints within EMU*

With the move towards EMU, it is clear that a greater level of integration within the EC requires the attainment of a considerable degree of convergence between the EC economies. This is especially problematic for the poorer regions of the Community where 'real' convergence requires a high level of investment. In the central Mediterranean area, fiscal constraints are very strong, as efforts are made to reduce the budget deficits, while European currency stabilization requires an extremely tough internal monetary policy.

This situation creates an impasse; current problems within the EMS provide evidence of the incompatibility between the goals of nominal versus real convergence between the Member States.

This realization, that a higher priority must be placed on 'real' convergence and hence investment, and an acceptance of the associated difficulties from the point of view of 'nominal' convergence and monetary policy underlie the increases in EC funds which are made available for structural and cohesion policies, such as those envisaged under the Delors II proposals.

The present monetary strains that exist within the EC, embodied in the breakdown of the EMS, demonstrate that an increase in the funds available for intra-EC transfer and investment in poorer regions must be combined

with an acceleration of the implementation of Stage II of EMU, coordination of European monetary policy.

Furthermore, it is plain that this coordination must take the form of a 'give and take' arrangement on the part of all Community members. Promises of increased integration for the poorer Community regions are clearly not compatible in the short term with extremely hard-line monetary policy.

### **3.2. The economy**

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#### ***Patchy economic regeneration***

Within the central Mediterranean there are pockets of autonomous economic recovery in areas already successful during the 1980s. On a wider scale, political developments in progress begin to impact positively on the administrative system and its ability to direct rather than consume resources for investment.

The external developments of a more reflationary EC policy and increased regional business exchanges thus combine with some improvements in national policy to give a breathing space to those firms and sectors within the central Mediterranean that are already reasonably strong and well established.

Increased investment in infrastructure and some additional government and EC incentives promote the relocation of segments of Community industry towards the central Mediterranean, as well as the development of some local companies.

There is thus a degree of economic decentralization and strengthening of development both along the Adriatic axis in the Mezzogiorno and along the 'S' in Greece.

#### ***Greater agricultural specialization***

In the agricultural sector, Mediterranean production is expanded within a more integrated and equilibrated environment, under the umbrella of EC policy directed at reform of the agricultural budget and a rationalization of its objectives in line with those of the Structural Funds.

The lag between some more competitive areas (in Campania, Basilicata, Sicily and on the east coast of Greece) and the rest of the central Mediterranean remains. A general improvement in the agricultural

activities still requires a more diffused policy of advanced services and support for modernizing the majority of SMEs.

Agreements between producers emerge, along with innovations in the methods of production encouraging a more rational use of water, which remains a valuable strategic resource for the area. At the same time, agreement and cooperation with south Mediterranean competitors is at least promoted, even if not actually realized.

#### ***No long-term strategies for tourist activities***

Tourism is given a boost by increasing intervention, both from the EC and national governments, in environmental protection and by specific cases of reorganization in supply, as in Crete for example, but its development remains chaotic and with no long-term strategies.

The reopening of the former Yugoslavia as a tourist destination could furthermore have a mixed impact for the central Mediterranean. While an integrated 'tourist region' in the Balkan peninsula could enhance tourist revenues for both the central Mediterranean and the former Yugoslavia, the existing highly fragmented tourist supply can only generate a situation of competition, reducing the overall demand for tourist services in the central Mediterranean.

#### ***Isolated industrial expansion***

The internal economic structure of the central Mediterranean is still far too weak: the level of competitive industrial employment remains insufficient to sustain autonomous development and growth.

Non-tradable tertiary activity continues to absorb an excessive percentage of the labour force, perpetuating the dependency of the central Mediterranean.

The various 'islands' of activity that exist have neither the characteristics of industrial 'districts' nor the capacity to spread autonomously and thus to create an integrated economic system.

In many cases the new industries remain linked to the northern markets, operating under external control in specialized sectors. They can thus provide no direct contribution to the development of the central Mediterranean as an autonomously viable economic space.



In short, the strengthening of industrial complementarities within the central Mediterranean that is necessary for integrated development simply fails to materialize.

### ***Development unable to spread***

As outlined above, there are some notes of optimism in this scenario for an economic recovery in the central Mediterranean area. However, the key structural weaknesses remain, and these will continue to constrain severely the possibilities for significant growth in employment and output.

'Islands' of economic regeneration emerge, though these are unable to expand laterally, and development is thus unable to spread to neighbouring regions. This will limit the possibilities for future growth even within these 'success' areas. Internal demand cannot sustain growth for much longer, and already there is insufficient job creation to absorb the expanding labour force. While an improvement in the education and training needs of young people is realized, migration to the north in search of employment, with the consequent depletion of human capital, still remains the only possibility for many.

The norm remains one in which even internal links, let alone those across international borders, cannot be developed, because of a lack of infrastructure and communication lines, and the non-existence of production in tradable commodities at a competitive level. Increased EC transfers run up against local administrative barriers of inefficiency and poor coordination, and are unable to ameliorate the situation.

From this process a diversified development pattern emerges: for a short period, the position of the stronger industrial areas is reinforced with a greater productive integration and the births of a few new poles in the immediate area. However, over the medium to longer term, development prospects remain bleak.

### ***Persisting structural weaknesses***

There are three major shortcomings which emerge in the scenario:

- (i) the productive base remains far too narrow, providing insufficient employment, and is unable to sustain financially the oversized non-tradable service sector;
- (ii) the social and the administrative environment is unable to support the spatial organization required

for a rapid process of integrated and balanced economic development;

- (iii) disequilibrium in the labour-market persists. Agricultural employment continues to decline, immigration pressure is maintained and job creation is insufficient. Labour demand increases in the few 'growth' centres along the dynamic axes but this is outpaced by rising labour supply and, in general, unemployment continues to rise.

## **3.3. The space**

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### ***Patchy decentralization***

In this scenario, we see an expansion of development along axes principally composed of intermediate cities, and a consequent decentralization of productive activities from the metropolitan areas.

This is shown in the second scenario map below. The Adriatic axis in the Mezzogiorno extends to incorporate Taranto and smaller centres in the vicinity of the main poles, and the Tyrrhenian, axis projects well south of Naples, although it is still weak. In Greece there is a spatial extension of the urban network from Thessaloniki, though this is still not contiguous with the Attica region.

This decentralization is, however, slow to progress, operating chiefly along existing strong axes: the directive and functional capacity of the principal cities, which remain the strategic nodes of an urban network, are still insufficient to coordinate spatial integration over a wide area.








A more decentralized pattern of development reinforces current demographic trends: falling population growth rates in large cities; rising rates in the smaller towns and in internal areas. In order to stem migration pressure to the cities, greater emphasis on the development of activity in rural areas is vital.

