INVESTING IN THE MEDITERRANEAN ENVIRONMENT

Cycle II of the Mediterranean Environmental Technical Assistance Program (METAP II)

Commission of the European Communities  
United Nations Development Programme  
European Investment Bank  
World Bank
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The cover map is a false color interpretation mosaic of AVHRR imagery of the Mediterranean Basin, courtesy of the Earth Satellite Corporation. The EARTHSAT mosaic was digitally scanned, taken into ADOBE Photoshop and using a Macintosh, its colors altered for presentation purposes by the World Bank's Art and Design Section.
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Map

Mediterranean Basin
Executive Summary

The spiraling degradation of the Mediterranean Basin can only be halted, and eventually reversed with long-term commitment and cooperation — of local, national and regional governments, international agencies, and non-governmental organizations. The Mediterranean Environmental Technical Assistance Program (METAP) has become a catalyst for such cooperation, bringing together the 18 countries with a common Mediterranean coastline — and with common environmental concerns. METAP was funded by the Commission of the European Communities (CEC), the European Investment Bank (EIB), the United Nations Development Programme (UNDP) and the World Bank.

METAP assists these Mediterranean countries, individually and collectively, to design and implement environmental projects, strengthen or build environmental institutions, by developing appropriate policy options, and mobilizing resources. METAP is also a vehicle to raise public awareness about the environment, a prerequisite for effective political action and environmental protection.

The problems

Environmental degradation and pollution are serious problems in the Mediterranean Basin. Most sources of pollution are land based; contaminating the sea, coastal zones, groundwater, and areas of natural beauty and biodiversity. Pollution in the Mediterranean, as elsewhere, results from the misuse of natural resources. This misuse is often a result of inadequate institutions, policies, regulations, public awareness, and investment. The Environmental Program for the Mediterranean, precursor of METAP, pinpointed four priority areas for METAP’s first three-year cycle, which reflect these concerns. The priority areas were coastal zone management, especially urban areas, management of solid and hazardous waste, diminishing and unsafe water resources, and marine pollution. METAP’s experience in the past three years has validated and confirmed the choice of these four priority areas.

The cost of environmental protection and pollution prevention, and the political will needed to implement reforms in the face of other confounding economic and social problems must be considered. Environmental damage due to market and policy failures is frequently exacerbated by poverty and by economic instability. Conversely, the poor bear disproportionately the burden of environmental degradation. Population growth and migration are other factors contributing to environmental degradation. Northern rim countries that have grappled with environmental and pollution problems and made some progress toward cleaning up urban and coastal pollution are well-positioned to transfer their experiences with environmental protection to the developing countries.
The answers

METAP aims to provide integrated technical assistance at all levels — regional, sub-regional and national. It draws on the experience and technical resources of Mediterranean and non-Mediterranean countries, as well as the international community (scientists, engineers, economists, and financiers) in environmental pollution and cleanup. More broadly, it tries to balance national environmental programs and economic development by integrating environmental concerns into social and economic policy. North-South dialogue and exchange of technological experience and planning and management capacity are important features of METAP activities. Only by tackling the problem on all of these broad fronts simultaneously and in a collaborative manner, can a lasting solution be found to the continuing environmental degradation in the Mediterranean region.

METAP I — The experience

METAP has undertaken much in its first three-year cycle — regionally, nationally and locally. During the period of 1990-92, it has helped 11 Mediterranean countries to successfully launch 61 activities. The balance of these activities has more or less reflected the pressure points identified by the 1990 EPM report. Three types of activities are supported by METAP. One of METAP’s major aims is to assist and increase environmental investment in the region. The pre-investment (or project preparation) activities of METAP fall into two broad categories: preparing self-standing environmental projects (which may lead to further investments) and projects that are components of bigger investments. METAP has also been instrumental in mobilizing funding projects for which financing would be otherwise difficult, such as those for biodiversity protection. Project preparation activities accounted for roughly half of METAP’s resources (approximately $7 million) during the first cycle. Of these, 38 percent addressed coastal zone degradation and another 38 percent related to solid and hazardous waste management.

A serious threat to the environment comes from local and central governments’ inability to plan for and manage those areas that cause most degradation — urban and industrialized areas. Consequently, METAP provided assistance to environmental agencies (local, national, and regional) throughout the region.

Much of METAP’s support for institutional building has been in regional training. It has provided national as well as regional seminars and workshops encompassing areas such as: environmental planning and management, municipal environmental management, environmental impact assessment for coastal zones, and environmental financing, education and inspection. Training programs often draw on completed policy studies and project preparation for state-of-the-art techniques and materials. In the past year or so, there has been a shift in METAP’s assistance towards programs which emphasize training trainers.

Enhancing cooperation among institutions is also a principal objective of METAP’s institutional component. To mobilize participation and maximize institutional impact at the regional level, the METAP networking system focuses on environmental issues common to the Mediterranean region. These networks bring together people from all countries of the region who have common environmental responsibilities, experience, problems, needs and/or objectives in, for example, municipal waste disposal or coastal zone management.

Because of relatively high population densities and rapid urban growth, the biggest problem facing many countries in the Mediterranean region is untreated domestic wastewater and solid waste, although industrial pollution, too, is increasing. Drawing on experience in other developing, as well as developed, countries, METAP I has conducted comprehensive (national and regional) policy studies on solid waste management, coastal zone management, and biodiversity conservation, as well as environmental financing. These could become policy implementation guidelines for implementation for all countries in the Mediterranean.

Activities which emphasized capacity building and policy studies benefitted from 37 percent and 8 percent, respectively, of METAP I’s total resources. Most of METAP’s national level activities (85 percent) benefitted countries on the southern and eastern rim of the Mediterranean.
These activities reflected not only the potential demand for METAP's support but a desire by Mediterranean countries to take action on environmental issues. Much has been done to prepare environmental projects and draw up sound policies, and build the necessary institutional capacity to implement them, but it is only a start.

METAP has also brought together four major donors (the Commission of European Communities, the European Investment Bank, the United Nations Development Program, and the World Bank) with different areas of emphasis, to promote environmental action in the region. Partly because of these links, METAP is also indirectly a part of a wider and expanding environmental protection network, such as the Renewed Mediterranean Policy (a framework for cooperation between the EC and non-EC members in the Mediterranean) and the Global Environment Facility (GEF).\(^2\)

**METAP II**

The Mediterranean Basin, with 5,000 years of man’s impact to cope with, cannot be cleaned up with $15 million and a few years of technical assistance. METAP can contribute however to a greater effort in tackling important environmental policy and regulatory issues. Meeting the environmental challenge in the Mediterranean requires not just time. There must be clearly articulated national strategies, including setting priorities and deciding on the appropriate action. Other requirements include political commitment and legal mandates, strong bridges between national and regional efforts, and continuing institutional capacity building. Only then can the present alarming trends be slowed down and reversed in a cost effective and sustainable manner. Since METAP's inception, many countries in the Basin have come a long way in developing such strategies. Trade-offs between technical options are better understood, and appropriate technologies are increasingly available. METAP II is expressly building on these efforts.

Implementing a dynamic and responsive environmental strategy will require focusing on key issues where the need for intervention is critical because of the impact on health and economic activity. However, in light of the fragility of public finances, great selectivity will be needed to identify least-cost, sustainable solutions, and to progressively shift the burden of remediation and pollution prevention onto the polluter. However, without fundamental reforms in the policy environment and a sound institutional capacity, the effectiveness of investments will be limited. And those investments must be a combination of cost effective and efficient preventive and curative projects. Only when taken together, strengthened institutions and proper investments, will these efforts be effective in protecting and preserving the environment in order to achieve sustainable development in the Mediterranean.

It is essential for the design of METAP as a rolling program to be sustained. METAP I confirmed that a long-term effort reflecting a balance between project preparation and institutional support, including policy work, was needed to develop and strengthen local capacity to prepare a sound pipeline of environmental investments.

The programming process for METAP II draws substantially on priority areas documented in existing National Environmental Action Plans and Strategies. Assistance will be provided to carry out these exercises in those countries which do not have such a document. Project preparation activities will place increased emphasis on the urban nexus\(^3\) and water issues reflecting trends which indicate the need for urgent action in these areas.

METAP II will continue to prepare pre-investment studies of specific environmental components of priority projects. In cases where the fundamental investment options have not yet been clarified, METAP activities will be further upstream of investment activities, and seek to influence them. In all cases, METAP will be aiming for the least cost, and most appropriate, technologies. METAP II will also examine the possibility of limited support for feasibility studies.

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2. The GEF is an international fund, implemented by the World Bank, UNDP and UNEP, which provides grant and concessional loans to developing countries. Two of the GEF priorities are closely related to those of METAP: protection of biodiversity and of international waters.

3. Where a number of intersectoral environmental, economic and social issues (i.e. population growth, poverty, preservation of cultural heritage, waste disposal and treatment) meet, in an urban setting.
These objectives form the basis of METAP II. METAP II will draw on the experience and policy study conclusions of METAP I and place an increased emphasis on linking all three areas of METAP activities (that is, policy work to project preparation and institution building). More activity preparation and training will be implemented through the various regional networks which METAP has created or supported.

The second three-year cycle of METAP will provide targeted activities in support of national environmental strategies and action plans of the Basin countries, within and contributing to a regional framework for the Mediterranean environment. The principal strategic goal of METAP is to increase environmentally beneficial investment in the region; linkages of METAP activities to investments are already evident. Selection of METAP II activities were based on, among others, the criterion of linkages to further environmental investment opportunities. The corollary is the need to enhance national and local capacity to implement and update, in a sustained manner, the country’s environmental strategies. Strengthened institutions will be a key factor in the identification, development and implementation of environmental investment activities. Improved capacity, through direct operational support, training and networks, should help policymakers to examine key issues, set priorities and evaluate least cost options for some priority concerns.

The capacity-building component of METAP I is and will continue to be progressively provided from a regional, national, and local-municipal level, and will culminate in “train-the-trainers” activities. METAP II will also examine the possibility of selective involvement of the private sector in carrying out the environmental agenda. In addition to reinforcing public communication and participation in environmental issues in the Basin countries, METAP will play a catalytic role in increasing the visibility of the environmental agenda. METAP’s contribution to enhancing regional collaboration among Basin countries and among key donors will also continue.
Pollution and environmental degradation are already serious problems in the Mediterranean Basin (see Map). Much of the pollution is land based, contaminating the sea, coastal zones, groundwater, and areas of natural beauty and biodiversity. The reasons for this situation are several. Often, the infrastructure (for example, water systems or the disposal of solid waste) is inadequate. So, too, are the necessary policies and institutions to deal with all aspects of pollution. Degradation, can however, be halted and even reversed with long-term commitment and cooperation — of governments, international agencies, and national and regional bodies. The Mediterranean Environmental Technical Assistance Program (METAP) has become a catalyst for such cooperation.

In the Mediterranean Basin, 70 percent of urban wastewater is untreated and poured into the sea near the shore. On the southern rim, 90 percent of the effluent dumped into the sea is raw. In every coastal city, an average of 10 liters of waste is generated for every meter of coastline. The Blue Plan estimates that the quality of freshwater is questionable in 20 of the 29 river drainage basins of the region. Some 550 tons of pesticides are washed into the sea each year, and in some areas off the Italian coast, fish stocks are down to 20 percent of natural levels due to pollution. Oil pollution from shipping is equivalent to an Exxon Valdez breaking up and discharging its cargo into the sea every three weeks. Despite these dramatic problems, there is room for optimism.

Pollution in the Mediterranean, as anywhere, is really about the misuse of (finite) natural resources resulting from inadequate institutions, policies, regulations, public awareness, and investment. For example, many countries have no legal or economic sanctions against polluters (policy weaknesses); many do not have an effective regulatory set-up to manage environmental activities and enforce anti-pollution laws or sanctions (poor regulations); or have not spent enough on infrastructure, for example, sewers and sewage treatment (inadequate investment). In addition, the public sector generally views environmental expenditures as risky and non-productive, while public-private partnerships to manage the environment are still rare.

