EP

United Nations
Environment
Programme

UNEP(DEC)/MED WG.170/4
16 October 2000
ENGLISH

MEDITERRANEAN ACTION PLAN

Sixth meeting of the Mediterranean Commission on
Sustainable Development (MCSD)

Tunis, 14-17 November 2000

PREFEASIBILITY STUDIES FOR THE SELECTION OF NEW THEMES

UNEP
Athens, 2000

Table of Contents

Local management and sustainable development;

Desertification and soil erosion;

Energy and transport and sustainable development;

Agriculture and the rural development;

Urban waste management and consumption and production patterns;

Health and the environment;

Combating poverty;

Major Natural Hazards;

International co-operation towards sustainable development.

Mediterranean Commission
on Sustainable Development

Pre-feasibility study
for the selection of new themes

LOCAL MANAGEMENT
AND SUSTAINABLE DEVELOPMENT

September 2000

(original english)

LOCAL MANAGEMENT AND SUSTAINABLE DEVELOPMENT
PRE-FEASIBILITY STUDY [1]

1 Introduction

Successful local management, as is nowadays considered within a context of sustainable development, is highly connected with the emergence and implementation of new forms of concerted action, often termed as 'governance'. This suggests the new interweaved relations between public sector, private actors and NGOs and the overlapping types of regulation: market, networks, hierarchies and institutions in a multi-level action context. The shift from 'Government' to 'Governance' signifies the orientation of the analysis not only of state agencies and institutions (e.g. local and regional governments), but also of the highly diverse range of social agents (of different types of interests, power and histories), participating in cooperative forms of decision-making.

In this sense Local Management gives emphasis to the prerequisites enabling 'effective cooperation', and 'alliance/coalition' among different interest groups acting in concrete policy domains/areas (e.g. wetlands, islands, mountainous or desert regions) in a multi-level framework. The prerequisites refer to the principles and tasks of 'mutual understanding', 'negotiating and bargaining', 'informal arrangements', 'networking and coordination of efforts', 'heterarchy and horizontal links', 'institutional capacity', 'social capital', 'trust between coalition partners/holders' (Stone 1989, Peterson 1981, Putman e.a.).

In the above context the role of local Government is crucial. Because so many problems and ideas for action addressed by Agenda 21 and sustainable development have their roots in local activities, the participation and cooperation of local authorities are determining factors in fulfilling such objectives. Local government today is close to the level where problems are perceived and closest to the citizens and shares responsibilities with governments at all levels for the well being of mankind and nature. Therefore, city administrations are key players in the process of

[1] This Report was prepared for MAP/MCSD by Prof. Panos Getimis, Director of the Institute of Urban Environment and Human Resources (U.E.H.R.) of Panteion University, Athens, Greece and Ms. A. Collovini, environmentalist (Environmental Planning Laboratory, University of the Aegean), in cooperation with PAP/RAC

influencing democratization and participation, the location of economic development, lifestyles, production, consumption, resource use and spatial patterns toward sustainability.

Since the Earth Summit was held in 1992 significant milestones have been achieved for advancing sustainable development principles among Mediterranean countries. With the assistance from the Mediterranean Action Plan (MAP) and external support programs, such as the UNDP/UNEP/UNCHS, the Mediterranean Environmental Technical Assistance (METAP), Capacity 21 of UNDP, the World Bank, the Centre for Environment and Development in the Arab Region and Europe (CEDARE), The Economic and Social Commission of West Asia (ESCWA), several countries have formulated National Environmental Action Plans, developed sustainable development policies, plans and programs, created National Sustainable Development Councils and held round tables discussion, as well as adopting other national sustainable development and environmental management strategies. In addition public, private and third sector agencies have moved to form regional associations and local sustainable development challenges. Notable examples include MED Forum, Medcities, the Arab Town Organization and the United Town Organization.

2 Importance of the issue in the Mediterranean

The Mediterranean faces complex development/environment problems. Its natural resources, notably its marine, terrestrial and water resources, whose availability and quality are under threat in the long or even medium term are subject to overwhelming pressures. Issues related to the environment, housing, transport and quality of life predominate in large Mediterranean cities that are undergoing rapid expansion. Urban areas, industrial zones and ports whose development has been inadequately controlled, the lack of effective sewage facilities and adequate waste treatment systems constitute environmental 'hot spots' that contribute to the pollution of the marine environment, the coast and the atmosphere.

The criticism to ‘market failure’ and ‘central state’ brought into the agenda the ‘governance’ issues, as the contemporary policy making in a multi-level territorial and functional context. Local management towards sustainability, based on new forms of governance, should become a priority subject of importance to the MCSD and the Mediterranean, since a wide range of tasks can be achieved, such as:

a. A widening/broadening of the forms of political representation (heterarchy vs. hierarchy)
b. More cooperative and democratic procedures of decision making

c. Efficiency (pro growth strategy) but also equity (through the distribution of benefits to more)
d. Modernization of the public sector (entrepreneurial spirit, new public management, benchmarking)
e. Increase the institutional capacity of the local context
f. Increase synergies, cohesion and complementarities of policies towards sustainable development

Although Mediterranean countries are based on strong central administrations in several sectors it has become apparent that local mobilization is necessary. As a result there is an increasing number of initiatives undertaken in Mediterranean countries, regions and cities which in a broad sense may lead to sustainable development. These are emerging through a variety of contexts (sustainable urban and local planning, coastal zone management, biodiversity conservation, sustainable use of resources and sustainable tourism strategies, etc) and are supported by a wide diversity of national and international programs and funds (UNEP/MAP, 1999).

In Turkey, for example, the International Union of Local Authorities is coordinating a multi-partner programme, funded for 50% of the budget by Capacity 21 and UNDP. The Programme aims at developing a new understanding, or new set of 'managerial ethics' in local governance. The LA21 in Turkey is based upon community participation, local stakeholders involvement, the establishment of local partnership, and the decentralization of the decision-making process.

In Tunisia a program has been designed for the assistance in the elaboration of local agenda 21 all through out the country, and a project has started with the contribution of EC-Life third countries and GTZ in the Northwest of the country. Further Sousse, the second largest city in Tunisia, has already adopted a Municipal Environmental Plan, which is considered to be an important facet of a local agenda 21.

Another example of action toward sustainable development and local management refers to the Krka river waters and national park in Croatia. An investment program was initiated by the government and implemented in coordination with UNDP-Capacity 21, METAP-CBU and the World Bank. The goal of the project was to formulate a project proposal for sustainable development action plan for Krka River and the protection of Krka National Park.

In the Mediterranean, Local Authorities are still developing their capabilities to manage the local complex problems. However it is widely recognized that local authorities play a key role in

fulfilling objectives for sustainable development. They should facilitate consensus building among local communities, business and industrial organizations towards the elaboration of a sustainable development strategy. In local management the integration of environmental concerns in sectoral policies is a key aspect for sustainable development. For this reason local authorities mainly deal with the application of environmental criteria and strategies for urban and local planning in order to achieve integrated management, that allows economic development, respect of natural resources, and to develop tools for survey and decision.

3 Assessment

In spite of the increasing number of initiatives towards sustainable development that are implemented in the Mediterranean at the local level, the majority by far are at an early stage of launching, mostly at a planning preparatory phase, with little evidence of outcome or concrete results. This can be attributed to various factors as it is reported below (UNEP/MAP, 1999).

- In most Mediterranean societies there is still a strong reliance on the public sector to provide services while other economic and social actors are not present or developed enough to share responsibility and participate in collaborative social action.
- There is a wide diversity of institutional settings among Mediterranean countries, which affect individual performance. However, most of all, performance related to national level is dominant in policy making in all Mediterranean countries.
- Most Mediterranean countries lack the necessary organizational structures and financial resources to cope with their present social and economic development problems.
- Most economies in the Region are still in a stage of economic development at which growth and restructuring are still priorities of overriding importance.
- In the cases where local governments lack central government support, sustainable development planning and management processes tend to falter and fine.
- Furthermore there is more evidence for initiatives in the northern Mediterranean areas than southern ones probably reflecting differences in accessing relevant founds, in communication and information dissemination on initiatives undertaken or an increased institutional capacity and flexibility to take advantages of opportunities for new activities.

Through National Agenda 21's, countries now have a framework in place, as well as enabling environment for further actions towards sustainable development, through the promotion of decentralized policies, programs and action plans. Therefore for advancing the process towards

sustainability it is necessary to refocus international and national efforts towards the localization of sustainable development. This process could include numerous strategies and principles, such as decentralization of decision-making from national to local authorities and ensuring transparency and accountability at all levels of government. It also include institutionalizing sustainability principles and processes and installing mechanisms to empower local communities to identify and prioritize their development needs and priorities, and to act upon these in an organized and responsible manner.

In order to indicate how local management issues can be successfully implemented in sustainable development policies, the following aspects have to be taken into account:

a. Identification of the main problems concerning sustainability at the local context (knowledge-holders)
b. Setting the rationale :Problems for whom? Setting priorities
c. Mapping of actors: who are the main stake-holders (public, private, NGOs of different interests)
d. Formation of partner coalition and consensus building in concrete policy domains
e. Operationalisation of manageable tasks
f. Implementation, assessment, benchmarking

MAP has a key role in sensitizing Governments in new concepts. It has been innovative at the regional level initiating activities that support SD action, whether in the form of organizing meetings (i.e. Santorini Workshop) or in establishing MCSD as a complementary mechanism. Through MCSD activities the components of MAP (RACs) have been engaged in SD activities (meetings, policy papers, etc.) and this feedback is ultimately to the benefit of Contracting parties themselves. MCSD is also a good platform to initiate and support regional actors other than the Contracting parties (NGOs etc.). MCSD is considered a unique model for initiating a dialogue between different actors in different areas related to sustainable development.

4 Feasibility

Local management and sustainable development is a key issue for the Mediterranean particularly since a lot of the environmental problems are highly localized and within the sphere of local management as for example, urbanization and urban development control, pollution and pollution prevention, etc. but also biodiversity protection, employment creation etc. which might be within the competence of national level agencies but of special importance at the local level.

A preliminary attempt for collecting information regarding sustainable development projects in the Mediterranean has been recently completed in "Improving the Environment in the Mediterranean: Lessons for Sustainable Development" (UNEP/MAP, 1999). The local management initiatives analyzed concern sustainable urban and local planning, coastal zone management and biodiversity conservation, sustainable use of resources as well as sustainable tourism strategies.

Many of the studied cases provide evidence of environmental deterioration due to uneven urbanization patterns, uncontrolled tourism development, unsustainable agriculture and transport which affect the quality of natural and social environment and aim to change the direction of the development.

Most of the projects collected in the section on local management - especially the ones promoted by the Public Authorities - deal with the application of environmental criteria and strategies for urban and local planning in order to achieve integrated management, that allows economic development, respect of natural resources, and develop survey and decision tools.

Some of them are promoted as pilot projects in localities of different countries or different sites of the same country, while other projects represent the answer to particular problems or specific concern. Most of the cases considered, implement management plans at the city or neighborhood level, while few projects are tools or planning analyses for environmental management in the public sector.

Most of the projects consider the integration of environmental and socio-economic concerns as a fundamental aspect of their organization. As a result, economic development policy is associated with the investigation of environmental carrying capacity and the impacts caused by new activities. Despite the fact that multi-sector approach is often a project characteristic, the environmental multidimensional approach is not always strong. On the other hand, the long term intergenerational perspective is not often considered as a priority in the plan.

Some of the lessons learnt from these cases are the following:

- The lack of consultation and exchange of information with the local community may lead to conflicts with certain local economic interests and way lengthy negotiations.
- It is important to promote co-operation among different sectors in order to agree on priority plans at the local level.

- Each municipality should study its specific environmental problems and develop land use and planning strategies on this basis. It is possible to redefine the strategies following an integrated approach for local development.
- Local management to be effective should incorporate both cooperative and democratic procedure towards partnership based on consensus and new assessment techniques (e.g. benchmarking, new public management) for the implementation of sustainable policies.

MAP has been a significant instrument for change and progress concerning environmental matters in the Mediterranean. Among achievements of particular importance are the creation of awareness concerning the importance of a healthy environment for the present and future of the Mediterranean and its people; a marked change of attitude towards protection of the environment, the policy making level and creating a sense of solidarity and the need to act collectively for the better future of the Mediterranean. As defined in the Action Plan for the Protection of the Marine Environment and the Sustainable Development of the Coastal Areas of the Mediterranean (MAP Phase II) in implementing sustainable development, priority has to be given to strengthening institutional capacity and policy coordination at national as well as regional, provincial and local levels, as appropriate. In this context MAP and MCSD should now assume a more active role towards assisting Contracting parties in capacity building, communication, cooperation, coordination and integration at regional and local level.

5 Methodology

There is a number of needs and gaps in local management and sustainable development planning in the Mediterranean Region which could be addressed under a Regional Mediterranean initiative for local management and sustainable development, such as:

- The capacity building and technical assistance efforts of international and regional organizations should be strengthened and coordinated to target and support Contracting parties in local or municipal sustainable development needs
- Within the national level strategies should be introduced to support local authorities to ensure that municipal plans, programs and activities are harmonized and consistent with national sustainable development goals
    - Design of regional and local policies ensuring that development objectives increase social cohesion, with a preliminary analysis of the particular structure

and dynamics of local communities, their social, economic, environmental characteristics

- Promoting participatory approaches and the creation of partnerships particularly with local governments during the planning and implementation of projects and programs
- Enhancing resources available to municipalities and local authorities for sustainable development planning and management

- Collaboration should be strengthened in order to build on existing sustainable development initiatives in the Mediterranean Region, so as not to duplicate efforts and reinvent the methodologies, processes and practices that have already proven successful
  - Study the mechanisms to transfer of environmental technologies and know-how to local level.
  - Partnership between regional organizations needs to be strengthened to maximize dissemination of lessons learned sharing capacity building experiences and expertise
  - Promotion of networking for transferring experience and knowledge for local sustainable development
- Bridging gaps in understanding and capacities for sustainable development planning and management between the northern and southern countries of the Mediterranean basin
- The rising role of NGOs especially in creating and disseminating awareness on sustainable development issues and challenges has to be recognized and strengthened
- Promote information dissemination and make it accessible and standardized, like methodologies for sustainable development planning and management especially among southern cities
- Rise awareness and enhance understanding and perception through the promotion of educational programs and demonstrative actions

The Program should be implemented in two phases:

In the first phase a preliminary analysis and a definition of priorities to be taken among the previous tasks should be done for example by a support centre, probably PAP/RAC, who would prepare the Term of Reference for a Position Paper on the issue. Two experts from the North and the South of the Mediterranean could be identified for the preparation of this basic document.

Successively, in a second phase, the Recommendations proposed should be discussed at MCSD level should be formed to address the specified priorities. The working groups should propose concrete alternatives to encounter specific problems and propose suggestion for the implementation of those actions that have been chosen. It is recommended the involvement of experts, decision-makers, NGOs and representatives of the local communities in the various phases of implementation.

Estimated costs

An amount of US$ 150,000 is estimated to cover the basic costs for this activity, share among the following expenses:

- Costs of meetings 80000 USD (two experts meetings and a major workshop)
- Travel expenses 10000 USD
- Administrative costs 10000 USD
- Remuneration of experts 50000 USD

Mediterranean Commission
on Sustainable Development

Pre-feasibility study for
the selection of new themes

DESERTIFICATION AND SOIL EROSION IN THE MEDITERRANEAN

September 2000

(original english)

Pre-feasibility Study

DESERTIFICATION AND SOIL EROSION IN THE MEDITERRANEAN[1]

INTRODUCTION

The MCSD has prepared a list of possible new subjects (issues and themes) from which to select the ones that will form the basis of the work programme for the 4-6 years to come. This list does not include soil erosion, drought and desertification as a stand-alone issue. Yet the issue is mentioned in the context of the theme "*Local management and sustainable development with emphasis on matters specifically related to.... **desert regions***"; and in the theme on "*Agriculture and the rural environment*" where specifically states: "***including land use, erosion and desertification***". Furthermore drought, soil erosion and desertification are issues that, although not mentioned, cannot be avoided in other two selected subjects: natural disasters and combating poverty. As a matter of fact one of the worst disasters affecting the Mediterranean basin is soil degradation and desertification which are indeed among the main causes of increasing poverty particularly in rural areas.

Soil degradation, erosion and desertification have been recognized as a major economic, social and environmental problem. They cause major losses in agricultural and forest productivity. In its most advanced stage erosion and desertification cause the abandonment of agriculture forcing migration. It has effects on fresh water resources reducing the capacity to retain water in water-catchment areas and also downstream for it is a major cause of sedimentation. Soil erosion and desertification are closely tied to fuel-wood shortages and deforestation. They are a main cause of increasing poverty in arid, semiarid and dry sub-humid regions and major obstacle to sustainable development. Soil degradation is one of the most serious resource management problems facing the world today.

Despite the Plan of Action to Combat Desertification adopted by the UNCOD in 1977 erosion and desertification intensified and were considered of major concern at the 1992 United Nations Conference on Environment and Development (UNCED) that called on the United Nations General Assembly to establish an Intergovernmental Negotiating Committee to prepare a Convention to Combat Desertification in those Countries Experiencing Serious Drought and/or Desertification. The Convention, adopted on June 1994, has been (June 2000) ratified by 167 countries. However, concerted efforts made so far by the international agencies and the UN as well as by national governments to arrest or reverse current trends have largely failed.

[1] This report is a condensed and slightly reviewed version of the one presented by MEDFORUM for MAP/MCSD, in cooperation with the Secretariat.

1. IMPORTANCE

1.1. Soil degradation and desertification as a priority issue.

Mediterranean land is estimated at about 8 million square km of which nearly 78% is fragile and prone to degradation if under intensive cultivation. Semi-arid lands (xerosols) represent 9% of the soil of the basin while desertic soils are 16.8% mainly in the North of Africa. About 5% are sandy soil (regosols) and salinized soils not suitable for any cultivation; 14.4% are lithosols on rocky terrain and finally 32% has a grazing a forest potential. The 22% remaining percentage, mainly luvisols and vertisols, has few problems however they have been intensively exploited for thousands of years and can be vulnerable to land gradient, water scarcity, climate changes, drought, and increasing intensification of land use.

Semiarid lands though very fragile can be cultivated under irrigation and in fact irrigation has been experienced an impressive expansion in the latest decades particularly in semi arid countries. The largest irrigated area and expansion on irrigation is registered in Spain where the irrigated area has increased from about 1.4 million hectares in 1950 to 3.5 million hectares in 1990. In Egypt the increase has been from about 2.6 million hectares to 3.3 million hectares, in Turkey from 0.9 million hectares to 2.3 million hectares, in Syria from 0.3 million hectares to almost 1 million hectares while in Italy, the third largest irrigated area in the Mediterranean the increase has been from about 2.3 million hectares to 3.2.million hectares.

The driven forces of soil erosion and desertification are in many ways the same or at least very similar. As a matter of fact erosion when associated with other anthropic and natural phenomena is a man cause or an intermediate phase towards desertification.

Erosion is caused by a diversity of natural factors among the most important are: soil characteristics, topography -the degree of slope- climate conditions and changes and the amount of bare soil exposed to the elements. Soil is left bare for many reasons: fields are left barren between harvest and planting time, after forest clearance there is a period of exposure before crops are planted and germinate, soil between row crops is bare if not mulched.

The fundamental characteristic of land use in the Mediterranean basin is a long historical intervention, predatory agricultural use, forestry and rangeland practices including fire, over grazing, over exploitation of forestry and of agricultural land, as well as water mismanagement. To this historical pattern new methods and modern techniques for agricultural intensification have been added exacerbating and accelerating the already existent deteriorating process. To the increasing aridity of the natural environment, resulting from the historical pattern, agricultural modernization particularly mechanization the extension of cereal crops into range-land, poor irrigation systems and increasing pollution have accelerated the deterioration of soils.

In the Mediterranean region land degradation caused by above natural and anthropogenic intervention materialize mainly in irreversible erosion, acidification and pollution of soils, land compaction, loss of organic matter, and alkalinization and water-logging. Soil erosion is intensified by other social phenomena such as land abandonment or recurrent seasonal like forest fires. In the Mediterranean region terracing is an ancient and traditional method of increasing agricultural land, that optimize the use of the scarce water resources, increasing yields and reducing erosion in mountain slopes. Yet the abandonment of mountain agriculture causes the non-maintenance of terrace resulting not only in increasing and accelerating erosion but also in mudslides, particularly during unexpected out-of-season heavy rains.

During the past decade desertification has been the dominant environment problem in the Mashriq countries where most land is either already desertified or vulnerable to desertification. Both wind and water erosion are a problem in all Mashriq countries, in Lebanon water erosion affects more than 1 260 hectares. Land degradation is expected to continue unless more measures will be undertaken. In the Eastern Mediterranean part of the basin the most pressing environmental concerns are: water resources (quantity and quality); the degradation of marine and coastal environment; and land degradation and desertification; the three problem interact closely.

In the southern Mediterranean shore more than 432 million hectares (57% of total land) are threatened by desertification. Land degradation is a very serious in the desert fringes of Algeria, the Eastern Rift and High Atlas regions in Morocco and the mountains regions of Tunisia. It has been estimated that erosion affects more than 70% of the agricultural land in Morocco and that every year disappear about 22 000 ha of arable soil. Agricultural activities, increasing mechanization, the extension of cropping on unsuitable land and overgrazing have resulted in continuing problems in the southern and eastern Mediterranean countries

The European Environment Agency reports that land degradation is a crucial and growing problem in Europe being the problem greatest in the Mediterranean region because its fragile environmental conditions that makes it prone to erosion. About 115 million hectares equivalent to the 12% of the total European land area are suffering from water erosion and 42 million hectares or the 4% of the total area from wind erosion

Desertification is threatening some parts of Spain Greece, Portugal, Italy, France (Corsica) Malta and Cyprus. The affected areas share common characteristics such as: limited freshwater supplies, precipitation that varies greatly both spatially and temporally, frequent and recurrent periods of droughts.

The Blue Plan estimated, in 1989, that over a total area of 166 861 000 ha, 48% was affected by light water erosion; 31.6% by moderate water erosion, 18.1% buy strong water erosion and 2.3% by extreme water erosion.

The European Environment Agency notes that information on the extent and severity of soil erosion and desertification is limited and that further work is needed.

Recurrent droughts are a major factor in the degradation of cultivated land and rangelands, particularly in the southern part of the Mediterranean basin. With each drought cycle desertification increases. Droughts and land degradation are often closely linked for while drought increases soil degradation and degraded soil magnifies the effects of drought. To mitigate the effects of drought require activities related to the prediction of drought and intended to reduce the vulnerability of society and natural systems to drought.

The natural causes of land degradation and desertification are also exacerbated by a combination of inequitable land distribution, poor farming methods and unfavorable land tenure and ownership systems, overgrazing, increasing livestock that leads to fertility declining, hence productivity declining and falling crops yields. Poverty is both a cause and a consequence of soil degradation and desertification. Therefore poverty reduction is a major challenge also from the point of view of the sustainable use of land resources.

Soil degradation is exacerbated by specific characteristics of the Mediterranean environment such as:

- steep slopes;
- frequent torrential rainfalls;
- reduction of vegetative cover due to intensive agriculture, unsustainable forestry, overgrazing, fires, industrial and urban development;
- poor soils highly susceptible to erosion;
- rainy periods being out of phase with periods of vegetative cover,
- reduction in extensive, sustainable agriculture; and
- land abandonment resulting from socio-economic changes.

1.2. The MCSD and the issue of soil degradation desertification and drought

Chapter 12 of Agenda 21, adopted by the UNCED, refers to the management of fragile ecosystems and specifically to the combat of desertification and drought. The chapter notes that most of these ecosystems are regional in scope as they transcend national boundaries. It also recognizes that land degradation, erosion and desertification result from various factors both of natural as well as anthropogenic character.

Chapter 12 indicates that the priority in combating desertification should be the implementation of preventive measures for lands that are not yet degraded, though that action on degraded areas should not be neglected. For this purpose six programme areas are identified, and their implementation requires the participation of local communities, rural organizations, NGOs, national Governments regional and international organizations. The relevance for regional and international coordination and cooperation is stressed in all the six identified programmes areas.

At the 9th session of the Conference of the Parties (June 1995) The Barcelona Convention for the protection of the Mediterranean identifies among the priority activities to be implemented between 1996 and 2005 those related to soil management. Specifically the Action Plan for the Protection of the Marine Environment and the Sustainable Development of the Coastal Areas of the Mediterranean (MAP Phase II) state as priority activities:

- To evaluate and monitor the vulnerability of soil resource;
- To protect and preserve soils by implementing preventive measures;
- To promote rehabilitation of degraded land and restoration of plant cover;
- To promote measures against erosion and desertification, and
- To promote implementation of the Convention on Desertification.

The particular fragility of Mediterranean ecosystems is emphasized in the Agenda Med 21 that identify 16 specific tasks to be assumed by each Mediterranean country and 5 tasks to be undertaken jointly by the states of the Mediterranean basin. So on this particular subject the Agenda Med 21 indicates that together the states of the Mediterranean basin should:

- *Intensify scientific research on the palaeo-hydrology of the region and climatic change in the North-Saharan arid zone;*
- *Cooperate on full implementation of the provisions contained in the United Nations International Convention on Desertification, and the regional annexes, particularly those concerning Africa (UAM sub-regional programme) and the Northern Mediterranean;*
- *Develop sub-regional Mediterranean mechanisms of emergency assistance with respect to animal feeding, particularly in periods of severe drought threatening the survival of livestock;*

- *Cooperate on implementation of regional programmes concerning the Mediterranean such as the Sahara and Sahel Observatory (Paris Agreement, 1992);*
- *Improve the exchange of information, data and expertise by setting up a Mediterranean network of research centers and institutes studying the problems of fragile areas (MAB etc).*

Several other chapters of Agenda MED 21 refer to the importance of Combating Desertification

Of particular interest is chapter X of the Agenda Med 21 dealing with the integrated approach to the planing and management of land resources. The preamble of the chapter notes that losses from 5 to 50t/ha/year have been registered in the Mediterranean as consequence of acute erosion. It emphasizes the need to protect the vulnerable land of the Mediterranean basin, prohibiting all forms of overuses that cause degradation. From the list of tasks identified the following are particularly relevant from the point of view of soil degradation, erosion and desertification:

- "*Coordinate their policies for the fullest use of farm land to meet ever-increasing inter Mediterranean needs for food products, without at the same time accelerating the degradation of soils, especially on the southern shore"*.

- *Cooperate on drawing a vulnerability map of Mediterranean soils and raising the considerable necessary funds to eliminate the most important threats: fires,* ***erosion, desertification****, loss of arable land to urbanization, salination,* ***loss of biological productivity*** *particularly by implementing a land policy to definitively* ***withdraw from urbanization the most vulnerable land****, and by encouraging in the areas thus protected agro-pastoral techniques to help sustainable development*.

- *Cooperate to make operative the Mediterranean Observatory for the Environment and Development as the main tool for the following up of the state of the land and the degradation processes affecting it.*

- *Cooperate for the development of techniques and tools more suited to the nature of the soil as well as chopped-up and often fragmented land relief.*

The Barcelona Declaration of Mediterranean NGOs for Sustainable Development (November 1998) takes note of the increasing soil erosion on the Mediterranean countries and proposed a Priority Action Plan centered on six main issues including the combating of desertification.

Information and exchange of experience related to this important issue are also of concern for MIO-ECSDE and it NGO partners.

In 1999 the Mediterranean NGOs pertaining to the MED Forum the Mediterranean NGO Network for Ecology and Sustainable development adopted the MED Forum NGOs Declaration to Combat Desertification in the Mediterranean. The declaration emphasizes the need for a strategy to combat erosion and desertification in both the short and the long term in the framework of sustainable development and accordingly with the framework of the Convention to Combat Desertification and the Chapter 12 of Agenda 21.