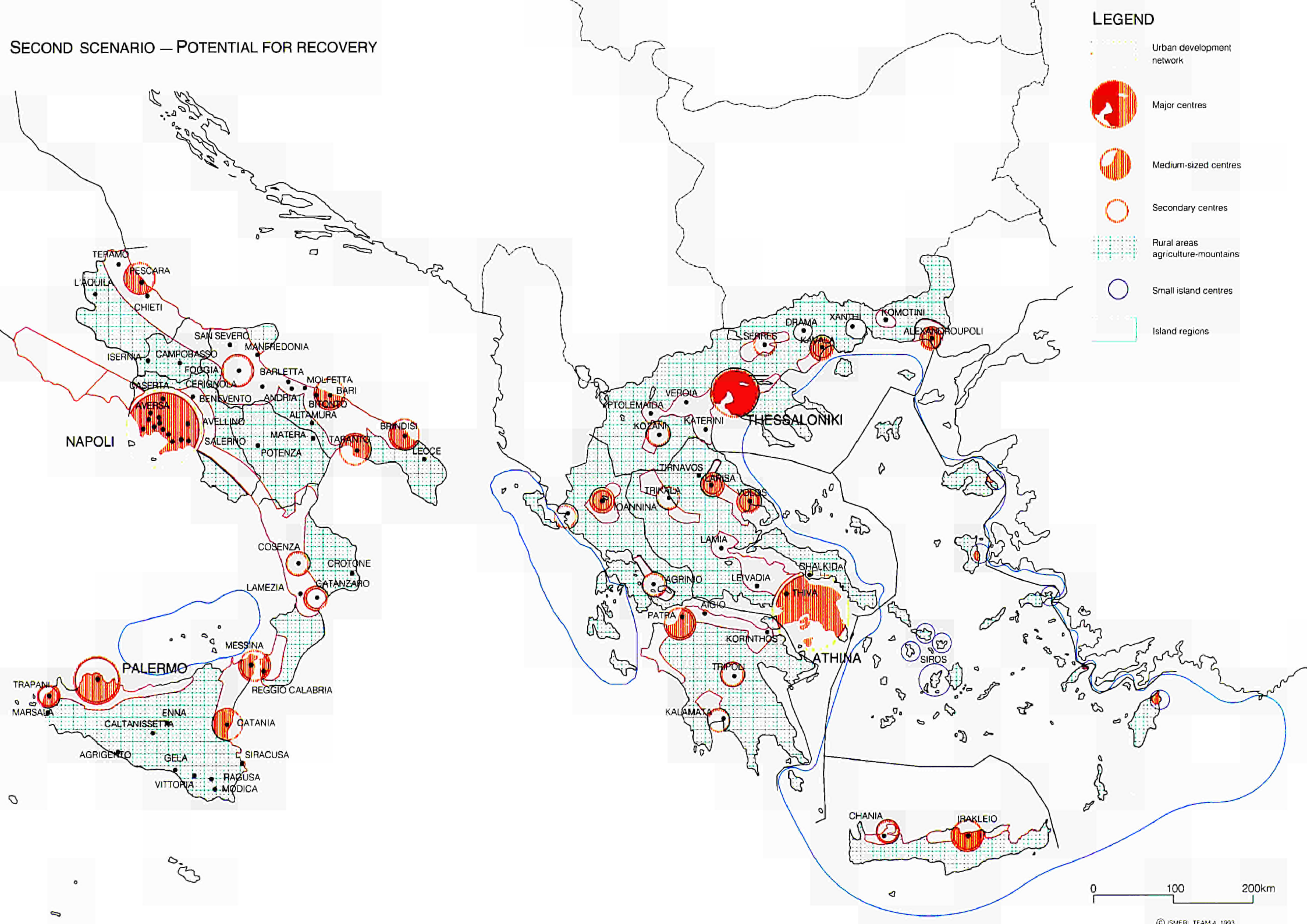
Increased investments in infrastructure succeed at a very basic level in reducing the gap with the rest of the EC largely through renovation rather than new construction.

This reduction is, however, far less than that needed in order to functionally link urban areas. Interventions at this higher level remain restricted (high-speed rail, dedicated communications network, etc.). The quantitative

# SECOND SCENARIO – POTENTIAL FOR RECOVERY

## LEGEND

-  Urban development network
-  Major centres
-  Medium-sized centres
-  Secondary centres
-  Rural areas agriculture-mountains
-  Small island centres
-  Island regions



0 100 200km

capacity of transport links is thus increased, but the quality of connections and the ability to support large-scale information flows remain minimal.

The greatest obstacle to any increase in infrastructural efficiency, the scarcity of interconnections, remains. Spatial development remains fragmented in all peripheral areas (see map, 'Second scenario: potential for recovery'), particularly in Greece. The difficulty of planning new infrastructural development within a coherent framework persists, and many programmes result in fragmented networks or those oriented in such a way as to create linkages with northern EC regions only.

### ***Emergency policies for the cities***

In the large cities, interventions are directed almost entirely towards the reduction of pollution and the restoration of the environment in general (tourist attractions, conservation of monuments, etc.).

This action is founded entirely on an emergency approach, which is necessary given the gravity of the situation in some cities, but which is incapable of addressing the shortfall in the capability of these cities in terms of the effective management of the urbanization process. Emergency action must be integrated into a coordinated long-term strategy in order to encourage productive relocation and develop the range of administrative and operational services on offer.

### ***Inadequate environmental infrastructures and management***

The chief barrier to environmental improvement remains: the weakness of infrastructure. The administrative system is furthermore unable to monitor and control the management of the territory in such a way as to enforce legislation aimed at reducing environmental degradation.

In so far as it exists, legislation is thus still largely ineffectual. This means that, for example, there is little control over illegal and unplanned construction.

The problem of air pollution in large urban areas has not been resolved. The increasing use of catalytic converters and unleaded petrol lessens the impact of traffic pollution, but, within an environment of rapidly expanding public and private road transport, this effect is minimal. The basic requirement — to reduce the numbers of vehicles on the roads, particularly in the large urban centres — has not been addressed.

Mountain areas are also subject to continuing environmental degradation, not so much by tourism as by abandonment. Diffused policies to encourage active tourist participation and thus preservation in these areas have not been implemented.

Agriculture in the central Mediterranean also has a role to play in environmental conservation in rural areas. The importance of this role has, however, not been fully recognized, with the result that Community agricultural policy reform is directed almost exclusively at the rationalization of direct price support and not at environmental improvement as well.

## **3.4. Spatial organization**

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### ***An increasing divergence between weak and strong areas***

Fragmented spatial recovery of the central Mediterranean area has begun, but the results are much less proportional to the resources invested.