Social, economic and political issues facing many Mediterranean countries are often perceived as separate from the environment and therefore environmental issues are accorded lower priority on the political agenda. And yet, pollution and natural resource issues are often inexorably related to the very same issues of social ills, health problems and economic stagnation or growth that governments seek to remedy. A major challenge facing the region is to change this perception and persuade the population of the region and especially decision makers that environmental issues have long term consequences directly impacting on immediate concerns.

Virtually all aspects of pollution and degradation will need to be addressed sometime,
somewhere in the Mediterranean — a task recognized as beyond the resources of any single agency or government, especially at a time of constraints on financial resources. However, in addressing environmental issues, much can be achieved incrementally to reduce the long-term financial burden. There have been many successful low-cost approaches to resolve environmental issues in the Mediterranean and elsewhere. Turkey charges fees to park visitors. Israel runs a marine pollution prevention fund, paid for by charges and fees on oil tankers using Israeli ports. Perhaps the most successful and cost-effective schemes have been in the area of water pollution (for example, in France and the Netherlands) on the polluter-pays principle. And Cairo upgraded the operations of the Zabbaleen — private-sector (originally, donkey-and-cart) refuse collectors who recycle and supply cheap raw materials to small industries that cannot afford other sources.

Self-help and cooperation are answers

Mediterranean countries have vastly differing natural resources and historical traditions. The north is considered industrial and wealthy, and the south is mainly rural and poor. The north is rich in capital and relatively short in labor; the converse is true in the south. Yet despite all the diversity, the Mediterranean Basin is really a single common resource, and the fight against degradation is a unifying force. And, just as there is a new political relationship developing between East and West, so there is an emerging North-South partnership to tackle the planet's environmental well-being.

The southern and eastern-rim countries, which are environmentally less degraded than those in the northern Mediterranean, can learn much from the experience of their north-shore neighbors. Take solid waste management, for instance. The average solid waste produced per day in the northern countries is generally higher than that of southern and eastern countries (see Figure 1.1). As incomes rise in the developing countries of the Mediterranean, so too will the quantity and composition of solid waste generated per head. By adopting the right policies now, those countries will avoid some of the consequences now being felt by those in the north.

Urbanization and coastal zone management

Urbanization of the coastal zone is the biggest single cause of pollution in the Mediterranean. With a recorded history of over 5,000 years, the Mediterranean Basin contains some of the world's oldest urban areas. The great cities of the past, such as Izmir (Turkey), Alexandria (Egypt), Naples (Italy), and Marseilles (France), were then, as now, centers for trade and commerce, industry, tourism, and regional government. The nature of these activities and their volumes, however, have changed dramatically and, with them, their impact on the environment. Today's population is increasingly concentrated in the ecologically vulnerable coastal zone; so, too, is the density of economic activities. The competing landuse interests (population expansion and urban housing, industry, tourism, and agriculture) put intense pressures on the limited coastal resources. Poor planning can greatly affect people's health and the resource base needed for sustained economic development. Moreover, inland industrialization and urbanization degrades coastal areas through polluted rivers and watersheds. Witness the Po River in Italy and the Nile in Egypt.

In the southern and eastern Mediterranean, population growth in 1970-80 was two to three times faster than in the north and today it is growing at five times the rate of Europe in the century and a half up to 1950. This implies that by 2025, the southern and eastern rim populations will be equal to today's region-wide population. Today, 120 million people live in the region as a whole. Blue Plan estimates show that the coastal population could more than double to 200-220 million by 2025, and will then be swollen each year by 350 million seaside tourists.

The worst marine pollution in the Mediterranean occurs close to the shore. It is land-based and mainly urban-related, affecting the near-shore or coastal waters. Polluted water reaches the Mediterranean Sea directly through not only the discharge of untreated domestic and industrial wastewater, but also near-shore dumping of solid wastes and at-sea and in-port pollution from ships. Indirect pollution comes from rivers and watersheds, leachate from solid wastes, and deposits and acid rain from polluted air. These pollution contributions are very significant in terms of their input. The worst affected
coastal waters are close to sewage outlets and industrial outfalls, and river mouths that carry pollutants and wastewater from coastal and inland cities, mines and agriculture. Studies by the Mediterranean Pollution Monitoring and Research Programme (MEDPOL) show that half of coastal-water pollution comes from rivers, half from coastal cities. Thus, the control of upstream (or inland) polluters is just as important as that of coastal polluters.

Pollution of coastal waters affects economies, ecology and health. It can destroy beaches and devastate marine life, destroy tourism and fishing. Less than 16 years ago, the Bay of Izmir on the Turkish coast boasted swimming, boating, fishing and other recreational facilities; today, because of visible pollution and smell, many avoid it. According to one estimate, almost 60 percent of all pollution in the Mediterranean comes from France, Italy, and Spain, with waste flowing into the Adriatic (mostly from Italy) accounting for 35 percent. Hardly surprising, then, that a few years ago a survey of 150 beaches in those countries (along with Greece) found that a quarter had pathogens (that is, disease-causing viruses or bacteria) well above safe levels for public health.

Much pollution in the Mediterranean has been generated by the northern-rim nations, but environmental degradation in the countries of the southern and eastern rim of the Mediterranean is rapidly worsening and, if preventative action is not taken, they will soon catch up with the north. The lessons of the more industrialized northern rim nations in dealing with pollution, are a valuable resource in themselves, to be shared with the southern and eastern rim nations who can still avoid costly pollution mistakes and misuse of resources through proper planning and appropriate policies.

Solid and hazardous waste management

Municipal and industrial solid wastes are, typically, dumped on sites outside city limits. Unregulated, open dumps affect not only the land they occupy but also degrade the surrounding area for miles. They breed vermin and disease and pollute groundwater. Often, land and water degradation is so severe that the surrounding area has only limited agricultural use. Moreover, with urban growth, many dumps are now very close to cities (in Mersin and Izmir in Turkey, or Split in Croatia) and, in coastal regions, dumps often
destroy delicate ecosystems and add to coastal water pollution. Even degradable waste and incineration of garbage presents problems. Decomposition of degradable trash means gas emissions, which contribute to air pollution; so, too, can incineration.

Numerous industries in the Mediterranean contribute to urban (and marine) degradation. The major pollutants result from industries including chemicals (including agrochemicals and fertilizers), textiles, food processing, tanning, oil refining and petrochemicals, metals and machinery and power plants. These industries discharge liquid, solid and gaseous wastes that are far more damaging to the environment than those generated by households. Wastes are often discharged untreated directly into the environment or into sewage systems that are ill-equipped to treat them. Hazardous waste disposal and technologies, in both developed and developing countries, are inadequate, where they exist at all.

Most hazardous waste originates from industry, large scale and small. Regulations on disposal are either few or unenforced. So contaminated from industrial toxic wastes is groundwater in Naples, Italy, for instance, that it unusable in homes. Too often, toxic waste is casually mixed with municipal trash, unsafely stored or dumped illegally. In Algeria, for example, it is estimated that the growing mountain of hazardous waste, much of it unsafely stockpiled, includes large quantities of toxic chemicals. Little or no thought is given to separating hazardous and safe waste, nor to leachate — that is, the contamination of groundwater through seepage from dumps. But big business is not entirely to blame. Small, informal industries, such as tanneries, textiles and metalworking, also add to the pollution. Often located in the urban heartland, they frequently do not dispose of waste properly.

**Freshwater sources and resources**

One of the most serious problems for urban areas is the pollution of aquifers (groundwater) which can contaminate cities’ water supplies. Freshwater is a precious commodity (for industry, agriculture and homes) yet it is being contaminated and depleted at an alarming pace. In addition to the direct affect of polluted water discharged onto land, indirectly, there is leakage from municipal sewers, leachate from improper dumping of waste, and saltwater intrusion into over-drawn groundwater reserves.

In several countries, renewable freshwater will barely cover basic human needs into the next century. The problem could grow to where lack of water will slow economic development. Integrated water resource management is likely to be the biggest single task facing Mediterranean countries, particularly in those on the southern and eastern rim. In those countries and especially in Algeria, Egypt, Libya, Morocco, Syria and Tunisia, population growth and economic development have overwhelmed traditional water management practices. According to a recent report issued by the Middle East and North Africa Region Department of the World Bank\(^1\), average per capita renewable supplies of the water in the region will fall from 3,435 cubic meters in 1960 to 660 cubic meters in 2025, well below other major regions of the world. Despite major gains in recent years, on the southern rim, a third of the population (mainly rural, as in Morocco and Tunisia) has inadequate potable water (see Figure 1.2). Elsewhere, Cyprus and Malta face immediate water shortages; along with Libya, they are extracting more than is being naturally replenished. In the north, water resources are more adequate but, in parts of Italy and Spain, looming shortages are likely to put a brake on development. But this problem is a vicious circle: as pressure on freshwater sources mounts, it is more likely that groundwater and surface water gets more polluted.

**Marine pollution**

Approximately 30% of the world’s trade in crude and refined petrol products is moved via the Mediterranean. While the number of ships has declined, the average size has increased dramatically, increasing the risk of major spillage in case of accidents. Substantial quantities of highly dangerous persistent chemicals (e.g. benzene and petroleum byproducts) are also being shipped across the Mediterranean, and about 500,000 tons of garbage are estimated to be ship originated. With the opening up of Central and Eastern Europe, the Confederation of Independent States and Rhine-Danube, canal trade can be expected to increase. The Mediterranean is considered one

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Figure 1.2 - Percentage of Population with Access to Safe Drinking Water in 1988

[Bar chart showing percentage of population with access to safe drinking water in 1988 for various countries.]

Source: WRI, 1992

of the “dirtiest” seas with surface tar concentra-
tions ten times that of other regional seas (though 
there are large variations within subseas)\(^2\). 
Routine discharges such as bilge cleaning, de-
ballasting, and other waste discharges contribute 
60-70% of marine oil pollution. 

Biodiversity in danger

All these pressures (population growth, urban-
ization, industrialization, tourism, and, espe-
cially, the demand for development land) are 
tearing at the remaining areas of pristine beauty 
in the Mediterranean. Its basin has a variety of 
marine, wetland and hinterland/mountain eco-
systems, each unique in richness and diversity. 
Undisturbed natural areas, however, are fast 
becoming a rarity and biodiversity is increas-
ingly threatened.

One of the most threatened areas are wetlands, 
which include lakes, ponds, marshes, streams, 
sandy beaches and dunes, deltas and seasonally 
flooded grasslands and forests. In addition to 
generating products (through fisheries, agricul-
ture, and forest resources) and their richness in 
biodiversity, such places are nature’s way of con-
trolling floods and offering protection from 
storms. They also act as a chemical and physical 
filter to reduce pollution and stabilize salinity in 
coastal areas, a crucial factor in the productivity 
of the basin. For hundreds of years, Mediterranean 
wetlands have been progressively drained for 
land reclamation and malaria prevention. This 
conversion has reduced habitat for wildlife, con-
tributed to a decline in fisheries and impaired the 
wetlands buffering effect of catching pollutants 
and other land-based run off. Today, no large wet-
land mass remains in the Mediterranean EC 
countries. Mediterranean countries now have 
some of the most degraded forests in the world. 
Forests that once covered most of the region, now 
occupy only 5% of the land surface.

Coastal marine areas, particularly those rich in 
marine and coastal vegetation, are most directly 
endangered by pollution and degradation. 
Marine vegetation, which grows mainly in shal-
low waters (less than 50 meters) includes about 
1,000 macroscopic species, of which 40 or so are 
endangered. Among marine mammals and birds,

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2. See p. 2 of EPM Working Paper #4, Maritime Sector Assess-
the most endangered (due to habitat destruction) are the monk seal, the audouin gull, the leatherback turtle, and the loggerhead and green turtles. The wetlands of the Mediterranean are the seasonal breeding home or stopover for 2 billion migratory birds. Of all globally threatened species, 20 live in the Mediterranean and seven breed in the wetlands.