The issues of soil erosion, desertification and drought were the subject of the Participation of Mediterranean NGOs in National Programmes to Combat Desertification and Drought (Murcia, June 2000)

2. ASSESSMENT

Soil erosion and desertification have a number of adverse, environmental, social, economic and political impacts that represent social, economic and environmental costs:

- A reduction of the resilience of the soils to natural and human pressures;
- Reduction of vegetation growth;
- Depletion of surface and ground water resources because of accelerated surface run-off, and increasing vulnerability to degradation processes such as contamination, acidification, salinisation;
- Reduction of food production with serious implications for the social economic and health status of people contributing to poverty and undernourishment;
- Negative impacts on local regional and global climate. Eroded and desertified soils are the source of atmospheric dust that modifies the scattering and absorption of solar radiation in the atmosphere. It also affects temperature depending upon their altitude at which it is borne. Eroded, arid and desertified soils have a much increased albedo (meaning that there are less absorption of solar radiation by the ground) The consequence is that there are less heat transfers to the atmosphere which in its turn causes air subsidence and less rainfall. Increasing erosion and desertification leads to increasing albedo. Moreover dry lands, eroded and desert areas have little if any part in the global sink of carbon dioxide. Yet they represent potentially available space for different forms of plant grow or afforestation. The possibility to green poorly vegetated areas not only can contribute to the production of food and raw materials they also can enhance the global sink for greenhouse gases. The economic feasibility of this type of projects may be therefore more attractive than proposed actions for the mere abatement of carbon dioxide emissions
- Off-site including air pollution, floods etc.
- Loss of landscape quality;
- Loss of bio-diversity;
- In the case of arid lands that have been at the origin of today cultivars the increasing erosion and desertification can cause the loss of the wild relatives of cultivated species. Erosion and desertification can result in serious loss of germplasm, with increasing risks for future food security
- Loss of organic matter;
- Indirect effects on regional climate;
- Indirect effect on bird migration;
- Soil erosion affects all economic sectors for its effects on energy and water supply.

The abatement of these environmental, social and economic costs constitute the benefits that derives from an integrated strategy for erosion control and prevention, the combat of desertification and the programmes for the mitigation of drought.

Until now the problem tend to be seen as ecological or a social one which undoubtedly is. Action plans and projects have emphasized the need for ecologically sustainable use of natural resource base. Although this approach is correct it is clearly insufficient. To emphasize these needs is a rather passive attitude it must be complemented with ideas about how to approach the problem in each specific situation. An integrated economic approach is also necessary in order to translate the action plans into concrete policies, programmes, projects, measures and management practices that can win the support of funding international agencies and national governments.

A diversity of measures should be adopted and their effectiveness depends to a great measure upon the coordination and interrelationships between the different measures implemented. In

other words measure and techniques for control erosion and combat desertification interact each other having synergetic effects. Environmental, social, and economic assessment, specifically designed economic, social and environmental policy measures, development planning techniques as well so, regular monitoring should be applied

Combating desertification includes activities that are part of the integrated development of land in arid, semi-arid and dry sub-humid areas which are aimed at:

- Prevention or reduction of land degradation;
- Rehabilitation of partially degraded land; and
- Reclamation of desertified land.

The experience of past decades and the assessment of the current situation suggest the necessity:

- To focus the attention on the need for better economic and social assessment of soil degradation and rehabilitation, erosion desertification and drought, its role in local, national and regional decision making and on the sustainable development strategy.
- To pursue the problem within the context of overall sustainable development planning, and
- To demonstrate how techniques of economic analysis can be used to guide the design and implementation of policies, programmes, projects and land management practices to prevent, arrest or reverse the process of soil degradation and desertification.
- To initiate, complement or to foster current efforts in order to create the data-base and information necessary to understand the complexity of the problems. To identify how economic analysis and policy making can use the existing information and to identify the information and knowledge gaps.

These efforts should be addressed to:

- Senior level officials in governments, financial institutional and cooperation agencies as well as to NGOs in order to heighten their awareness of the severity of soil degradation problems desertification and drought and show the role of economics, cooperation and technological policies can play in resolving preventing or mitigating them.
- Project analysts, economists, and environmental managers.
- The population at large in order and to create awareness a as well as to provide simple, and basic knowledge so to allow their informed and effective participation.

Programmes and projects to asses erosion and land deterioration process as well those oriented to prevent land erosion and combat desertification require substantial financial resources. Therefore there is the need to increase the flow of resources available to assist the Mediterranean countries menaced by desertification and facing serious land deterioration and erosion. Lending should be in concessionary terms for two main reasons:

- Soil conservation projects, erosion control programmes, rehabilitation projects and anti-desertification activities have long gestation periods and benefits are in most cases not in the form of readily identifiable and taxable cash flows that can be applicable to the repayment of principal and interests, and
- Most Mediterranean developing countries have limited debt serving capacities or even face already balance of payments dificulties

The efforts to combat desertification, abate land degradation, control soil erosion and mitigate the effects of drought should be organized on the basis of the Mediterranean needs and a sense of a Mediterranean partnership. Some of the elements of this joint Mediterranean effort are:

- Multilateral and bilateral assistance, preferably on the basis of concessional loans or grants.

- Provision of technical assistance.
- A regional approach should be adopted.
- Identification and development of appropriate soil erosion measures and controls, land reclamation and anti desertification practices methods and technologies.
- Identification, monitoring and assessment of soil erosion, land deterioration and desertification process in the Mediterranean basin.
- Exchange of information.
- Harmonization of legislation.

Regional cooperation and coordination is necessary.Coordination is required at the policy level to accord higher priority to activities attempting to encounter the problem of land degradation, soil loss, rangeland deterioration, desertification and the mitigation of drought effects. Coordination id nevertheless also fundamental at the operational level : regional and national institutions and structures can be established to ensure coherence, cooperation and compatibility of the programmes and projects as well as in the use of the flows of financial resources. Coordination is also necessary concerning exchange of data and information.

3. FEASIBILITY

The problems of arid lands, erosion and desertification have been approached by different institutions. Since the UNCOD the problem has been studied, though in patchway approach, recommendation have been put forward yet concrete results have been scarce and even deceiving, moreover they have unable to mobilize effectively public opinion, decision-makers and financial institutions. Concrete policy actions have been very scarce. Regional programmes have been designed and although they established relatively practical goals their implementation fails to short and results have been largely disappointing.

Efforts made include, among others, the plans of the Arab League through the Arab Centre for the Study of Arid Zones and Dry Lands (ACSAD) and the efforts of the African Ministerial Conference on the Environment through the African Deserts and Arid Lands Committee, and the Inter-Governmental Authority on Drought and Desertification. Important work has been done CAR/PAP centre in Split though restricted to coastal zones. ERS/RAC has worked on desertification monitoring and control as well as sources of information, notably through remote sensing, for land degradation assessment. Cartographic work in being done in several countries, in some cases coordinated in others not. Several activities are undertaken at national levels. All these experiences should be fully utilized and developed. However effective coordination efforts are required.

The UN Convention to Combat Desertification places an obligation on the parties of the Mediterranean countries to prepare national action programmes. This implies the coordination of all countries affected. Little other than some specific site research has been achieved so far and little direct legislation for controlling the impact of human activity and land use on soils have been enacted, some limited protection is being achieved indirectly through measures controlling water and air pollution. Any strategy for the control of erosion, combat desertification and mitigate the effects of drought has to consider among other the following aspects:

- Soil needs to be tackled individually as a medium receiving the same attention as water;
- Coordination and cooperation are required at the Mediterranean and international levels since soils problems although perceived locally have dimensions that goes beyond national boundaries and tend to be of regional character; besides drought and desertification transcend national boundaries for thy are not national or country limited phenomena.

- Harmonized soil monitoring programmes need to be established similar to those already established in some part of the world (e.g. the EU) for monitoring water and air problems.

The Convention to Combat Desertification acknowledges that desertification and drought are problems of global dimensions affecting all regions of the world and that joint action of the international community, hence of international cooperation and partnership, is needed to combat desertification and/or mitigate the effects of drought**.** A new initiative to set up a "Desertification Information system in the Mediterranean" has been launched in September 2000 together with the European Environmental Agency and the Italian Foundation for Applied Meteorology.

To combat desertification and to mitigate the effects of drought requires long-term integrated strategies that focus simultaneously, in affected areas, on improved productivity of land, and the rehabilitation, conservation and sustainable management of land and water resources, leading to improved living conditions.

4. METHODOLOGY

Different activities would be undertaken under a regional Mediterranean programme for the control of erosion, rehabilitation of deteriorated land, the straggle against desertification and the mitigation of drought effects. <Most of the required work has been already on chapters The following topics can be examined:

- The evaluation of the resources needed in order to attain minimum objectives.
- Analysis of the existing financial mechanisms that can be used to finance Mediterranean programmes on soil erosion, anti-desertification activities and the mitigation of drought effects.
- To explore the possibilities of concessional loans or grants from bilateral sources either from the Mediterranean basin or out side the Mediterranean.
- Assessment of possibilities to reduce desertification process including afforestation projects financed by debt -nature swamps.
- Existing mechanisms and suggestions for new mechanism for strengthening cooperation and coordination in activities directly concerned with soil management, erosion control, desertification straggle an drought effect mitigation in the Mediterranean basin.
- Role of the NGOs in the activities to control soil erosion, desertification and the mitigation of drought effects.
- Methods and mechanism for the mobilization of domestic resources.
- Research into potential technologies to control erosion and to combat desertification and its transfer on favorable terms to Mediterranean countries.
- Inventory of means of financing programmes on soil management, control of erosion, combat desertification and mitigate the effects of drought.
- A feasibility study on the establishement of an Independent Mediterranean Financial Corporation for the financing of programmes, projects and activities on the control of soil erosion, rehabilitation of degraded lands, the struggle against desertification and the mitigation of drought.
- State of the art concerning the management of drylands in the Mediterranean basin.
- Inventory of legal measures, policies and economic instruments been applied in the Mediterranean basin in the control of soil erosion, rehabilitation of deteriorated soils, desertification and mitigation of the effects of drought.
- Inventory and typification of the soil deterioration and erosion and of desertification process in the Mediterranean basin.

- assessment of the real dimension of desertification and erosion phenomena in time and space, relying on synoptic and homogeneous approaches, already successfully implemented in demonstration or pilot projects, all over the Mediterranean Countries;
- monitoring and control of the evolution of the main occurrences of desertification and land degradation phenomena.
- Design of measures and policies at the Mediterranean and national levels.
- Creation and updating of database system for soil erosion and land degradation in the Mediterranean basin.

These tasks can be approached through the organization of small group of experts for each specific subject. However a basic document or few basic document that can provide the background for the discussion would be prepared in advance for each specific theme. Depending of the theme the background information would be prepared by the PAM, those regional centers that have direct relation with the theme to be examined, a specialized Mediterranean institution or a joint project between several Mediterranean research centers. In some cases consultants can be hired to prepare the basic document. The important aspect to be considered is that these activities should be action oriented: the documents to be prepared should include concrete alternative proposal to encounter specific problems and the expert group should make concrete suggestions for the implementation of those actions that have been chosen. The involvement of politicians and decision-makers in the preparation of background documents and in the expert groups meeting could be convenient.

Mediterranean Commission
on Sustainable Development

Pre-feasibility study
for the selection of new themes

ENERGY AND TRANSPORT

September 2000

(original french)

Pre-feasibility study

Energy and Transport[1]

A) Energy and Transport: two vital sectors for the Mediterranean countries

The Blue Plan's report on "Energy and the Environment", published in 1993, as well as more recent studies from the Mediterranean Energy Observatory, (MEO) have clearly demonstrated the capital importance of the energy and transportation sectors for the Mediterranean countries.

Energy is vital for economic and social development, and the consumption level is closely linked with a nation's GNP. Energy consumption is pretty much evenly divided between the industrial, residential and transportation sectors. It is obviously very important to promote the most modern and economical technology in energy matters in all sectors.

North-Mediterranean countries consume large amounts of energy, e.g. 600 million tep (tonne of oil equivalent) in 1998, because of their high level of economic development for a population of about 200 million inhabitants. With very small stocks of hydrocarbons, these countries depend heavily on the North African and Gulf States for oil and natural-gas supplies.

On the other hand, the South and East Mediterranean countries consume little amounts of energy: 213 million tep per year for a population greater than 230 million because of the relatively low GNP. But they have a strong growth rate because of rising demographics, economic development and improvement in the population's standards of living.

Several South Mediterranean countries—Algeria, Libya, Egypt and Syria— are major oil and natural-gas producers and exporters. These constitute a major source of their income (95 per cent of Algeria's and Libya's exports).

The electricity sector must also be highlighted, for the use of electricity is increasing in all countries whether it be in industry (motors and new processes) or in the residential sector (household appliances, air-conditioning and so forth).

Demands for electricity reached 1110 Twh (billions of kwh) in 1998 in the North Mediterranean countries and 302 Twh in the southern and eastern nations where consumption per head is weaker but growing strongly (about 5 per cent a year). In these countries electricity consumption is forecasted to double by 2010, which explains the major construction projects for electricity plants.

Electricity production is a major issue for the Mediterranean countries because of the extent of the investments needed for building electricity-producing power plants and the choices of possible options: nuclear reactors, coal, natural gas or renewable energy sources.

These different sorts of plants have lesser or greater impact on the environment, especially concerning the emission of CO_2. Because there is plentiful cheap natural gas in the southern and eastern Mediterranean region, the power stations using it are the ones producing the cheapest electricity and emitting the lowest amounts of CO_2 compared to diesel- or coal-run plants; this explains why governments and electricity companies in these countries favour building natural-gas plants.

[1] Study prepared for MAP/MCSD by the Mediterranean Energy Observatory in cooperation with BP/RAC

The available technology using sun, wind or bio-mass produces electricity at very high costs even in the most favourable sites. Therefore the use of renewable energy for electricity production is rather restricted to decentralised, remote rural areas.

Energy use has an impact on the environment due in particular to emissions into the atmosphere linked to the burning of fossil fuels. Although the use of efficient technology and the promotion of natural gas have made it possible to minimise emissions of NO_x and SO_2, there is still the problem of CO_2 emissions which contribute to the green-house effect. This is a global problem and not specifically Mediterranean. It is a matter of promoting the most efficient and economical technologies in energy matters.

The transport sector plays a fundamental role in the Mediterranean countries whether for transportation in cities or inter-city transportation, especially commercial haulage.

The spectacular increase in the number of vehicles over the past few years in Mediterranean countries cannot be overemphasised. This phenomenon is not restricted to the North and is increasingly being observed in the southern and eastern countries because increases in the buying power of households. In total there are 87 million vehicles: 77 million in the North and nearly 10 million in the South and East.

More and more households own a private car. In the North, almost all households have at least one car. In the southern and eastern countries this figure is reduced to an average of 1 out of 10 households however this figure is rapidly increasing because of the rising living standards in these countries.

This poses the problem of congestion in cities and atmospheric pollution due to the large number of vehicles in urban centres. In all Mediterranean countries, especially in the South and East, there is a lack of public transport, because local authorities lack the means to develop and fund the necessary infrastructures.

There are very limited rail links between cities, which puts the onus on road transport for hauling merchandise. This leads to high energy consumption and an overcrowding of roads.

Developing the energy and transportation sectors while preserving the environment are therefore priorities for the Mediterranean countries.

Steps to take have already been identified by international organisations, governments and industry. Yet these steps run up against the lack of financial means in the southern and eastern Mediterranean countries.

B) The issues from the sustainable development point of view

The challenges that the Mediterranean nations have to meet are: to provide energy production and distribution in order to satisfy the needs of industry and populations, and to protect the environment and in particular to minimise CO_2 emissions.

MEO studies have shown what is at stake because of the expected growth - due to economic and social development - in energy consumption in the Mediterranean region ; governments have set the following goals:

- to provide sufficient energy and electricity production to meet the needs of their populations;
- for oil- and gas-exporting countries, to maintain a high production level in order to develop exports;

- to strengthen infrastructures in order to increase international exchanges in hydrocarbons and electricity;
- to develop distribution networks of natural gas and electricity in both urban and rural areas.

The infrastructures to be implemented constitute a major issue for the economic and social development of these countries, and governments are seeking to promote the least-expensive technological solutions, especially for electricity production.

This explains why the use of natural gas for the production of electricity and for heating in industry and private residences is being developed so rapidly; in fact natural gas constitutes an abundant and inexpensive energy resource in the Mediterranean region.

Governments are also looking for ways to minimise the impact of combustion of fossil fuels on the environment. This explains the existence of strategies for the promotion of energy savings, natural gas (with its low impact on the environment) and renewable energy.

In this regard it should be noted that in 1998 there was a fast increase in CO_2 emissions, reaching 350 million carbon tonnes (mtce) in the northern countries from Portugal to Greece and 140 mtce in the southern and eastern countries. A recent study demonstrates that the level of CO_2 emissions should double between now and 2020 in the South and East due to the growth in energy consumption, reaching 280 mtce. This shows what is at stake in relation to the decrease in the CO_2-emission growth in the region in order to fight the green-house effect.

In the transport realm, it is urgent to promote public transportation and “clean” vehicles (low-consumption vehicles or those using fuels like LPG or natural gas). This would lead to a reduction in energy demand by the transport sector and limit air pollution in cities.

The major constraint for the implementation of the projects necessary to sustainable development in the southern and eastern countries, is the extent of funding required.

A recent MEO study shows that the investments required for the production, transportation and distribution of energy and electricity, between 2000 and 2010 in the South and East, would amount to nearly 200 billion euros. This clearly shows the extent of funding needs. Therefore, the investments aiming to control consumption and to develop the technologies that best protect the environment are the investments that require the most attention.

Faced with the expected growth in energy consumption, it is important to promote energy-saving technology in all consumer sectors.

Implementing these actions is a very ambitious programme for the Mediterranean countries.

C) Development characteristics of the energy and transportation sectors and implemented strategies

C1) Energy

Energy consumption in the Mediterranean countries increased from 390 mtep in 1970 to 813 mtep in 1998, this shows the strong growth in the sector. Seventy-five per cent of the consumption is concentrated in the North, but consumption is strongly increasing in the South and East. According to national forecasts, consumption may increase from 213 mtep in 1998 to over 380 mtep by 2010. This shows the extent of requirements.

Governments are seeking to ensure energy supplies as cheaply as possible while protecting the environment.

The following are the actions undertaken by governments:

- the liberalisation of the energy sector to promote international investment;
- calls for tender to explore and produce hydrocarbons in new areas;
- the development of the production and distribution of electricity;
- promoting the distribution and use of natural gas;
- programmes for the use of renewable energy;
- programmes for the rational use of energy.

Major partnerships have been developed in the hydrocarbon and electricity sectors to implement large-scale projects.

International co-operation has also played a role in supporting energy-controlling programmes and in promoting renewable energy in the southern and eastern Mediterranean countries; nonetheless, the programmes so far undertaken in the South and East to promote energy-saving and renewable energy have been relatively limited due to lack of adequate funding.

Concerning the more specific role of the European Commission within the framework of the Euro-Mediterranean partnership (the Barcelona process), a forum of co-operation between governmental Energy Departments has been implemented to identify what actions need to be undertaken.

These actions deal specifically with the legal and institutional frameworks for the energy sector, the development of interconnective energy networks and energy control. Training programmes and studies are also being launched with aid from the MEDA programme for a sum of 10 million euros for two years. Yet this amount is very small in relation to the needs.

The EIB is granting loans for energy projects in the southern and eastern Mediterranean countries for about 300 million euros per annum, which is also fairly modest compared to the energy-sector's investment needs in these countries.

In the renewable energy sector, the EC has made a gift of 10 million euros within the framework of the MEDA programme for a pilot project to bring electricity to rural areas in northern Morocco with solar cells. It should be noted, however, that the potential for bringing electricity to remote rural populations in northern Africa with the solar-panel process is set at 500,000 households, which would mean an investment of more than 500 million euros. The French, German and Spanish governments have also supported solar-panel development projects in the southern Mediterranean countries, but the budgets have been very modest compared to needs.

The GEF has also funded some projects to promote energy-control in Egypt, Palestine and Syria (about 10 million dollars in all) and to develop solar cells in Morocco (5 million dollars) and a solar plant to produce electricity in Egypt (50 million dollars).

Nonetheless domestic funding and international aid for energy-control and renewable-energy development programmes remain very modest in the southern and eastern Mediterranean countries. There are still large-scale programmes that need to be funded and initiated. Indeed we must:

1) begin genuine energy-control programmes in all consumer sectors with adapted means.

2) promote the use of natural gas, especially for the industry, residential and transportation (gas-run vehicles) sectors.
3) implement development programmes for renewable energy with an adapted institutional framework and funding plans.

The implementation of the Kyoto protocol could be a catalyst, in fact these actions would contribute to reducing the growth of CO_2 emissions.

The goals linked to implementing Kyoto for the north Mediterranean countries are ambitious (by 2010 as compared to 1990, the stabilising of CO_2 emissions in France and a percentage reduction in Italy, Spain and Greece), and these countries will have to implement policies with adequate means for promoting energy efficiency, natural gas and renewable energy.

The southern and eastern Mediterranean countries have not committed themselves to reducing the growth of their CO_2 emissions, but they could benefit from one aspect of the Kyoto protocol, i.e. the mechanism for clean development, which enables developed countries to help developing countries to implement projects that would lead to limiting CO_2 emissions.

The methods for implementing this clean-development mechanism have not yet been defined, and it is not yet possible to know what its impact will be on the southern and eastern Mediterranean countries, but it is indeed an area where the co-operation between the Mediterranean countries should be developed.

In any case it is clear that very considerable means must soon be committed to the Mediterranean countries to ensure sustainable development. The funding for these programmes could come in part from taxes on energy consumption.

It is also important to note that organisations have been created on a Mediterranean-wide level to promote co-operation in the energy sector, cf. the MEO that includes enterprises in the sector and whose research team is based in Sophia Antipolis (southern France) and MEDENER, which includes energy-control agencies and whose secretariat is alternatively handled by an Agency.

C2) Transport

Transportation has a key role to play in the development of Mediterranean countries. It is characterised by the multitude of players who influence the development of the sector, i.e. governments, local communities, conveyance companies and, of course, individuals by their choice in transportation with the priority given to the private car as soon as buying power allows it.

The growth in the number of motor vehicles in the Mediterranean countries demonstrates that people, as well as governments, have favoured the development of the car to carry passengers and the lorry to carry merchandise. The possession of family cars in the northern Mediterranean countries has already reached saturation, and the purchase rate is growing rapidly in the South and East.

The problems encountered have already been analysed by governments, local authorities and the people themselves.

In towns we see a lack of public transportation, which only contributes to the growth in the use of private vehicles (including taxis). This leads to congestion of the road network and considerable pollution in most of the region's towns and cities.

Towns are aware of the problem but do not have enough funds to develop or build quality public-transportation infrastructures, i.e. bus networks, tramways and undergrounds. Several capitals have begun to build undergrounds, but the number of lines remains very insufficient.

Faced by this challenge of developing urban transport, which will only get worse with growing urban populations, towns and governments have identified what has to be done:

- plan new urban neighbourhoods by taking transport-linked aspects into account;
- carrying out the necessary infrastructures for public transport (bus networks, tramways and undergrounds);
- provide financial aid to public transport companies;
- raise public awareness and encourage the use of public transport;
- encourage clean vehicles by ordering periodic engine checks and by encouraging the use of gas- or electricity-run vehicles.

These steps can only succeed in a framework of partnership between local and national governments in order to enjoy the necessary political support and financial resources.

For inter-city transport, it is necessary to promote railroads, something that is made very difficult in the southern and eastern Mediterranean countries by a very limited rail network. Ambitious programmes would have to be started to develop a rail network that would respond to the transportation needs between the major cities of the southern and eastern Mediterranean. Yet this runs smack up against the size of the investments required.

D) MCSD's goals

It is clear that the development of the energy and transportation sectors represents a major undertaking for sustainable development in the Mediterranean countries. As far as the MCSD is concerned it is obvious that it must avoid duplicating already-existing studies or action plans.

The plan of action for the energy sector approved by the European Commission and the Ministers of Energy of the Euro-Mediterranean countries contains a rider on the protection of the environment and discusses the actions required. Nonetheless, these actions need to be implemented with adequate funds.

The same is true for the transportation sector: the actions to be undertaken have already been identified, but it is difficult to implement them because of lack of funds.

The MCSD's role could be to analyse the possible funding mechanisms for these actions and to promote decision-making by governments and international organisations.

The MCSD might also closely follow the negotiations and the implementation of the Kyoto protocol in the Mediterranean region, which could act as a catalyst for North-South co-operation in the field of energy technology, energy control and renewable energy.

E) Proposal for a working method

A proposal had been put forth to implement a small working group consisting of representatives of different countries and players concerned: Ministers of Energy, Transport and the Environment, agencies and industry to identify possible methods for funding and the implementation of actions required for sustainable development in the Mediterranean countries in terms of energy and transportation.

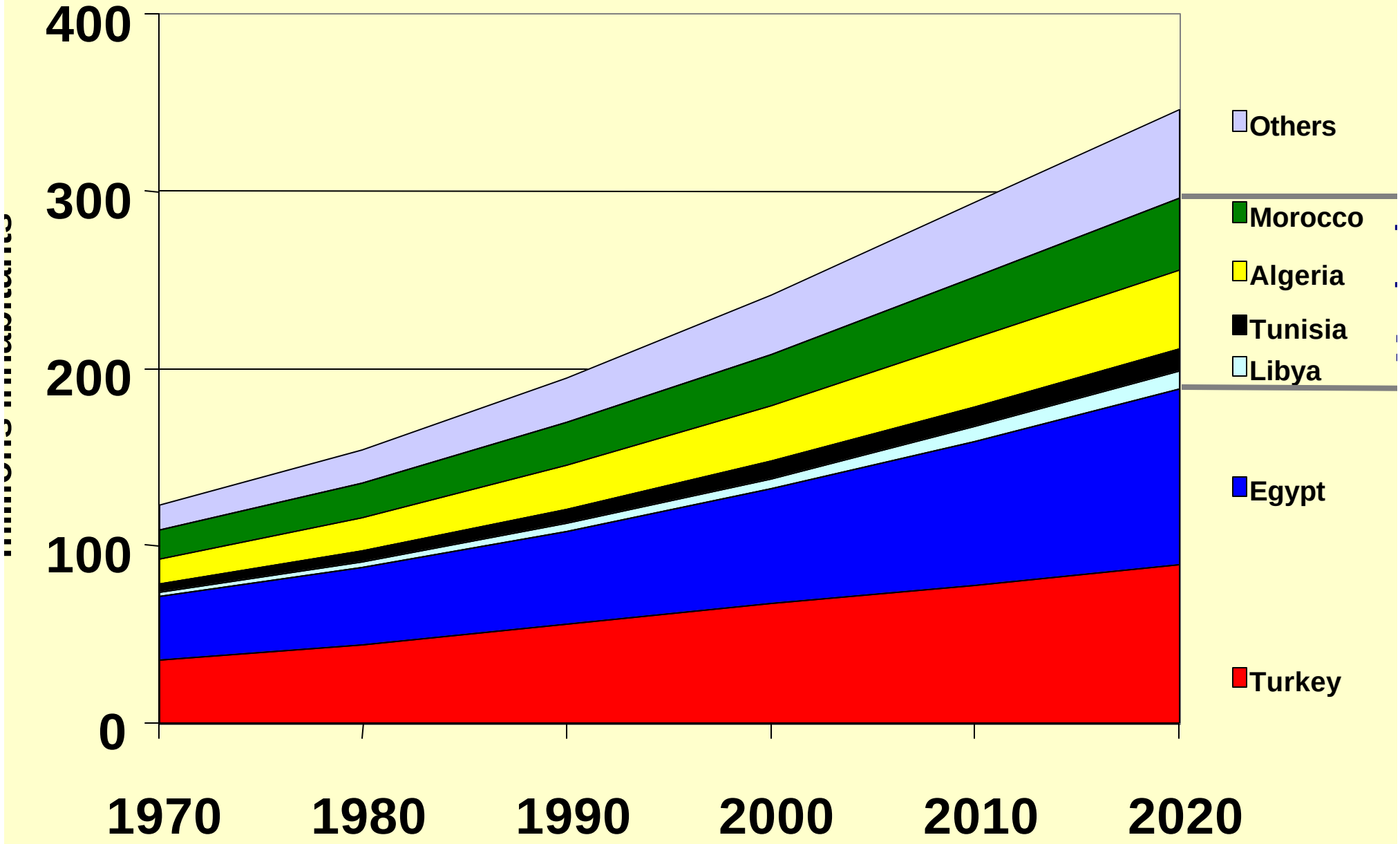
The following could be the working programme:

1) The identification of actions already underway and the players involved;
2) Analysis of needs for the coming decade and the funding required;
3) The study of possible funding mechanisms: the role of governments, local authorities, industry and international co-operation;
4) The follow-up of negotiations on the Kyoto protocol and perspectives on the implementation of projects in the Mediterranean region.