This is due to the high degree of spatial discontinuity, which inhibits the development of an integrated strategy, and the continuing inability of the administrative system to implement investment programmes efficiently.

The function of Athens should be to act as a directive and administrative centre providing a comprehensive range of services for productive units located in other, more suitable areas. However, these areas do not at present exist.

Failure in this field means the continuing decline of the functionality and attractiveness of Athens without the existence of other centres capable, even partially, of taking over its role.

The criteria establishing the location of large-scale infrastructural interventions and new (predominantly large-scale) productive investments are either politically motivated, constrained by administrative procedures, or simply weak in their conception and analysis, with the result that resources are allocated and investments made without any spatial coordination.

Specifically, the creation of networks (of relationship, intratrade, communications, transport, training and education interventions, infrastructures) is still absent; the distance between the large cities and rural areas dimin-

ishes in terms of income and opportunities, but spatially it is not filled by a buffer of medium-sized, structured, productive centres.

The picture of the central Mediterranean area as a fragmented space remains, and the differentiation between weak and strong areas is reinforced.

#### *The Adriatic axis: the dynamic area of the Mezzogiorno*

The Adriatic axis has exhibited a rather different pattern of growth from that in the rest of the region. It is characterized by more industrial activity, a greater number of endogenous small firms, more small and medium-sized cities, a lower level of State intervention and a less-hostile social and institutional environment.

This region is thus best placed to benefit from improvements in the national and international arenas. It can exploit expanding markets overseas and is able to absorb additional investment resources from the EC and national government in order to strengthen local infrastructure and provide opportunities for new firms.

The inadequacy of horizontal transport communications with the Tyrrhenian area of the Mezzogiorno and the difficulties in autonomously developing technological poles and innovation transfers move the gravitational centre of the axis towards the northern regions. With these obstacles, the capacity to spread the growth of this axis into the whole Mezzogiorno remains very low and limited to the relationships between a few large companies.

#### *The Tyrrhenian axis: the institutional impasse remains*

The bulk of the Mezzogiorno population is concentrated in the regions of Campania and Sicily which encompass the large metropolitan areas of Palermo, Catania and Naples. The performance of this part of Italy could not have been worse in the 1980s, not only in economic terms but also in terms of the degradation of civil life.

The basic problem is that the barrier to the development of this area has been chiefly a political and institutional barrier.

Institutionally, the end of the *Intervento straordinario* will give rise to the birth of a new regional policy. This means greater responsibility at the fiscal and planning levels for the regional governments of the Mezzogiorno.

Fiscal responsibility can ameliorate to some extent the efficiency crisis of public services, and diminish the pervasiveness of corruption; however, under the present structure, the required increase in planning activities at the regional level is certain to be in excess of the capacity of the administrative organs.

The success of a regional reform is still limited by clientelism and the lobbying strength of national political interests.

Certainly, dependence from central government will diminish, and competition between regions will increase, but for local administrations the balance between improved autonomy and a deficit of planning skills remains uncertain.

The modification of the social and political climate in the Mezzogiorno, the provision of new infrastructure (high-speed rail link and new airport in Naples, the completion of the Messina-Palermo motorway), and the presence of advanced services and production facilities form a group of elements that, even if not homogeneous, open new possibilities for the area.

However, a closer examination reveals that these new links do little to help the major part of the Mezzogiorno, and they are concentrated in improving the integration of the Naples metropolitan area with that of Rome and hence the north of Italy. Spatially, Naples essentially remains isolated from the rest of the Mezzogiorno.

#### *The Greek 'S' axis remains discontinuous*

The 'S' axis in Greece, like the Adriatic axis of the Mezzogiorno, has shown an above-average level of growth over the recent past. Some areas have benefited from the location of State firms or from specific regional policies, others from the relocation of firms from the Athens conurbation, and others still from industrial development that was endogenous in character.

However, the growth potential of the model of centralized development based on Athens was exhausted during the 1970s, leaving behind a heritage of fragmentation of the economic space, a marginalization of mountain regions and non-coastal areas, and an urban and environmental degradation of Athens.

As much as by necessity as by design, this categorically dualistic pattern of growth has begun to change. Weak processes of decentralization and relocation from the Greater Athens metropolis are under way, and these

are helped by the extension of EC resources, which are in this area particularly motivated by the need to reduce and repair heavy environmental degradation.

*Western and inland Greece: increasing regional disparities*

The regions which have most benefited from the slow spreading of development away from the Athens conurbation are those on the east coast of Greece.

All areas outside the development 'S' remain without exception completely and uniformly marginalized. There are thus great problems of internal integration which must be addressed.

The straightening of the northern part of the 'S' could contribute to the emergence of the east-west axis with increasing integration between Greece and the Adriatic area of the Mezzogiorno, but this is a long way from becoming a reality, and it will do little to assist the isolated islands and mountain regions.

*The islands: the case of Crete*

Within a positive environment, the development of Crete under the umbrella of tourism can be highly successful: in the past year, the island has significantly reorganized and diversified its tourist supply.

Although the capacity of the tourist facilities of the island is self-contained, in this scenario we foresee that it becomes increasingly the southern gateway to a larger tourist network branching out over all the Aegean Islands.

The effect is largely positive in terms of the increase in activity and the reduced marginalization of the Greek islands, especially given the prospect of an end to the tensions in Cyprus and the Middle East. However, in the absence of strict controls, there is the danger of significantly increasing the degree of environmental damage resulting from tourist activity as a whole.



## 4. Third scenario: integration

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### 4.1. The international context

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#### *Increasing EC integration and cooperation with neighbouring regions*

A decisive diplomatic initiative by the European Community assists the resolution of the conflicts and the stabilization of a new equilibrium in the Mediterranean basin between the old enemies, both in the Balkans and in the Middle East. In this new order, the conflicts on the Greek borders with Macedonia and Turkey are resolved.

The EC promotes an active policy of cooperation with its neighbours. This provides a particularly important position for the central Mediterranean as the bridge connecting the north and south Mediterranean countries, and for taking an active role in EC initiatives.

This role will furthermore open the way for greater economic cooperation in the diversification of production activities: final production in the central Mediterranean using intermediates produced in the south Mediterranean; the provision of transport and advanced services for neighbouring countries by central Mediterranean enterprises; the possibility of access to a far larger consumer market for central Mediterranean producers.

The positive effects of the new conditions also impact on migration flows from the southern Mediterranean countries: immigration pressure is stabilized and reoriented within a larger framework of north-south exchanges.

#### *A new EC Mediterranean policy*

The geopolitical transformation of the position of the central Mediterranean, and of the other Mediterranean regions of the Community, compels the EC to implement strong policies in order to integrate the area into the European political and economic system.