**Strategy for action**

In dealing with environmental pollution, prevention is far more effective (and costs less) than cure. Many Mediterranean countries are now moving towards a balanced environmental agenda integrated into development planning. However, immediate priorities are to reduce public health risks and efforts tend to emphasize curative, not preventive measures. All countries need to shift their balance of priorities towards resource conservation and long term sustainable use. Developing countries in particular need to protect against irreversible resource depletion that could lead to economic stagnation. The underpricing of water (current world average cost is at 35% of the actual cost of supplying it) has meant that supplies have failed to keep abreast of fast-growing populations. There can be other, more immediate economic costs from pollution and mismanagement of natural resources. For example, in Peru, a cholera outbreak cost the country an amount in tourism revenues which far exceeded the country’s investment in sanitation and water for the 1980s decade.

Major economic distortions that lead to inefficient resource use should be remedied before investing in pollution control. Prevention, such as improved pricing, regulation, management and land use has a lower financial cost to governments. All countries need to emphasize more long-term prevention, which depends on economic policy reforms, stronger regulation, greater political resolve, and better management.

A balance of investment is needed in both preventive and curative technology. And whilst targeted investments and improved policies are needed, they cannot be effective without the right combination of institutional support to implement and coordinate them. Also, ensuring effective pollution control for the future is not just a matter of addressing existing policy, institutional and investment failures in individual countries — promotion of public education and awareness are vitally important to support this blend of initiatives in the long term.

**Environment policy is a priority**

Most developing countries see economic growth as a means of alleviating poverty and improving human welfare. However, due to unsustainable use, scarce resources are being depleted rapidly and, unless depletion is brought more into line with regeneration, the long-term economic prospects for many of these countries is bleak. Pollution hinders much needed growth, in the Mediterranean as elsewhere and particularly in those countries on the southern rim. Tourism has been affected in several areas where polluted waters resulted in the closing of beaches. Urbanization is eating into agricultural land and, even allowing for future efficiency gains from the use of pesticides, fertilizers and high-yield crops, economic returns from agriculture will probably decline before stabilizing.

Although the need for environmental protection is becoming more widely recognized, it is not an integral part of policymaking in most countries, nor a government priority. In determining policy, local, provincial and national authorities must balance various concerns, of which environmental impact is but one. In fact, it should be a fundamental aspect of policy determination and implementation.

**Institutional capacity building and coordination**

Environmental protection requires cooperation and coordination between different levels of government, and between the public and private sectors. In Spain and Italy, for example, many decisions are being decentralized to regional and local government. Italy is promoting private sector cooperation and a regional approach to environmental problems. For example, the Po River Basin Commission, formed with the approval of regional governments to tackle the biggest pollution issue in Italy, has helped bring together public and private interests to build financial, technical and management know-how to address problems. Other countries, such as Egypt, have a centralized approach that has limitations. Local initiatives, backed by legislation, are the best way of dealing with many environmental problems. Municipalities, for example, can take a hand in
solid waste management at all stages, from collection to disposal, depending on the characteristics of the city and the available resources. Collection can be by public enterprises, private firms or both. Cities can encourage recycling and reclaim and beautify old dumps.

Coordination between cross-sectoral institutions is also crucial to an effective environmental policy, especially in metropolitan areas. Often, one municipal institution is unwittingly undoing the work of another. For example, a local zoning board may give planning permission to a factory upwind or upstream of a housing development, not fully understanding the environmental impact of this decision on the residents of the housing project.

The needs are considerable in regulation, monitoring and enforcement. Central governments need to adopt and enforce environmental standards and regulations for industry, especially concerning the storage of hazardous waste. City governments need to adopt realistic zoning regulations and enforcement based on a mix of incentives and sanctions. Capacity for effective enforcement (which may not yet exist in any form) is needed in particular. Trained staff to enforce environmental standards and regulations are also needed.

The construction and maintenance of adequate urban infrastructure should be a priority of all city and national governments in the Mediterranean. There is a need to move towards less polluting patterns of consumption and to increase environmentally sound investments. Investing in much needed infrastructure can go a long way towards alleviating the negative environmental impacts of urbanization. Municipalities must, however, choose the right technology. Often, they invest in environmentally unsound infrastructure simply because they are unaware of the low-cost, low-maintenance alternatives. Each country, each city, each province in the Mediterranean has unique

Table 1.1 Policies for changing behavior

<table>
<thead>
<tr>
<th>Type of Policy</th>
<th>Variable Affected</th>
<th>Technology</th>
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<tbody>
<tr>
<td><strong>Incentive</strong></td>
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<tr>
<td>Direct</td>
<td>Effluent Charges (Netherlands, China)</td>
<td>Tradable emissions permits (emissions trading program, United States)</td>
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<td></td>
<td>Stumpage fees (Canada, United States)</td>
<td>Tradable fishing permits (New Zealand)</td>
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<td>Deposit-refund schemes (beverage containers, N. Europe)</td>
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<tr>
<td>Indirect</td>
<td>Fuel taxes (Sweden, Netherlands)</td>
<td>Tradable input or production permits (lead trading program, United States)</td>
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<td></td>
<td>Performance bonds (hazardous wastes, Thailand)</td>
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<tr>
<td><strong>Regulation</strong></td>
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<tr>
<td>Direct</td>
<td>Emissions standards (United States, China)</td>
<td>Mandated technical standards (catalytic converters, United States, Japan, W. Europe)</td>
</tr>
<tr>
<td></td>
<td>Logging quotas and bans (Thailand)</td>
<td></td>
</tr>
<tr>
<td>Indirect</td>
<td>Land zoning (Rondónia, Brazil)</td>
<td>Efficiency Standards for inputs or processes (fuel efficiency standards, United States)</td>
</tr>
<tr>
<td></td>
<td>Bans and quotas on products and inputs (high sulfur fuel, Sao Paulo, Brazil)</td>
<td></td>
</tr>
</tbody>
</table>

Source: Eskeland and Limenez, 1991
development needs and priorities. There is, therefore, no blanket prescription to protect the environment of the region. However, the Mediterranean is a shared resource, giving all countries in the region an incentive to protect it and to cooperate in that protection.

The Mediterranean Environmental Technical Assistance Program (METAP), see Box 1.1, aims at providing economic and policy advice, project management skills, and assistance in identifying and securing sources of financing for carrying out environmental programs, which complement the efforts of other international agencies. METAP provides cross cutting integrated assistance at all levels — regional, sub-regional and national — and draws on the available experience and technical resources of the international community (scientists, engineers, economists, and financiers), as well as the experience of more industrialized countries in environmental pollution and cleanup. In addition to encouraging the development of sound strategies, METAP more broadly tries to balance national environmental programs and economic development by integrating environmental concerns conducive to efficient use of natural resources into social and economic policy.

Box 1.1 The Environmental Program for the Mediterranean (EPM) and the Mediterranean Environmental Technical Assistance Program (METAP)

Degradation in the Mediterranean cannot be halted, much less reversed, without continued cooperation among countries in the region. METAP, which is a partnership between donors and the 18 Mediterranean countries with a coastline, is part of a wider and older process of collaboration and cooperation, which began with the Mediterranean Action Plan (MAP) in 1975. Through protocols and legal agreements, on such issues as dumping at sea, the MAP pioneered the idea that the Basin's pollution and degradation was a regional problem that should be tackled regionally.

The Blue Plan, a component of MAP, in its exhaustive 1988 survey of the Mediterranean highlighted the environmental deterioration of the Mediterranean and the implications for the future if nothing was done. The Blue Plan made recommendations on how individual Mediterranean countries could tackle pollution and degradation, while remaining competitive in the region and globally. The World Bank and the European Investment Bank, both heavily committed to the environment in the Mediterranean, launched their own initiative for the region — the Environmental Program for the Mediterranean (EPM) in January 1988. This stressed (among other things) that much pollution had to be tackled regionally. EPM's 1990 report echoed the findings of the Blue Plan. It also launched EPM's implementation phase, the Mediterranean Environmental Technical Assistance Program. METAP was set up to offer technical and financial help to countries in the region to assist them (individually and collectively) to deal with environmental issues in the region. METAP was backed financially by the Commission of the European Communities (CEC), the European Investment Bank (EIB), the United Nations Development Programme (UNDP) and the World Bank.

EPM and METAP are vital elements in the corporate strategies of the World Bank and the EIB to support regional environmental action. They seek to balance long- and short-term (economic and environmental) objectives with the differing development needs of individual countries. In some Mediterranean countries, conditions are ripe for the banks to begin or accelerate large scale investment in environmental protection; in others, much needs to be done in policy and institutional development, as well as project preparation.

METAP I — Starting the cleanup

METAP is one of several environmental initiatives assisting authorities (national, regional and local) to clean up the Mediterranean. Although the partners involved in METAP (the Commission of European Communities, the European Investment Bank, the United Nations Development Programme and the World Bank) have each individually brought significant (if selected) improvements through financing in the region, a more systematic approach was needed to halt the degradation of the Mediterranean Basin.

METAP is a grant program and a catalyst for cooperation and action in the region. The program assists Mediterranean countries (individually and collectively) in designing and implementing projects, strengthening or building institutions, developing policy, and mobilizing resources. From 1990-92, some 61 (regional, national and local) activities, involving 18 countries (Albania, Algeria, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libya, Malta, Monaco, Morocco, Spain, Syria, Tunisia, Turkey, and the Former Yugoslavia) were launched (see Annex I for a full list of METAP I activities).

METAP does not have the resources to deal with every aspect of degradation in any single Mediterranean country, much less the whole Basin. It does, however, bring together all countries with a Mediterranean coastline with common environmental problems. It helps develop strategies for dealing with environmental and pollution problems (country-specific and regional) and helps implement those strategies. Because of the scale of environmental degradation and the small incremental nature of the solutions, only cooperation and sustained long-term efforts will remedy the situation. Ultimately, the desire of governments and the general population of the region to take control of their environment is the only route to a lasting solution to large-scale degradation.

METAP priorities

METAP’s four major areas of concern are: coastal zone degradation, including loss of biodiversity and issues relating to urban environment; solid and hazardous waste; water resources; and marine pollution. Integrating the three interdependent METAP activity types — project preparation, strengthening of institutional capacity and policy formulation — is a critical programmatic priority. There is, too, a broader role for METAP: to help increase public awareness of environmental issues.

1. The work of UNEP/MAP and the Blue Plan are examples of ongoing initiatives that address issues of environmental degradation in the Mediterranean. For additional information see The Environmental Program for the Mediterranean: Preserving a Shared Heritage and Managing a Common Resource, EIB and the World Bank, 1990.

2. These activities had begun during the first cycle of METAP, before the dissolution of the Socialist Federal Republic of Yugoslavia government, therefore the use of “Yugoslavia” is maintained. For discussion of METAP II, the names of internationally recognized, newly independent republics are used accordingly.
and how the general population can contribute towards environmental improvement.

*Investment (or project) preparation.* With the exception of small pilot demonstration projects, METAP is not about to fund large-scale environmental investments. Its mandate is to identify and prepare a strong pipeline of environmental projects, many of which will be financed not only by the World Bank or EIB but also other agencies, such as the CEC and the Global Environment Facility (GEF), see Box 2.1.

Establishing the direct link to a probable investment project is a priority of METAP’s programming. Project preparation for the Cairo sewage tunnels, for example, prepared the options reviewed for an ECU 45 million loan to Egypt from EIB. A METAP study recommended innovative construction techniques for the heavily populated urban Cairo. It also outlined priority sewage tunnels to be built (given the limited financial resources). Moreover, the findings of the study demonstrated the potential of deep sewerage construction in other crowded cities without disturbing economic or personal life.