To ensure the effectiveness of this working group, it would appear preferable to have a small number of members with complementary expertise. At first summaries of existing studies would have to be done, and an idea of how the situation has evolved over the past few years would have to be formed.

In order to ensure the success of the work and especially its impact on the government level, it appears essential that ministerial representatives with expertise in environment and energy should take part in the working group.

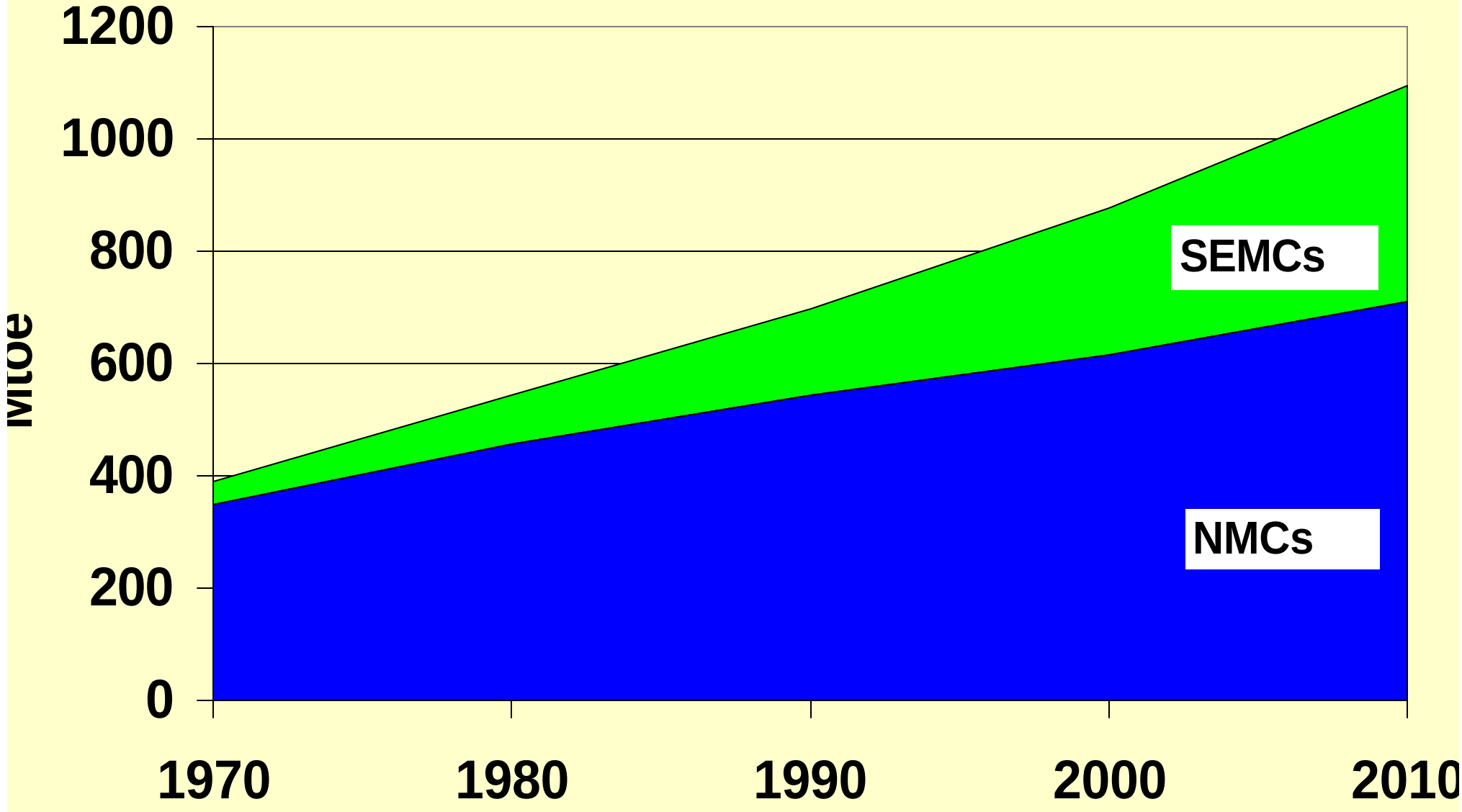
Demography by Country in the SEMCs



Source: OME

February 2000

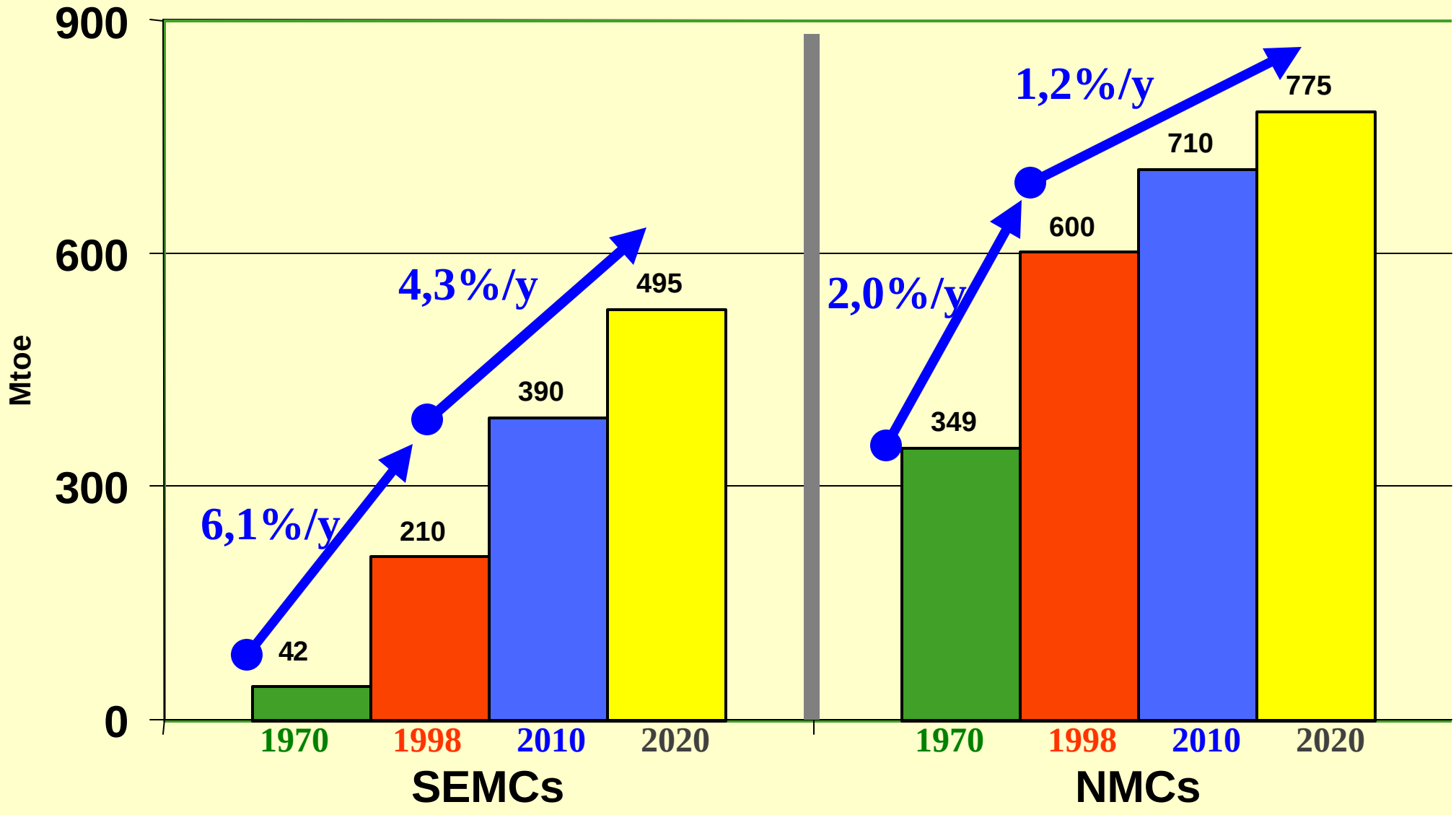
Energy Demand in the Mediterranean Basin



Source: OME

February 2000

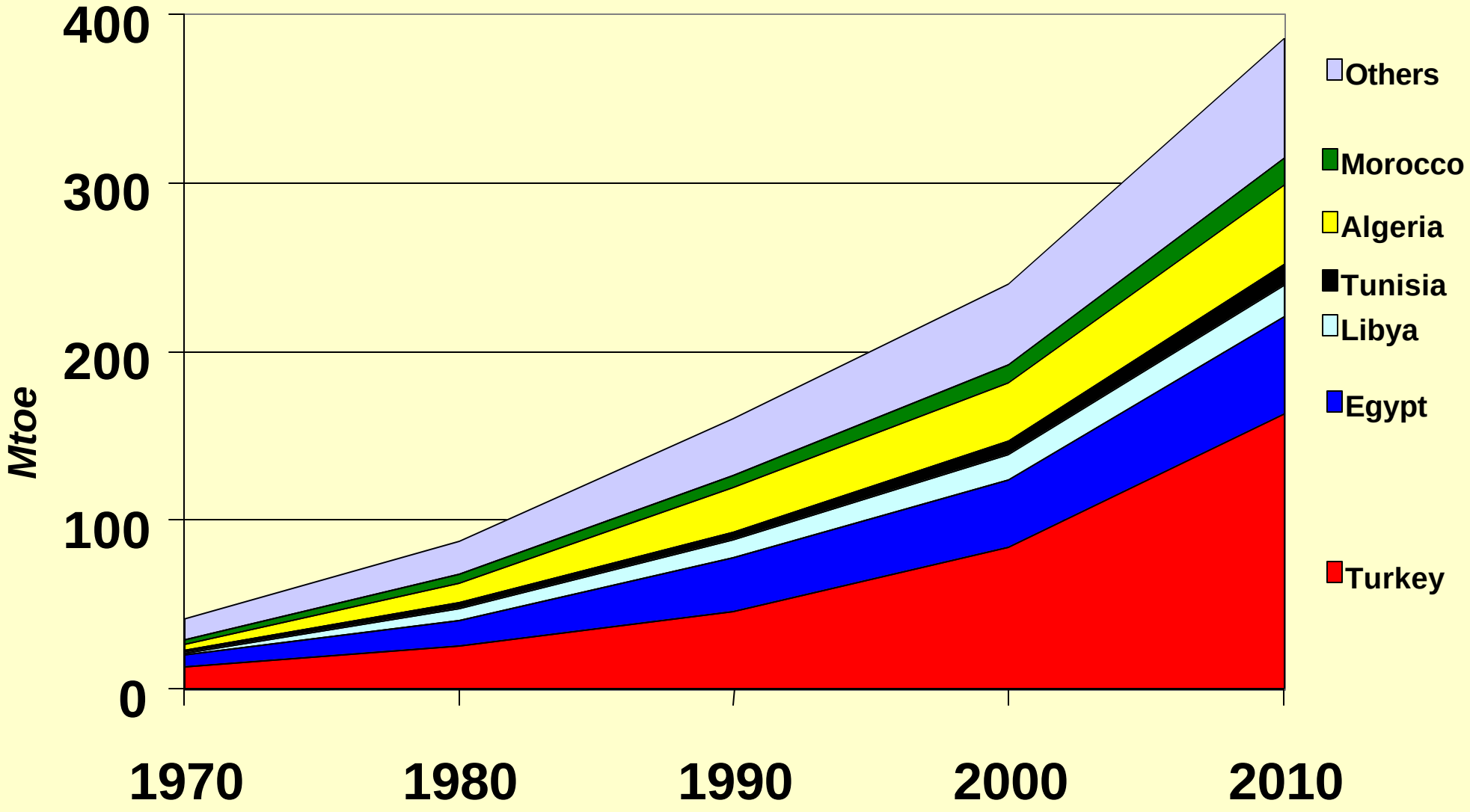
Energy Consumption Growth in the Mediterranean



Source: OME

February 2000

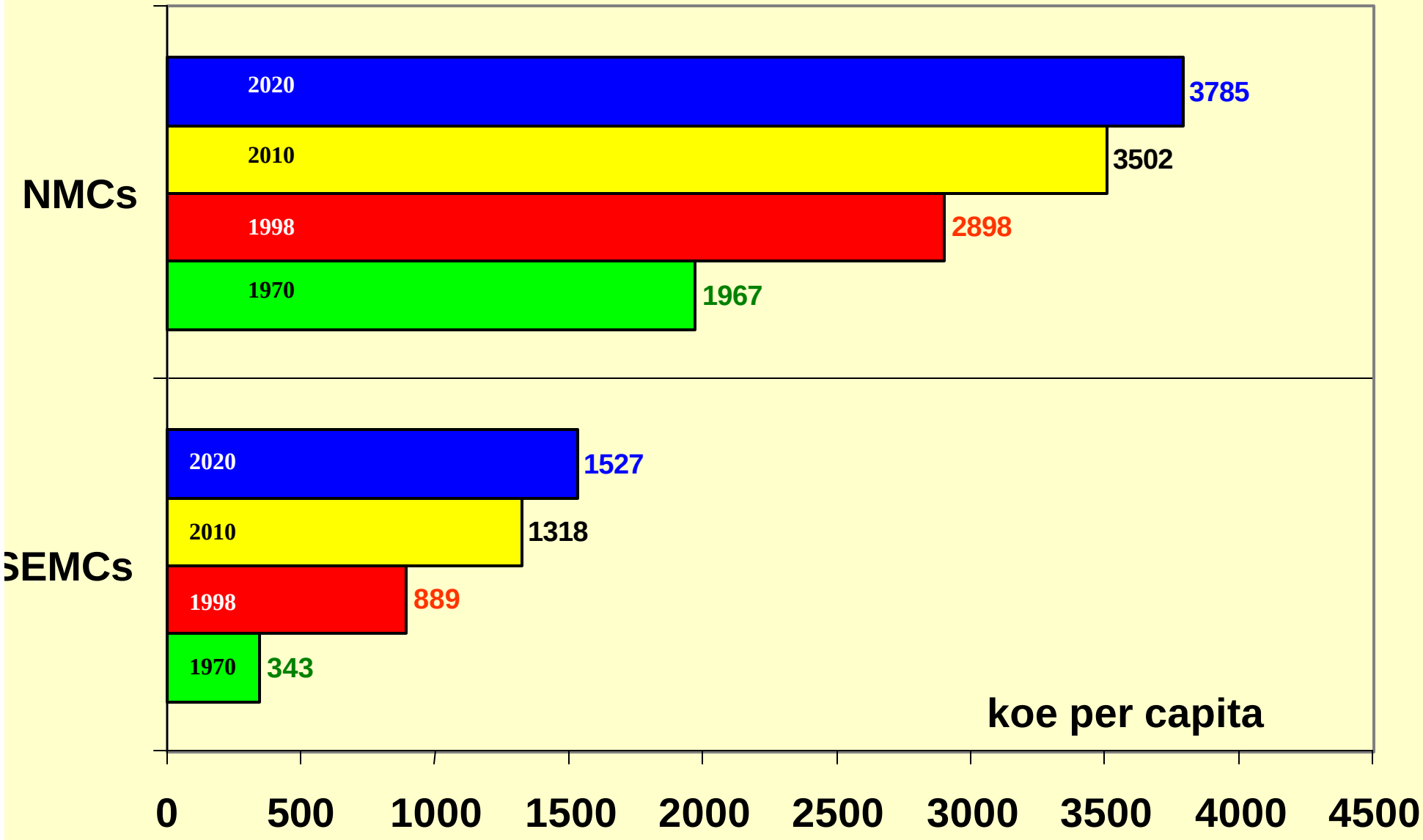
Primary Energy Demand in the SEMCs



Source: OME

February 2000

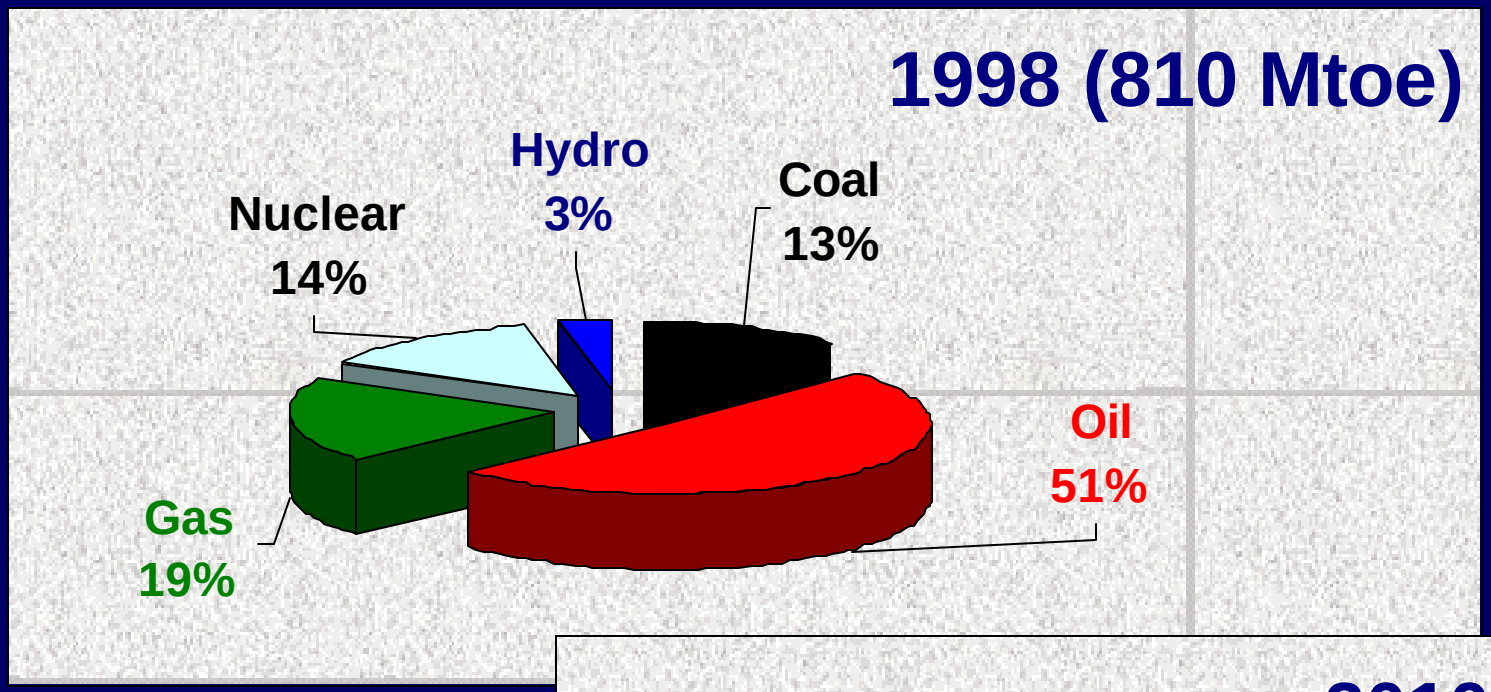
Primary Energy Consumption per Capita in the Mediterranean (koe per capita)

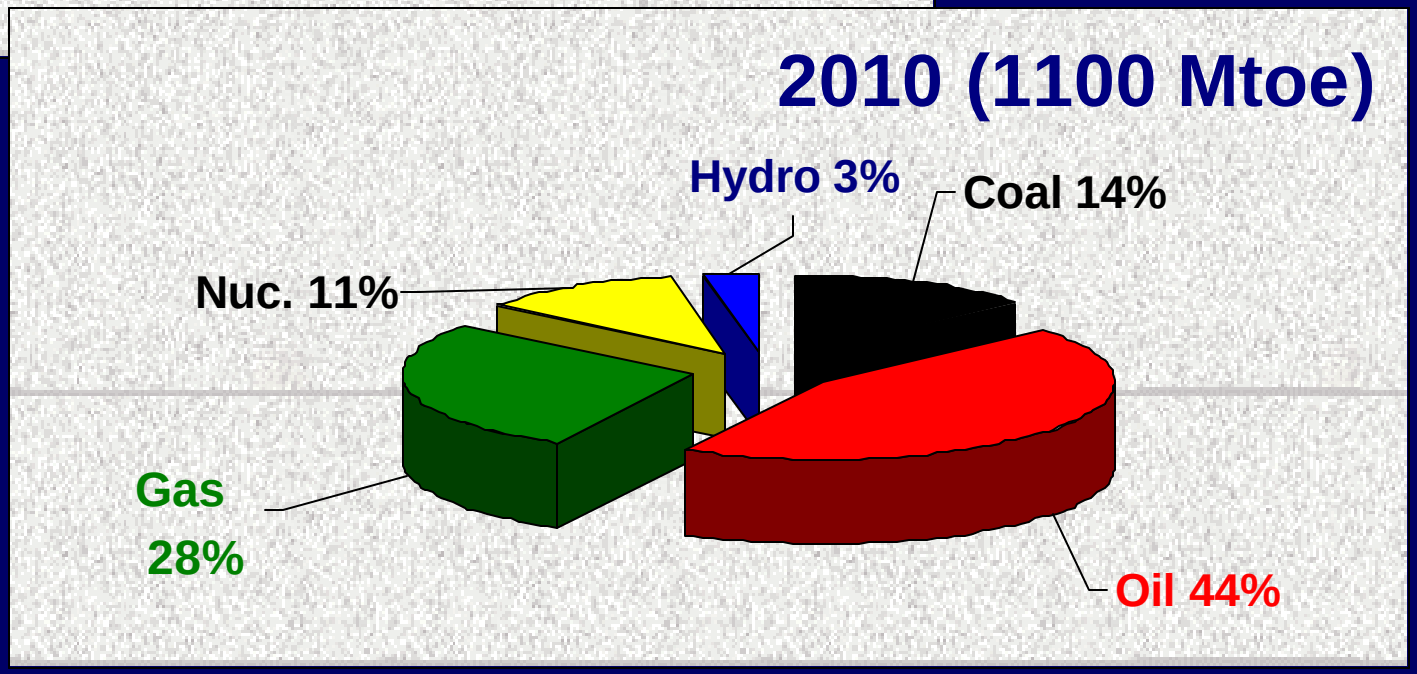


Source: OME

February 2000

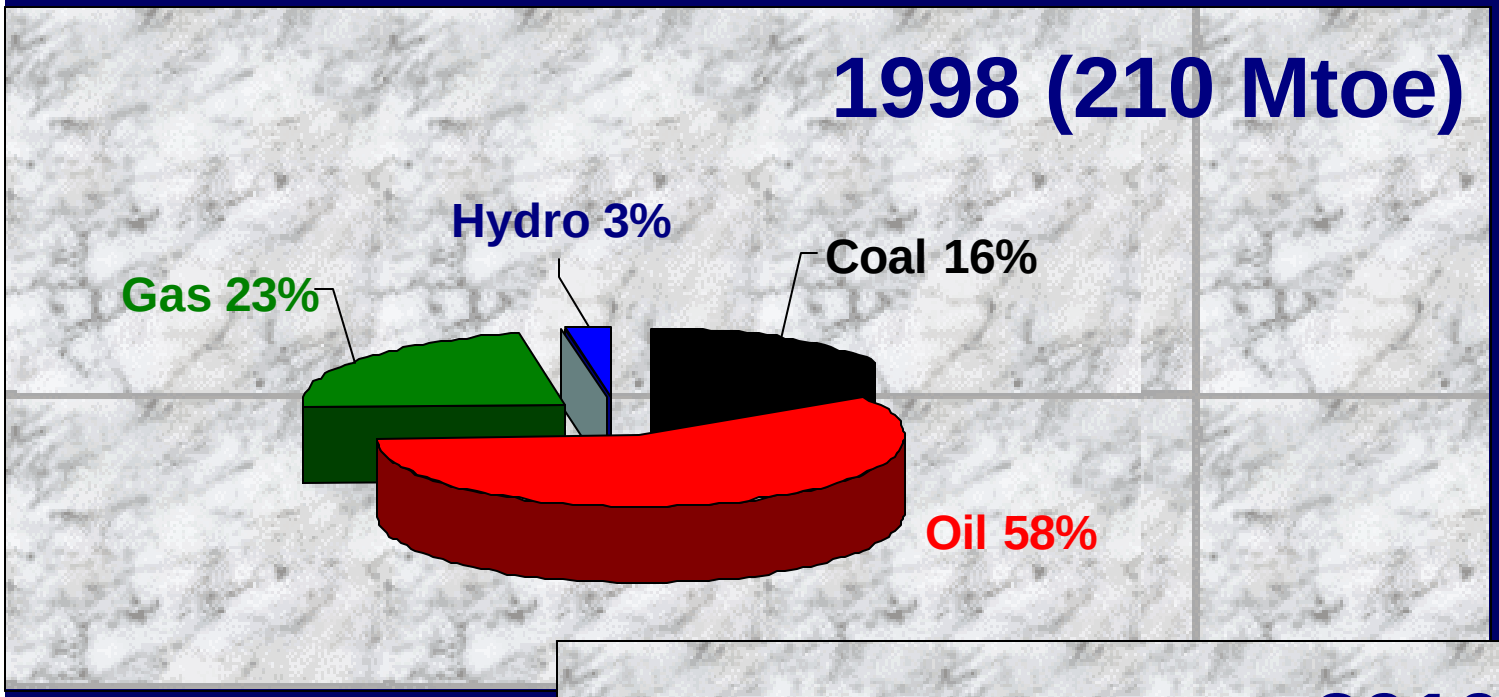
Energy Share by Source in the Mediterranean Energy Balance