This policy has as its target the development of a social and economic environment in the central Mediterranean that is conducive to autonomous economic growth and is integrated within the entire EC economic system. At the Community level, this implies specific action in the Mediterranean regions for:

- (i) investment in social services, training and educational facilities;
- (ii) strengthening of communication and transport links within the central Mediterranean and with the rest of Europe: both vertically towards the centre and horizontally in the Mediterranean basin;
- (iii) provision of basic and intermediate infrastructures to support productive activity;
- (iv) development of research and development facilities in the central Mediterranean in order to encourage and promote technological innovation in central Mediterranean production.

These policies have been formulated within a framework designed to promote and increase direct investment in the central Mediterranean and in the Mediterranean regions.

Furthermore, to support this dissemination of activity and transfer of resources, EC countries will make efforts to lower interest rates and to develop an environment of rapid economic growth.

## 4.2. The economy

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### *Funding a higher level of investment*

The level of real public sector expenditure, i.e. that which reaches its final destination, in the central Mediterranean regions for direct productive investment rises. The increases in EC funds as proposed by the Cohesion Fund and Delors II are not by themselves sufficient.<sup>1</sup>

In this scenario, a reduction of the obstacles to investment for the structural transformation urgently required in the central Mediterranean economies is possible:

#### *Macroeconomic chains: changing macroeconomic conditions*

The relaxation of the macroeconomic chains binding the central Mediterranean economies through changing monetary conditions at the EC level gives greater autonomy to the central Mediterranean in interventions for structural adjustment.

#### *Greater efficiency of public expenditure*

Reform of the public administration and institutional framework enables a far greater proportion of available resources to reach their final destination. This requires:

- (i) the promotion of a clearer division of responsibility between the regions and central government, and an increase in accountability;
- (ii) the reform of public administration, particularly in the Mezzogiorno, to ease the process of resource allocation, planning and expenditure.

#### *Private sector involvement*

- A stronger role for the private sector in the management of industry and infrastructures, and in the provision of services would provide a significant increase in the efficiency of these operations.

- Increasing private sector investment within a more stable public policy environment is also able to provide an important addition to available resources.

It is however important to break the bond of political corruption that currently links sections of the private sector to the mismanagement and misuse of public funds. This problem can be reduced through privatization of public sector operations, thus increasing the influence of market forces and the incentives for efficient operation.

### *A new pattern of development*

The characteristics of the central Mediterranean have undergone a profound transformation. The picture of fragmentation and isolation, weak industrial structure and external dependency becomes one of spatial and economic integration, with an autonomous capacity for growth in productive activity and a position of international centrality with respect to the development of the EC and of the Mediterranean basin as a whole. This will reinforce long-term stability and lead ultimately to the development of an important and significant region of growth and exchange with the EC at its centre.

The pattern of development promoted in this integration scenario favours the emergence of a new model of development in the central Mediterranean, based around the growth of small enterprises in the less-developed areas, supported by the technology and expertise of larger external industries which have an active interest in the development of the area. The presence of these large firms is of great importance as they are able to support research, development and experimental activities that are simply not viable for smaller enterprises.

The key sectoral transformation of the central Mediterranean economy and necessary first objective of this process is thus the strengthening of the industrial sector, in terms of employment, value-added, efficiency, productivity and, above all, in the relationship between the industrial, agricultural and tertiary sectors. The industrial sector alone cannot support the development of the central Mediterranean, but in this light, it returns to its correct position as the driving force of the central Mediterranean economy, within an environment of mixed sectoral production.

The sectoral transformations have three basic characteristics.

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<sup>1</sup> At present EC funds allocated in Italy but not spent total approximately LIT 2 000 billion.



(i) Strengthening of the traditional sectors

Within this new model of development, we can foresee the emergence of 'industrial districts', providing the 'environmental' framework necessary to support small and medium-sized enterprises. In this territorial reorganization, traditional sectors (textiles, clothing, and footwear) are especially revitalized by growing external economies and increasing innovations.

Networks of small and medium-sized enterprises provide successful and innovative growth, and local, national, and EC policies are all targeted to the provision and strengthening of this spatial cohesion.

(ii) Increasing presence of external innovative and technologically advanced firms

The development of a spatial organization and the autonomous capacity of the central Mediterranean to grow economically attract direct investment and the relocation of firms, small and large, from outside.<sup>1</sup> This condition permits the necessary technological transfer and the development of advanced sectors in the central Mediterranean (informatics, and aeroplane construction in the original pole of Naples).

(iii) Increasing numbers of firms directed to the external demand coming from the emerging Mediterranean countries

The increasing trade in the Mediterranean reorients the markets of many firms and favours the growing of services for transport, communications and shipping. This last sector increases especially in Greece, where it has traditional strength. Sicily, too, is well placed, both geographically and in terms of actual trade patterns, to increase its range of activities.

### *Agricultural transformation*

Reform of the CAP produces a coordinated agricultural policy, which has as its main goals the maintenance of a competitive agricultural sector and the preservation of the environment. In the central Mediterranean, of special importance is the diverse nature of modes of agricultural production between regions and the different policies that they require. Within the context of environmental

<sup>1</sup> The current policy structure of incentives in fact does little to aid this process: firms such as Fiat in Italy relocate to the central Mediterranean only because the State effectively foots the bill for construction, investment and translocation, and not because the central Mediterranean provides an economically attractive proposition.

management, the role and value of traditional modes of agricultural production coexisting alongside modern high-productivity cultivation must be recognized.

The agricultural interventions are targeted to the modernization of agriculture, to the connection of producers with the markets, to the planning of water resources and to generating agreements between Mediterranean producers. The expansion of supply of Mediterranean products towards the extra-Community markets is also supported.

Integration of the agricultural sector with the foodstuffs industry is enhanced by the restructuring and expansion of the physical infrastructure in the area, and the development of commerce in the growing market of the North African countries.

### *Tourism*

Tourist activity continues to be important in the central Mediterranean, and, in this scenario, will benefit particularly from reorganization of provision, with respect to the level and quality of tourist-related services and the development of a spatially integrated network of tourist facilities.

Greece is favoured both geographically and in terms of existing facilities, to become the central stopover point for the south-eastern Mediterranean region as well as the Balkans. Besides the growth of mass tourism, there are good prospects for a differentiated model of tourist activity, such as ecotourism, agrotourism, and greater access to mountain areas.

### ***Backward areas remain***

Despite the widespread diffusion and extension of industrialization and economic development, some areas remain marginalized within the central Mediterranean (for example Calabria and the internal region of Greece). These regions are especially disadvantaged, and their successful regeneration is a long-term proposition. At the most basic level, the provision of an infrastructural network for transport and communication links with the more dynamic regions is vital.