*Policy studies.* METAP’s policy studies focus on finding crosscutting issues and solutions of common interest. This can include improving the design, implementation, and funding of environmental strategies and regulations, as well as the efficiency of environmental investments. The emphasis is on regional and subregional studies. For example, a recent study on municipal waste management, covering nine municipalities throughout the Mediterranean, pinpoints common weaknesses (and recommends remedies) in legislation, environmental standards, and investment planning.

*Building institutional capacity.* One of the larger hurdles to effective pollution control in the Mediterranean, on both the northern, eastern and southern is the weakness of institutional capacity. Although some countries do not have a wholly-independent environment ministry, much less an environment division within other ministries, that is not really the problem. What is lacking is the capacity to identify problems and priorities and coordinate workable solutions.

*Interlinkages.* Many of METAP’s activities cut across its three areas of assistance (policy, project preparation and institution building). For example, municipal solid waste management does not just involve the disposal of ever-increasing

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**Box 2.1 Tunisia, a suitable case for treatment**

From Gabor to Sfax in southern Tunisia, there has been wide scale destruction of marine ecosystems. These coastal waters have been polluted mainly by industries discharging phosphophoryum — 40 million tons from factories in Gabor and an estimated similar amount around Sfax. The shores close to the two cities are also contaminated by sewage effluent. Indeed, for years bathing and beach activities have been prohibited in the vicinity of industrial and sewage outfalls. On top of that, oil pollution at ports and elsewhere on the coast is a problem. There is much coastal and sea-going traffic, and Tunisia also harbors four oil ports and a huge oil terminal — and, save for the harbor of Bizerte and the Skhirra terminal, there is no equipment to tackle even minor spills.

Given that near-shore marine pollution is a priority area for METAP, Tunisia’s coasts and the delicate marine ecosystems were suitable cases for treatment. There are strong economic reasons, too, for protecting and cleaning up the marine environment. Much of Tunisia’s coastline constitutes beaches, attracting many tourists, a major source of foreign-exchange earnings.

As a follow up to a World Bank report, An Environmental Study and National Action Plan for Tunisia (November 1989), METAP’s aim is to strengthen the country’s capacity to protect its marine environment and combat day-to-day (as well as emergency) oil pollution at sea. More specifically, it is to identify the resources needed (materials, equipment, personnel, etc) and make proposals for the training of Tunisian personnel. The project will also take into account Tunisia’s obligations under international maritime agreements, as well as existing and planned efforts in other Mediterranean countries.

Step one is to take an inventory of the available pollution-control equipment in ports and on offshore oil platforms. The next stage is training in oil-pollution abatement and prevention; identifying the options for a monitoring and enforcement system; and developing a national action plan, which takes into account the most vulnerable and high-risk areas. An investment project for marine protection will also be identified, which may then be undertaken in the second cycle of METAP. This activity feeds into and complements the $10 million GEF funded “Mediterranean Ports Waste Disposal” project, which encompasses Algeria, Morocco and Tunisia.
mountains of solid waste, but also issues such as waste avoidance, reduction and re-use. That raises questions of policy, institutional demands and economic aspects of solid waste management. Thus, a regional study carried out by METAP identifies and assesses policy frameworks, institutional needs and economic instruments to improve solid waste management in Mediterranean countries (see Box 2.2). Networks established in the context of the institutional development component play a cross-cutting role in that they provide the ideal vehicle for identification and development of activities and for dissemination of resulting findings and recommendations. They also serve to maintain the spirit of regional collaboration upon which METAP is based.

Preparing investments

One of METAP’s major aims is to help and increase environmental investment in the region. Preparation for investment projects have formed a large part of METAP I’s activities (see Table 2.1). In Algeria, a study of hazardous waste management options is providing input in choices to be made in a potential $50 million toxic waste management loan from the World Bank. They also include studies such as the environmental impact of tourism and industry on Morocco’s Mar-Tal coast which is tied to an EIB lending program for municipal wastewater treatment plants. A METAP study of options to strengthen Tunisia’s capacity for protecting marine environment and combat oil pollution at sea will provide input into the $10 million GEF project “Mediterranean Ports Waste Disposal” (see Box 2.1).

METAP has prepared specific environmental components of projects, where needs have been identified. In Tunisia, a METAP study examined options for wastewater reuse (see Box 2.3). Others activities provide guidance to components of bigger investments. The Po River Basin activity in Italy (see Box 2.4) is another example of METAP support for specific components of bigger investments. Some of these studies have resulted in

<table>
<thead>
<tr>
<th>Box 2.2 Waste management in nine Mediterranean cities</th>
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<tbody>
<tr>
<td>Collection of solid domestic waste in the Mediterranean is no problem in most cities, thus solving the basic health and hygiene problems of such waste. However, a METAP report on municipal solid waste management in nine cities in four countries (Tunisia, Turkey, Spain and Algeria) found that disposal continues to be a big problem. The study found that all types of waste, including hazardous waste, were frequently disposed of together and often in uncontrolled and open sites in seven of the nine cases. In all countries, both EC and southern-rim nations, many sites are ill-designed with little control of leachate that can contaminate groundwater. Whereas some larger cities have effective recycling and composting facilities; the smaller ones do not. Refuse is often burned at uncontrolled sites or in incinerators which lack filters and, so, pollute local air. The broad conclusion of the report was that municipal waste management lacks strategic planning rather than a willingness to face the problem. Indeed, well-intentioned city planners have often over-invested in waste management systems, resulting in operating costs which cannot be sustained — that is, the facilities must run below full capacity or be taken out of service frequently. Also, authorities often have great difficulty in identifying areas for cost effectiveness improvements, since waste accounting is not separated in municipal budgets. The report specifically recommends a strategic approach for the planning and efficient management of municipal solid waste. This includes setting the right environmental priorities and suggests that neighboring municipalities could cooperate and share the cost of disposal, an uncommon practice in the region. More could be done, too, to bring in the private sector, although the report found no firm evidence that publicly-managed sites were any better or worse than privately run ones. As with many environmental problems in the Mediterranean, however, the overriding need is to build institutional capacity and focus on strategic planning. Such an approach should be based on systematic data collection, a study of alternative solutions, continuous monitoring, and an eye on future developments (population growth, for example). Because formal waste recovery for recycling is expensive (perhaps prohibitively in the developing countries), the informal sector (mainly self-employed waste collectors) should be encouraged. That was done in Cairo, where the operations of the Zabbaleen, private-sector waste collectors, was upgraded to meet the needs of the municipal government. The METAP report, which highlights the common problems and common solutions in municipal solid waste management, will be circulated to city authorities, and possibly followed by a regional seminar. METAP would then offer its assistance to those municipalities interested in implementing the report's recommendations.</td>
</tr>
</tbody>
</table>
### Table 2.1 Project Preparation for Loan Components and Pre-Investments

<table>
<thead>
<tr>
<th>Country</th>
<th>Activity description</th>
<th>Investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALBANIA</td>
<td>Water Supply and Sewerage Management</td>
<td>WB loan (proposed)</td>
</tr>
<tr>
<td>ALGERIA</td>
<td>Blida and Tlemcen Coastal Zone Management</td>
<td>WB loan (proposed)</td>
</tr>
<tr>
<td></td>
<td>Hazardous Waste Management</td>
<td>EIB loan (proposed)</td>
</tr>
<tr>
<td></td>
<td>Pollution Beaches and Ports</td>
<td></td>
</tr>
<tr>
<td>CROATIA</td>
<td>Cres-Losinj Conservation</td>
<td>WB loan (postponed)</td>
</tr>
<tr>
<td></td>
<td>Split/Kastela Bay Environment Study</td>
<td>WB loan (postponed)</td>
</tr>
<tr>
<td>EGYPT</td>
<td>Cairo Sewage Tunnels</td>
<td>EIB loan (proposed)</td>
</tr>
<tr>
<td></td>
<td>Industrial Effluent Control</td>
<td></td>
</tr>
<tr>
<td>GREECE</td>
<td>Coastal Zone Management Plan for Rhodos</td>
<td>EIB loan (proposed)</td>
</tr>
<tr>
<td>ISRAEL</td>
<td>Hazardous Waste Management</td>
<td>EIB loan (proposed)</td>
</tr>
<tr>
<td>ITALY</td>
<td>Po Wastewater Monitoring</td>
<td>Ongoing EIB lending</td>
</tr>
<tr>
<td>MALTA</td>
<td>Solid Waste Management</td>
<td>EIB loan (proposed)</td>
</tr>
<tr>
<td>MOROCCO</td>
<td>Martil Coastal Zone Management</td>
<td>Ongoing EIB lending</td>
</tr>
<tr>
<td>TUNISIA</td>
<td>Hazardous Waste Study</td>
<td>EIB and WB loans (proposed)</td>
</tr>
<tr>
<td></td>
<td>Pilot Wastewater Reuse</td>
<td>WB loan (proposed)</td>
</tr>
<tr>
<td></td>
<td>Marine Pollution</td>
<td>GEF grant</td>
</tr>
<tr>
<td></td>
<td>Solid Waste Management</td>
<td>WB loan (proposed)</td>
</tr>
<tr>
<td>TURKEY</td>
<td>Southwest Coast</td>
<td>WB loan (postponed)</td>
</tr>
<tr>
<td></td>
<td>Istanbul Environment</td>
<td>WB loan (proposed)</td>
</tr>
</tbody>
</table>

### Box 2.3 Tunisia's thirst for fresh water

Not unlike a number of other countries of the Mediterranean Basin, Tunisia is facing a serious water problem. In 1988, its potable water consumption was 280 million cubic meters. In the year 2000, it is expected to reach 500 million and, by 2010, demand (including that from agriculture) will equal the quantity available. At the same time, wastewater pollution of the environment is rising; the quality of the Mejerda watershed, which provides potable water for a third of the population, is under threat from domestic and industrial discharges and agricultural run-off. In tackling two problems with one approach, the Tunisian government has adopted a policy of re-using wastewater for irrigation, which will ease some of the demand on fresh water stocks.

In phase I of EPM (the Environmental Program for the Mediterranean), the World Bank completed an "Environmental Study and National Action Plan" for Tunisia. This reviewed all of the country's environmental problems, laid out priorities and proposed curative and preventative measures, as well as drawing up a national environmental strategy. This strategy includes policy reforms, institutional capacity building and investments. Part of the latter proposals included the re-use of wastewater and the management of domestic solid waste.

Using wastewater for irrigation is not new. Edinburgh, Scotland had such plants back in 1650, and the world's largest re-use system (in Melbourne, Australia) has been running since 1897. Tunisia itself has used wastewater to irrigate a few crops since the 1950s. However, the digested (and organically rich) sludge from the wastewater treatment plants is not being re-used. METAP's project preparation activity has developed a self-contained operation for the treatment, transport and re-use of wastewater for a wider range of crops, as well as the use of the digested sludge for fertilizer along with a compost produced from solid domestic waste. The pilot project was developed on 100 hectares and the feasibility study included the testing of wastewater and sludge and devising ways of purifying it for broader agricultural use. Because Tunisia's water authority has no experience of agricultural management, the METAP feasibility study also analyzed the various types of management (concession, leasing, and self-management). It is intended that this pilot project then be replicated on a larger (and/or wider) scale, which will go a long way toward solving (in this particular area) the triple problems of pollution, scarcity and health hazards.
Box 2.4 Italy’s Po River Basin

Roughly one third of the population and much of Italy’s industry and agriculture drain their waste into the Po or its tributaries. This not only pollutes the local environment but may have devastating consequences for the Adriatic, its fishing grounds, shellfish beds and tourism. Industry in the urbanized Po Basin produces roughly half of Italy’s hazardous waste but has the capacity to handle only 5 percent of it. Some of the rest finds its way into the Po River and the Adriatic. Coastal waters are contaminated with heavy metals. And, from agriculture as well as industry, 50,000 tons of phosphorous and 60,000 tons of nitrogen each year flows into the northern Adriatic. This type of pollution can lead to algal blooms, dramatically affecting tourist frequenta- tion of the coast and resulting in significant economic losses.