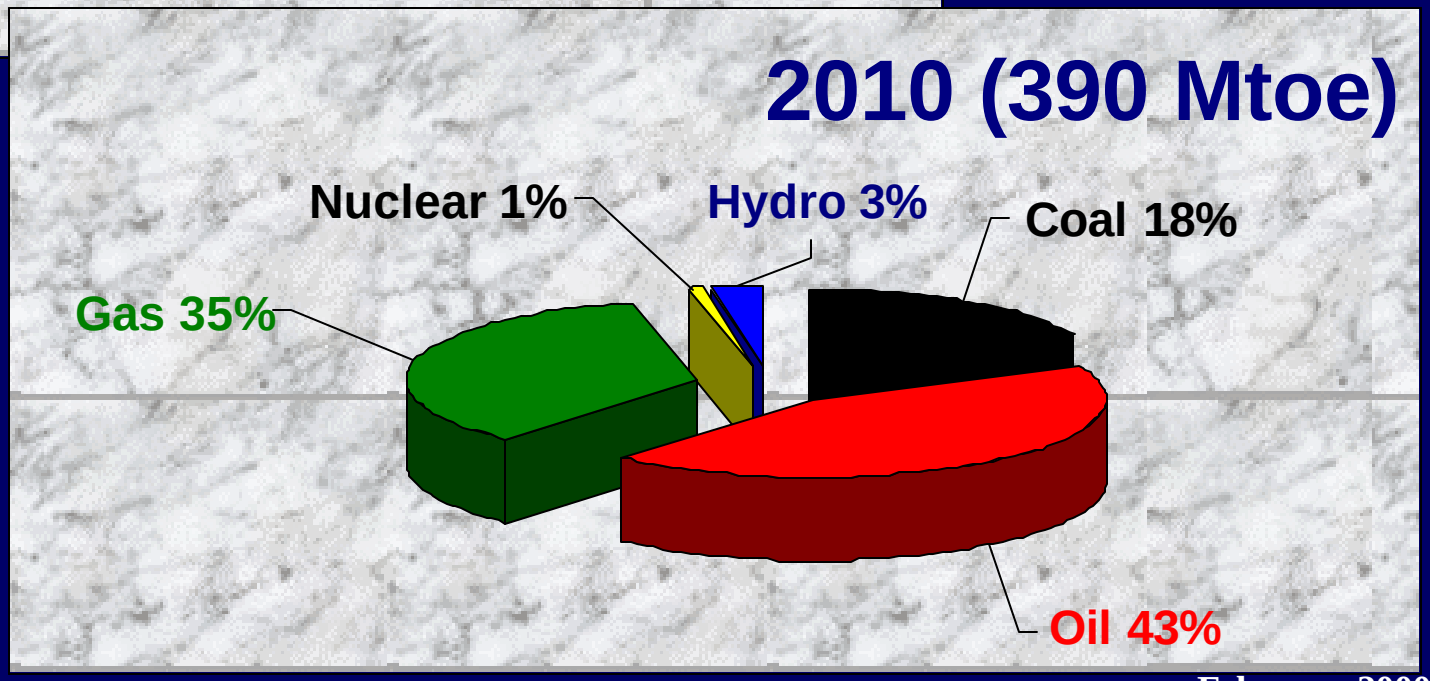




Source: OME

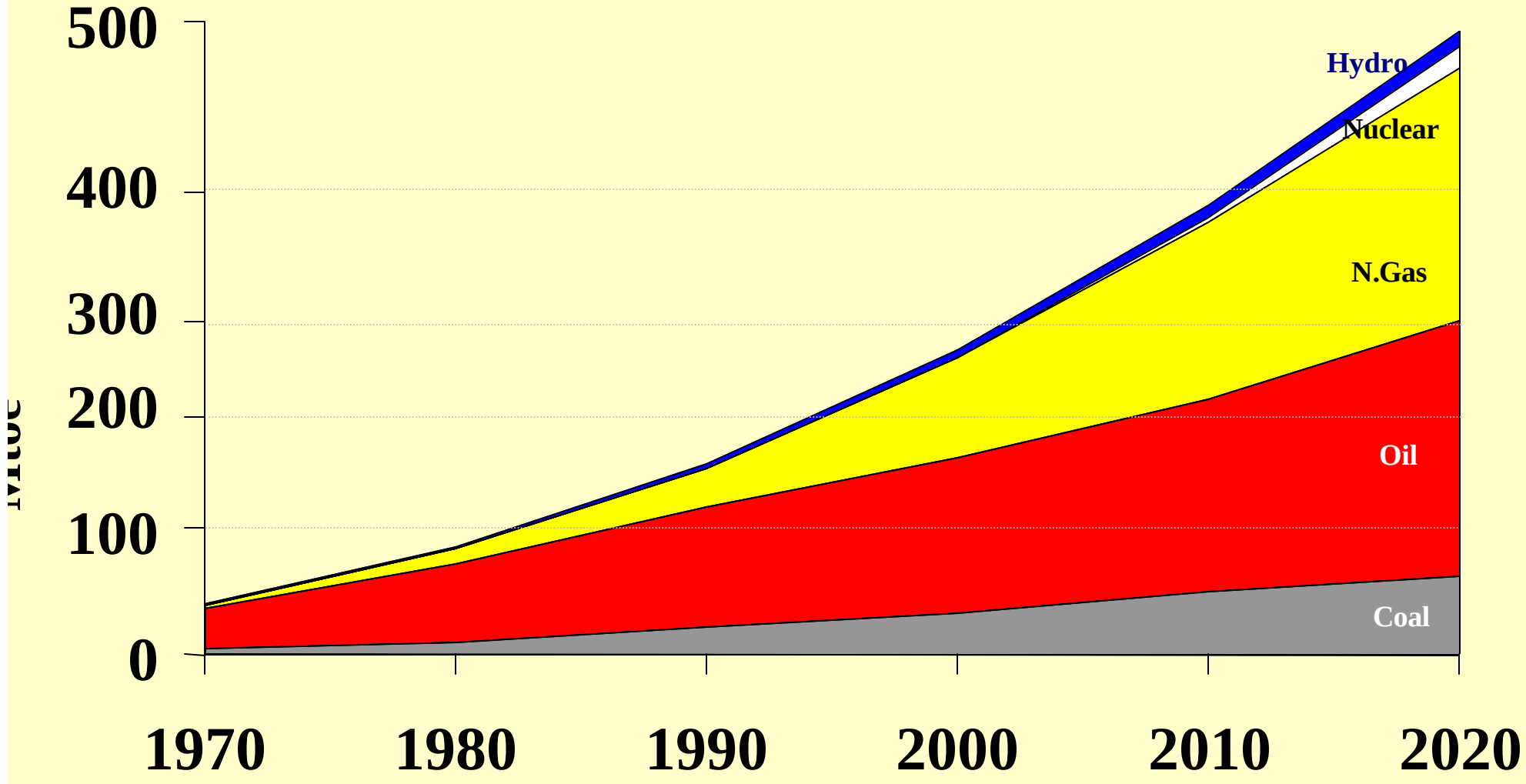
Energy Share by Source in the SEMCs Energy Balance





Source: OME

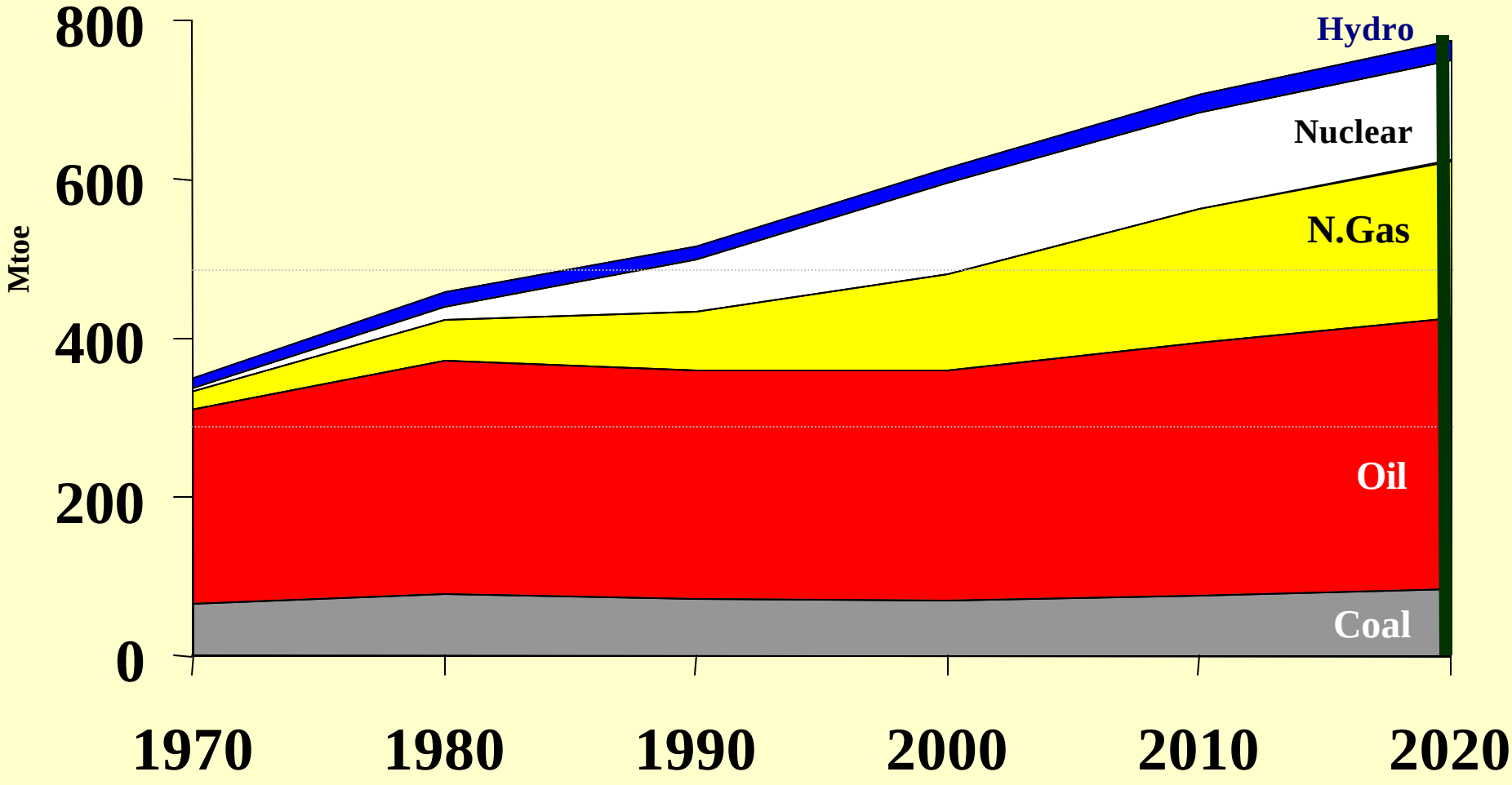
Primary Energy Consumption in the SEMCs by Source



Source: OME

February 2000

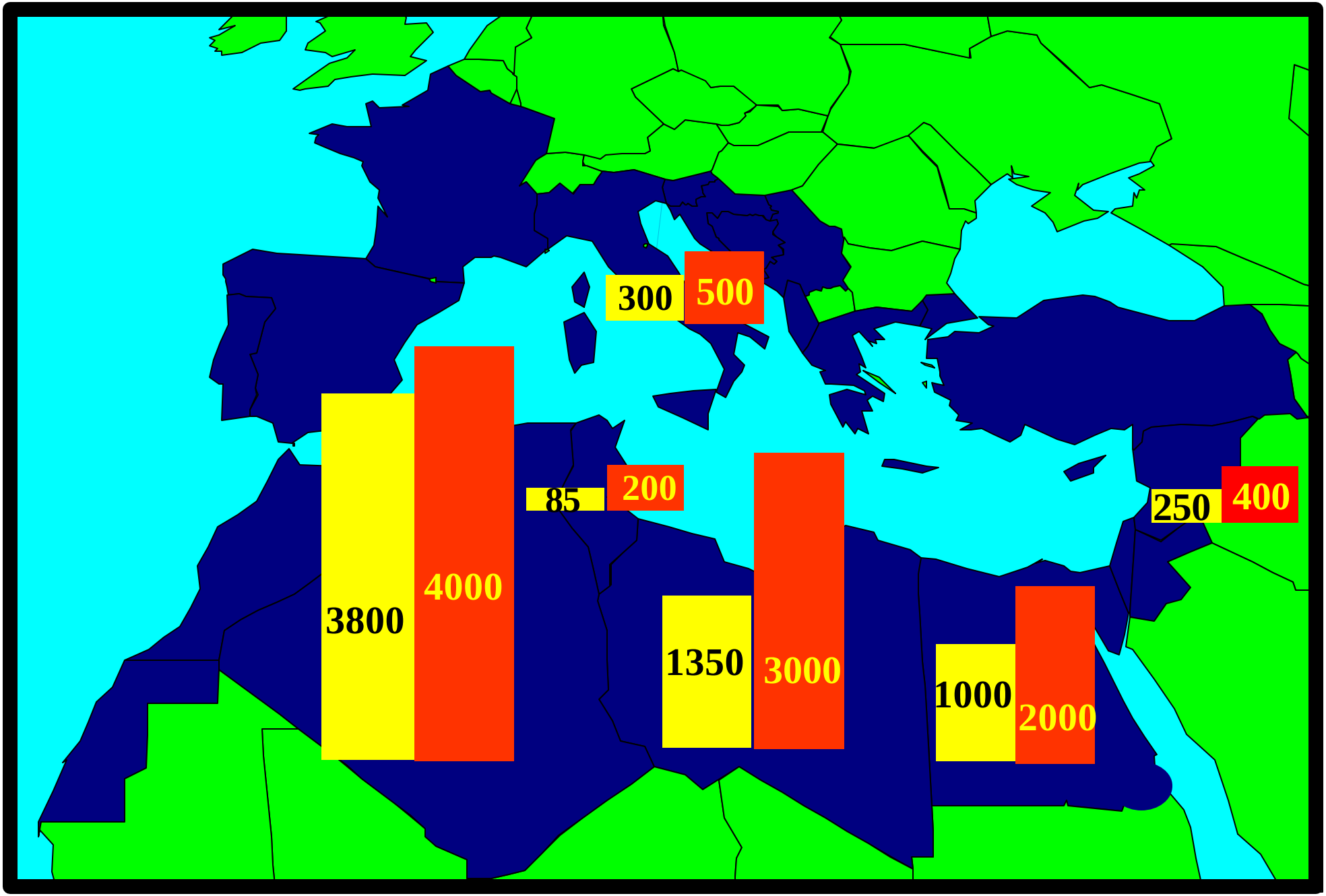
Primary Energy Consumption in the NMCs by Source



Source: OME

February 2000

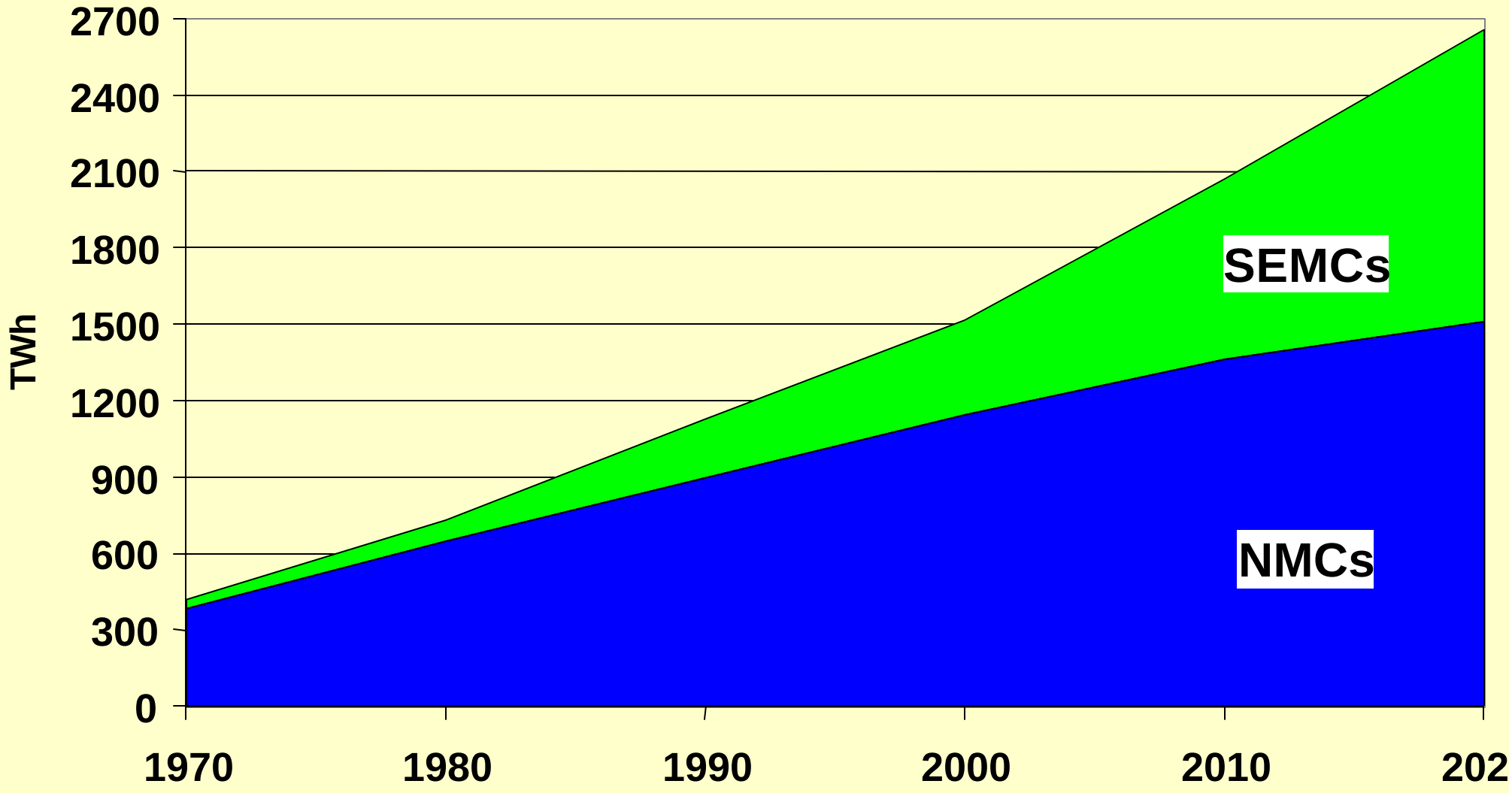
Natural Gas Reserves & Resources in the Mediterranean



Source: Conférence Arabe Energie-Damas 1998 pour réserves, et OME/Masters pour ressources

Reserves Resources

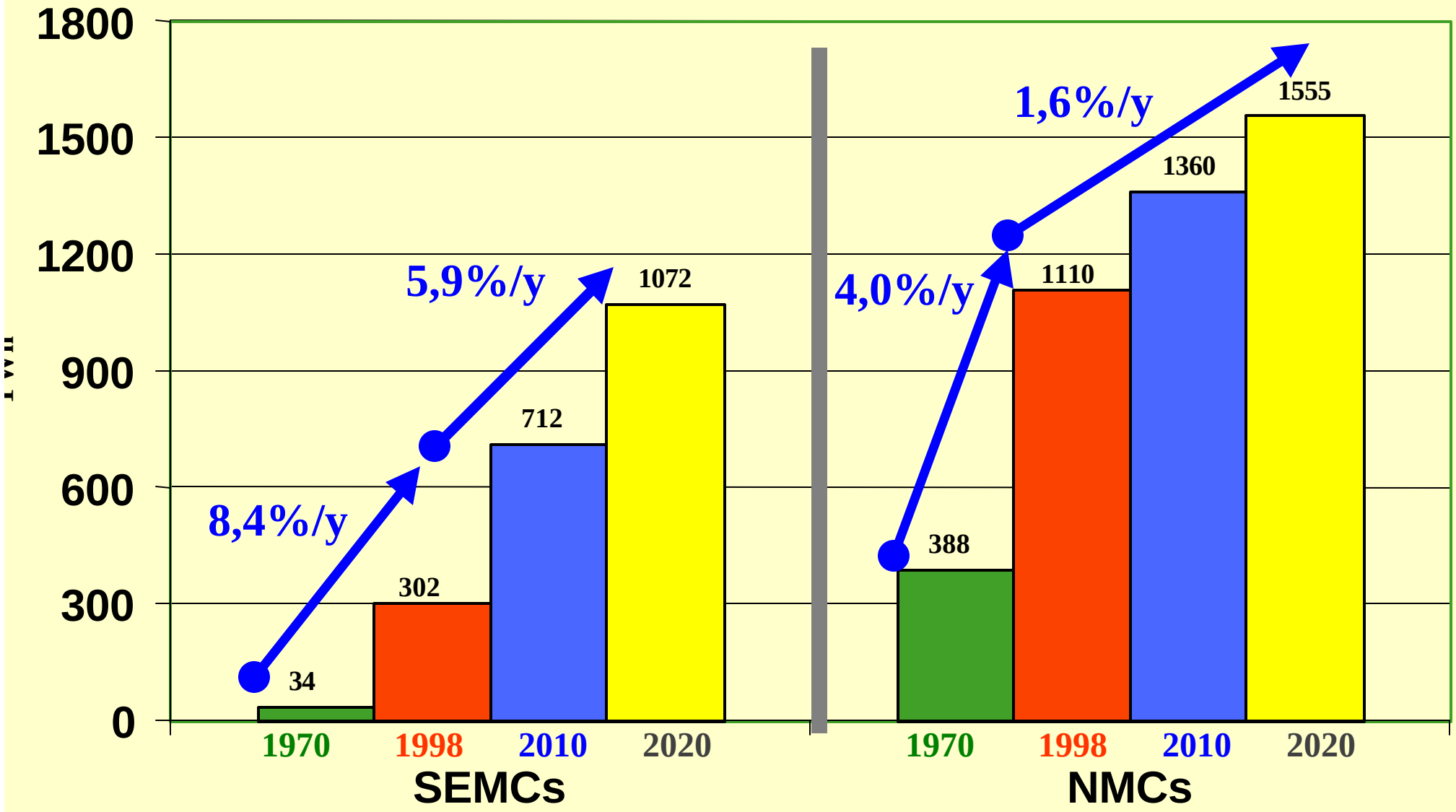
Electricity Demand in the Mediterranean Basin



Source: OME

February 2000

Electricity Demand in the Mediterranean Basin

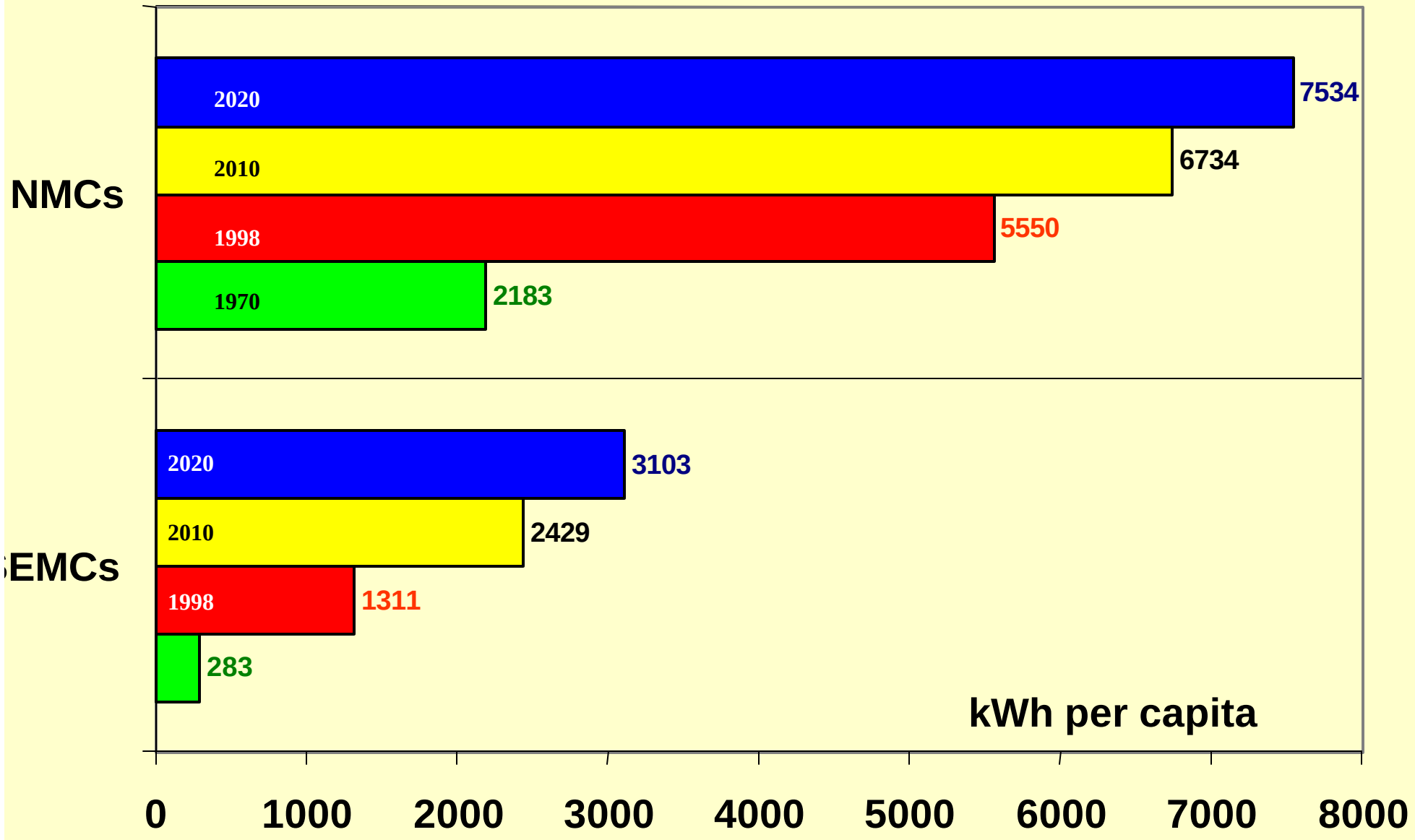


Source: OME

February 2000

Electricty Consumption per Capita in the Mediterranean Basin

(kWh per capita)



Source: OME

February 2000

Mediterranean Commission
on Sustainable Development

Pre-feasibility study
for the selection of new themes

AGRICULTURE AND RURAL DEVELOPMENT IN THE MEDITERRANEAN REGION

September 2000

Contents

AGRICULTURE AND RURAL DEVELOPMENT IN THE MEDITERRANEAN REGION 1

INTRODUCTION 1
I. THE SIGNIFICANCE 2
1 Mediterranean specificity and the significance of the heritage issue 2
2 The significance of the socio-economic issues 2
3 The significance of the environmental question 3
3.1 Desertification (degradation of topsoil), deforestation and loss of bio-diversity 3
3.2 The over-development of water resources and soil and water pollution 3
3.3 Other environmental issues 3
4 The significance of territorial issues 4
II. EVALUATION 4
1 Fast and profound changes 4
1.1 Demographics 4
1.2 The economy 4
1.3 Policies and politics 5
1.4 Social change 6
2 The major challenges for sustainable development in the Mediterranean region 6
2.1 Combat "desertification" and sustainable rural development 6
2.2 For closer harmony between agriculture and the environment 7
2.3 Including social and environmental issues in up-coming international and regional agriculture negotiations 7
3 A working programme proposed to the MCSD and target results 8
4 The added value of MCSD's involvement 8
III. FEASIBILITY 9
1 Availability of information and knowledge 9
2 Work undertaken with MAP and other platforms and involvement possibilities 9
IV. METHODOLOGY AND THE MEANS TO BE MOBILISED 10
1 Procedure 10
1.1 Making the factors for success or failure of sustainable rural development conspicuous 10
1.2 The job of going deeper into the multiple functions attributed to agriculture in the Mediterranean and the tools of agriculture policy 10
1.3 Reaching a shared "vision" on the future of agriculture and the Mediterranean rural world in the Euro-Mediterranean context 11
1.4 Summary and proposals within the framework of a regional workshop 11
2 Method 11
3 Work period 11
4 The means to be mobilised 11
CONCLUSION 11

(original french)

Pre-feasibility study

Agriculture and Rural Development in the Mediterranean Region[1]

INTRODUCTION

Thought on the reasons for and feasibility of the Mediterranean Commission on Sustainable Development's (MCSD) considering the theme, "Agriculture and Rural Development in the Mediterranean Region", presented hereinafter, is based on the standard questionnaire as put forth by the MCSD's Executive Committee at its meeting in Tunis on March 8th and 9th, 1999 (WG.155/3).

Analyses will be developed successively on the following:

- the theme's importance, especially in economic and environmental terms;
- assessment by identifying the main causes and the present and future issues as well as the added-value that the MCSD might bring to this field;
- feasibility;
- methodology.

The theme of "rural and urban development" had already been taken into consideration and taken on board by the MCSD as a priority but that, because it was too broad, was limited to a single aspect, i.e. "urban development". Taking the theme "agriculture and rural development" into account would therefore be a useful complement to the current effort on the urban aspect and provide real follow-up to the wishes expressed by the Commission.

[1] This note was prepared for MAP/MCSD by BP/RAC; it was discussed by an experts meeting end of August 2000.

I. THE SIGNIFICANCE

1 Mediterranean specificity and the significance of the heritage issue

Mediterranean rural space is not only typified by its **complexity** but also by the **contrast** between a few coastal and fluvial plains which represent no more than about 5 per cent of the total territory, and **vast** hill, plateau and mountain areas.