A balance must be found in these regions between policies to support income and those strengthening productive activity, in order to maintain employment levels within the agricultural sector over the medium term, and prevent complete abandonment and large-scale emigration to already congested urban centres. There is within this framework considerable capacity for an expansion of tourist activity.

### ***Transformation of the labour-market***

The sectoral evolution and the strengthening of the autonomous development capacity of the central Mediterranean will impact positively on the level of employment and on the characteristics of the labour-market.

A high rate of growth in output provides employment generation which is sufficient to absorb labour force increases resulting from the decreasing emigration from the central Mediterranean, and the continuing flows of immigrants. An endogenous reduction over the medium term in the growth rate of the labour force is, in any case, favoured by the decline in birth rates in the central Mediterranean.

The number of immigrants depends to a certain extent on the legislation in operation, but immigration pressure is likely to increase along with the attractiveness of the central Mediterranean area. There is the further probability that of the many immigrants who formerly entered the central Mediterranean merely as a stepping-stone to northern Europe a larger number are likely to remain.

The labour-market of the central Mediterranean slowly loses its 'defensive' nature, as the position of the public sector as the only provider of steady employment with rising wages is eroded. This process involves an evolution of social as well as economic behaviour and will thus take some time.

The public sector has had significant distortive effects in the central Mediterranean labour-market, fostering particularly a characteristic of political rather than economic entrepreneurialism. Success thus depends on the ability of the entrepreneur to overcome political and institutional barriers rather than to profit through operational efficiency and innovation.

Policies for human resources have been adapted to the new patterns of growth: the regional training system is completely reformed and now responds quickly to the changes in labour demand and supply; the links between industry and universities are reinforced; a system to orient the different segments of labour supply towards training and work is created.

The labour-market becomes more flexible, more dynamic, with greater mobility of a more-qualified supply of labour, and above all a greater security of employment in the private sector.

### **4.3. The space**

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#### ***Significant reduction of the spatial fragmentation***

The spatial transformation implicit in this 'integration' scenario produces a significant reduction in the level of spatial fragmentation that has long characterized the central Mediterranean area.

This increases the external accessibility of the central Mediterranean territory, and enables the central Mediterranean to increase greatly its economic potential and the effectiveness of its role in the international arena.

The third scenario map shows that connections begin to appear from the north of Greece into the neighbouring countries, while the major and secondary centres of the Mezzogiorno are well interconnected both between themselves and towards the north of Italy.

In Greece, the picture of isolated and patchy development disappears, with both Athens and Thessaloniki well connected with smaller intermediate centres in all directions.

Spatial integration is important both for the large cities and ports, which are able to function as nodes for the movement of goods and information within an integrated system at the national and international level, and for smaller settlements, which can exploit their comparative advantages within a wider economic system.

#### ***Strengthened infrastructural provision***

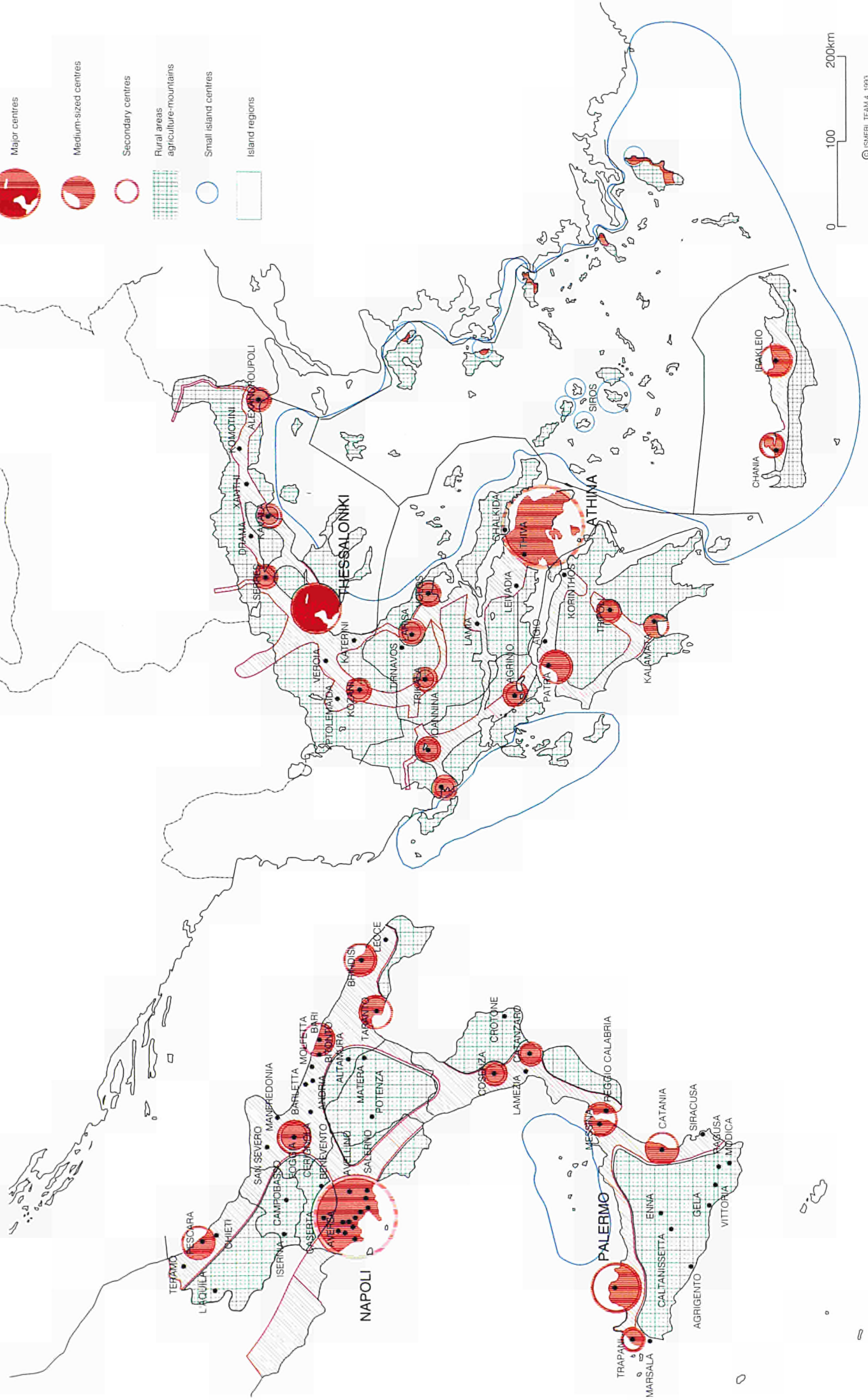
The strengthening of the economic position of the central Mediterranean within the EC gives a new impulse to the reinforcement of the fundamental intercommunication axes within the region: the Rome-Naples-Bari-Igoumenitsa-Thessaloniki axis, and the Tyrrhenian axis from Naples to Palermo. The development of good infrastructural linkages along these axes is of importance not only to the central Mediterranean but also to the EC as a whole. A high priority is thus placed on the completion of connecting infrastructures such as the bridge across the Straits of Messina.