The Italian authorities are now stepping up and coordinating their pollution abatement efforts in the water basin. Their longer-term aim is to re-equip the entire area with adequate pollution abatement infrastructure. They plan a series of wastewater treatment plants for the Basin but that will take 20 years to com- plete (and ECU 6 billion). The EIB has been part financ- ing this huge project since 1985 and, so far, has made loans totalling ECU 700 million. These have been used to build main sewers and collectors, as well as wastewater treatment plants.

In collaboration with Italy’s ministry for the envi- ronment, as well as local and regional authorities, METAP experts meanwhile have monitored some of the effluent-treatment plants in use along the Po. They interviewed operators, took water samples and checked pollution indicators. METAP found that, generally, the mechanical performance of the plants was sound but quality control was weak.

The result of METAP’s study is an operating manual for plant managers to reduce pollution and a continu- ing program for effluent sampling and analysis, treat- ment performance and environmental efficiency is envisaged. Exchange of information among operators is also encouraged.

Biodiversity protection

Given the choice between “brown” (urban and industrial pollution) and “green” (natural resources) agenda issues, perhaps understand- ably, the latter, including biodiversity and natural resource management, receive lower priority. Low on the investment list of developing coun- tries, especially highly indebted ones, is earmark- ing public money to protect natural areas. The situation has improved a little in the past decade. The number of protected areas has increased from 59 to 117. However, some countries (Cyprus, Greece, Italy, Libya, Malta, and Tunisia) have, few

Table 2.2 Examples of stand-alone project preparation activities

<table>
<thead>
<tr>
<th>Country</th>
<th>Metap priority area</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CYPRUS</td>
<td>Hazardous Waste Management</td>
<td>Assisting development of integrated systems</td>
</tr>
<tr>
<td></td>
<td>Coastal Zone Management</td>
<td>Preparing a management plan for conservation of Akamas Peninsula</td>
</tr>
<tr>
<td>CROATIA</td>
<td>Rijeka Solid Waste</td>
<td>Study of environmentally optimal and cost effective solid waste management options for Rijeka/Istria.</td>
</tr>
<tr>
<td>MOROCCO</td>
<td>Coastal Zone Management</td>
<td>Preparing a conservation management plan for Al Hoceima National Park</td>
</tr>
<tr>
<td>TURKEY</td>
<td>Patara Cultural Heritage</td>
<td>Preparing a multi-use management plan for the cultural and natural resources at Patara</td>
</tr>
<tr>
<td></td>
<td>Marine Pollution Control</td>
<td>Strengthening regulatory and institutional framework for pollution control in the Bosphorus, Marmara Sea, and the Dardanelles.</td>
</tr>
</tbody>
</table>
protected stretches of coastline and a number of countries is said to have none.

All environmental projects, by definition, contribute in varying degrees to biodiversity protection. So, too, with METAP’s activities. But METAP has also undertaken stand-alone biodiversity projects, which can also encompass areas of cultural and historical importance. Preparation of management plans for protected areas is one of the cornerstones of METAP’s biodiversity and coastal zone management activities. Proposed or existing sites include those on the Akamas peninsula in Cyprus; Menderes and Patara in Turkey; Cres-Losinj, Croatia; and Al Hoceima in Morocco (see Box 2.5). Much progress could be made in biodiversity conservation with, among other things, broader public and private efforts. Governments could, for example, encourage voluntary reserves by private owners generally (and specifically nature protection areas) through legal recognition of those reserves and tax exemptions or subsidies to landowners who manage their property in line with approved management plans. These private owners might also help in raising wider public awareness of Mediterranean pollution and degradation. METAP has a dual role in addressing this area of concern. It is helping to implement specific biodiversity-protection projects (as in Al Hoceima) and to mobilize finance for biodiversity protection through, for example, the Global Environment Facility (GEF), and especially for the developing countries of the region, such as Egypt, Morocco, Syria, and Turkey (see Box 2.6).

Cross-sectoral issues

METAP seeks to influence infrastructure and industrial investments in Mediterranean countries by pushing for greater emphasis on the environment across sectors and at different levels of government (the inter-sectoral dimension). For example, the agencies that control water and wastewater management are often separate from those concerned with industrial development. Environmental responsibility is often spread across regional, national and local government. Vulnerable coastlines and polluted cities, for example, are locally managed but, in fact, often need to be directed by central or local government policies to set their activities into a cohesive national framework. Without such intersectoral links, local efforts can be, at best, inefficient; at worst, they can be futile.

A METAP study of coastal zone management in Turkey examined existing intersectoral issues. It proposed that a working party of central, regional and local authorities should get together with key private-sector interest groups to draw up an institutional structure for effective local administration of a comprehensive coastal code. To help efficient planning of environmental investments, METAP has embarked on talks with other Mediterranean governments (notably of Algeria, Croatia, Cyprus, and Tunisia) to identify inter-sectoral issues.

Box 2.5  Shelter for buzzards

Prevention is better than cure. That is the principle behind the proposed national park (and buffer zone) at Al Hoceima on Morocco’s Mediterranean coast. Covering 43,400 hectares, the core of the park is a wild and rocky coastline, virtually unsullied by man throughout history. Limestone cliffs, rising 600 meters, provide shelter for one of the most important buzzard colonies in the Mediterranean, as well as a host of other marine birds and birds of prey. Off the coast, there have been sightings of the globally endangered monk seal, which some people believe extinct in the Mediterranean. Because of limited access, soil erosion, and scarcity of water, the area has not (so far) been threatened by man. The pressures, however, are increasing. Population in the surrounding villages and urban areas is rising and, consequently, pressures on the land (for housing and traditional agriculture), as well as on the coastal waters (from fishing and land-based pollution). Moreover, increasing tourism is likely to affect this undisturbed area.

The principal aim of METAP’s coastal zone management plan for Al Hoceima is to conserve the area by introducing environmentally sound management of the ecosystems, including rare and endangered animals and plants and their habitats. This is to be achieved by an integrated approach to rational use of existing resources. The plan is also intended to serve as a blueprint for other pristine areas in the Mediterranean to help guide regional strategies and recommendations. The plan outlines training to be provided for locals (and non-locals) and strategies to raise public awareness. Specific recommendations detail environmentally sound practices for agriculture, traditional fishing, pastoral farming, and eco-tourism.
Box 2.6 Turkey, Turtles, and Trash

The Aegean and southwest coasts of Turkey take in the nesting grounds of the endangered loggerhead and green turtles, the site of the ancient city of Patara, and some of the Mediterranean's delicate ecosystems. They are home, also, to a rapidly increasing urban population, swelled by a growing number of tourists. Physical infrastructure (mainly water and sanitation), as well as institutional capabilities are strained.

On this stretch of Turkey's coast, past regulation and economic incentives have tended to favor investment in tourism (hotels, villas, cafes, restaurants), while supporting infrastructure and services (water supply, sewage, transport, solid waste disposal) has lagged. These imbalances pose a serious threat not only to turtles but also to the physical and economic well-being of local people. They jeopardize health and tourism revenues, critical for Turkey's balance of payments and a source of future economic growth for the country. Land management on Turkey's southwest coast is fragmented. Because the area is split into several zones, each controlled by different central-government and local agencies, there has been haphazard and unstrained development and confusion about responsibility for conservation of the shore areas.

In late 1992, METAP completed a report on coastal zone degradation well in advance of a proposed World Bank infrastructure investment, the Southwest Coast Project. The study examined the legal (including tax), institutional and policy aspects of protection and management of the coastal zone. It described reasons for degradation of the area and outlined the lack of infrastructure. The report then defined, justified and recommended government and local-authority action needed to minimize or avoid future degradation. In conclusion, the METAP study identified major legal, policy and institutional reforms that should be addressed before a successful infrastructure investment can be prepared and implemented on the southwest coast. Drawing on experience elsewhere, including the US, METAP recommends strengthening the institutions (and the law) for strict coast zone management; better planning and enforcement; and increasing public awareness about the dangers to health and environment.

Since completion of the study, the Turkish government has already eliminated some subsidies for the tourist sector, a key suggestion of the report. Moreover, it is reviewing local government financing and is drafting a new law on coastal protection zones, drawing up legislation to help mobilize local resources (another major recommendation) for investment in infrastructure and services, and tightening regulation of coastal development. When fully implemented, METAP's report will allow the Southwest Coast Project, which takes in 40 municipalities along 1,600 kilometers of coast, to proceed. That project will improve wastewater collection, treatment and disposal, water supplies and solid waste management, thereby reducing pollution and health hazards.

But the influence of METAP's report does not end there. It has helped secure funding for additional METAP activities: the Istanbul Environment Activity and the Patara Cultural Heritage and its findings are already beginning to be successfully applied to the Black Sea coasts of Bulgaria and Romania.

Supporting policy changes

If there is the political will (up to, and including, the highest levels of government) to protect the environment, developing countries of the Mediterranean can move quickly towards improved systems of environmental management by first identifying pollution control objectives and then designing, implementing, and enforcing policies.

In order to fulfill these objectives, so far, these countries have relied more on regulations and sanctions, and less on economic instruments. Yet, adopting appropriate policies can not only induce more environmentally conscious behavior but generate much of the funding needed for protection of the environment — for example, charges and penalties (on the polluter-pays-principle), more realistic pricing of natural resources (especially water and energy), motor taxes, and maybe even a tax on tourists.

Because of high population densities and rapid urban growth, today's biggest environmental problem in the developing countries of the Mediterranean is untreated domestic wastewater and solid waste. Industrial pollution, too, is on the increase. Drawing on experience in other developing, as well as developed, countries, METAP has conducted comprehensive (national and regional) policy studies on municipal solid waste management, coastal zone management, and biodiversity conservation, as well as environmental financing (see Box 2.7). These should become policy guidelines for developed, as well as developing, countries of the Mediterranean. Such policy studies, covering common problems in many Mediterranean countries, avoid duplication and waste (money and manpower) by
Box 2.7 Environmental financing

One broad message of METAP’s policy studies has been that, where practical, the polluter should pay for pollution control (including administration). To adopt this principle, it is recognized that more effective polluter pays legislation is needed as well as the institutional capacity to monitor and enforce it.

At METAP’s Regional Environmental Financing Workshop held in Turkey in December 1991, there was a general consensus that: environmental financing instruments should be gradually phased in and that there was a marked need to establish earmarked Funds for environmental expenditures. The workshop’s conclusions recommended that such Funds should rely as much as possible on existing institutions and mechanisms (in particular for the collection and distribution of monies). Funds should also be decentralized to the local or regional level to permit localized management of localized environmental problems. With regard to environmental financing instruments, raising environmental taxes to a more realistic level, to reflect the true costs of pollution, would not only serve to raise revenue, but in the longer term would have a behavior altering effect and reduce the actual generation of pollution. Workshop participants agreed that cost recovery should be the aim of all pollution control financing, but particularly aimed at the services of sewage and solid waste collection and treatment.

METAP’s national environmental financing studies are already influencing policy agendas. Witness the recent creation of Tunisia’s anti-pollution fund. In addition to that in Tunisia, METAP national environmental financing studies were also carried out in Croatia and Turkey.

different countries investigating the same problems.

Building institutional capacity

Environmental institutions of the Mediterranean Basin are relatively new and require heavy investment to cope with pressing sustainable development challenges. The development of a “green and a brown agenda” require institution building at local and national levels throughout the Basin. Equally important for the protection of common resources, and particularly the Mediterranean, is a close cooperation between Basin countries, on the one hand, and local and national governments, on the other.