The climate is a constraint: summer drought (thus the importance of irrigation and fire risk), irregular and violent rain (thus the fragility of agriculture subject to the whims of weather and erosion) and **natural resources (water, soil and forests) are limited, inequitably spread, fragile and threatened, and development is therefore limited.**

These specificities explain the diversity in the management modes and the importance of the planning carried out since ancient times by rural societies (regional planning) and by governments and their engineers (major works). No other region of the world has in fact been as extensively shaped for so long by agricultural, pastoral and forestry activities as the Mediterranean.

Very old ecological degradation is due to this long history (erosion, deforestation, vanished animal species), **but also:**

- an exceptional diversity of **human-influenced landscapes**, know-how, domesticated races and cultivated varieties;
- management modes that have led to the conservation of an **earthly bio-diversity** (25,000 plant species, 12,500 of which are endemic) that represents an **primary international challenge** (hotspot);
- **dietary modes**, the healthy virtues of which are internationally acknowledged;
- a basic contribution to the **identity** of the Mediterranean region and its inhabitants.

This entire envelope represents **an incalculably wealthy heritage**.

2 The significance of the socio-economic issues

Agriculture is a **major economic factor** in almost all Mediterranean countries. It represents more than 15 per cent of the GDP in many countries of the southern and eastern Mediterranean (CSEM) and goes along with considerable industry both upstream and downstream (the food-processing industry).

In the most advanced nations and those that are highly populated but having little space, agriculture represents a relatively small number of direct jobs. On the other hand in the large developing Mediterranean nations, agriculture is the **largest activity in terms of employment**.

The rural population is very large in most of the CSEMs, including the difficult zones, but the social and economic situation there is often very delicate. Agriculture occupies the main place by far. Grain crops and cattle-raising maintain an essential role in these countries, in contrast to the situation resulting in recent developments seen in the north (e.g. Spain).

And finally, **food security**, even relative, is considered to be a major objective by a number of countries.

For all these reasons agriculture is considered to be a **basic socio-economic issues** by practically all Mediterranean countries, and this field is the object of considerable public policy.

3 The significance of the environmental question

3.1 Desertification (degradation of topsoil), deforestation and loss of bio-diversity

The most serious problems are **soil erosion** and **deforestation** with their impact in terms of a **loss of bio-diversity**. The peripheral spaces in the South (northern Africa) and the East (Machrek) are of the most concern. The World Bank puts the loss of productivity caused by soil depletion at an annual cost of from 1 to 1.5 billion dollars for the Middle East/North Africa region. In Morocco, for example, erosion affects more than 70 per cent of the useful agriculture area. Several tens of thousands of hectares of agriculture land are lost in this manner each year in northern Africa. Erosion also affects rural areas in the North, most notably because of the abandonment of old agriculture terraces.

This non-sustainable use of the land directly threatens the viability of agriculture production. It also affects the downstream by the **rapid silting up of dam reservoirs** (1 to 3 per cent annually in several southern countries) and it **increases the dangers of flooding**.

3.2 The over-development of water resources and soil and water pollution

Agriculture uses more than 80 per cent of all water abstracted in the southern countries (compared to 60 per cent in the North). The indicator of non-sustainable water production is already high in several countries, the consequences of this overproduction being the salinisation and sterilisation of a part of the agriculture lands on coastal plains and the progressive exhaustion of fossil water tables.

Aside the over-extraction of water and its contributing to the rapid regression of wet zones, the current forms of agriculture development also have non-negligible effects on the **quality of water and soil**. The use of **mineral fertilisers** and **pesticides** is widespread and growing in several countries with significant impact on the water quality, including sea water. Agricultural fertilisers, for example, are mainly responsible for the phenomena of the recurrent eutrophication that appears, especially in the Adriatic, with the spread of excessive algae.

3.3 Other environmental issues

The **forest fires** affecting the northern, southern and eastern sides of the Mediterranean (e.g. Lebanon) are another important issue, because of the scale of impact and the very high costs for fighting and preventing fires (about 150 euros per hectare per year in the European Union countries).

With few resources at their command but open to considerable risk because of rural migration, the southern and eastern countries must find less costly, more participatory solutions.

4 The significance of territorial issues

Rural migration from inland areas to coastal zones is one of the main causes for the growth of pressure on coastal areas and its environmental impact (artificialisation, pollution, urban congestion…). In time these developments can be considerable, as seen on France's Côte d'Azur with its inland areas losing up to 4/5, sometimes 9/10 of their population when the population of the coastal cities multiplied by 7 in a single century. Similar developments, often very fast, can also be seen in the South and East (e.g. certain regions of Turkey and Lebanon). Uncontrolled urbanisation in the North as in the South also leads to the **loss of excellent outlying agriculture land** (15 per cent of the irrigated land in Lebanon is said to have been lost in 20 years).

Impact on Mediterranean countries, coastal as well as inland, are considerable and contribute to the development noted on the Mediterranean shores. When this **territorial imbalance** is too marked, it represents very considerable costs (the costs of over-population on the one hand and under-population on the other).

Many southern and eastern countries are faced with very rapid urban development that is due more to demographic growth and rural migration than economic development, a development that is not without arousing considerable social risks and environmental problems. And the rural parts of inland areas are in a very difficult situation (lack of infrastructure and services, poverty…).

II. EVALUATION

1 Fast and profound changes

1.1 Demographics

The demographic growth at the start of soil-erosion problems at the end of the 19th century in some of Europe's mountainous Mediterranean areas is currently **weighing heavily upon the rural space of the southern and eastern Mediterranean**. Despite the fall in birth rates, the CSEMs will have 92 million more inhabitants between now and 2025 (as against only 5 million in the northern countries), which is only going to increase the need for development, put pressure on natural resources and widen the gap in agricultural exchanges.

1.2 The economy

The market economy, bigger and more open by the day, is leading to **a concentration of activities in the areas enjoying comparative advantages** (often coastal plains) in the North as in the South **and with a certain specialisation such as in fruit and vegetables:**

- **The irrigated plains in both North and South** have recorded tangible progress in their agriculture development. Yet agriculture development is not always done with an eye to protecting the environment: excessive water production and salting up of the land and the pollution of water and soil.
- **In the North rural migration and the abandonment of agriculture** have led to the **economic devitalisation of a very large part of the Mediterranean rural area** (some 70 per cent in some countries) and to large changes the environment (reforestation but also the degradation of terraces, the progressive disappearance of the last open expanses and the increase of forest fires). Yet **certain territories have succeeded in diversifying economically** (tourism, the food industry,

craftsmanship, industry and services, the new technologies…) often accompanied by social innovation (multiple activities, for example).

- **In the South** rural migration is an important phenomenon in several countries despite insufficient economic growth and the constraints of emigration. Yet in most of these countries **rural space**, including the difficult areas, are still **highly populated**, and the rural population continues to grow in some of them. Agriculture, often of the subsistence variety, is still the main activity and provider of jobs in these outlying areas. **Land and financial insecurity,** made worse by dependence on the whims of the climate, the **lack of infrastructures** (roads, electricity, drinking water, social facilities…), the low level of education, **poverty** and **insufficient economic diversification** for a dense population all contribute to the **serious social and environmental fragility** observed.

1.3 Policies and politics

These developments have been either accelerated or slowed down by **historical events and public policy** or by certain large groups who have played and continue to play a major role:

- **colonisation**, for example, contributed in northern Africa to marginalising part of the rural populations to the back country while stimulating a beginning of modernisation on the coastal plains, as a sort of window-dressing;
- considerable public energy has gone into the **great hydraulic projects**. Yet now the building cycle is about to end because of the insufficiency of water resources; the reorientation of hydraulic policies and strategies towards a greater use of aquifer refill and the promotion of small and medium hydraulic works is to be strengthen, due to their importance for sustainable development;
- too long neglected in many countries, **inland areas** in certain countries are now receiving considerable fitting out (electricity, roads…), which should lead to somewhat reducing the considerable present social and territorial inequities suffered by rural populations;
- the modernising of agriculture in several countries has also resulted in providing farmers with a certain amount of **security** concerning **land** (land rights, tenant agriculture laws…) and **finance** (market intervention, price support or liberalisation, various aid packages…), but it must still be consolidated in numerous countries.
- despite the structural adjustment programmes undertaken over the past ten years or so (reduced aid for input, water, energy…), **public intervention** (prices, subsidies, fixing of quotas…) **remain decisive** and are considered in many countries as major elements in social policy. Yet in the North as in the South these interventions are not always justified in economic or environmental effectiveness terms, and they can lead to “assisted” behaviour, which is one cause of fragilisation.
- The advances in certain fields and the promotion of Mediterranean agriculture products also largely depend on the **capacity for business and political organisation** by large food industry corporations.

1.4 Social change

Current changes in society are another important factor of change. In an ever-more urbanised Mediterranean, both North and South, the relative weight of agriculture is decreasing, Mediterranean eating habits are now being challenged by imported food, the educated youth of the countryside in the South is being drawn to the city—like those in the North have been—and the perceptions and expectations of nature are changing to such a degree that the misunderstandings and conflicts between urban and rural ecologists (farmers, foresters, hunters…) is growing more marked. Yet the **growing awareness of agriculture's multi-functional nature and the need to better conciliate agriculture development, the environment and society is growing**, which may lead to profound repercussions. Actions by States to enhance the services rendered by agriculture and not or badly remunerated by markets (good environmental and land management, bio-diversity, food quality, rural jobs, rural planning…) might be legitimised and perhaps lead to a useful review of agriculture policies that have not up till now sufficiently taken into account environmental and territorial issues.

2 The major challenges for sustainable development in the Mediterranean region

2.1 Combat "desertification" and sustainable rural development

Desertification (land degradation) results from the aggressive effects of water and wind on the soil, but it is amplified and often triggered by human activities. It concerns many countries, both North and South, around the Mediterranean and is especially serious in certain inland regions of the northern African countries where solutions were first sought in remedies applicable in other latitudes. They have been applied without care for poorly-prepared or even non-receptive natural and human milieus. Such authoritarian policies in defence and restoration of the soil have therefore had few positive, sustainable effects.

Drawing lessons from these experiences, new, more **global** and more **participatory policies** (rural development integrated with the conservation of water and the soil) have been undertaken. Some countries that have made them a priority have made great efforts to adapt to these changes but are still faced with **institutional** and **financial hardships** (the difficulties of integrating the efforts of various operators or the necessity of adapting financial procedures to the needs identified in the field) that will have to be overcome.

The success of these policies is not a foregone conclusion. It relies on the ability to consider rural populations as genuine partners and to contribute to improving their land and financial situations through global and concerted action.

Poverty and the lack of land security often hinder the acquisition of knowledge and investments that would enable putting an end to bad practices that are the cause of degradation ("mine" agriculture, over-grazing, excessive use of fuel wood…). But there are others factors as well.

In the end **what's at stake is also economic diversification, for there are fewer and fewer purely agriculture solutions for agricultural problems.** If young graduates cannot find or build in their family milieus decent living conditions that meet the new material and cultural needs of a globalising society, they will simply not return.

What is being asked is whether **rural societies can be inserted into the modern economy; it is a question that affects all Mediterranean rural space**, especially the devitalised ones in the North (some of which are in fact experiencing economic and cultural renewal) and above all in the South and East, **in search of needed solutions for avoiding**

very costly and undesirable changes. Certain current territorial successes or experiments are in this regard very useful and should be known and be made known.

2.2 For closer harmony between agriculture and the environment

The environment is not degraded uniquely by peripheral rural communities. It is also degraded by the race to profits, the accumulation of individualistic competitive behaviour and short-term vision as demonstrated by the over-extraction and degradation in terms of quantity and quality of rare and precious water resources.

Inversely, sustainable agriculture modes are not as widely acknowledged or rewarded as they should be.

These situations witness the great **difficulty there is in rationalising public policy and incorporating external** (positive or negative) agriculture **factors** on the environment (and society) **in the prices**.

In this regard the MCSD has made a package of strategic proposals for reorienting water policies through a better understanding of the long-term and **"demand management"** (reducing loss and wasteful uses, regulation of use and especially of agriculture which must reduce its share of water use). A few countries have resolutely committed themselves to this process, which calls for strong political determination and new ways of doing things. The Euro-Mediterranean partnership, which has made water one of its priorities, may well play a decisive, motivating and leadership-role in this area.

The long-term issue for the Mediterranean, which has at its disposal little space and few resources, **should be research into the value added by production development through highlighting environmental quality and the Mediterranean identity of enhanceable advantages** (biological agriculture, leveraging "traditional" products…). With this end in view it would be appropriate through evaluation to work for the rationalisation of public policy and for the development of new tools such as eco-taxation and eco-certification.

2.3 Including social and environmental issues in up-coming international and regional agriculture negotiations

At present, agriculture exchanges between the Mediterranean North and South are mostly regulated by country and European Union policies (quotas, prices, periods, subsidies…).

Transportation costs and the difficulty of joining established commercial systems represent additional constraints for the agriculture exports of the southern and eastern countries, but exchanges with the North show and will show widening deficits because of the lack of water and soil resources.

Although at present agriculture products are excluded from the Euro-Mediterranean project of free-trade zone, discussions are and will get underway. But **unregulated liberalisation or the lack of adapted support policies could have major effects, including on the environment** (cf. the work by the MCSD's free-exchange and environment group).

Through the discussion of the development of agriculture exchanges and support policies, what is being asked of the decision-makers working on the founding of the Euro-Mediterranean prosperity zone is rural development. This is why **discussion on the liberalisation of agriculture exchanges should be included in an agreement of co-operation about the means of achieving sustainable rural development.**

It would be a good idea to take advantage of the present context to **come up with a shared thought-process** (North-South, economy-environment-social) needed for arriving at a balanced political decision for controlled evolution.

Within this framework there is a major economic evaluation of agriculture's multi-functional value to be done.

3 A working programme proposed to the MCSD and target results

The working programme proposed to the MCSD is intended to focus on two complementary priority goals:

- **Draw lessons from the methods of sustainable rural development by analysing a sampling of territories** illustrating the diversity of situations in the Mediterranean basin. This work will try to **highlight the factors of success or failure of the sustainability of development** in the Mediterranean rural milieu;
- **Derive a shared Mediterranean "vision"** of the possible futures for Mediterranean agriculture and rural world and **the provisions of what could be a project of Euro-Mediterranean co-operation combining discussion on the liberalisation of agriculture exchanges and the implementation of support policies for sustainable rural development** (level off infrastructures, land tax policies, taking into account agriculture multifunctional features, helping economic transition…) without creating a situation of assistantship.

Such an undertaking is likely to give important results: better objective view and ranking of the issues and the impact and tools to be implemented; reconciliation of the points of view between North and South; the promotion of a network of sustainable rural territories; the definition of elements for a Euro-Mediterranean strategy, and a better understanding of the environment in agriculture institutions and policies, and so forth.

4 The added value of MCSD's involvement

There are numerous regional co-operation initiatives already in existence in the fields of agriculture, rural development and natural-resource management (water, soil, forests…) between agronomists (CIHEAM networks), foresters (Sylva Mediterranea and Forêts Méditerranéennes networks) and scientists and environmentalists (networks on water, soil and remote sensing…).

Involvement by MAP through the MCSD would have numerous beneficial effects:

- its framework; the Barcelona Convention is the only political agreement uniting all Mediterranean countries as well as the European Community;
- **the community of interest by countries** for the theme has been made abundantly clear;
- the "agriculture-rural development" theme would accrue MAP's experience and enrich it. Indeed, the **agronomic, forestry and economic approaches** developed by specialist institutions (CIHEAM, WFP…) **and the environmental approaches** (studies and analyses on water, soil, bio-diversity, desertification…) developed by MAP, NGOs and the United Nations Convention to Combat Desertification, etc… **have not yet managed to converge**, even if the integration of "society-environment-economy" is globally felt to be more and more vital.

- **The large international institutions** (WFP, World Bank, the Secretariat of the Convention to Combat Desertification…) **divide the Mediterranean into several sub-regions,** impeding a Mediterranean-wide view that would help original solutions adapted to the natural, historical and political context of the region to surface.
- The MCSD has a particular **legitimacy for carrying out a job of thought and proposal concerning the whole of the Mediterranean, integrating economic, social, environmental and territorial aspects.** The work undertaken in the "free-trade and environment" group shows both the vast importance of these "cross-sectional" approaches and the need to continue down this path.

III. FEASIBILITY

1 Availability of information and knowledge

On the national and international levels available knowledge and data on natural resources (water, soil, forests, bio-diversity…), land use, technology (agronomy, forestry, the anti-erosion fight…) and the socio-economic aspects (production, exchanges, comparative advantages…) are unequal (the land and social aspects are especially insufficiently known) but very numerous.

On the other hand, **cross-sectional analyses** such as the evaluation of external factors and the multifunctional value of agriculture and forests, or the evaluation of the environmental and social impact of national agriculture policies and international agreements are still lacking. They are, however, very necessary as the initial work done by the MCSD's free-trade and environment group has shown.

On the territorial level, a lot of basic knowledge has not been subjected to comparison or assembled and **emerges with difficulty in the form of proposals for action.**

The MCSD's involvement would enable the **amalgamation** of **"feedback of territorial experiments"** on a Mediterranean-wide level, which would represent a useful investment for all partners concerned. It would also enable us to better cross-check the different available data (economic, social, environmental indicators) and should contribute to showing the need and encourage the implementation of cross-sectional analyses useful for public decision-making.

2 Work undertaken with MAP and other platforms and involvement possibilities

It is impossible to review all the players involved in the Mediterranean region co-operation level.

We will highlight, among others:

- **The concerned MAP Centres** (PB/RAC, PAP/RAC, RAC/ERS) have developed capabilities useful in the question of agriculture and sustainable rural development (system- and prospective-analysis methods, know-how with natural resources, land-occupation, directional guidelines for combating soil erosion…).
- The **other environmental organisations and programmes** such as the Convention to Combat Desertification highlight the strong interaction between social economics and the environment, poverty and the degradation of natural resources.

- The Barcelona Declaration that founded the **Euro-Mediterranean Partnership** gives as goals modernizing and restructuring agriculture and integrated rural development as well as combating desertification.
- The **WFP** has undertaken analyses on agriculture's multi-functionality, and the **CIHEAM** has organised a seminar devoted to new strategies for sustainable rural development in the Mediterranean countries (Marrakech, 10-12 April, 2000). CIHEAM and the WFP could become the MCSD's special partners in its activities because of the current developments in their activities.
- Member **NGOs** of the MCSD such as MedForum, ENDA Maghreb or the International Association of Mediterranean Forests (which is organising a big forestry convention in 2001) are especially motivated by this problem.

The involvement of the **Mediterranean States and local authorities** also corresponds to this international involvement, representing a whole range of expertise likely to be useful to the whole of the Mediterranean region.

There exists therefore a whole set of initiatives in the Mediterranean region likely to be leveraged if a meeting and discussion place enabling joint work can be made official.

IV. METHODOLOGY AND THE MEANS TO BE MOBILISED

1 Procedure

1.1 Making the factors for success or failure of sustainable rural development conspicuous

The proposed steps are the following:

- Defining typology of areas (taking into account factors like: a diversity of situations, interest in terms of analysing socio-economic and environmental developments, availability of data and knowledge…) and a joint analytical apparatus for surveys to be carried out;
- An inventory on the national level of rural-development policies and programmes with a first assessment of a review of sustainability;
- A selection of regions (a total of 10 to 15 throughout various countries) on the basis of the defined typology;
- Analysis of results obtained and the organisation of a workshop to draw first shared conclusions and formulate proposals;
- In-depth review of certain points (e.g. land aspects) that might emerge from surveys carried out.

1.2 The job of going deeper into the multiple functions attributed to agriculture in the Mediterranean and the tools of agriculture policy

- The drawing up of draft specifications for starting a research programme on European funding (not included in the present project).

1.3 Reaching a shared "vision" on the future of agriculture and the Mediterranean rural world in the Euro-Mediterranean context

- The creation of a list of "principles" to retain for sustainable rural agriculture and development in the Mediterranean (and notably the agriculture-environment good integration);
- The creation of a draft document submitted for broad consultation;
- The creation of a corrected document after consultation;
- The organisation of a debate based on the document.

1.4 Summary and proposals within the framework of a regional workshop

2 Method

- Aided by 2 or 3 qualified experts (North, South and East of the Mediterranean), MAP will provide scientific co-ordination (analytical apparatus, criteria and the pre-selection of regions, the creation of specifications, result analysis…). CIHEAM and the WFP shall be associated with this work.
- Work within regions will be done by national experts with support from MAP.
- Job and reconstruction workshops composed of various experts and qualified executives from the activity's partner countries, the European Commission, competent international organisations and NGOs.
- In all, 10 reduced meetings and 2 plenary workshops (halfway through and at closure) will be necessary.

3 Work period

Because of the theme's complexity and size, the activity may stretch over a three-year period.

4 The means to be mobilised

A rough assessment of the project puts it at about 300,000 euros for the three years, the funding of which could be provided by certain States, the European Commission and international partner organisations (WFP, CIHEAM…).

CONCLUSION

Agriculture and rural development represent not only major socio-economic stakes but are also directly responsible for the good or bad management of most of the Mediterranean region and its natural resources. To a very large degree, the progress of this development will also condition the future balance or imbalance of the Mediterranean regions and especially the coastal zones and their inland areas.

Faced with such important issues for the sustainable development of the Mediterranean, adapted and cross-sectional answers have to be detected, conceived and promoted. The present context not only enables but calls for it.

Which is why it is up to the MCSD to take this subject into consideration as a priority for brainstorming and a search for proposals.

Mediterranean Commission on Sustainable Development

Pre-feasibility study for the selection of new themes

URBAN WASTE MANAGEMENT AND CONSUMPTION AND PRODUCTION PATTERNS

September 2000

Table of Content

ISSUE IMPORTANCE AND MAIN STAKES 1

1 INTRODUCTION 1
2 ISSUES 1
2. 1 Increasing stakes 1
2. 2 Changes in Collection and Disposal 2
2. 3 The Environmental Impact of the Current Disposal Situation 3
3 CONCLUSION : PRIORITIES 4

REGIONAL ACTORS AND STRATEGIES, AND INTEREST FOR MCSD 5

METHODOLOGY AND FEASIBILITY 6

1 SUGGESTED METHOD 6
2 CONTENTS 6
2. 1 Minimizing Waste Generation through influencing consumption patterns and production processes 6
2. 2 Promoting locally adapted technologies 7
2. 3 Exploring the conditions for sustainable waste management funding 9
3 DURATION AND NECESSARY RESOURCES 11
4 POSSIBLE GROUP COMPOSITION 11
5 WORKSHOP 11
6 OUTPUTS 11

REFERENCES 11

(original french)

Pre-feasibility study

URBAN WASTE MANAGEMENT AND CONSUMPTION AND PRODUCTION PATTERNS [1]

ISSUE IMPORTANCE AND MAIN STAKES

1 Introduction

Since the early 70's, solid urban waste has become a major stake in the development of Mediterranean agglomerations. Their nature has not changed significantly, they are still to a great extent, the waste produced by households and secondarily by larger units whose common feature is their being collected and disposed of by local authorities, but their volume, and features and therefore the methods of disposal have changed significantly.

A major explanation of these trends relies in the evolution of unsustainable consumption patterns. These changes raise acute environmental, economic and social problems in most Mediterranean countries.

2 Issues

2. 1 Increasing stakes

a) Rapid Changes in Waste Generation

The volumes involved have increased considerably in all Mediterranean countries, both on the North shore and on the South shore due on the one hand to demographic and urban growth and on the other hand to an increased production per inhabitant.

The overall quantity of urban waste has, first of all, increased under the twin effect on the one hand of the overall increase in Mediterranean population which, despite demographic transitions, has gone from 284 million in 1970 to 427 million in 2000 and on the other hand from the take-off of the urbanisation rate which went in the North from 58% in 1965 to 67% in 2000 and in the South from 37% in 1965 to 62% in 2000 (Blue Plan)

In addition to these changes, in an 18 year – time period (1980 / 1998) changes in consumption patterns (more packaging and less sustainable products) entailed a strong and steadily increase of the urban waste generation per inhabitant all around the Mediterranean : it went from 250 to 460 kg / inhab. p. a. in Italy, from 270 to 390 in Spain, from 260 to 370 in Greece and from 390 to 480 in France. For the Balkans, changes have been substantially alike : Croatia : 155 to 250, Slovenia : 180 to 312. In Southern and Eastern Mediterranean Countries (SEMCs), which set off from a lower level, changes have been even more spectacular : Algeria : from 168 (1985) to 210 (1994), Tunisia from 173 (1984) to 301(1992), Malta from 223 to 392, Turkey from 270 to 330. kg / inhabitant.

This growth in tonnages was accompanied by a **change in the composition of the waste** itself : overall, the organic proportion in the period from 1980 / 1998 has dropped. In this way, it has gone from 38 to 29 % for France, from 43 to 32 % for Italy, from 60 to 44 % for Spain,

[1] This report, prepared by BP/RAC for MAP/MCSD, has been submitted to the discussion of a small Expert Group held in Sophia Antipolis, on 4th September 2000.

from 62 to 47 % for Greece, and from 85 to 64 % for Turkey, with an almost proportional increase in packaging, plastics and TWDQ (Toxic Waste in Diffuse Quantities, see solvents, car batteries, paint etc.). These trends, which correspond to what happens all over the world, would require at least backing up by more frequent data deriving particularly from operators and local authorities.

b) Results of these Changes

These quantitative and qualitative changes mean first of all that the management of urban waste which was considered only as a public health issue in the 1950s (not allowing limited quantities of organic waste to carry infections to inhabitants) has become an activity with a **powerful environmental impact** (see below)

Besides, inappropriate Solid Waste Management (SWM) facilities create negative human health impacts (for instance uncontrolled burning of solid waste in many Egyptian, Lebanese Moroccan and Syrian cities and rural areas releases atmospheric pollutants that include dioxins and contribute to poor air quality) and affect economic development (for example in Tangiers the accumulation of solid waste has been identified as the leading cause of the decline in tourism during a 10 year period from the mid – 1980's to the mid 1990's)

These new effects have resulted in the set-up of technical / economic responses which in turn cause **environmental** , **economic and social problems**. In fact, these responses have a cost that is deemed to be excessive in most Mediterranean countries and partly challenge somehow the **informal economy** in SEMCs, which is nevertheless a significant source of employment.

2. 2 Changes in Collection and Disposal

Since the mid 1990s, certain countries have started to clean up the main hot spots : Turkey, the Lebanon and Egypt for example. In those countries, some raw dumps have been closed and replaced by **sanitary landfills** and in addition policies for recovery and recycling were implemented. In this way, Beirut closed in June 1997 the site at Bourj Hamoud and built two **composting** / incineration units (but with a minimum proportion for the latter process) in addition to a sanitary landfill at Naameh. Based on the same strategy, Turkey, after having given up on incineration, has developed since 1991 a systematic recycling policy that takes the form of a legal obligation for some economic sectors which are major consumers of packaging to recover a certain tonnage each year. Egypt, also since 1990, has opted for a policy based on composting, and has built several units.

At the same time on the Northern shore, under the lead of the European Union, four directives tend to encourage systems based, above all, on minimizing at source and on recycling : two directives that strictly regulate incineration and make it very costly (gas outflows and processing of RCISHW[2]) a third one aimed at reducing the volume of packaging used in widespread consumption and recycling. and a fourth regulating sanitary landfills and the reduction of biodegradable waste ending in landfills . These directives create major difficulties in application (as witnessed by the amount of disputes concerning their application) mainly because of the inertia of systems based on incineration, of the complexity of the various disposal processes for urban waste (especially TWDQ) ; because of the powerful interests of operators which have often acquired quasi-monopolies on the collection and disposal markets during this period. and local government weaknesess

This change in methods of disposal has resulted both to the North and to the South in a **considerable increase in costs** and in the **opening-up to private operators**. In Cairo for example, the tax collected by the authorities for household waste only covers collection costs . In Beirut , the Sukomi company manages the sanitary landfill at Naameh.