Infrastructural development is greatly dependent on the level of resources available for public expenditure and the efficiency of the planning and operational mechanisms of the public authorities responsible. As

LEGEND

- Urban development network
- Major centres
- Medium-sized centres
- Secondary centres
- Rural areas agriculture-mountains
- Small island centres
- Island regions

THIRD SCENARIO — INTEGRATION



we have discussed, this scenario encompasses improvements in both these fields. The extension and completion of a basic integrated infrastructural network over the central Mediterranean territory will thus become a concrete proposition, which is realizable over the medium term.

Infrastructural extension supports functional recovery in the major cities. Together with the restoration of historical centres, the primary task of providing a comprehensive range of services, and reducing the congestion and confusion created by overcrowding will be greatly assisted.

#### ***A Mediterranean dimension for environmental policies***

The intensification of productive activity across the territory of the central Mediterranean and in the Mediterranean basin as a whole implies renewed pressure on the environment. There must therefore be concrete policies to protect the environment, and above all there must be a rapid development of a system of environmental management that is able to monitor and enforce environmental legislation.

A primary objective concerns cooperation with the countries of the south Mediterranean in order to limit the environmental impact of increased exploitation of energy resources, and of greater commercial traffic in the Mediterranean Sea.

There is a new role to be developed for local authorities within the central Mediterranean, which must have the power and resources to monitor the state of the environment. This implies a profound reorganization of environmental policy so that only one institution, and not many uncoordinated ones, is concerned with environmental management.

The rationalization and modernization of productive activities and the improvements in infrastructure progressively allow for the transformation of attitudes toward natural resources as an economic rather than a free good.

This change in attitudes along with the appropriate educational and policy measures will improve the environment in urban centres as well in areas that are affected by special conditions (e.g. energy production, areas of seasonal tourist concentration, etc.).

## **4.4. Spatial organization**

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In order to diffuse decentralization, particularly east-west in the central Mediterranean, the completion of communication and transport links along the weak Naples-Bari, and Igoumenitsa-Thessaloniki axes is required. Ultimately, the emergence of a new strong axis linking Rome-Naples to Thessaloniki will serve to integrate spatially the central Mediterranean.

Prerequisite to this process is the location of economic, research and cultural activities within the secondary centres along these routes, and the development of transnational functions that render these secondary centres complementary to, rather than absolutely dependent on, their metropolitan counterparts.

### ***The Adriatic axis***

The Adriatic axis now represents a unique model of development, extending along the entire Italian Adriatic coast.

The segment of this axis within the Mezzogiorno territory is constantly increasing its capacity for autonomous development. The fabric of small and medium-sized enterprises is succeeding in developing a network of cooperation and intraindustry exchanges. In the coastal area of Abruzzi and in the metropolitan areas of Bari and Lecce, where a network of SMEs exists, industrial districts develop.

The completion of this process is possible with investments to consolidate the network of intermediate cities: the completion of transport, communication and telecommunication networks and the establishment of centres for technological development and diffusion within the area.

The increasing transport linkages with Greece and the proximate non-EC countries (the former Yugoslavia, Turkey and the Middle East) open new markets for local industry, but they also give also a strategic role to the Adriatic axis in interconnections between the south-east Mediterranean and northern Europe.

The phenomenon of decentralization from the north of Italy and from the area of Rome continues. This process will be greatly assisted by the provision of increasing transport connections between the Adriatic and Tyrrhenian axes.

### ***The Tyrrhenian axis***

The large cities of the Tyrrhenian axis (Naples, Reggio di Calabria, Catania and Palermo) recover their functionality and succeed in developing activity along the axis.

Large investments are directed to the recovery of the cities and to improving the connective transport infrastructure. New linkages (rail and road) have been completed between Messina and Palermo, and those between Naples and Reggio di Calabria reinforced.

Interventions for increasing the infrastructural endowment and social services, for the restitution of the cultural and tourist role to the historical centres and with the creation of research and technological poles, which can support the industrial activity, assure the recovery of the urban centres in Naples, Palermo and Catania.

A reform of the public administration, which recovers an active role in the process of planning and implementation of public investment projects, sustains and promotes investment.

In this perspective, as is shown in the scenario map, the gap between the area of Naples and Sicily (Palermo-Catania-Messina) has been filled, completing the Tyrrhenian axis. In addition, the increasing horizontal linkages with the Adriatic axis support the roles of intermediate cities, like Salerno and Avellino in Campania and Cosenza and Catanzaro in Calabria.

### ***The Greek 'S'***

The 'S' axis in Greece has no more discontinuities: it is now an uninterrupted space. Furthermore, there is a process of decentralization from Athens and a strengthening of internal linkages along this axis.

A network of intermediate cities between Athens and Thessaloniki permits the decentralization of activities from Athens. A network of intermediate cities between Thessaloniki and Alexandroupolis permits an increasing integration of local activities with the East European countries.

A faster and more efficient system of transport between the cities along the 'S' axis guarantees that basic communications are supported.

The decentralization from Athens is characterized by planned urbanization, by the reinforcing of urban transport and by the relocation of industrial plants to new areas along the 'S'.

The city of Athens benefits from the new international context and represents an essential pole for the relationship and the exchanges with the eastern Mediterranean. In this framework, shipping and advanced services increase their importance.

Two principal policies support the strengthening of the axis: administrative decentralization, giving more responsibility and autonomy to the intermediate cities, and large investments in infrastructures, which are directed to transport and communication systems and to the provision of services and intermediate infrastructural support for industry in the intermediate cities.

### ***Western and inland Greece***

This axis remains weak with respect to the 'S', but it reacts positively to new impulses from eastern Greece.

The area takes advantage of the new transport linkages with eastern Greece and with the south of Italy. The reinforcement of ports gives new opportunities for developments in an increasingly important environment of the Adriatic Sea.

The emergence of some centres along the coast and on the Igoumenitsa-Thessaloniki connections balances the demographic and social pressure coming from the rural areas.

### ***The islands***

Developments in two factors, transport and tourism, will have a very strong impact on the island regions in Greece.

One of the greatest problems in the islands has been the lack of a coordinated network of tourist facilities. Greater provision of infrastructure, particularly in terms of transport and communication facilities will greatly strengthen island integration, making possible a significant reorganization of tourist activities.