METAP’s institutional development efforts focused on three principle areas: developing human resources, providing support to environmental organizations and enhancing regional cooperation through networks. These activities were closely interrelated in that some of the human resource development efforts were directed in support of environmental agencies and were catalytic in national and local organizations’ decisions to strengthen their own capacity.

Enhancing cooperation amongst institutions is a principal objective of METAP’s institutional development component. To mobilize participation and maximize institutional impact at the regional level, the METAP networking system focusses on regionally common environmental issues. Networking provides the opportunity to establish and upgrade collaborative relationships and to strengthen both regional and national capacities in priority areas of METAP. It also provides the venue for initiating and strengthening North South dialogue regarding environmental issues of concern (see Box 2.8). Networks were used to assess human resource development needs and as fora for the delivery of training packages.

Human resource development activities of METAP followed the path of: (a) creating awareness of the environmental issues among senior managers, (b) providing technical training to professionals, (c) creating local capacity among trainers in different countries to scale up and continue human resource development in key areas selected, (d) strengthening environmental agencies and local governments by first training their staff and assisting them in undertaking organizational changes to support an environmental agenda, and finally, (e) creating capacity within the private sector to stimulate public/private cooperation for sustainable development in the Basin.

For instance, in its attempt to strengthen environmental impact assessment (EIA) capacity in the Basin, METAP has undertaken two major regional workshops for high level managers and planners of environmental agencies and other sector ministries in order to create awareness of need for EIA. Subsequently, regional seminars were organized where detailed EIA training was provided to professional staff of the same organizations to allow them undertake and/or manage EIAs. Higher educational and training insti-
Box 2.8 Mediterranean Networks

MED POL (the Mediterranean Pollution Monitoring and Research Programme) was formed by the United Nations Environmental Programme and is supported by METAP. MED POL gathers and analyzes marine-pollution data from research institutes scattered around the Mediterranean.

MEDCITIES links Mediterranean coastal cities with similar pollution problems in METAP’s four areas of concern (water resources, marine pollution, solid and hazardous waste, and coastal zone degradation).

MEDPAN (the Mediterranean Protected Areas Network) is a place where managers of national parks and other protected areas can share experience and collaborate on, among other things, management techniques.

MEDNEA (or the Mediterranean National Environmental Agencies) is a forum of national environmental institutions that have been provided training so that they can sustain and scale up EIA efforts. Finally, METAP has provided hands-on training to staff of environmental agencies in two countries (Algeria and Morocco) as a first step towards the establishment of EIA units. The equivalent of 2,500 person days of EIA training has been provided through the METAP program.

METAP’s human resource development efforts focused on several key areas: environmental planning and management at national and local levels, coastal environmental impact assessment and environmental financing. Regional workshops and seminars were held among senior managers of national organizations and their staff, and among mayors and their staff. In addition, in Tunisia and Morocco, broad environmental education was provided to faculty of engineering schools to facilitate incorporation of environmental issues in regular curricula. In all these and in training efforts provided through networks, METAP has ensured dissemination of the results of its policy projects.

In addition to assisting environmental agencies in establishing environmental impact assessment units, METAP training environmental inspectors in Algeria to strengthen pollution control capacity. In Tunisia, organizational support is provided through the MEDGEOBASE program by establishing information and monitoring system for land use of the coastal areas. The system is intended for the rest of the southern and eastern rim countries of the Mediterranean Basin to provide users with a homogenous database compatible with the EC-sponsored CORINE Land Cover program in France, Greece, Italy and Spain. The system will provide reliable and comparable data for assessing coastal land use patterns and contribute to regional assessments of land use in Mediterranean coastal areas.

Achievements of METAP I

METAP has launched a variety of initiatives during its first three-year cycle — regionally, nationally and locally. It is a catalytic both with regard to the initiatives of donors and the collaboration of Mediterranean countries in tackling environmental issues. It has brought together four major donors (the Commission of European Communities, the European Investment Bank, the United Nations Development Programme, and the World Bank) with different programmatic emphasis in the past, to promote environmental action in the region. Because of these links, METAP is also indirectly connected to a wider and expanding environmental protection network.

Funding linkages

METAP was formed to help all countries of the Mediterranean (but particularly developing ones) to identify and prepare environmental investments. Moreover, by assisting them in strengthening institutional capacity, including policy preparation, METAP also helped mobilize concessional funding for the environment. Moreover, the development of financing instruments, which has now taken place in three countries,
should, in the long term increase the availability of funding.

For years, the World Bank, the European Investment Bank (EIB) and others have supported environmental protection and pollution control in the Mediterranean Basin. Since 1980, roughly half of the EIB’s environment-related loans have gone to the Mediterranean (around ECU 7 billion) and the World Bank’s loans for environment protection have injected another $3 billion, mainly to developing countries on the southern rim and on the eastern seaboard. Within the Renewed Mediterranean Policy, EIB provides loans and the Commission of the European Community grants, for environmental projects in non-member countries both within the existing cooperation agreements and financial protocols as well as within a new “non-protocol” facility. METAP itself can help in identifying likely projects and in project preparation. METAP is also forging links with LIFE, a new European Community program. This draws together and expands some existing programs, including the Mediterranean Environmental Action Programme (or MEDSPA), which already co-operates with METAP. Although LIFE is geared to (mainly) studies and pilot projects in Community states, it can support non-member projects and will be an important METAP partner. Further details are available in Chapter 3.

A balanced approach

The balance of METAP I’s activities has reflected the pressure points identified by the first phase of EPM. During METAP’s first cycle of activities, project preparation accounted for roughly half of METAP’s resources, of which 38 percent was on coastal zone pollution and another 37 percent on solid and hazardous waste management. Institutional development and policy studies encompassed another 39 percent and 9 percent respectively of METAP I’s total resources. Most of METAP’s national activities (85 percent) benefitted developing countries, that is, those on the southern and eastern rim.

Dissemination

The results of four policy studies have been published as working papers — “Financing Pollution Control in the South and Eastern Mediterranean,” “Biodiversity Conservation Instruments,” “Patterns of Environmental Management,” and a “Regional Solid Waste Management Review.” In addition, a working paper entitled “Operational Framework for Coastal Zone Management” will soon be published. A full list of EPM/METAP Working Papers is available at Annex II.

Some project preparation studies are being increasingly used in other METAP activities, including institutional development training seminars and networks. Turkey’s coastal zone management study, for example, is extensively requested as a starting point for other such management strategies. Working papers resulting from completed policy studies are disseminated through workshops and networks in addition to mailings to appropriate audiences.

Public dissemination of METAP activities has also taken place through television coverage of network activities and media coverage of events and meetings. METAP issues a newsletter twice a year in English and French updating participants and interested parties on activities, available studies and publications, and upcoming events. In addition to providing thousands of days of training in the region, efforts to raise public awareness are making headway. Requests for involvement in and information on the program’s activities increased substantially during the outer years of the first cycle.

METAP has promulgated increased awareness and action throughout the Mediterranean. It will only be through an increased and continued collaborative efforts that the results of this initiative and others will become visible and tangible throughout the region.
Mediterranean countries are working together toward a common solution to shared pollution problems. METAP I has contributed to both national initiatives and regional cooperation, which continue during a second cycle of METAP. METAP II will define and implement targeted activities in Basin countries, within and contributing to a regional framework for the Mediterranean environment. Initially costed at $26 million, METAP II will include approximately $13 million for project preparation activities and approximately $8 million for regional project preparation, training and networking. Additional METAP II funds will support other elements required for an effective environmental program — among them defining critical policy guidelines, establishing strong bridges between national and regional efforts, and continuing strengthening of institutional capacity.

Why METAP II?

EPM research drew up a list of immediate priorities for METAP's first three-year cycle, which reflect at least one (but usually all) of these weaknesses — policy, institutions, investment. Although not minimizing other problems, such as deforestation, soil erosion and air pollution, the EPM report had highlighted those in most urgent need of action: coastal zone management, especially urban degradation, disposal of solid and hazardous wastes (from effluent and consumer wastes to heavy metals), diminishing and unsafe water resources, and marine pollution, especially from the land and including upstream (that is, inland) pollution carried by rivers into coastal areas.

METAP's experience in the past three years has validated and vindicated the conclusions of EPM's 1990 report. The degradation of the Mediterranean Basin, at a rate perhaps greater now than ever before, is a major challenge for the region's people. Despite the diverse natural resources and traditions of its 20 or so riparian countries, the Mediterranean has historically been a spacial and temporal unifying theme. So, today, is its environment. Although the state of the environment has changed little since the inception of METAP, an encouraging start has been made.

Experience of the first cycle of METAP has confirmed and sharpened the key environmental issues of the Basin on which rapid action is needed. Coastal zones of the region are being degraded by rapid urbanization and industrial development. This is especially true of the southern-rim countries. Inadequately planned and uncontrolled land use on a narrow (and fragile) coastal belt, industrial development close to urban dwellings, unsafe disposal of urban (often mixed with industrial) wastes in unmanaged landfills, or in the sea, and the availability of water and its quality are the manifestations of the urban environmental problems.

The Mediterranean Sea itself is still under threat from land-based human activity and
pollution, and not just by direct discharges of untreated municipal and industrial wastewater and sewage. The sea is also polluted directly from shipping (the dumping of wastes) and degraded by over-exploitation of marine resources. Other issues, such as acute atmospheric pollution from vehicles, power stations, domestic heating, and industry, are important but limited in scale and location, particularly in the region's developing countries. The impact of this pollution is on three broad fronts. Most important, though less well documented, is the effect on human health. Contaminated drinking water (or ingested from bathing) causes a myriad of human diseases, which increase absenteeism from the workplace and reduce productivity. Health problems, too, are caused by the unmanaged disposal of urban and industrial solid wastes in proximity to housing. Most of these problems are borne disproportionately by the poor, who have fewer options to exercise.

There are other, more direct, losses of valuable economic activity. Pollution of urban and coastal areas, loss of biodiversity and the degradation of cultural patrimony, will individually and combined, lead to lower revenues from tourism. Similarly, rapid disappearance of rich sea grasses and thus once-rich fisheries, leads to job losses, idle equipment and other capital resources, and the cost of importing fish. Finally, the destabilization of the ecology, with its dwindling acreages of rich agricultural lands, wetlands, and forests, results not just in the loss of areas with aesthetic and scientific value, but also of great potential commercial value.

In the Mediterranean and elsewhere, battles are being waged against the overriding tendency for degradation to increase as incomes rise. In aggregate, the countries of the Mediterranean are still on the upward slope of that curve, while by contrast, the richest nations are on the downward side. The hope for the Mediterranean is to dampen the upward curve, and, in the medium to long term, affect a downward trend. Factors contributing to this upward curve include rapid population growth, urbanization, and rising per capita consumption of raw material and energy resources.1

METAP I's analysis of country-specific environmental problems showed that there are sub-stantial similarities in the fundamental causes of degradation in the Mediterranean:

- Inadequate policy framework, especially no (or inappropriate) macroeconomic policies in pricing and incentives to reduce and avoid pollution;
- Weakness and fragmentation of institutional capacity to define and update priority areas and develop and implement a sound environmental investment portfolio;
- Constraints on public finances, which means a highly selective approach to environmental spending; and
- Nascent public awareness in countries without a strong tradition of public participation.

Thus, there is both a common and similar dimension to these problems, the causes and their impact. A common dimension exists in the need, for instance, to take regional action against marine pollution or the mismanagement of natural resources; and, similarly, to accommodate in an environmentally sound manner the rapid urbanization and industrialization in all southern and eastern Mediterranean countries. A regional approach is desirable because it allows for a transfer of experiences, both good and bad, of arresting, reducing and reversing the degradation. It also builds on the historic traditions of cooperation, and enhances the sense of a common purpose.