[2] Residues from Cleaning the Incineration Smoke from Household Waste (RCISHW)

This gap between available financial resources and needs can be illustrated by studies carried out under METAP and the World Bank which estimate that for infrastructure investment needs alone (i. e phasing out most important raw dumps and collecting 75 % of the population) over the next 10 years $ 2,5 – 3 billion will be required for the Maghreb / Mashreq countries while the same countries spend each year for SWM $ 292 – 365 million. in total .

In their efforts to provide the required municipal services, all countries are facing considerable budgetary constraints, both at the national as well as the local level Therefore, once the amount of nationally available financial resources has been estimated, additional resources are likely to be needed in order to undertake actions of upgrading existing SWM facilities. An array of options that may be used in order to raise the required investments is presented below.

- Concession contracts (currently the most selected option) through which the private sector provides capital financing in return for operating the waste management system and recovering the financing and other cost through charging for the services provided. There is a wide number of variations on the concession issue , any one of which might be appropriate in principle. Concession requires a lot of attention from public entities signing this kind of arrangement because operators tend often to impose their conditions.
- Application of the “polluter pay” principle under which those deemed responsible for the generation and management of products that become waste contribute funds to pay for the management of the waste generated as result of their use ; these can be the manufacturer, distributor, retailer, and / or importer of a product. This principle, which has been implemented for a long time in Scandinavian countries , is already in place in Tunisia and Algeria and proposed in Egypt, although application has not yet proved its effectiveness. This approach can not only raise money for investments, it also can result in the environmental cost of products being included in their price , thereby providing consumers with behavorial choice – an environmental and economic win-win situation.
- Public / private partnerships might be developed through which private sector investments combine with public sectors funds to increase the pool of available money for infrastructure financing
- Some countries have introduced an “environmental levy” applied to all tourists at the point of entry or departure from a country ; the levy is used explicitly to support waste management activities. The justification is that tourists may place a higher value on the country’s environmental quality than local people or have higher expectations regarding sanitation than local people (which is generally true, since tourists tend to chose destinations that are not perceived as “dirty”) or generate waste themselves and that for any of these reasons it seems therefore fair that tourists pay an to provide for levels of waste management service in keeping with their values / expectations and activities.
- Loans from international financial institutions
- Grants by the donor community

2. 3 The Environmental Impact of the Current Disposal Situation

The most widespread system of disposal, except in France, and to a much lesser extent in Italy and in Spain, remains raw dumping or controlled landfilling (80 to 90% according to country) with all the problems involved :

- **Olfactory disturbances** : These are all the more present when there is major anaerobic breakdown of organic matter
- **Visual disturbance** : As site operations increase waste accumulates and forms real artificial hills which may significantly change the landscape.

- **Air pollution** : Raw dumping often generates nitrous oxide and methane emissions from pockets of anaerobic fermentation
- **Fires** : waste dumps cause fires (very frequent case in the Mediterranean , including on the Northern shore .See the last great fire around Marseille in 1997)
- **Release of methane and nitrous oxides contribute to the greenhouse effect**
- **Sea pollution**
- **Water pollution** : Run-off water is loaded with all the poluting matter contained in household waste (leachates) which then find their way into the hydrographical system. and endanger surface and ground water.
- **A major risk** : Methane pockets trapped can be dangerous in contact with an inflammable source.

Faced with this situation, certain Mediterranean countries have started to set up arrangements with twin features :

- The monitoring of abandoned sites especially to avoid the dispersion of leachates and to partly recover the methane
- **Changing over from raw dumping to sanitary landfilling** with mainly the treatment of leachates, and the application of geo-membranes aimed at making the land receiving waste water-tight and the use of films to avoid olfactory disturbance

But these initial efforts remain inadequate in most Mediterranean countries including on the Northern shore bearing in mind the impact observed.

As concerns **thermal treatment** which is nowhere the most widespread processing method (in France it only represented 47% of the disposal methods (1998)) in addition to its investment cost which is prohibitive for most Mediterranean countries, it generates toxic gaseous outflows (mainly heavy metals, dioxins and furans) and special industrial waste within the meanings of the Basle convention which must compulsorily be subjected to delicate processing which is itself costly.

3 Conclusion : Priorities

Over the last two decades, urban waste mainly because of the evolution of consumption patterns became a major issue for the Mediterranean area and its environmental impact is considerable. The investment required to set up sustainable collection and disposal systems and to rehabilitate existing landfills will involve huge amounts of funds , outside the financial capacity of local authorities in charge of these tasks in most Mediterranean countries.

In this context, a work schedule put to the MCSD should be focused on promoting optimized SWM strategies based on the socio – economic pecularities of the Mediterranean region with special emphasis on influencing consumption patterns, promoting appropriate technological interventions and exploring the investment.potential . This work could be built around the three following priorities :

- Promoting waste minimization through influencing consumption patterns and production processess
- Promoting locally adapted technologies to increase the environmental acceptability of SWM facilities
- Exploring the potentials for investment in SWM and for the financial sustainability of the SWM

REGIONAL ACTORS AND STRATEGIES, AND INTEREST FOR MCSD

As SWM is a recent issue and generally raised at local level, the regional scene is sketchy. In general , there is a lack of knowledge and expertise.

Therefore, most work on urban waste has been monographic in character, detailing the organization of collection and disposal at the scale of a single conurbation. Donors (including the European Union with the MEDA program) have adapted to this approach which, whilst putting forward intervention criteria (which are very flexible, moreover), finances disposal unit projects individually. As the gap between available financial resources and needs is very large the support of major international donors has to be sought. That is why, intervention criteria based upon a regional strategy would be very helpful.

Moreover , in the Mediterranean area major agglomerations are comparable enough to justify a regional approach. This is all the more vital as urban waste management is a large market for several tens of billions of dollars. Operators have understood it well and are already developing strategies at the basin level. At the opposite, public authorities have no tradition , strategy and capacity in the sector as they have , for example in the Mediterranean region for the sector of water management for example . There is a risk of imbalance in the relationship between operators and local or national governments in favour of the first .

In the absence of very well identified regional actors, the European Union (EU) has an important responsibility. There is no doubt that European Union's directives concerning waste management constitute a strong driving force: they contribute to strengthen the national regulations in almost 10 out of the 20 Mediterranean countries (including the countries candidate to accession) and also influence the elaboration of the legal framework in the others. Nevertheless, their practical implementation raises not only financial and technical problems but also the problem of low national and local capacities to administer SWM and to implement them in the Mediterranean countries.

In this context, a regional forum like the MSCD, able to put around the same table operators, representatives from governments , local authorities, and NGOs may prove influential in the efforts to avoid create an imbalance in favor of a single class of actors and to prepare countries for the implementation of EU SWM standards in the Mediterranean area. Another area of interest for the MCSD is that it can bring together experiences from the North and South of the Mediterranean which could assist Southern countries to avoid going through the same current crisis of the Northern systems of collection and disposal: a crisis of legitimacy (it is nowadays very difficult to locate a disposal unit anywhere) and an economic crisis (local taxation is often inadequate to face up to the new environmental demands).

Another specific topic that would be profitable in a regional arena like the MCSD would be the assessment of the socio – economic impact and acceptability of the various possible technological choices.

The technologies proposed in most of the internationally funded projects have generally not been assessed in terms of social acceptance in the Mediterranean context.

For instance, cases of up-grading landfills have failed because they did not integrate the important role and functioning of the informal sector. This sector usually adapts itself very rapidly to the implementation of modern SWM facilities: if part of it integrates the new organization, the other ones remains outside while most of it still recovers waste disposed of in new landfills, thus making any control .impossible As the informal sector has often only been considered as a potential partner of public authorities for collecting urban waste, its potential interaction with the new context of SWM remains quite unknown. A strategy to facilitate complementarity is needed. In this respect exchanging experiences between Mediterranean countries would be very useful.

There is also an opportunity to deal with this topic since it is directly linked to the issues of tourism, water, urban and rural development e.t.c …already tackled by the MCSD. Furthermore the SMAP included it in its 5 top priorities.

Consequently, the MCSD constitutes an ideal place where "win/win" scenarios can be developed whereby each party can find its own place. The proposed working program will concentrate in elaborating regional strategies not relying on the classical "end of pipe" approach

METHODOLOGY AND FEASIBILITY

1 Suggested Method

The proposed working program consists mainly of carrying out studies and promoting exchanges of experience based on the 3 priority issues identified above in the analyze.

EXPERTS GROUP

The proposed approach is a "hearing" procedure. It is suggested that the monitoring of the work schedule be entrusted to a group of experts of about 20 persons, representing the various major Mediterranean geographic regions.

At the end of this phase , the group will present to the MCSD its conclusions and recommendations .

The group will hold about 5 meetings over a 2 year period, with, between each meeting, work and studies entrusted to consultants.

The group's secretariat support will be provided by Blue Plan under the responsibility of a task manager, which shall be an MCSD member.

FINAL WORKSHOP

Conclusions and recommendations shall be put forward, prior to submission to the MCSD to a final workshop which will bring together experts from all the countries represented in the MCSD, the major donors, private operators, local authority representatives and NGOs.

2 Contents

The priority topics to be handled by the work group will be organized around the 3 priorities defined above (see Chapter 3 Conclusion, above)

1) Minimizing waste generation through influencing consumption patterns and production processess

2) Promoting locally adapted technologies

3). Exploring the potentials for sustainable SWM funding

2. 1 Minimizing Waste Generation through influencing consumption patterns and production processess

There are two ways for trying to influence consumption patterns in order to minimize waste disposal:

- clean production techniques
- raising consumer awareness and choices

a) Clean Techniques

The best (sustainable) way of dealing with the issue of urban waste is to minimize their generation, especially by involving the producers of waste (industry, packaging,…). This pathway is all the more promising as it often also guarantees an improved efficiency in the production process. This is the meaning of the certifications, which become more and more a competitive advantage in the European markets or of the Best Available Techniques Approach Unfortunately, in the Euro–Mediterranean states, ambitious strategies in this domain are rare.

This is why, with regard to this aspect, which is vital to the propose programme , a census and analysis is suggested of :

i) Pioneering initiatives and approaches in the Mediterranean that should be studied , above all on their potential to be replicated (waste bourse , Croatian experience since 1993)

ii) Of the most advanced European initiatives (see the National Waste Plan for Holland for example) which have systematized this policy both at the level of industry and of economic actors (ISO 14001, Eco-Audit, etc.). This activity will be carried out by two studies: one which will present the National Waste Plan for Holland and will assess what could be drawn from at the Mediterranean level and another which will focus on setting out the waste dimension in the main certification schemes (ISO , Eco – Label , Environmental Management and Audit System EMAS).

b) Raising Consumer Awareness

This part of the program will cover two aspects :

- The consumption patterns : consumer's choice taking into account the nature of packaging and actions aiming at influencing the consumer's behaviour in this field. It would be worthwhile to collect studies assessing these aspects. Some countries have implemented policies to promote packaging recovery operations and set up quantitative targets (in Turkey, for example). Others still have the system of deposits on glass bottles. These attempts to minimise the tonnage of urban waste to be collected and disposed of are all the more interesting in that they seem to be based on solid technical and economic grounds.
- The role of the informal sector : is the quantity of waste diverted from usual collection and treatment streams significant ? Does this sector play a part in consumer's awareness in terms of waste generation ?

It will therefore be important to assess their impact on SW generation in the same way as publicity campaigns on selective collection in certain conurbations to the North (Barcelona, Turin, and Eco-Emballage for example) and in the South (Beirut).

Group experts will be called on to describe the initiatives being carried on in their countries and a special study could be devoted to Turkey. One way of showing the extent of the stakes and to raise awareness on the urgency with which good responses are awaited is to create prospective studies on waste generation in each country, based mainly on Courbage demographic projections country by country.

2. 2 Promoting locally adapted technologies

In order to upgrade their SWM facilities , some countries need to find out the most appropriate way to do it, taking into account the specificities of the Mediterranean region

(poor financial resources, centralization, presence of an informal sector,…) . In this framework, the following program is proposed.

a) Terminology harmonization

To achieve this adaptation of modern technologies to Mediterranean situation and exchanging about it , common definitions between Mediterranean experts and stakeholders. are required . That's why a part of the proposed working program will be devoted to terminology and assessment methods harmonization.

Terminology harmonization

Often the same term is used with different meanings, from one country to the other, which leads to diverse views on waste. For example, sludge from sewage works is either considered as special industrial waste or as solid municipal waste or not even belonging to waste. Moreover, translation difficulties may generate additional problems

One of the first tasks to be carried out would be the drafting of a multi-lingual glossary of terms used in the waste sector.

(This task could be carried out either in the context of other Blue Plan exercises, which are more focused on data quality improvement such as the Euro – Med project MEDSTAT Environment or could be entrusted to a consultant)

Harmonizing Assessment Methods:

In addition, in the various documents available, reference is rarely made to the **methodologies used**. So it is not always clear whether are we the same thing is compared . Most often it does not. For example, in the case of sludge from sewage works , some countries take the gross weight of the sludge into account, whereas others consider the dry weight. This is far from being neutral when the rate of humidity exceeds 80%! The harmonization of measuring methods for waste produced, collected and disposed of is therefore necessary in order to carry out relevant analyses at basin level.

A second task for the group would therefore consist of proposing to the countries a few existing approaches (Modecom type for example) for making these calculations. Here again, one could imagine going through consultants or existing projects. However in order to take into account past experience, it would be necessary for each expert to carry out work on a local authority in his own country using the methodology(ies) proposed.

b) Improve knowledge on impacts

This predominance of raw dumping creates considerable **environmental impacts** , some of which are specific to the Mediterranean area.

It would therefore also be useful, on a few representative sites in 2 or 3 Mediterranean countries, to carry out a census of the impact of raw dumping especially through carrying the analysis of substances and flows.

c) Inventory of experiences of landfill upgrading and remediation

The most common form of disposal remains **dumping sites.** Some countries minimize the disturbance through : the application of geo-membranes to make dumps watertight, the laying of drains to collect leachates and bio-gases, the treatment of leachate. , e t c . . . . . .

It could be very useful to draw up a manual on the practise of sanitary landfills and the environmental protection measures that they involve based on a study which would outline

the main legal, political, technical and economic stages in the change from raw dumping to sanitary landfilling in Spain, Mediterranean France and Italy.

After having retraced those steps, an exchange of experiences would be set up on the following points :

- *disturbances and risks generated by dumps,*
- *technologies for risk and disturbance prevention (technical and economic aspects), inventory of dumps and associated impacts,*
- *means for prioritizing urgencies (devising a multiple criteria analysis table suited to Mediterranean countries),*
- *methods for applying a project of re-integrating a dump (the various stages, the studies required, the work to be carried out, and monitoring.*

The social and financial acceptability of this necessary landfill upgrading will be assessed, particularly taking into account the existence of the informal sector which often manages practically a large part of concerned sites in South and Eastern Mediterranean countries.

d) Improve knowledge on costs

Cost of remediation of sites concerned is often not considered as a major issue in the context of international co-operation on the subject of waste. All too often, international operators and States consider it to be a secondary issue and /or which comes under the sphere of intervention of local authorities. However, costs of such operations are considerable and well outside the reach of local authorities alone. It is therefore of strategic importance to provide comparative figures in order for them to enter into the sphere of priority action for national and international donors.

In those same countries, a national inventory of the largest hot spots, with an estimate of the costs corresponding to their rehabilitation, would allow to provide an estimate range of the relevant financial resources required at a country level . For this point, exchange of experiences based upon past remediation projects would be useful (for instance experience of Zagreb)

e) Promote composting

The **composting method** appears to be the most promising for the Mediterranean, all the more so since it brings a partial solution to the soil issue. Besides, it is starting to be applied in countries such as Turkey, Egypt or the Lebanon at significant scale (several tens of thousands of tons per annum). Nevertheless, all these activities are very recent (the first composting units started operation in the early 1990's) and a presentation of the experience of some major Mediterranean municipalities from the North and the South would turn out most useful.

The experts group will be called upon to supply a few technical – economic facts on the composting units in operation in their countries and to assess the extent of progress in this technology in each one.

2. 3 Exploring the conditions for sustainable waste management funding

On both shores of the Mediterranean, **local authorities** are responsible for collecting and disposing of household waste. But, whereas on the Northern shore the existing systems

most often cover their own running costs[3], on the Southern shore and in the Balkans, the costs of collection and storage of household waste exceed the income from taxes paid by the users. Besides, it is often this **chronic lack of funds ,** which explains the gaps in collection and disposal.

The answers to this issue of financing vary in terms from one country to the other but the basic trend is to set-up licenses to the benefit of major trans-national operators which are asked to carry out heavy investments and to train staff on the basis of long term license agreements (see Egypt, Turkey, Morocco). Another solution considered consists of creating joint ventures, with mixed private and public sector capital (see Beirut). Donors are often called upon (Tunisia, Syria). Regardless of the solution selected, it will be necessary to increase local taxation allocated to urban waste. In this context, success stories in which investments have been attracted would be presented. Economic instruments used in these success stories (essentially fiscal ones) would be assessed in order to increase the resources allocated to collecting and disposing of urban waste and to ensure the most harmonious and efficient complementarities between operators / local authorities / the informal sector.

The group will therefore focus on building up ***references on the range of costs of collection and disposal and their ways of recovery****, based on an inventory of taxes , incentives or other fiscal instruments on urban waste in all or part of the Mediterranean countries**.** This will allow national estimates to be made, and above all, to assess the possible room for man oeuvre for the countries and , above all , to ensure complementarity between operators , local authorities and informal sector.*

This will imply :

- *surveys in the countries represented in the group (taking care to select representative cases in terms of North / South shores, urban /rural specificities, city sizes, islands etc…) in order to generate information on the level and components of the costs of collection and disposal, to define the possible roles of the various actors and especially that of the informal sector;*
- *bibliographic overview of costs encounetred in the North, their components, evolution and acceptability and socio – economic impacts of privatisation;*
- *case studies in the South laying emphasis on the financial gap between available resources and needs and on strategies of municipalities and of the private sector;*
- *a specific survey reviewing economic instruments available to fund SWM (taxes, joint – ventures with private sector, cooperation public / private / informal sector, incentives etc…)*

Based on these products, the group would direct its work along the following paths:

- *The level of financial resources to be mobilized to environmentally upgrade the existing collection and disposal systems in the selected conurbations*
- *The nature and level of tax or other income or investment which can be drawn upon*
- *Contributions from international operators and donors*
- *The foreseeable inter-working between the informal sector / the future structure of the institutional collection and disposal system*
- *The effects on employment of various modes of organization*
- *The distribution of roles between national and sub – national entities*

[3] Even though this balance is threatened from time to time by changes in the national and European Community regulations, see the virtual requirement not to store final residues in dumps in France from 2002 on.

3 Duration and Necessary Resources

The schedule set out over two years needs resources for

- At least, 5 meetings required for the work group;
- The final regional workshop ;
- Intermediate studies and consulting.

European Funding Programs (SMAP, LIFE) could be approached as soon as the MCSD approves the main lines of the work schedule presented in this preliminary feasibility study, since the Waste Management issue is one of the 5 priorities of the SMAP.

4 Possible Group Composition

The expert group could include:

- Two national experts from the North
- Four national experts from countries represented at MCSD (Cyprus, Croatia, Tunisia and the Lebanon)
- One representative of the informal sector or NGOs working in this field
- Two representatives of large cities (one from the North and one from the South)
- Two NGOs
- One representative of the private sector (international operator)

The Blue Plan in collaboration with the Regional Activity Center devoted to Clean Technologies could act as technical secretary of the group.

5 Workshop

The final regional workshop will invite representatives of all actors mentioned above, representatives of Ministries of Environment of the various Med countries and major donors and operators. The expert group will define the list of people to be invited to share findings and recommendations

6 Outputs

The main outputs of this activity will be:

- reference studies available on the web
- findings of the final workshop
- recommendations for a sustainable strategy for SWM at the regional level to be presented to the MCSD.

References

. Final Report of the three sub-regional Mediterranean Workshops 1998 METAP- Blue Plan

. Environmental Performance Indicators National Test Turkey Blue Plan 1999

. OCDE Compendium de statistiques environnementales 1999

. Policy and Institutional Assessment of Solid Waste Management - Lebanon CEDARE / Blue Plan Nazih El Jor February 2000

. Policy and Institutional Assessment of Solid Waste Management – Egypt CEDARE / Blue Plan Mounir Bushra March 2000

. Municipal Solid Waste Management in the Mediterranean and Arab Region 6 / 8 December 1999 MIO / ECSDE

. Municipal Solid Waste Management study for the Mediterranean Region 1993 METAP / IEB / WB / UNDP

. CEDARE / University of Bradford A CEDARE Regional Workshop on Municipal Waste Management Damas 1994

. PNUE / PAM / CAR – PAP A practical guide for the management of urban solid waste in coastal Mediterranean countries Split 1991

. PNUE / PAM /CAR – PAP Solid Waste Management in Mediterranean Countries : Case study “ The Kastela Bay” Split 1994

. GTZ / US AID / WB / PUG / MEAT Tunisie Séminaire Régional sur la participation du secteur privé dans la gestion des déchets solides, Tunis 14 / 16 Mars 1995

. UNEP / MAP / PAP – RAC Disposal of Municipal Solid Waste : sanitary landfills Split 1994

. La gestion des déchets solides au Maroc PEE Casablanca Paris 1998

Mediterranean Commission
on Sustainable Development

Pre-feasibility study
for the selection of new themes

HEALTH AND ENVIRONMENT

September 2000

(original english)

Pre-feasibility study

HEALTH AND ENVIRONMENT [1]

Background

Environmental Threats to Human Health

Literally, the word "environment" refers to whatever surrounds an object or some other entity. Humans experience the environment in which they live as an assemblage of physical, chemical, biological, social, cultural and economic conditions which differ according to local geography, infrastructure, season, time of day and activity undertaken. However, for the specific purposes of the proposal, focus will be on the impacts of environmental conditions on health, and on the social and economic conditions that act as "driving forces" and put "pressures" on the environment.

The different environmental threats can be divided into "traditional hazards" associated with lack of development, and "modern hazards" associated with unsustainable development (WHO, 1992a).

"Traditional hazards" related to poverty and "insufficient" development include:

- Lack of access to safe drinking-water;
- inadequate basic sanitation in the household and the community;
- food contamination with pathogens;
- indoor air pollution from cooking and heating using coal or biomass fuel;
- inadequate solid waste disposal;
- occupational injury hazards in agriculture and cottage industries;
- natural disasters, including floods, droughts and earthquakes;
- disease vectors, mainly insects and rodents.

"Modern hazards" are related to rapid "development" that lacks health-and-environment safeguards, and to unsustainable consumption of natural resources. They include:

- Water pollution from populated areas, industry and intensive agriculture;
- urban air pollution from motor cars, coal power stations and industry;
- solid and hazardous waste accumulation;
- chemical and radiation hazards following introduction of industrial and agricultural technologies;
- emerging and re-emerging infectious disease hazards;
- deforestation, land degradation and other major ecological change at local and regional levels;
- climate change, stratospheric ozone depletion and transboundary pollution.

[1] This note was prepared for MAP/MCSD by WHO/MAP/MEDU

A health-and-environment cause-effect framework

The relationship between human health and the environment is evidently highly complex. Each of the traditional and modern hazards is associated with a variety of aspects of economic and social development. Moreover, there is no single best way of organizing and viewing the development-environment-health relationship that reveals all the important interactions and possible entry points for public health interventions. So as with a physician taking X-rays from various angles, we must examine the complex relationship between health, environment and development from several perspectives, to try to understand what is happening and what can best be done about it.

The health and environment cause-effect framework explicitly recognizes that although exposure to a pollutant or other environmentally mediated health hazard may be the immediate cause of ill-health, the "driving forces" and "pressures" leading to environmental degradation may be the most effective points for controlling the hazard. The "net" of connections within the framework can be used to identify cause-effect "pathways" or "trees", depending on whether the framework is used to analyse the multiple causes of a single health effect, or to analyse the multiple health effects of a single driving force. In some cases, a single cause-effect pathway may be identified in order to focus on a particular issue, but if so, important factors that could be modified to control or eliminate the threat, may be ignored.

More generally, *driving forces* create the conditions in which environmental health hazards can develop or be averted, or that are generated by large numbers of people in their pursuit of the basics of life in terms of food and shelter, or in their appropriation and use of consumer goods. Driving forces include policies that determine trends in economic development, technological development, consumption patterns and population growth.

The driving forces therefore impose different kinds of *pressure* on the environment, in such forms as waste from human settlements, depletion of natural resources, and emission of pollutants due to mineral extraction, energy production, manufacturing, transport, agriculture and forestry. These pressures can lead to changes in the *state* of the environment, as seen when land use is changed (deforestation or drainage problems, for instance), or when discharges of toxic chemicals or other forms of waste increase concentrations of chemicals in air, soil, water or plants. The pressures are potentially associated with all stages in the life cycle of industrial products, from initial resource extraction, through transportation of raw materials, processing and distribution, to final consumption and disposal.

Whether a resultant altered state of the environment has an impact on human health depends on many factors, including the degree to which humans are actually "exposed". For exposure to occur, people must be present both at the place and at the time when the state of the environment changed and became hazardous. Exposure thus refers to the interaction between people and environmental hazards. Levels of exposure may range from harmless and acceptable to dangerous and unacceptable.

The term "dose" is used to quantity the exposure as the amount of hazard actually absorbed by the body. Given known exposures and the knowledge of dose-response relationships, estimates can be made of the health *risk* of specific hazards, to the extent that current knowledge allows.

Environmental hazards can lead to a wide range of health *effects*. These may vary in type, intensity and magnitude depending upon the type of hazard to which people have been exposed, the level of exposure, and the number of people affected. Most important diseases are associated with more than one type of exposure, and environmental hazards interact

with genetic factors, nutrition, lifestyle hazards and other factors in causing disease. The aforementioned framework is intended to highlight the important links between different aspects of development, environment and health, and to help identify effective strategies and actions to control and prevent adverse health effects.

Rationale

Information on the health impacts attributable to environmental conditions at local and national level is needed so that the implications of environmental health decisions can be assessed, the potential effects of different decisions and choices compared, and irreversible and costly health and environmental damage prevented.

Environmental health assessment requires the *understanding of the links* between hazards present in the physical environment and human exposure to them and the *quantification of risks* to human health. These allow to *indicate priorities*, based on the magnitude of the risks identified and to *make recommendations* for preventive or remedial interventions.

A challenge to the performance of environmental health assessments is frequently posed by the partial or complete lack of data on environmental parameters (e.g. concentrations of certain air pollutants) and/or on human exposure (e.g. number of people resident in a polluted area). This requires "borrowing" the missing data from other studies, and introducing the appropriate adjustments, which will, most probably, be the case for the Mediterranean region.

Some of the links between health and the environment are relatively evident. These are normally characterized by the involvement of a "significant" exposure to the different components of the physical environment (e.g. through chemicals, biological agents and radiations), and/or by the existence of a simple cause-effect relationship. Examples include the effects of biological contaminants in food and water and of ionising radiations. On the contrary, other links are less evident and more difficult to understand, for example in the case of low levels of exposure or in case of health effects which could be determined by a sum of multiple environmental exposures.

The Mediterranean represents a vast geographic area and the practically enclosed state of the sea and the relatively long circulation time of its waters are conducive to pollutant retention. In many parts of the region municipal sewage and industrial effluents are still being discharged, untreated, into the immediate coastal zone, or reach it in this stage through rivers. The people gathered in the Mediterranean coastal zones are of different cultures and socio-economic conditions and have many contrasts between them. The generally pleasant climate and the many historical, architectural and archaeological sites, results in the concentration of a great number of tourists and local population in the coastal zones. This poses a possible threat to human health.

An assessment of the state of environmental health in Mediterranean countries will enable the countries to apply better management for pollution reduction and also to incorporate the health concern into environmental management, thus reducing the risks to human health.

Work related to health effects from polluted seawaters, which was completed in the past, has now been rendered incomplete because not only coastal waters but also coastal areas (including the catchment basins), are strictly related to pollution and risks to public health. In order to translate environmental health risks into policy management, there is an

absolute need for *awareness of the effects already observed*. The application area of the Protocol now includes the coastal zones. However, since this type of work has not been carried out in the past there is a lack of knowledge in this area. Therefore, a study to identify the state of environmental health in the Mediterranean, which will comprise the European, African and Asian countries, is essential.