Environmental policy is also vital in the islands in order to prevent further unplanned and destructive expansion of tourism. Environmental monitoring and management must therefore go hand in hand with infrastructural development in order to protect as yet unspoiled and isolated areas.

Taken together, these policies will significantly increase the potential of the island regions, with a strengthening of the existing pole of Crete, and the emergence of a network of activity connecting the smaller islands.



## 5. The policy implications of the scenarios at the EC, national and regional level

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The scenarios that we have presented are based on different policy hypotheses; these differences depend essentially on the willingness and ability of Community, national and local institutions to implement policies for growth and development.

We have also presented the scenarios as 'overlapping' situations: not as alternative possibilities, but as three different levels of policy 'intensity' in solving the main problems of the central Mediterranean area. Here, we synthesize the main results in terms of the actions required at each of the different policy levels.

### ***Community policies***

The main target for the European Community is to give a strategic framework to the recovery of the central Mediterranean; this, to all intents and purposes, implies promoting the development of the Mediterranean basin and strengthening the linkages and the integration process between the advanced European countries and the central Mediterranean.

The European Community must implement two basic actions.

- (i) Increase the scope of cooperation between the EC and southern Mediterranean countries

This action can open new markets and create new economic functions for the central Mediterranean regions, which will benefit from their geographical location, transforming their 'borderline' situation into a construc-

tive 'bridging' role, linking Europe with the south of the Mediterranean.

Cooperation with the south Mediterranean needs a strong diplomatic initiative from the EC to reduce conflicts in the area. At the same time, cooperation remains the only possibility if we are to avoid future policy conflicts that would be required to block immigration flows from the south.

- (ii) Promote specific policies for the EC Mediterranean countries

The recovery of the Mediterranean basin requires the strengthening of the horizontal linkages within the area, from Andalusia to Rodi. Policies that develop only the north-south linkages would progressively increase the fragmentation of the Mediterranean regions. In this context, horizontal transport and communication axes in the central Mediterranean, from Naples to Thessaloniki, must become a Community priority.

The precondition for the realization of a new Mediterranean policy is to reorient and coordinate Structural Fund intervention in the various Mediterranean regions towards some critical objectives in order to avoid destructive competition and wasteful fragmentation of investments (a Community water plan for Mediterranean countries is one of the priorities).

The EC must also promote a specific programme, or a specific role within the existing programme, for technological innovation and labour-market management in the

Mediterranean regions of the Community. The industrial companies of the central Mediterranean are too weak to instigate internally sufficient R&D programmes, and existing Community initiatives in this field benefit only the northern regions.

Transformations in the labour-market in the central Mediterranean, especially decreasing employment in agriculture, are still taking place, and the rate of job creation is very low indeed; these trends must be addressed within a more general framework designed to fully develop human resource potential and fight unemployment in the region.

The new Cohesion Fund could represent an important Community instrument for the reinforcement of infrastructural provision in the Mediterranean areas, but the availability of the necessary resources remains the crucial constraint for a recovery of the central Mediterranean.

The internal budget difficulties, in both Italy and Greece, will severely constrain the level of national resources available for investment for some time to come, and will thus further downgrade the quality of infrastructures and public services. In order to alleviate this constraint, the EC must not only increase the quantity of resources allocated to the central Mediterranean, as provisioned for in the Cohesion Fund, but must also reform existing monetary policies with the aim of easing the monetary chains binding the poorer regions of the EC, and bringing forward the target of monetary union.

### ***National policies***

The necessity exists in both the central Mediterranean countries to build a regional policy.

In Italy, a new system for regional policy must be defined following the end of the *Intervento straordinario* for the Mezzogiorno; this means reorganizing and rationalizing the jurisdiction and the responsibilities of the national and regional administrations, and devising a mechanism for the generation and distribution of funds for regional re-equilibration. In Greece, administrative decentralization is the primary target for a reform of the administrative structure: at present, regional policies exist only on the basis of EC transfers.

The national governments must improve policy effectiveness. We have pointed out many times the weak capability of the central Mediterranean administrations to define and reach the targets of their initiatives. It is now an urgent requirement that the administrative

system be restructured in order to improve the efficiency of administrative procedures, and planning tools. In the Mezzogiorno, there are already signs of a breakdown in the linkages between local government, protected social groups and organized crime which may remove some of the more acute distortions in the system.

National policies must guarantee greater spatial functionality and a higher level of infrastructural endowment.

In Italy, the recovery of the existing fractures between regional (Adriatic and Tyrrhenian axes) and subregional (urban, coastal and rural economies) systems and the diffusion from successful development poles require the provision of a level of infrastructural endowment similar to that in the north. Nationally coordinated investment projects are necessary for transport systems, water infrastructures, urban recovery and improvements in telecommunications.

The strategic infrastructural requirements for the Mezzogiorno are:

- (i) the interconnection of the whole of the Mezzogiorno with high-speed transport systems (the current high-speed rail programme stops in Naples);
- (ii) the creation of more than one intermodal seaport (the only one planned is near Naples) to ameliorate the efficiency of the whole transport system;
- (iii) the construction of the proposed bridge across the Straits of Messina, which, in the context of the above, assumes concrete importance;
- (iv) the improvement of water infrastructures and their management are required at the national level; policies must reorganize the responsibility for the water system and guarantee adequate resources for investment;
- (v) the reinforcement of intermediate cities in order to diminish pressure on larger cities and create a functional intermediate urban network;
- (vi) in the field of urban recovery, major intervention is necessary in the metropolitan areas. Amelioration of the interconnection network and the functionality of medium-sized cities is also urgent. National policies must give the basic guidelines and the hierarchy of priorities, in terms of resources and interventions.

In Greece, the effort for an improvement of the infrastructural endowment must be stronger than in Italy.



The gap with the European levels is even wider than in the Mezzogiorno and the possibilities for the connection of the internal transport system with efficient external networks are very limited indeed, and currently severely constrained by the conflict in the Balkans.

The improvement of communication and transport links between western Greece and Italy consequently assumes crucial importance.

This implies a need for the following:

- (i) improvement of internal transport networks to create concrete linkages along the eastern coast, supporting and promoting decentralization from Athens and promoting the growth of an axis of development from Thessaloniki to Igoumenitsa;
- (ii) high-speed transport connections between Athens and Thessaloniki and between Thessaloniki and the west, a basic requirement but currently a long-term proposition;
- (iii) strengthening of the small and medium-sized connections from the main axes to neighbouring areas;
- (iv) increased communication and transport linkages between the islands themselves and between the islands and the mainland;
- (v) special interventions in the metropolitan area of Athens, where the complete transport system (airport, road, underground railway and harbour) requires restructuring, organization and improvement.

National policies must abandon the support of the public sector industry and support local productive activities.