The Approach of METAP II

Meeting the environmental challenge in the Mediterranean requires clearly articulated national strategies, including setting priorities and deciding on the appropriate action. Only then can the present alarming trends be arrested and reversed in a cost effective and sustainable manner. Many countries in the Basin have come a long way in developing such strategies. Trade-offs between technical options are better understood, and appropriate technologies are increasingly available. METAP II is expressly building on these efforts. Activities have been selected using Environmental Action Plans and Strategies and like documents where they exist.

Implementing a dynamic and responsive environmental strategy will require focusing on key issues where the need for intervention is critical because of the impact on health and economic activity. However, in light of the fragility of public finances, great selectivity will be needed in

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identifying least-cost, sustainable solutions, and to progressively shift the burden of cleaning up and pollution prevention onto the polluter. And these investments must be a combination of efficient preventive and curative projects. However, without fundamental reforms in the policy environment and a sound institutional capacity, the effectiveness of investments will be limited. Only when taken together (strengthened institutions, improved policies and the right investments) is there likely to be an acceleration in the effectiveness of current efforts — and, so, give the best chance of reversing environmental degradation and pollution. METAP I developed concrete initiatives in terms of national institutional strengthening and training activities as well as regional training and education efforts and network activities. However, if the program is to have long-term impact on environmental degradation in the Mediterranean, its plan must be supported and continued.

METAP I also confirmed that a balance was needed between project preparation and institutional support, including policy work, to develop and strengthen capacity to prepare a sound pipeline of environmental investments. That will continue in METAP II (with, depending on availability of funding, additional, even if limited support for feasibility studies). More emphasis will be placed on linking all three areas of METAP activities (that is, policy work to project preparation and institution building). Moreover, METAP II will draw on the considerable experience and studies of METAP I. For instance, Algeria, which has set up the legislative framework for an environmental fund could benefit from METAP I environmental financing studies for Croatia, Tunisia and Turkey.

The process

A consultative process was defined to program the second cycle of METAP. The process was developed to ensure a better balanced and more transparently defined indicative program which reflected the needs of the region, the experiences of METAP I and a balanced approach. In consultation with METAP beneficiary countries and partners, the following steps were carried out:

- Review of activity proposals put forth by participant countries and activity proposals that emerged from missions with METAP participation by the two executing Banks;
- Review of the resulting list by beneficiary countries for further additions/deletions; in-country consultative process was encouraged for discussion of the amended list;
- Consultative meeting (held in Tunisia in September) to discuss country specific programming and draft an indicative program of activities.

The following criteria were applied in the selection of METAP II activities:

- consistency with national environmental action plans or equivalent document;
- links to country dialogue of economic sector work or lending program;
- consistency with METAP thematic and activity scale;
- replicability and commonality of regional issues; and
- degree of innovativeness of the activity.

Additional project identification missions also took place, permitting simultaneous discussion of ongoing METAP activities and prospects for new ones. An indicative three-year program with a proposed budget was agreed with METAP partners.

Influencing investments

One of METAP’s principle aims is to facilitate and increase the absorption of environmental investments. METAP will continue to prepare pre-investment studies of specific environmental components of priority projects, where such needs have already been identified. In other cases, where the fundamental investment options have not yet been clarified, METAP activities will be further upstream and seek to influence investment choices. METAP partners are actively involved in funding environmental investment in the Mediterranean (see Boxes 3.1–3.4).

Approximately half of METAP II activities are geared towards project preparation. In all cases, METAP will be aiming for the least cost, and most appropriate, technologies. METAP II project preparation activities will place emphasis on the urban nexus consistent with the key issues of the region. Thus, the prevention, minimization and control of municipal and industrial waste, the efficient use and reuse of water and wastewater, and broad land-use planning activities predominate in METAP II. In recognition of the economic value of the resources, targeted marine and beach pollution control activities are included in the
Box 3.1 European Community Funds for the Mediterranean Environment

Various sources of funds from the European Community can be mobilized in favor of environmental projects in the Mediterranean region. They can consist of grant programs funded by the EC and loans from the EIB. Coordination between the various donors and programs is assured and co-financing schemes between grants and loans are established. Whereas most programs sketched below are not limited to the environmental sector, they all attribute an important role to it. Depending upon the individual programs, resources are available for project preparation or for financing investments, for non-EC countries or for Member States.

LIFE is a new environmental program of the European Community working in close cooperation with METAP. It has regrouped and expanded several existing EC programs, among which the Mediterranean Environmental Action Programme (MEDSPA); it benefits from EC budgetary allocations worth ECU 400 million (1991–95, ECU 70 million in 1992 alone). LIFE is geared towards studies and pilot projects and open for applications from all types of promoters. Most of its resources are earmarked for activities within EC Member States, but it also supports activities in non-EC countries, in particular in the Mediterranean region. Its priorities are fully consistent with those of METAP.

The Renewed Mediterranean Policy has provided a new framework for cooperation between the EC and the Mediterranean non-member countries and it contains an important environmental chapter. A first part consists of the new “fourth generation” of cooperation agreements and financial protocols, which were agreed upon with the individual Mediterranean countries and contain a significantly increased allocation both of Community grants (ECU 775 million, an increase of 26%) and EIB loans (up to ECU 1.3 billion, an increase of 30%) over the next few years. One of the main sectors to benefit from these funds is the environment.

One major innovation of the Renewed Mediterranean Policy, moreover, consists in the establishment of “non-protocol” horizontal financial cooperation for 1992–96; it foresees a total of up to ECU 1.8 billion worth of additional EIB loans, as well as ECU 230 million of contributions from the EC budget.

Within the EC countries, several sources of funds are available for financing environmental investments. In addition to the continued and substantial use of EIB loans (which over the last 10 years have provided approximately ECU 7 billion for environmental projects in the Mediterranean region), very significant grant funds are available from the EC within the context of the Community Support Frameworks implemented, inter alia, in all less favored Mediterranean regions of the Member States and encompassing most economic sectors, including environment. In addition, ENVIREG is a specific program aiming at supporting environmental investment in the EC’s less developed regions (which includes a substantial part of the Mediterranean coast and its islands) with ECU 500 million over 1990–93. Additional grants will become available in the contest of the Cohesion Fund now being set up; it will benefit, in the Mediterranean area, Spain and Greece and support particularly projects related to transportation and to the environment. Greece and parts of Spain are moreover among the eligible regions for an additional financial mechanism to be established in the context of the Agreement on a European Economic Area signed between the Community and the EFTA countries. The details of this new facility are still being negotiated. It is to be administered by the European Investment Bank and may comprise up to ECU 1.5 billion of subsidized loans and ECU 500 million of grants; it covers the period of 1993–97 and one priority area to be supported is the environment (including urban development).

Box 3.2 World Bank and Investment in the Mediterranean Environment

Enhancing the environment is a primary consideration of the World Bank. The World Bank environmental activities, which involve policy dialogue, lending, technical assistance, research and aid coordination, have four objectives:

- to assist member countries in setting priorities, building institutions, and implementing programs for sound environmental stewardship;
- to ensure that potential adverse environmental impacts from Bank-financed projects are addressed;
- to assist member countries in building on the complementarities between poverty reduction and environmental protection;
- to address global environmental challenges through participation in the Global Environmental Facility (GEF)

Between 1980 and 1990 the World Bank made loans for about US$2.3 billion, aimed at environmental protection (stand alone and components of projects) in the countries of the Mediterranean Basin. World Bank lending to the region is increasing for country level institution building and for management of critical natural resources such as forests, watersheds, freshwater wildlife and soils. The following 1990–95 estimates do not take into account environmental components of many large investments in other sectors. Between 1990 and 1992, approximately US$0.7 billion in loans, which were primarily for environmental improvement were processed by the World Bank. A rapid analysis of projects programmed over the next 3 years, which again, as a primary objective contribute significantly to the improvement of the environment, is estimated at upwards of US$2.0 billion. This increase in the pace and size of investment in the environment can be attributed to growing awareness in the region and the World Bank’s effort to help countries address environmental problems.
Box 3.3 The European Investment Bank and the Protection of the Mediterranean Environment

The protection of the environment is among the key priorities of the EIB’s lending policy; it thus acts in line with the objectives of the European Community, which puts an increasing emphasis on safeguarding the environment and achieving sustainable growth. The European Investment Bank’s interest in environmental protection is pursued through three complementary components:

- For each investment scheme, the Bank takes into account the overall environmental impact and ensures, during its appraisal procedure, that the applicable norms are adhered to. Special relevance is given to EC standards and criteria.
- The EIB provides funds for projects aimed exclusively or primarily at environmental protection, including abatement equipment in industrial plants, or projects aimed at improving urban environment. In 1992, total financing for “environmental” investments increased to some 4.5 billion ECU, more than one fourth of the Bank’s total lending.
- In appropriate cases, the Bank supports prefeasibility studies and technical assistance schemes in order to help in identifying priority investment needs and designing cost-efficient solutions. METAP is the main cooperative scheme of this type in which the Bank participates.

Within the Mediterranean Basin, the Bank has, over the last 10 years, granted a total of 7 billion ECU worth of loans in order to finance investments aimed at environmental protection. This corresponds to a total investment of 15-20 billion ECU. The annual lending volume has steadily increased since the early 1980s, with a strong growth in 1992, when the figure more than doubled in comparison to 1990 or 1991.

Among the Mediterranean EC Member States, environmental lending has been substantial in Italy (4.1 billion ECU), Spain (1.4 billion) and Greece (600 million ECU). Recent examples include a number of wastewater treatment stations in Andalucia, Cataluina and several Italian regions, improvements to the water supply for Athens, the desulfurisation and denitrification of a power plant near Venice and the improvement of solid waste disposal schemes for a number of Italian towns.

The non-EC countries of the Mediterranean Basin have also benefited, on a smaller scale, from EIB loans for environmental investments. It is significant to note a strong increase in 1992 to some 120 million ECU for water supply and wastewater treatment facilities in Cairo, as well as in Algeria, Jordan and Tunisia. This growth can be attributed to the objectives of the Renewed Mediterranean Policy (see box on this subject). A number of other projects are currently under appraisal for environmental investment in the non-EC countries of the Mediterranean Basin.

Box 3.4 UNDP Initiatives in the Mediterranean

Environment and natural resource management were selected by UNDP’s Governing Council as one of the six areas of concentration of UNDP’s fifth cycle program (1992–96).

Environmental protection and concerns for the sustainability of the Arab regions (including the Arab Mediterranean countries) development have assumed increased importance in recent years. As a result of increased awareness of the direct correlation between environment and sustainable development, environment has become a common theme in the country programs of all Arab Mediterranean countries. A number of technical assistance initiatives have already been launched at both country and regional levels. UNDP’s support ranges from preparation of sound strategies for environmental protection (Morocco), and implementation of national environmental plans (Egypt) to the design of programs for environmental education in primary and secondary schools (Tunisia). Over 20% of UNDP regional program resources for Arab states have been allocated to environment-related activities. A major new initiative is the joint support by UNDP ($5.5 million) and the Arab Fund ($5.6 million) to the recently created Centre for Environment and Development in the Arab Region and Europe (CEDARE). IFAD also pledged contributions ($3 to 5 million) in the area of water resources management. CEDARE is expected to act as an autonomous focal institution on environmental and sustainable development issues in the Arab region and Europe and ultimately become a “catalyst” which will promote capacity building, inter-country cooperation and exchange of information and experience.

Other regional initiatives included the establishment of collaborative networks in the areas of water management including supplementary irrigation and water management at the farm level, range management, and sand dune stabilization. During the fifth regional program, focus will be on the consolidation of these networks, and the establishment of closer linkages between country and regional initiatives.

The above programs will be supplemented by country and regional activities which are currently under preparation for funding under Capacity 21 and GEF (Global Environment Facility).
portfolio. In addition, biodiversity conservation plans will also be prepared for high priority, ecologically sensitive areas.

Expanding urban coverage

Big towns and cities are the norm in the Mediterranean. In Egypt, Cairo and Alexandria are home to 77 percent of the country’s industry and 95 percent of its major polluters. Similar concentrations are found in Algeria (Algiers and Oran), and in Tunisia (Gabes and Sfax). Even though much industry in the region is state owned or parastatal, regulations or incentives not to pollute are few, or ineffective.