Brief Description

Objectives

- To raise awareness among representatives of the Contracting Parties to the Barcelona Convention on the importance and the need to link directly the degradation of the environment to health;
- to carry out environmental health assessment as part of environment and economic policy assessment, thus facilitating links between health and its determinants;
- to develop an evidence-based set of recommendations for environmental policies, in consultation with the countries;
- to better introduce the subject of drinking water quality and air quality into the plans of actions of the Mediterranean Countries within the framework of the Mediterranean Action Plan;
- to improve comparability of the reviews across different countries.

Activities

The proposed activity will focus on the most evident and simplest links between the physical environment and the health of the Mediterranean populations and will make recommendations on priority issues. It will not address health issues related to the psycho-social environment, but will concentrate on diseases and conditions known to be associated with exposure to environmental risks.

The activity will reflect the existence or not of adequate data so as to link diseases to environmental exposure or vice-versa. Key areas of environmental exposure related to health problems in the Mediterranean, with reference to the individual countries, may include health impacts of air pollution waste and wastewaters, chemical substances, contamination of water including drinking, bathing and shellfish waters, ionized and non-ionized radiation. The areas of impacts related to diseases will include cardiovascular diseases, cancer, respiratory diseases, communicable diseases, haematological effects, birth defects and reproductive effects and gastrointestinal diseases.

The task consists of identification of all possible sources of information and data existing in (a) countries; (b) ministries, agencies or institutions; (c) national bibliography; (d) international bibliography and literature review; and (e) other possible sources. The possible sources of information for this feasibility study are:

- WHO databases (e.g. HFA, Infectious disease surveillance systems, food notification and surveillance systems);
- information and data from other international organizations (OECD), UNECE, EEA, UNICEF, World Bank, UNFCCC, UNESCO, WMO, FAO, etc);
- information from non-governmental institutions and research networks (e.g. APHEA).

The most interesting thing is to find out whether data exist and how they are linked to environmental exposure. For example, number of illnesses due to waterborne diseases, or number of deaths due to air pollution (or vice versa, starting with exposure and linked to the data). Of course, these are extreme examples but indicate the content.

Criteria to be Considered

Importance

Development, as already stressed in Agenda 21, is about meeting the needs of people, their health, their well-being, their lives and the environment on which they depend. The basic human need for a safe environment, one which provides clean water and adequate food and shelter and in which different people can live together in peace, is the same for all of us. The call for sustainable development draws the attention to environmental issues such as these that are of profound importance for the health of this and future generations. So far, the MCSD has been engaged with issues of a specific value that are related to environmental factors and seeking to underline their sustainability aspect.

By trying to describe the environmental health problems as they result from an environmental health assessment in the Mediterranean, and some potential solutions that may arise, the feasibility study will offer ways to protect and maintain health for the benefit of all Mediterranean countries.

Assessment

When the assessment shows more detailed and possibly quantified links between environmental exposure and disease association, Mediterranean countries stand to reap not only short-term benefits, but also medium-term benefits as the region as a whole and the countries themselves will have clear evidence to introduce environmental health concerns to environmental legislation. The long-term benefits associated with the reduction of risks to human health related to environmental exposure will only come into sight when effective measures to provide an environment that promotes health can be applied, through appropriate management and legislation.

While it is difficult to generalize regarding the relationship between economic development and the status of health of the population, it is true to say that health benefits would be greatly enhanced if environmental health considerations were fully taken into account at the policy and planning stage. Insufficient awareness of and information on environmental causes of ill health and lack of advocacy on behalf of health, have also contributed significantly to failure to maximize health benefits. The proposed study will contribute to sustainable development in the Mediterranean by securing greater involvement of the health and environment sectors in national planning to provide sectorial input dealing with health and environment for national plans for sustainable development. In addition, it will contribute towards providing an assessment which will incorporate health and environment issues with national plans for sustainable development and how this can be further increased.

It is true that a proposal of this nature, considering the Mediterranean as a region, has never been addressed. Therefore, an added value to be expected is that it will help countries to assess and compare the status of environment and health and related policies. This will result in stimulating greater credibility by governments towards public opinion, thus promoting environmental improvements.

Feasibility

As already mentioned, possible sources of information include WHO databases, OECD, UNECE, EEA, UNICEF, World Bank, UNESCO, WMO, and FAO (just to mention international sources). Similar but limited work has also been carried out in the past by the WHO Regional Office for Europe but it was addressed solely to European countries and dealt with general issues only.

Although much information (usually sectorial) exists in international organizations and national bodies, there will be a need to check the quality of data in the different countries.

The required financial means would be used strictly for implementation of activities. A first indication of the required allocation of revenue is: US$100,000 for the implementation of activities within a three-year period. Jointly with MAP, WHO could support the activity for the first two years by supporting activities for an amount of US$ 60,000 and enlisting the cost free assistance of professionals from various WHO centres. The remainder of the allocation could be requested from either the EU after initial results have shown the feasibility of the study, or from WHO prior to the organization's biennial budget approval.

Methodology

It would be preferred to involve a small group of experts rather than a classical working group because of the nature of the study. Since the group of experts will also be involved in the collection of data, it is mandatory that the experts be familiar with matters pertaining to environmental health. It is assumed that they will meet twice; the first meeting to discuss the results of the first round of findings and the second to discuss and possibly approve the prepared report prior to its presentation for approval to the MCSD. It is foreseen that travel to some of the countries will be required for the purpose of collecting data to be used for compilation of the report.

The work, including a "maturing period" should be completed in three years. Collection of data should be finished within a year and the remaining time devoted to elaboration of data and meetings for discussion and approval.

Mediterranean Commisssion
on Sustainable Development

Pre-feasibility study
for the selection of new themes

COMBATING POVERTY

September 2000

(orgininal french)

Pre-feasibility study

COMBATING POVERTY[1]

1 Introduction

Since the issue of poverty had never before been the subject of specific studies within MAP activities, this is an exploratory study. It should be stressed that addressing the issue of poverty in Mediterranean countries, which is a highly sensitive issue in several of them, represents a difficult undertaking, strewn with methodological problems that are connected with the political stakes this issue raises.

In addition, it seems to be almost impossible to envisage a regional approach to poverty in Mediterranean countries since this has to do with comparing positions which are far from comparable, and arise from highly unequal levels and modes of development, where the issues involved in poverty change substantially from one shore of the Mediterranean to another. For this same reason, at global scale, the UNDP puts forward various approaches to poverty for developing countries and for industrialised countries, which are actuated by distinct human poverty indicators.

This pre-feasibility report thus has a preliminary and partial nature. It is based upon the issues involved in poverty in countries along the Southern shoreline, from Turkey to Morocco. It follows the outline suggested by MCSD for pre-feasibility studies, even if the content has been adapted in order to refer to the following in order:

- Size: the stakes in a “numbers war” on poverty between the main national and international actors;
- Assessment: The main aspects of issues raised by impoverishment in countries in North Africa and the Middle East, and the linkages between poverty / the environment / health;
- The feasibility of an MCSD initiative which is a complement to the abundant work undertaken elsewhere, and
- A proposed methodology.

2 Size. Methodological Disparities and the “Numbers War” around Poverty

An assessment of the scale of poverty in North Africa and in the Middle East comes up against several methodological problems: the lack of data, and the frequent gaps in available data. Under these conditions it is difficult to draw up a clear profile of poverty in the region, and above all to make out any regional dynamics.

The **World Bank** has drawn up its overall calculations for the MENA[2] region based on data usually covering 6 countries, and sometimes only 4, though sometimes 9 countries. By way of example, the Bank report specially prepared for the Amman Economic Summit in 1995[3] included a statistical appendix covering 15 countries, in which the line “Poverty Incidence Rate” was only filled in for 5 of them (Algeria, Iran,

[1] Note prepared on the basis of a preliminary study requested by MAP/BP/RAC from a Lebanese academic, Mr J. KABBANJI.
[2] Middle East and North Africa.
[3] *Claiming the future. Choosing prosperity in the Middle East and North Africa*, 1995

Jordan, Morocco and Tunisia). Additionally, in the report on global development (1999/2000 edition), the statistical appendix on poverty does not include data for the Lebanon, Syria and Turkey.

The **UNDP,** having formed concepts based on a social ("human") approach to poverty and built up multi-dimensional poverty indicators, probably presents the greatest range of social data. However, several countries in the MENA region are inadequately covered and data shows gaps when trying to monitor progress in combating human poverty.

The United Nations Economic and Social Commission for Western Asia (**ESCWA)** for its part, has published studies involving 12 countries from its area of intervention[4]. These documents are based on the national statistics from members states, on work commissioned from researchers and consultants, and on data from other United Nations agencies. ESCWA is also working on methodology considerations, and in particular has developed an indicator for poverty.

In every assessment of the extent of monetary poverty, the adoption of the threshold is the cornerstone. This threshold allows those whose income is below it to be described as poor. The number of the "legal" poor thus depends on the level of the poverty line selected, and increases when the level rises.

With a view to international comparisons, the **World Bank** ahs set the absolute poverty line at income of one Dollar per day and per person in poor countries, and the level of extreme poverty (or destitution) at 0.75 Dollars per person per day (1985 constant prices at purchasing power parity or PPP).

Countries, based on criteria of political relevance and consumption which are different from those of the Bank, have also defined their own poverty lines, on average at US $ 50 per month (instead of US $30.4 or US $21 PPP respectively for the Bank figures).

Examining the various series of data shows that the selection of a poverty line has considerable impact on assessing the size of poverty and the economic, social and political issues it is supposed to raise. Disparities between sources can in this way vary from single factor (**5.6%** of population in the region, according to World Bank estimates in 1995) to six-fold (close to **30%** according to the authorities most closely involved in internal interaction - local United Nations agency offices, governments, researchers, ...).

On the other hand, the notion of human poverty has been put forward by the UNDP in 1997, stressing that whilst well-being cannot be summarised in income terms, poverty cannot be summed up as income inadequacy. The notion of human poverty stresses what people can or cannot do. This has to do with the lack of the most essential capabilities of life, such as carrying on living in good health, accessing knowledge, being well supplied in economic goods and taking full part in community life. By way of indication, the human poverty indicator[5] is stated as follows as a percentage of the population by country: Turkey 17%, Syria 20%, the Lebanon 11%, Egypt 33%, Libya 16%, Tunisia 23%, Algeria 29%, and Morocco 39% (UNDP, 2000).

---

[4] Bahrein, Egypt (only African country), Iraq, Jordan, Kuweït, the Lebanon, Oman, Qatar, Saudi Arabia, Syria, United Arab Emirates, and the Yemen. The Autonomous Palestinian Territories have recently been added to these countries..

[5] The Human Poverty Indicator (HPI) for developing countries integrates the following criteria: the likelihood of dying before age 40, the percentage of illiterate adults, and deficiencies in living conditions (access to health services and drinking water, and the percentage of children under 5 stricken with malnutrition). Income as such is not taken into account in calculating HPI.

3 Assessment.

The Expansion of Poverty in the Southern Mediterranean

When the extent of poverty (both monetary and human) in North Africa and the Middle East is compared with the depths of deprivation in other global regions (values of around 50% for some countries of sub-Saharan Africa or Central America), analysts observe that it does not in itself reach alarming levels.

However, the tone of analysis is fairly alarmist as regards changes: the position with respect to poverty has regularly improved during the decades of the 1960s, 1970s and part of the 1980s in the whole MENA region, but it has deteriorated during the 1990s to become an issue which puts political decision makers into a quandary. The working hypotheses usually put forward are summed up below[6]

- It is likely that the process of impoverishment, rather than the extent of poverty, is what makes up the defining event of the last decade and which is causing problems in the region.

  The economic crisis of the 1990s, the drop in migration income, structural adjustment measures accompanied by drastic reductions in public expenditure (investment, employment, wages, social services and consumer subsidies...) have all favoured the growth of poverty. Impoverishment involves the “traditional poor” who become even poorer, but also the middle levels, whose living standards drop.

- Connected with what the UNDP calls human poverty - closely connected with collective resources, which are most often from public sources, and thus heavily reliant on functions taken on by the State -, it seems that it is more the process of deteriorating services for the population’s benefit rather than their actual level which looks set to raise issues in the region. The increase in poverty (human and monetary) in this way also is a sign of challenges to the functions of the state in previous periods, as is shown especially by the considerable slowing in public education expenditure.

- Rural poverty, as elsewhere in the world, is worse than in urban centres, which has some impact on migratory movements towards towns.

- Towns, which have become conurbations ever more difficult to manage, now bring together the majority of the population (an average of 62% of the population in Turkey and Morocco, Blue Plan 2000), whose inhabitants were the main beneficiaries of public employment, services and subsidy policies. Alongside the withdrawal of the State, it is impoverishment in towns which gives rise to concern and which acutely raises the issue of the social cost of adjustment reforms.

- Despite the scarcity and failings of data on income inequalities in the MENA region and on the split of the poor around the poverty line, various studies enable one to put forward that the populations positioned in the immediate vicinity of the poverty line are made up to a large extent of impoverished middle classes and therefore of the newly poor (or of those who are about to become so), which may be sociologically distinguished from the groups located at the very bottom of the income scale, who have been more durably settled into poverty. This process of impoverishment, which

[6] See work by B. Destremau, based on a wide-ranging comparison of international sources (World Bank, ESCWA, UNDP…) and of university work, in *L'insoutenable misère du monde. Economie et sociologie de la pauvreté*, (The Unbearable destitution of the World. The Economics and Sociology of Poverty) directed by Richard Poulin and Pierre Salama, Vents d'Ouest, 1998.

is the result of the deteriorating economic situation, is directly connected to the dynamics of employment and the jobs market.

- Most sources concur in deeming, like the World Bank does, that unemployment has increased considerably in the MENA region and that it will rise more rapidly (3.3% per annum) than in any other region.
- Nevertheless, placing unemployment into a relationship with poverty in the MENA region requires a degree of caution[7].
  - Examining the structure of unemployment shows that it impacts young graduates more severely (at secondary level and above), who had previously been almost automatically absorbed by the public sector, and who today find themselves to be in over-supply.
  - Great poverty would not be the equivalent of unemployment; it would be concentrated amongst persons described overall as under-employed, who are badly or not listed. Most of the poor cannot afford to remain unemployed, and so they end up taking jobs, even if they are temporary or not qualified, in the black economy.
- The poor in urban surroundings are more likely to be found in the public sector and in the black economy[8]. The issue is the level of compensation for work which is the one finally raised. State employees have seen their wages drop, sometimes dramatically. The drop in real salaries also affects the manufacturing sector in some countries where, during the 1990s, wages dropped to 1970 levels.

The analysis of these changes has been taken fairly far in several studies on poverty considered under a strictly socio-economic perspective.

On the other hand, little work exists at international level, or in the countries, which take account of the links between poverty and the environment.

Weakness of Programme Initiatives Linking Poverty and the Environment

According to the UNDP, one general weakness in programmes to combat poverty is their lack of integration: the artificial distinction between economic and social policies, the habit of thinking in sectoral terms, and the creation of institutions also in accordance with sectoral criteria. The assessments of programmes to combat poverty carried out by UNDP in various countries (including Tunisia and Morocco) stress the weakness of the linkages between these programmes and those for protecting the environment on the one hand, and between health protection and reducing poverty on the other hand.

Poverty / the Environment National programmes to combat poverty rarely include any major items relating to environmental and natural resources. To date, environmental plans and the struggle against poverty have been kept apart. So, the UNDP suggests connecting these issues within a single **Initiative**, launched in September 1999, in co-operation with the European Commission.

The initiative aims to demystify the links between poverty and the environment. One central myth is that the growth of the population and the lack of resources force the poor

---

[7] Above all with regard to unemployment statistics, which are based on a definition of unemployment inspired by the workings of Western job markets, in countries here the social forms of working, especially the distinction between the official/black economies, give them a different meaning (See Destremau, op cit.)

[8] Informal activities, which are by nature difficult to measure, have been little assessed in the region, except in the Maghreb and in Egypt.

to damage the environment; environmental damage would then lead to a vicious circle of impoverishment and increased environmental damage. But in fact there is no clear causal link between them. This greatly depends on the socio-economic context and the particular public policies (tree felling, changing watercourses, air pollution and soil saturation with chemical substances ...). The danger of a simplistic view is that it tends to justify policies that reduce poverty at the expense of the environment or which protect the environment at the expenses of the poor.

The initiative aims to identify and promote policies and actual public measures that aim to simultaneously reduce poverty and to regenerate the environment.

Poverty / Health. From a human poverty viewpoint, poor health and the lack of income are two closely linked issues and it is difficult to deal with one without handling the other. Avoidable illness and a shorter lifetime are signs of critical deficiencies in terms of human development. UNDP also envisages strengthening linkages between health protection and reducing poverty.

4 Feasibility. What should MCSD's Goals be?

Whether this is envisaged as a socio-economic issue or as a multi-faceted issue which is therefore multi-sectoral, the topic of poverty for the time being overlaps the classical skills of MAP and to a certain extent that of the MCSD. This is a field where the MAP structures do not present any comparative advantages in terms of the work carried out or of the availability of knowledge.

> Until now, the topic of poverty has never formed the subject of any specific studies nor of any systematic follow up in MAP's activities around the links between development / the environment, where the social aspects of development have not been fully integrated into analyses.
>
> In the work undertaken by the MCSD since 1996, the topics dealt with (water demand management, tourism, integrated management of coastal areas, and industry) reveal rather an approach to development which is ecologically sustainable. The new topics suggested for future years (waste, natural risks, energy and transport and farming...) also fit in with this approach. It is only very recently, in this year 2000, that the human poverty indicator has been introduced into the set of indicators for sustainable development in the Mediterranean. This show that concern for this issues is still marginal at regional co-operation level.

However, the issue or issues of poverty are present in a few more transverse topics addressed by the MCSD (town management, rural development and free trade), where the stakes of an ecologically sustainable development occur.

The work on poverty undertaken by international bodies and programmes (UNDP, ESCWA, WB ...) are numerous (see above). Their ability to carry out expert analysis cannot be denied, even if the results of programmes to combat poverty or development programmes applied in the countries to the South for decades, have not always been convincing. Furthermore, the slight evidence of any linkage between the issue of poverty and that of the environment seems still to be a distinguishing feature of these programmes.

To complete the picture sketched out here by putting focus on the linkages between poverty and the environment, could be the pathway to be trodden by the MCSD, especially in the context of work on urban and rural development, or as a complement to their analysis and results.

5 MCSD Proposal

There is no doubt that the topic requires a period to ripen and major extra efforts in order to achieve a feasibility study, which should be carried out in co-operation with the UNDP, with a contribution from some University members.

Based on a Mediterranean summary of the main existing work, the feasibility study should aim to:

- Draw up an assessment of the changes occurring in the South (from Turkey to Morocco) and in the Balkans, and maybe even covering the European Mediterranean countries, by highlighting features of issues and the situations in each group of countries;

- Make an improved assessment of any added value which an MCSD initiative could bring to existing work outside MAP, especially in terms of promoting approaches and programmes connecting poverty with the environment, in order to favour the taking of cross-sectoral decisions by governments and international institutions.

Mediterranean Commission
on Sustainable Development

Pre-feasibility study
for the selection of new themes

MAJOR NATURAL HAZARDS AND SUSTAINABLE DEVELOPMENT IN THE MEDITERRANEAN

September 2000

Summary

Pre-feasibility Study Major Natural Hazards (MNH) and Sustainable Development in the Mediterranean

Introduction

A- Importance

1. A Priority Issue for the MCSD
2. How it is perceived by the countries and their partners

B- Assessment

3. Major Issues for the Region
4. The Contribution to National and Regional Sustainable Development
5. The Added Value created through MCSD Involvement

C- Feasibility

6. Availability of Information and Knowledge
7. Work Undertaken with MAP and other supports
8. Technical and Financial Means

D- Methodology

9. Methods of Work
10. Duration of Work

Conclusions

(original french)

Pre-feasibility Study

MAJOR NATURAL HAZARDS (MNH) AND SUSTAINABLE DEVELOPMENT IN THE MEDITERRANEAN[1]

Introduction

The interest and feasibility of the theme of "Major Natural Hazards and Sustainable Development in the Mediterranean" being taken on board by the Mediterranean Commission for Sustainable Development, which is looked into hereafter, is weighed up according to the model questionnaire proposed by the Steering Committee of the MCSD meeting in Tunis from 8-9 March, 1999 (WG.155/3).

The ten questions are examined under the four-way analysis relating to the inclusion of a Major Natural Hazards prevention policy in the area's land planning and sustainable development policy, as laid down by the Mediterranean Action Plan (MAP), supported by the MCSD.

- The importance of the theme, objectively establishing what impact Major Natural Hazards have had in the distant and more recent past in the riparian states.
- Assessment, by identifying current and future stakes related to Major Natural Hazards within the sustainable development process at local, national and regional level.
- The feasibility in knowledge terms of involving the stakeholders concerned, as well as the technical and financial means already available.
- The methodology for identifying appropriate ways for rapidly taking the "Major Natural Hazards" theme on board on a share-out basis.

The initial step, however, is to define the scope of Major Natural Hazards of Mediterranean interest of sudden occurrence, the only ones to be considered here, in order to avoid any confusion with other hazard groups, such as the creeping hazards of desertification and climate change, technological hazards, social or even geo-political hazards, or biological and health hazards.

- Major Natural Hazards in the Mediterranean Region

A natural hazard is the result of a natural risk (or phenomenon) crossing paths with human or economic interests, with vulnerability being the degree of damage in relation to the intensity of the risk. The notion of acceptability should be added to this technical definition of hazard in order to provide its social dimension. It is therefore a harmful event with a certain degree of probability, having an immediate and decisive natural cause. Events resulting from a technological process are not seen as "natural" hazards.

By convention forest fires, which are the result of the presence of flammable material, meteorological conditions (wind, drought) and fire breaking out in various ways (accidentally, intentionally, or naturally), are seen as natural hazards, since the first two causes are part of the risk.

[1] This paper was prepared for MAP/MCSD by Mr. Huet and Mr. Glass, from the French Ministry for Land Planning and the Environment, in liaison with Mr. Armando Mauro, Director of the International "Stop Disasters" institute, and Giovanni Guerrieri, Italian Ministry environmental expert, in cooperation withBP/RAC

In the Mediterranean region, taking as the geographical scope the Mediterranean riparian states, the climatic area and the surrounding watersheds, two major groups of natural hazards loom over the future of the countries. Firstly, those which stem from the slow deterioration of the soil as a result of over-exploitation through forestry or agricultural grazing, giving rise to the desertification process when coupled with drought, and secondly, those which occur suddenly in a more or less predictable manner, and which can originate on land (earthquakes, volcanic activity, landslides) or be caused by meteorological conditions (floods, high waters and mudslides, forest fires). Minor landslips could be the result of either.

Insofar as the first group of hazards, the slow, insidious ones, need to be tackled through appropriate agricultural and rural development policies, which most countries have in fact started to apply in full awareness, finding the right answers to sudden tectonic or meteorological natural disasters seems much more problematic and multi-faceted. Mediterranean history is punctuated by traumatic events which have struck virtually all the riparian states. In many cases, the shock caused by these events has already or will upset the national economy. It is in the interests of all the countries concerned to pool their efforts in order to introduce preventive policies intended to lessen the impact of natural hazards on their development potential.

A – Importance

1. A Priority Issue for the MCSD

Of the twenty Mediterranean States which are Contracting Parties to the Barcelona Convention, twenty of them are exposed to at least one of the six major natural hazards (MNH) of significance to the Mediterranean (Cf. Map, Annex 1).

Italy and Greece are exposed to all of them, including the hazard of volcanic activity; seven States to the North and East are exposed to five MNHs.

Ancient and more recent history shows the impact which MNHs have had on Mediterranean society and its economy.

Looking at the most recent statistics, the disastrous earthquakes of the XXth century, which affected twelve countries, resulted in almost 300,000 deaths, 120,000 of which were in Italy, and 100,000 in Turkey. The death toll of the earthquake which struck Izmit (Turkey) in August 1999 was around 20,000, with 50,000 injured and material losses estimated at 20 billion dollars (source: Swiss Re sigma No. 2/2000).

Although the earthquakes produce a particularly major impact, disastrous earthquakes are not as frequent as are flood or high water hazards or mudslides, or forest fires caused by the hydro-meteorological conditions peculiar to the Mediterranean climate.

Over the XXth century, disastrous floods caused some 10,000 deaths in ten Mediterranean states.

The coastal regions located downstream of the watersheds are particularly vulnerable since they are also exposed to population build-up along their shores, and the undermining of the hinterland caused by rural exodus (particularly in the Northern countries) or overexploitation caused by agriculture, forestry or grazing (particularly countries to the South and East).

Although no figure can be put on the immediate cost of the destruction of the Mediterranean forests by fire, the loss of some 2 million hectares of forest over the last twenty years is creating an alarming impact on the Mediterranean landscape and its natural heritage.

There is reason to believe that, globally speaking, the effects of MNHs could well destabilise any sustainable development process at local, and possibly even national level.

2. How it is perceived by the Countries and their Partners

Because of their sudden occurrence and the trauma they cause, MNHs are usually identified and tackled by the countries concerned. Nevertheless, the effectiveness of the security mechanisms applied depends on the given hazard and the administrative arrangements within each State. Generally speaking, public responsibility for risk prevention and crisis management are kept apart. The "prevention" aspect of MNH policy is usually dealt with by one or more technical administrations, whilst "crisis management" will come under the administration responsible for civil protection. Some States are endeavouring to better dovetail "crisis management" and "MNH prevention", particularly through land planning (example: risk prevention and evacuation plans) and "anti-risk engineering".

Over ten years or so the high concentration of MNHs and increased vulnerability of Mediterranean urban populations has given rise to informal cooperation between the States and a partnership with the specialised international bodies. Thus, under the banner of the international decade for the reduction of natural disasters, (IDRND), a declaration for the Mediterranean region was adopted by the countries concerned in Valencia in May 1999 (cf. Annex 2)

B. Assessment

3. Major Issues for the Region and the Countries

The Mediterranean Basin is a "Risk Basin" where there is unity at physical, cultural and economic level.

It is a North-South meeting point of physical environments:

- The Eurasian and African tectonic plates meet, causing devastating earthquakes and/or volcanic activity (Italy, Greece, Turkey, Algeria…).
- The oceanic and continental air masses produce fronts which result in storms, even minor cyclones, and sudden violent, deadly "Mediterranean" downpours (Morocco, Spain, France, Italy…), or forest fires (Spain, Greece, France, Italy…).
- Global warming is producing a South-North advancing front, at the point where the Mediterranean and Alpine zones meet.

It is the meeting point of cultures, where recent natural disasters or those recounted in the Odyssey, the Bible, and other fundamental works have taken on mythical value, and where the view of and approach to hazards differs according to local tradition.

It is the meeting point of economies and development trends, all producing "megacities", which in the long run considerably increase vulnerability, particularly in the coastal areas, bearing in mind that their population is set to rise from 140 to 210 million over just a few decades.

There is no doubt that natural hazard management constitutes a major issue of common interest;

- In the short term, security of development needs to be assured (cooperation on warning and rescue systems), and its image made good (exchange of information, knowledge bases, town networks…).
- In the medium term, prevention needs to be improved, in order to avoid disasters contributing to the impoverishment of the affected countries, by adapting building techniques and agro-forestry and pastoral management: memory of the hazard is one aspect of the memory of the area, and should become part and parcel of its development.
- In the long term, the foreseeable increase in vulnerability will need to be tackled: the emphasis here will essentially be placed on those development mechanisms which mean that it can be held within bounds (economic policies, even liberal ones, should take this requirement into account).

4. The Contribution to National and Regional Sustainable Development

Apart from crisis management, MNH management hinges on prevention, which itself comprises of:

- Knowing the phenomena, training, and information
- Monitoring and warning
- The protection of installations and the management of natural environments
- Land planning through land use and suitable location of housing and installations.