Until now, the industrial structure has been based, in the Mezzogiorno as in Greece, on a few large public companies and on a multitude of micro-firms oriented to local markets and weak in the face of external competition. This productive structure has failed and needs a new strategy based on private productive investments (internal and external), oriented towards the production of tradables and rooted in the operations of local entrepreneurs.

Increased industrial presence must be begun by the strengthening of local SMEs in traditional sectors (food, furniture, textiles and clothing), the creation of new firms in some innovative sectors and the promotion of syner-

gies between the advanced sectors and the rest of the productive system (in terms of technological diffusion, training systems, joint ventures, etc.).

The necessary support for investment in the central Mediterranean cannot consist only of financial resources, but also requires a supply of advanced services and an increase in the quality of human resources through education and training, increased opportunities for direct investment, and other measures directed towards productivity growth (e.g. fiscal incentives instead of capital grants, availability of venture capital).

National policies must also define the guidelines for the development of technological poles (parks, R&D centres, well-equipped industrial areas) in coherent terms of spatial diffusion, synergies with the public sector and education centres and coordination of the different initiatives and specializations.

An environmental policy must be defined in the central Mediterranean.

The recovery and reorganization of the central Mediterranean space is not only a problem of environmental infrastructures, which are however inadequate, but also of defined rules and environmental management.

The importance of the environmental policy in the central Mediterranean is not only a question of the defence of its own natural resources:

- (i) the central Mediterranean is the natural starting point for the protection and recovery of the whole Mediterranean Sea;
- (ii) the environment remains the principal resource for tourist activity;
- (iii) the environmental sector can be an effective instrument in fighting unemployment.

Along these main lines, the central Mediterranean national institutions must develop a long-term policy for the environment, which needs to be based on effective control and management of the local authorities.

National policies must also guarantee an environmental coherence among the various local, regional and national policies for programmes and projects in all fields, particularly infrastructural development and industrial policies. Greater transport demand and increasing industrial activity in the central Mediterranean will

have a negative impact on the environment in the absence of such policy coordination. Further degradation of the already damaged central Mediterranean environment could be fatal for the environmental equilibrium in the area and must be avoided.

### **Local policies**

Local policies must operate within well-defined guidelines set at national and EC level and promote specific activities within the framework of open regional competition in Europe. In the past, this has often not been the case, with local authorities in the central Mediterranean preferring to concentrate their efforts on gaining increases in the level of direct-income transfers from higher levels of government.

In Italy we have identified two different models of development along the Adriatic and the Tyrrhenian axes.

Along the Adriatic axis, the priority is for a reinforcement of the autonomous growth capacity, exploiting a more organized space and a more consistent diffusion of SMEs. In particular, local policy action in this area must improve the advanced infrastructure and services to attract external economies into a productive fabric that is still relatively young and weak.

The urban system along the Adriatic has to be strengthened, creating networks of intermediate cities and connecting the areas in Abruzzi with those in Puglia through modern transport and telecommunications systems.

It is also necessary to reinforce the external 'vocation' of the Adriatic, which is largely dependent on the north of Italy, by increasing export capacity and strengthening international relations.

Along the Tyrrhenian axis, the more evident priority is that of restoring the functionality and directive capacities of the large cities. Naples, Salerno, Reggio di Calabria, Palermo and Catania represent a high concentration of human resources, entrepreneurial capacity and traditional international linkages, but they are too weakly connected, lacking in sufficient stimulus for new activity.

The correct strategy for the large cities cannot only be based on the social emergency or on the tourist activities of the cities, but it must be defined in a long-term

perspective. Many factors must be taken into consideration:

- (i) The necessary linkages with the main international centres.
- (ii) The possible development of the local economy towards new markets (internal and external to the EC).
- (iii) Migration flows and the demographic trends.
- (iv) The reorganization of the urban expansion.
- (v) The necessary gains in efficiency of public services in the cities.
- (vi) The necessary improvement of industrial activities.
- (vii) Relations with intermediate cities along the axis.

Specific attention must be paid to the evolution of Sicily. At the moment, it represents a proving ground for the national and local capacity to promote a pattern of social and economic development that is not connected with clientelism and corruption. At the same time, its geographic position, size and the variety of activities present on the island, and the traditional and preferential linkages with the south of the Mediterranean, offer a range of development opportunities which are not present in other regions.

In Greece the three basic existing modes of spatial organization require specific local policies: the more developed eastern 'S', the rural west of Greece and the tourist islands.

The 'S' has been created by the decentralization process from its more important poles: Athens and Thessaloniki. The continuation of this decentralization process requires the strengthening of the internal integration of the axis (creation of intermediate functional centres, reinforcement of transport, support for local SMEs) and its greater access openness and access for trade (harbour systems serving the entire Balkan peninsula, connections and relations with the Eastern countries).

Within this general framework, specific interventions are necessary in the metropolitan area of Athens in order to diminish congestion, guarantee a higher level of public service provision (transport, water and energy) and decrease pollution.

Local policies in the western regions of Greece must address two principal objectives: the generation of external relations (connections with Italy and eastern Greece) and the balancing of agricultural activity with the increasing presence of other sectors. A balanced path of development in this area is necessary to sustain urbanization trends and to increase the level of GDP per capita, which is currently the lowest among the central Mediterranean regions.

The gap in infrastructures of this area must be filled in order to provide good connections with Italy and the eastern part of Greece and to permit the area to exploit the opportunity for development.

Small-scale interventions are also necessary in order to increase spatial and social cohesion within western Greece. The gradual creation of a network of small and medium-sized cities must be linked to increasing productivity in agriculture and to the development of new activities, capable of absorbing surplus employment

from agriculture and of generating a global increase in productivity.

In the large island area of Greece it is necessary to balance the natural spatial fragmentation of the region with the requirement to develop and expand complementarities between different island groups, and to create a well-structured tourist network.

The possibilities for the development of a sectorally-integrated system are evident from the experience of Crete, though here it must be remembered that the large size of the island is favourable for the spatial organization. To diffuse this model through the entire island region, it is necessary to promote 'interisland' planning and organization and to provide support for transport and communication networks. Open competition between the different islands would lead to uncontrolled abuse of the natural resources and limited overall gains in terms of income, and must therefore be avoided.



European Commission

**Development prospects of the central Mediterranean regions (Mezzogiorno-Greece)**

Luxembourg: Office for Official Publications of the European Communities

1995 — 281 pp. — 21 x 29.7 cm

ISBN 92-826-8789-9

Price (excluding VAT) in Luxembourg: ECU 40





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Price (excluding VAT) in Luxembourg: ECU 40

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OFFICE FOR OFFICIAL PUBLICATIONS  
OF THE EUROPEAN COMMUNITIES

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ISBN 92-826-8789-9



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