Obviously, the last two types of activity are an integral part of sustainable development, and good risk management is a necessary precondition for such development. The Paris Conference (June 1999) within the I.D.R.N.D. framework, which was devoted to this theme, clearly evidenced the fact that:

1. Development cannot be sustainable in the absence of safety of goods and persons; a certain percentage of GNP (5-10%) apart, the cost of a disaster compromises a country's development, and means that of necessity national and international resources are channelled into rescue and repair work.

2. Based on the history of the area, good risk management does not sign away the freedom of action of future generations- by forcing them to rebuild what has been destroyed. This freedom of future action is one of the signs of sustainable development. In this respect, current urbanisation trends- on the coast, often with utter disregard for the hazards- are not particularly sustainable!

3. Hazard prevention develops the know-how and technique which boosts the awareness of the links which exist between human activity and the natural environment, and creates jobs.

4. Hazard management should be taken into account in the main activities: urbanisation (techniques and location), tourism (human safety), agriculture and forests (soil erosion..).

5. Where MNHs are taken into account, this avoids social segregation, which relegates the poorest sections of the population to those areas which are most exposed to the hazards.

5. The Added Value Created through MCSD Involvement

There are already numerous Euro-Mediterranean cooperation initiatives in the MNH field, between scientists (the AMHY network for hydrologists, SIDMED seminars…), between towns (town networks), and between emergency services (forest fires, earthquakes…).

MAP involvement through the MCSD would be beneficial in many respects.

- Its framework, the Barcelona Convention, is the only political agreement to bring together all the riparian states.
- The joint interest which countries have in this theme has been shown in paragraphs 2 and 3 (a Basin with physical, cultural and economic hazards).
- The "MNH" theme would benefit from the achievements of MAP, which in turn would stand to gain: put into perspective through the natural hazards approach, its prospective activity and its approach to the agricultural and urban themes would become more pertinent and more reciprocal (e.g.: the coastal areas management programmes).
- The MCSD is a stable meeting point which allows the perpetuation and development of the initiatives mentioned, which at present often depend on the efforts of a handful of individuals alone. In this respect, a "network leader" support would provide a strong signal (Cf. infra).
- The MCSD provides a link with the United Nations Environment Programme (UNEP), which could work within the UN bodies to complete the MNH approach. All too often this amounts merely to disaster management, which does not make for sustainable development.

C- Feasibility

6. Availability of Information and Knowledge

The vast majority of riparian states have information on each type of MNH, gleaned from the management of natural disasters which have occurred over the last half century. As far as the techno-scientific knowledge is concerned, which characterises hazards and vulnerability, the level of achievement varies from one country to another. Making it accessible through a suitable information system designed within regional partnership is an objective in itself. Moreover, the pooling at Mediterranean level of the "experience feedback" from major MNH-related disasters, starting with national information pools, would be a useful "investment" for all of the partners concerned.

7. Work Undertaken with MAP and Other Supports

Although MAP has contributed to the MNH approach through its Regional Activity Centre on Priority Action Programmes (PAP/RAC), which was responsible for assessing the earthquake risk in the early 80s, its Blue Plan Regional Activity Centre (BP/RAC) which in 1997 published a thematic fascicule on "Natural hazards in the Mediterranean", and its Remote Sensing regional Activity Centre (RS/RAC), which was invited to analyse the environmental effects of fires, and to produce an inventory which could be consulted via the Internet of RS activity related to natural hazards and human impact in the Mediterranean, it has still not received a remit from the Contracting Parties to include this theme in its programme of activities. Conversely, the United Nations through the I.D.R.N.D. (Cf. Annex 2), the European Commission (Cf. Euro-Mediterranean Declaration) and the Council of Europe (EUR-OPA Programme) have all shown a marked interest in taking this theme on board in the Mediterranean, albeit without proposing any framework recognised by the riparian states.

There is therefore a set of initiatives in the Mediterranean region which could be drawn on if a meeting point and forum for discussion were to be rendered official within some organisation based on an inter-governmental agreement.

In this respect, the major mobilisation of both national and international MNH expertise prompted by the I.D.R.N.D., which culminated in the Geneva Mandate (Cf. Annex 3) in 1999, has been extended by the launch by the United Nations of an international strategy for disaster prevention and, at Mediterranean level, by the "Euromed-Safe 99" international conference in Naples in October 1999 (Cf. Annex 4). The latter event was prepared in particular by the International "Stop Disasters" Institute (Cf. Annex 5) in liaison with the International Union of Technical Associations and Organisations (UATI), which organised two Mediterranean seminars on natural hazard management (SIDMED 1 in Rabat in 1996, and SIDMED II in Istanbul in 1998).

These international initiatives aside, the riparian states have also been involved to varying degrees, often depending on the number of MNHs to which they are exposed, and the disasters which have struck them.

Thus, without being exhaustive, Italy, Spain, France, Turkey, Algeria, and Morocco have conducted activities and expert evaluations which could well prove useful to the whole of the Mediterranean region.

8. Technical and Financial Means

The effectiveness of the MCSD taking on board the MNH theme hinges on three elements:

- Its interest to riparian states
- The ability to ensure its organisation and specific expertise.
- The means for adopting a partnership-based approach.

  - The information provided above has underscored the challenge which MNHs represent for Mediterranean society as a whole.
  - The fact that the City of Naples is represented in the MCSD by the head of a light-weight structure which is nonetheless effective in two fields, the "Stop Disasters" International Institute, is a part-response to the second element. This organisation could provide the necessary contact with the countries concerned (Algeria, Egypt, France, Italy, and Turkey…), in order to assess the possibility of becoming a "network leader" and, once things have developed, to provide the interfaces for international-Mediterranean-infra-Mediterranean expertise.
  - The momentum created by "Stop Disasters" with the scientific, technical and financial means already mobilised until 2002 in order to set up an Internet portal, to assure the distribution of an information bulletin, and to organise two workshops means that any MNH project adopted by the MCSD could very quickly be got underway. By legitimising it vis a vis the Mediterranean partners concerned, an MCSD approach would stimulate experts to come together, and promote the sharing of data and experience, as well as the appropriate organisation of information of use to the national and local authorities.

The project thus underway, the additional means required as of 2002 could more readily be sought from the European Union and some States who would be prepared to apply themselves to building up the network and MNH prevention activities.

An indicative assessment of the cost of the project gives a figure of 2 million French francs, or around 300,000 US dollars over three years. One third of the funding is already covered (for 2001 and early 2002) from “Stop Disasters”.

The two thirds still to be found could largely be provided by certain States, the European Commission and international organisations, including MAP.

D- Methodology

9. Methods of Work

A restricted team mandated by the MCSD, composed of an expert responsible for steering, one or two qualified representatives from the European Union Member States, and two qualified representatives from Mediterranean third countries could be responsible for coordinating the five main types of MNH. For each risk there would be a specialised group, “seismic and volcanic”, “floods”, “high waters and mudslides”, “landslides” and “forest fires”, made up of four to five experts.

In total, around thirty experts should be in a position to produce the recommendations required by riparian states to shore up their MNH prevention policies.

Three plenary workshops would be required: launch- mid-way- completion, as well as ten mini meetings of the specialised groups, amounting to two per group.

10. Duration of Work

Given the scale of work already underway, the period required to mobilise the necessary scientific and techno-administrative expertise should not extend beyond 2003, with the first year- 2001- being the theme’s “ageing” period with all the countries concerned.

Conclusions

The high convergence of major natural hazards in the Mediterranean is particularly worrying since at the same time urban growth and therefore vulnerability are also on the rise in the coastal regions.

The MCSD should bear in mind that MNHs represent a significant challenge to sustainable development in the Mediterranean:

- Favouring the long term, and including infrequent albeit devastating phenomena,
- Not leading to social segregation with the poorest sections of the population being relegated to the areas at greatest risk,
- Avoiding the risk of uncertain growth being periodically brought into question by the scale of damage caused by the disasters.

The presence of a network leader in the Mediterranean region with the means to rapidly launch an MNH project should be an important element towards a favourable decision being taken by the MCSD.

Mediterranean Commission
on Sustainable Development

Pre-feasibility study for
the selection of new themes

INTERNATIONAL COOPERATION TOWARDS SUSTAINABLE DEVELOPMENT

September 2000

(original english)

Pre-feasibility study
INTERNATIONAL COOPERATION TOWARDS SUSTAINABLE DEVELOPMENT[1]

INTRODUCTION

At its Fifth Meeting the Mediterranean Commission on Sustainable Development (MCSD) agreed that "International Cooperation for Sustainable Development" should be evaluated as a potential new theme, or issue to be included in the program of work over the next two or three biennia.

Chapter 2 of Agenda 21, adopted by the UNCED, emphasizes the need to foster a climate of genuine cooperation and solidarity and to strengthen national and international policies and multilateral cooperation to adapt to the new realities, in order to confront the challenges of environment and development. A new partnership engaging all states in a continuos and constructive dialogue was called in order to achieve a more efficient and equitable world economy.

Chapter II of the Agenda MED 21 states that "*international cooperation based on common interests and shared though differing responsibility should give Mediterranean countries the incentives and means to involve themselves in the protection of the global environment, while satisfying their aspirations to economic growth*".

Cooperation is indeed a recurrent theme, a sort of leitmotiv, of Agenda Med 21 for it appears as a recommendation in most of its chapters.

1. IMPORTANCE

- **Cooperation as a priority subject?**

The terms of reference for the MCSD stated as one of the purposes of the Commission "*to enhance regional cooperation and rationalize the intergovernmental decision-making capacity in the Mediterranean basin for the integration of environment and development issues*".

The Terms of Reference also indicate among the functions of the MCSD the "*review at regular intervals the cooperation of MAP with the World Bank and other international financial institutions, as well as the European Union, and to explore ways and means for the strengthening of such cooperation*".

Several of the most pressing problems should be tackled on a regional or sub-regional basis either because they transcend national boundaries or because the similitude of problems to deal with suggest that a regional and sub-regional would be the most effective and cost efficient approach. Moreover external factors are influencing in greater degree domestic functioning and a common approach to deal with the challenges of globalization seems to be convenient.

[1] This report is a reviewed version of the one prepared by Mr.P.Bifani, expert, for MAP/MCSD in cooperation with the Secretariat

The sheer enormity of these tasks and the heavy influence of external factors on domestic development efforts make enduring strategic partnership within the Mediterranean basin not only a mere desirability but a condition for sustainable development.

2. ASSESSMENT

- **Cooperation, aid and assistance.**

Cooperation is defined as working together to a same end, it implies common interests and objectives, dialogue and partnership, and it assumes the sharing of risks and profits.
Cooperation cannot be based on a relation of subordination; rather it assumes that the partners accept both rights to expected benefits and obligations or responsibilities concerning the tasks to be undertaken in the pursuit of common goals. Though cooperation includes aid and assistance the opposite is not necessarily true.
Development is a long-term process and Development Cooperation assumes a long-term partnership towards the attainment of common goals.

A careful assessment of conventional cooperation reveals confusion between cooperation and aid, between objectives and motives. The confusion about the terms of cooperation, aid and assistance has often resulted in lack of coordination and even in confrontation. It has been demonstrated that in many cases aid has been counterproductive, reducing or even nullifying cooperation efforts. This ambiguous, confusing and misleading approach to cooperation is behind the poor performance of international cooperation.

- **Objectives and performance of international cooperation**

Traditional cooperation between developed and developing countries consisted on a loose collection of bilateral and multilateral programs. Although most of cooperation is labeled as "development cooperation" the real fact is that its respond to mixed purposes. The reality is that development has not been always a major objective of "cooperation": donors have pursued politic, diplomatic, military, and commercial interests as well as humanitarian purposes. Idealism and solidarity where mixed up with commercial self-interest, political expedience and ideological conditioning.

Along the last decades the objectives of international cooperation have evolved following the changing characteristics of the global economy, political and strategic considerations, different understanding of development and of cooperation. Originally it was supposed to: fill the gap between domestic saving and the need for investments, contribute economic growth, compensate for the lack of foreign exchange, remove the constraints and impediments to economic growth and development such as institutional weakness, want of qualified labor, and infrastructure. Poverty alleviation, food security, education and health have been also recurrent themes of aid and cooperation. Environmental, gender issues, the enhancement of civil society, participation and good governance have been added. Also the promotion of human rights and democracy has been the subject of aid programs. More recently the quest of sustainability in its different interpretation has been mentioned as the purpose of aid and cooperation. Finally the economic dominant thought that emphasize the functioning of the market is also reflected in international cooperation that includes as one objective to increase the efficiency of market and

the promotion of market instruments. Of specific importance have been the objective of "structural adjustments" and the promotion and enhancement of market mechanisms.

In most cases donors are unable to link the achievement of this intermediate objective with long term sustainable development goals. They tend to assume that someway all aid contribute to economic growth and that economic growth automatically leads to poverty reduction, increasing wellbeing and sustainable development. However experience indicates that this it is rarely true.

Multilateral cooperation through UNEP, UNDP, FAO, WHO, the World Bank, etc, subscribes most of the above mentioned objectives though that they tend more specialized depending upon the agency.
Cooperation programs usually include grants, long, short and medium term loans, some time at subsidized rates of interest or on concessional basis, distribution of surplus commodities (e.g. food particularly during food crisis), technical assistance, military assistance etc.

The performance of international cooperation during last decades left much to be desired:

- Conventional foreign assistance and financial aid, contrary to expectations, has generally made scarce if any contribution to the acceleration of economic growth in recipients countries.
- When aid compete with the recipient's national products it causes price distortions and consequent misallocation of resources with negative effects on economic growth and development.
- Benefits of international cooperation have usually accrued to the middle and upper-income social groups on developing countries.
- Large part of the allocated aid do not reach the recipients countries for it remains in the donor country in the form of high salaries and perks of consultants, employees of national and international agencies and consultancy firms.
- Conditionality is a main and very controversial characteristic of international cooperation. It should be make a distinction between the project conditionality and the most controversial and important political and economic conditionality.
  The political conditionality has been mainly associated with bilateral aid and the cooperation provided by the IMF particularly in relation to stabilization programs and the World Bank in relation to its structural adjustment programs.

  The issue of conditionality is further complicated by the fact a large part of aid particularly bilateral aid is tied. Tied aid locks recipients countries into purchasing goods, equipment, technology and services from a donor country and often from a particular producer.

  There is no doubt that in the context of the Mediterranean Free Trade Area conditionality needs reconsideration and that may impede the recipient country to fulfill the conditions.

  In a real Mediterranean partnership conditionality should be a two way business rather than unilateral conditionality: the commitments of the recipient countries should be matched by commitments of donors countries. Such Commitments refers to trade and investment policies, subsidies etc not only aid by itself. A sort of sustainable development contract between the Mediterranean partnership.

The above shortcomings of international cooperation have been exacerbated by particular issues of the last decade that has been a critical period for cooperation because:

- the amount allocated for cooperation has stagnated;
- a re-distributive process has concentrated available resources to fewer countries, not always the most in need of cooperation;
- public support for cooperation as weakened;
- public resources for official development assistance have declined;
- there is growing skepticism about existing models of cooperation, and consequently
- greater uncertainty about its effectiveness.

Multilateral cooperation has been less affected by many of the criticism that affect bilateral cooperation. It is considered that the UN agencies has had greater freedom to pursue development goals being less constrained by political, ideological, diplomatic and commercial interests.
Nowadays extra budgetary resources represent more than 70% of the resources administrated by the UN. Less than 30% of the resources administrated by the UNDP are from the regular budget. Even most interesting to note is that in the first half of the 1990s about 39% of the total UNDP funding was coming from the Nordic countries and the Netherlands.

A major shortcoming is the increasing lack of coordination among assistance programs implemented by different agencies in relation to each specific beneficiary.

The differences between European bilateral donors concerning perceptions of the political and strategic interests are partially responsible of the difficulties encountered in building up a consensus on EU cooperation. These differences are also reflected in the approach that each country adopt *vis-a-vis* cooperation. For example Italy and Greece channel most of their aid through multilateral organizations, whereas France and Spain aid is mainly bilateral.

A predominant characteristic of the last decade has been the relevance given to the role of the market for economic growth and development. In this perspective cooperation has been reduced to aid in terms of helping to promote the expansion and deepening of the market. Cooperation and aid programs are now designed to correct market failure and enhance market virtuousness. Aid is flowing in order to promote the adaptation and restructuring of the state machinery, the legal systems or the building up of those mechanisms required for the market functioning.

The terms of efficiency and effectiveness in relation to international cooperation have been used on a rather loose way. The former refers to how well inputs are used in carrying out activities while the latter to the extent that these activities yield up the desired outputs. Although strongly related the expressions have different meaning: donors and particularly donor's constituency may be interested on efficiency while recipients are likely to ascribe more importance to effectiveness. Besides both efficiency and effectiveness should be examined in relation to relevance of cooperation that is to how meaningful are the objectives and the activities supported or promoted by cooperation in relation to the country current situation and development goals. Also should be assessed the impacts of financial aid on taxes, domestic borrowing, aggregate government expenditure on consumption and investment and the like.

- To sum-up cooperation in its narrow approach of mere assistance or aid has not always delivered the expected results. This has been due to a wrong or irrelevant objective, because the activities supported are scarcely conducive to the final objective, because

obstacles to the achievement of objectives have been underestimated or ignored, or simply because inefficiency.

- **Sustainability globalization and cooperation**

Programs and projects oriented to sustainability must contribute to the self-reliance of countries, not to the self-sufficiency of some activities. This implies that all the dimensions of sustainability should be considered simultaneously. Thus cooperation for sustainable development implies that economic social, political cultural and environmental sustainability must be explicitly included as subject and objectives of the cooperation.

Little has been said about the relation between cooperation and globalization. The changes of the last decades in the structure of production, technological innovation and diffusion, trade financial flows, environmental problems, migration and in general those inherent to the acceleration and increasing complexity of globalization impinge on the nature and location of domestic power.

Probably the most remarkable change of the last decade has been the sharp increase of private flows to developing countries in the form of FDI, private loans and portfolio equity investments. FDI inflows in the Mediterranean developing countries have been consistently lower than the average of developing countries as a percentage of GDP. Between 1990 and 1996 The Middle East and North Africa captured only 2% of the flows of private capital compared with 3% for Sub-Saharan Africa, 15 % for Europe and Central Asia and 43 % for the East Asia and Pacific region.

Developed and developing countries interact in numerous ways: economically, socially, environmentally politically culturally etc. Even though restricted to economic flows is its clear that the flows of official development assistance (ODA) are swamped by other international financial and economic flows.

In 1995 a OECD/DAC (Development Assistance Committee) policy statement defined a new framework for development cooperation including the purpose of foster the integration of countries into a global system while enhancing opportunities for people to participate in the economic, political and cultural life of their societies. Since 1996 the DAC adopted basic principles for cooperation have been those of people-centered development, local ownership, global integration and international partnership. More specifically the DAC identified few main quantitative goals encapsulated in three interrelated categories:

- Economic well being. The quantitative goals in this category are the reduction by 2015 of *at least* one half the total population living in extreme poverty that is estimated by the World Bank at 1.3 billion people.
- Social development that will be measured through four goals: universal primary education in all countries by 2015; elimination of gender disparity in primary and secondary education by 2005; reduction of infant and child mortality by two thirds the 1990 level and reduction of maternal mortality by three-fourths all by 2015; and access through the primary health care system to reproductive health services for all individuals of appropriate ages, including safe and reliable family planning methods by 2015.
- Environmental sustainability and regeneration. The existence of national strategies for sustainable development in operation in all countries by 2005 will be the quantitative goal. The achievement of this goal will ensure a reversal of current trends in the loss of environmental resources by 2015.

These goals should be intended as a proposals for each country has to establish their own priorities accordingly with their specific historical circumstances, the variety of problems encountered, their potentialities and availability of resources and their ideological, cultural and religious values. Hence the aid component, particularly the financial aid, of the international cooperation should have a catalytic role.

Yet the implementation of a cooperation strategy based on the above mentioned principles for the attainment of above goals have not been associated with concomitant efforts to improve effectiveness and meaningfulness, thus cooperation continue to encounter the obstacles of:

- decreasing or stagnation of the volume of resources available for cooperation;
- increasing volume of private resources flowing to few dynamic economies;
- poor administration and inefficiency in the use of available resources;
- loss of credibility of aid.

The role of ODA as a primary cooperation mechanism has been eclipsed by the flows of private sector. In 1996, private capital flows to developing countries were almost six times as large as ODA. In principle this increased flows of private capital is a good news provided that they are used for sustainable development. Actually doing so is a crucial challenge for policy makers. Deciding how best to bring them to bear on sustainable development requires for policy makers to have a clear understanding of: the nature of the flows, their environmental implications, the implications for poverty reduction, their long term implications, the points of leverage for affecting investor behavior while increasing private investment.

- **Cooperation in the Mediterranean**

The institutional framework for meaningful and effective cooperation in the Mediterranean basin is poorly developed. The creation of a permanent forum for periodic inter-Mediterranean dialogue would serve several purposes: first it would fill a gap in the existing array of international institutions and multilateral economic and environmental governance. Secondly it would enhance communications on a range of key economic, political and environmental objective between Mediterranean states. It will facilitate the monitoring of the Mediterranean cooperation and to contribute to manage coordination and coherence problems.

One way in which states attempts to deal with the pressure induced by globalization is by the adoption of new forms of regional associations. The increasing difficulty for national economic, social and environmental objectives to be pursued through exclusively national strategies has enhanced the political salience of regionalism to the realization of the goals of political control, policy choices, trade, financial movements, technological acquisition, environmental protection and economic growth. So as to improve solidarity and concerted action in order to advance the shared Mediterranean interests in the coming years.

A comprehensive approach in which cooperation interact with other policies, particularly trade, investment, immigration and environmental policies is essential. Traditionally officials, agencies and ministries, both in Mediterranean developed as well as developing countries, act independently of each other as if these matters were independent or even competing alternative policy instruments.

Although there is abundant talk about coordination and apparently all agree in the need to improve it, the principal focus, too often, remains inward concentrating on one's own projects

and programs. This applies to Mediterranean States as well as regional and international organizations.

In the context of the Mediterranean basin it is necessary to overcome the deeply entrenched gaps between the theory and the practice of cooperation, between what is been said and what is done. The redefinition of cooperation in the Mediterranean basin, to examine it in its systemic and long term development implications does not implies the rejection of the short term emergency assistance during balance of payment crisis, natural disasters, or social distress. What is needed is to put international cooperation in the context of Mediterranean sustainable development that implies to define its role, characteristics, magnitude, priority areas of intervention, sources of financing and adequate regional coordination.

Development cooperation should be designed more broadly including if not all at least as much as possible international flows, not only the different types of aid and assistance flows. Some of the most significant flows to be considered are private investments, which includes FDI, private loans, and portfolio equity investments; international trade of goods and services, financial flows including remittances debt payments; and finally labor movements which include also migration.

The developing Mediterranean countries have the lowest net inflow of FDI measured in terms of percentage of GDP of all regions. Between 1993 and 1997 for the best performing Mediterranean developing countries it has been 1.28% for Egypt; 0.67% for Jordan; 1.72% for Morocco and 2.14% for Tunisia, compared with 6.10% for Malaysia, 2.9% for the Czech Republic, or 5.9% for Hungary. During 1995-97 the average total net inflow of FDI for the Middle East and North Africa was 0.1% of GDP compared with an average of 2.0% for all developing countries 1.1% for Sub-Saharan Africa, 3.9% for East Asia and Pacific and 1.3% for Europe and Central Asia. Indeed it was the lowest among all regions.

Although it is assumed that in the long term trade liberalization can be beneficial for the Mediterranean countries, it should not be ignored that it involves short and medium term adjustment costs. Several estimations about the gains or losses resulting from the agreement of the Uruguay Round have been made. Yet most of gains seems to revert to industrialized countries. Actually various economic studies have shown that the implementation of the Uruguay Round Agreements and the Mediterranean Free Trade process imply in the short and medium term net losses for the Mediterranean developing countries.

Development cooperation will only work where is a shared commitment of all the partners. This condition is at present difficult to fulfill because the different perception about cooperation prevailing in the North in relation to how is perceived in the South and East Mediterranean.

3. FEASIBILITY

Theories and methodological approaches to cooperation and its assessment have been done in the past although in general terms. Cooperation in relation to the specificity of the Mediterranean situation requires additional efforts for data retrieving and methodological approaches. This implies the collaboration of the Mediterranean countries to facilitate the access to their data and assessment studies concerning their cooperation to the Mediterranean and of the Mediterranean recipients countries on their particular assessment of the aid received.

Development cooperation will involve the definition of development partnership implying the promotion of economic growth, integration into the global economy and increasing participation. Aspects such as access to capital and technology, markets access should be considered.

However development cooperation is only one factor that contribute or may contribute to sustainable development. It is either a catalyst, a factor that reinforces others or compensates the absence of some factors.

A new approach to cooperation must overcome the top-down paternalist and donor- driven approach that has dominated past cooperation; it is also necessary to monitor and timely evaluate the effectiveness of cooperation. The implementation of strategic partnership entails gearing efforts towards assessing the results of policies and cooperation action against precisely defined goals and on the basis of changes in relevant indicators. It is necessary to tailor the role and mechanisms of international cooperation to the new international realities;

To that end, it seems relevant to consider concrete effectiveness criteria such as:

- To focus on medium and long term development cooperation priorities,
- To shift from projects to programs,
- To increase the relevance of policy dialogue,
- To put more emphasis on real and effective partnership,
- To promote regular cooperation between regional actors,
- To increase participation and transparency,
- To undertake regular assessment of the cooperation in the Mediterranean,
- To increase the implementation capacity of multilateral and bilateral aid in the Mediterranean basin both in the relevant institutions of the donors as well as the recipients countries ,
- To improve monitoring of performance by linking the intermediate objectives of each phase of the aid program with the concrete results and the resources used.

The MCSD could contribute to and select the most appropriate methods and channels for cooperation that do not undermine national and local values, as well as to define the role of the different parties and to move cooperation from a one sided initiative into a collaborative effort.

This will require acting as a Mediterranean Region in the international debate, and not as different groups of Mediterranean countries only linked by their Mediterranean character. This implies greater cooperation between the Mediterranean institutions such as MAP and EU (Euro-Mediterranean Partnership) and other actors from the multilateral systems such as METAP, UNDP/CAP21, UNEP/ECE, UNEP/ROWA, UNEP/ROA, UN/ESCWA, UN/ECA, LAS, and the World Bank, as well as the major conventions such as UNFCCC, UNCCD, UNCBD.

4. METHODOLOGY

It is necessary to prepare a state of the art on the cooperation on the Mediterranean taking into account the main points highlighted in the previous section concerning assessment. A selected group of experts would prepare substantive documents on different aspects of cooperation and its links with the main problems of the Mediterranean basin.

A second set of documents would provide insights about the interrelation of the international cooperation, aid and technical assistance with the main economic process in the Mediterranean such as: FDI, trade liberalization, trade policies, investment policies, environmental policies etc.

A third set of documents would be prepared about the mechanisms of cooperation and aid. These documents could consider among other criteria for the definition of priorities, mechanisms of coordination, sources of financial resources, criteria for regular evaluation and assessment of the cooperation.

The preparation of this state of the art would be regulated and managed through a steering committee that will be also responsible for their integration on a document defining the strategic approach to development cooperation for the Mediterranean basin.

The state of the art resulting from above documents would be the basis for an enlarged working group workshop that has to include expert and technicians, decision makers, private sector, representatives of the civil society as well as policy makers. These efforts would end up on concrete policy recommendations and the building up of a Mediterranean structure devoted to international cooperation for sustainable development in the Mediterranean.

Under the coordination of the MCSD Secretariat,

- Two years are required to implement this activity through a limited group of relevant and qualified experts from some countries, concerned regional and international organizations, and major groups.

Depending on the extent of the programme of work, a budget of about US$100.000 would be required, not including the cost of the final workshop (about 50 to 70.000 US$ depending on the hosting country).