Studies of trends in the southern and eastern rim countries suggest that population growth against a backdrop of water scarcity and insufficient infrastructure will cause increased levels of pollution congestion and environmental hazards. Uncontrolled urban development is also causing significant coastal degradation and loss of cultural heritage. In response to the disturbing trends and the experience of the two Banks in the region, METAP’s emphasis will shift from coastal urbanization and pollution towards urban environmental issues generally. In Albania, for instance, a programmed METAP activity will help assess air pollution from transboundary sources and develop a monitoring and response system. METAP II country activities in the area of integrated water resource management comprise 26% of programming versus 18% during the first cycle. Approximately 35% of program resources for METAP II country activities are programmed for coastal zone management issues, of which 34% include urban components, 26% cultural heritage components, 15% for industrial issues, and 7% for air and tourism respectively.

Smaller cities and towns in the Mediterranean Basin do not, perhaps, yet receive the attention they deserve. They suffer the full impact of the distortions in national policy (for example, lack of incentives or sanctions against polluters) and are often overlooked in national environmental planning and spending on both physical infrastructure and environmental management. In short, they have neither the legal nor financial muscle to do much about local pollution. METAP II will respond to this need by launching a series of local environmental audits and municipal level training programs and actions.

Geographic expansion

As the METAP program begins to mature and benefits begin to emerge for those countries involved in national activities, those countries which had, under METAP I, limited themselves to regional activities now want METAP’s direct assistance. Albania, for instance, wants assistance to draw up a sewerage plan for secondary cities. Lebanon has requested support in natural resource protection and management, while Syria has sought assistance in water resource management. Activities already launched in Croatia will be resumed or extended and new activities developed for both Croatia and Slovenia.

Feasibility studies

As the METAP program evolves, and if supplementary funding can be secured, feasibility studies may be supported on a case-by-case basis. Project preparation lays out broad or specific strategies for dealing with a particular problem; a feasibility study assesses in more detail the components and costs involved in a project or component of a bigger investment. Such support would be limited and (if at all) late in the 1993-95 cycle (that is, only after funds for other priority activities had been allocated) and would be linked to earlier METAP project preparation, such as, for instance, a wastewater treatment plant.

Capacity building

Influencing the environmental agenda requires broad action to build capacity at national and local levels. Only with sound institutions can there be sustainable investments and responsive policy reforms. Increasing investment potential, therefore, is inexorably linked to building up institutional capacity of Mediterranean countries.

Building national capacity requires sustained support over many years. As part of METAP II, country-specific and activity-specific training will continue. Direct operational support (for example, the creation of EIA units, the introduction of environmental financing instruments) and specific training programs will provide the necessary building blocks for stronger institutions at the regional, national, and local levels. That will enhance the ability to develop, coordinate and manage environmental investments.
METAP II will build on the accomplishments of METAP I, such as the creation of EIA units in Algeria and Morocco and the establishment of environmental units in two Egyptian governorates. For example, Morocco's local authorities will benefit from environmental training and a management information system for water resources. Many more countries will be helped to set up and run an environmental impact assessment unit.

Through METAP's institutional strengthening component and guidance in environmental policy, activities will continue to improve technical and managerial capacities as well as the essential implementation structures. Institution building activities, through often associated with project preparation, constitute more than one half of METAP II programmed activities. Regional networks will continue to be employed as efficient dissemination vehicles for, in particular, training activities and applied studies.

Expanding networks and their autonomy

In METAP I, much institution-building work (essentially training programs) was achieved through separate, unlinked projects. But METAP I also launched a broad network system, ideal for taking up training both for tackling both national and regional environmental issues. Much of the institutional support (training) will now be channelled through these networks, which are also conduits for regional and bilateral technical dialogue. For example, MEDCITIES, which draws together coastal cities with similar pollution problems, has grown quickly and is now ideal for training municipal environmental planners and managers. Six Mediterranean cities (Limassol, Oran, Sousse, Tangiers, Tirana, and Tripoli/El Mina) have asked for METAP assistance to develop municipal environmental plans through MEDCITIES.

Network twinning agreements (that is, cooperation between two cities or agencies with similar problems) will also be encouraged further in METAP II. There are many such twinnings already, including those between the cities of Marseilles (France) and Limassol (Cyprus), and between Tangiers (Morocco) and Rimini (Italy). Cities knowledgeable in, say, wastewater reuse might offer on-the-job training to municipalities (in their own country and elsewhere) with less know-how. Moreover, under METAP II, national and regional action will be increasingly coordinated through the various METAP networks. By bringing together agencies or cities sharing similar concerns and problems, these networks encourage national action within a regional framework. They are effective vehicles for disseminating METAP products (for example, policy studies). At this time, such networks, their activities and their secretariats, still need support from METAP; however, autonomy of these networks is a goal of METAP II. Local leadership is to be established as well as the means for financial self-support.

Developing public-private partnerships

Mediterranean Basin countries are progressively working toward developing constructive partnership between the public and private sectors. In this regard, select METAP II activities will be directed to enhancing this collaboration, providing for instance, training in environmentally sustainable tourism.

METAP II also plans to run a training course for private consulting firms, and will extend support to higher-education and other training institutes to help create a capacity in the private and nongovernmental sectors. It will also offer courses on environmental training for financial intermediaries who channel resources to private entrepreneurs.

Policy improvements

METAP policy studies present an overview of experiences in developed countries and provide a more detailed analysis of case studies from Basin countries on priority issues of common concern. Dissemination is assured through regional workshops and through existing networks, with participation of all Basin countries. As the essential regional policy studies have already been undertaken under METAP I, during the second three-year cycle fewer such studies are envisaged (less than 5% of total resources), and the focus will be more on the implementation of key recommendations at the national and local level. In this respect, a study in Turkey will further the environmental financing study completed under METAP I to analyze the specific financial measures required to strengthen the monitoring and enforcement capabilities of municipalities. On a regional level, a METAP policy study has
been proposed to tackle issues of human health effects resulting from pollution and environmental degradation.

Central and local governments, particularly in the southern and eastern Mediterranean, are all spending more on pollution control, biodiversity conservation, coastal zone management, and environmental policy planning and management; and many are now placing greater emphasis on making the polluter pay. The policy studies completed under during the first cycle of METAP will provide guidance in tackling these issues as environmental policy in Mediterranean Basin countries evolves.

**The Impact of METAP II**

The principal strategic goal of METAP is to pave the way for investments and to reduce and reverse the degradation of the Mediterranean environment. The second three-year cycle of METAP will provide targeted activities in support of national environmental strategies and action plans of the Basin countries, within and contributing to a regional framework for the Mediterranean environment. Linkages of METAP activities to investments are already evident. The corollary is the need to enhance national and local capacity to implement and update, in a sustained manner, the country’s environmental strategies. Improved capacity, through direct operational support, training and networks provided by METAP efforts, should help policymakers to examine key issues, set priorities and evaluate least cost options for some priority concerns. Strengthened institutional capacity will be the key factor of environmental investment activities.

The capacity-building component, begun with METAP I, will continue to be provided at a regional, national, and local-municipal level, and culminate in activities which train the trainers. METAP II will seek greater, selective involvement of the private sector in carrying out the environmental agenda. The program will also aim at reinforcing public communication and participation in environmental issues in the Basin countries. METAP’s contribution to enhancing regional collaboration among Basin countries and among key donors will also continue.

One of the essential aspects of METAP is to monitor its own progress and effectiveness. As it moves into its second cycle, METAP will develop a formal conduit for feedback to evaluate completed projects, as well as an independent periodic ex post evaluation of its activities. At the same time, there is a need for broader monitoring of trends in environmental degradation in the Mediterranean. Given its limited resources, METAP is probably ill-suited to such a costly endeavor. Such Basin-wide monitoring would take at least five to ten years before any meaningful statistics emerged. That task will be undertaken by the Blue Plan, which was set up by the United Nations Environment Programme, and has launched an Observatoire Méditerranéen (with support from the European Commission) to refine and expand its future projections on pollution in the Basin. METAP will benefit from this work.

**Cost of METAP II**

The total cost of METAP II will be around $26 million as a result of its commitment to expand both its geographic coverage (Albania, Syria and Lebanon) and its wider involvement in urban areas. Selective feasibility studies might add another $6 million. At present, roughly $9 million has been pledged by the Commission of the European Communities, the European Investment Bank, the United Nations Development Programme and the World Bank for implementation of METAP II’s activities during the first year, 1993.

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Reversing the degradation of the Mediterranean will take time. Just as pollution of the region resulted from decades and even centuries of neglect and shortsighted priorities, so efforts to preserve the environment will be incremental. METAP is a small but crucial part of that process. The environment of the Mediterranean will be saved only when the region’s population learns to live in harmony with their environment — not just off it.
Annexes
Annex I
METAP I Activities

ALBANIA
Water Supply and Sewerage Management

ISRAEL
Hazardous Waste Treatment

ALGERIA
Blida Wastewater Reuse/Tlemcen Local Government
Hazardous Waste Management Options
El-Kala Management Plan
Pollution Control in Ports and on Beaches
Institutional Support Package

ITALY
Po Wastewater Monitoring

MALTA
Solid Waste Management

CROATIA
Cres-Losinj Conservation
Rijeka Solid Waste Management
Split/Kastela Bay Environment Study
Croatia Environment Fund

MOROCCO
Al Hoceima National Park
Martil Coastal Zone Management
Creation of EIA Unit

CYPRUS
Hazardous Waste Management
Conservation of Akamas Peninsula
Environmental Fiscal Instruments
Environmental Policy Support

TUNISIA
Hazardous Waste Study
MEDGEOBASE
Pilot Wastewater Reuse/Compost
Port Protection and Oil Pollution Control
Tunis Solid Waste Management
Tunisia Pollution Fund

EGYPT
Local Environmental Management
Cairo Sewage Tunnels
Industrial Effluent

TURKEY
Environmental Institutions Study Ackermann (WB)
Patara Cultural Heritage
Istanbul Environment Project
Southwest Coast Environment Project
Maritime Pollution Control
Turkey Pollution Prevention Fund

GREECE
Rhodos Coastal Area Management (EIB)
REGIONAL POLICY STUDIES
Regional Environmental Management
Institutional Arrangements for Integrated Water Resource Management
Regional Coastal Management Operational Framework
Biodiversity Conservation Instruments
Environmental Financing Theory and Practice Review
Environmental Financing (Mediterranean Region)
Municipal Waste Management Review

NETWORKS
MED POL
Mediterranean National Environment Agencies (MEDNEA)

Mediterranean Protected Areas Network (MEDPAN)
Mediterranean Coastal Cities (MEDCITIES) Phase I
Municipal Environmental Plans
Local Environmental Audits
Mediterranean Water Agencies Network (MEDWAN) Phase I

TRAINING
Environmental Planning and Management
Municipal Environmental Management
Coastal Environmental Impact Assessment
Environmental Education
Environmental Financing Technical Workshop
Annex II
EPM/METAP Working papers

1. Pollution Problems in the Mediterranean: Approaches and Priorities
2. Natural Resources Management
3. The Urban Environment in the Mediterranean
4. Maritime Sector Assessment
5. Industrial Pollution in the Mediterranean
6. Conservation and Management of Cultural Patrimony in the Mediterranean Region
7. Conservation of Biodiversity in the Mediterranean: Protection of Coastal Ecosystems
8. Financing Pollution Control in the Southern and Eastern Mediterranean Countries
9. Patterns of Environmental Management
10. Instruments pour la Conservation de la Biodiversité dans le Bassin Méditerranéen (in French only)
11. Municipal Solid Waste Management in the Mediterranean Region
Annex III
METAP II — Indicative activities

ALBANIA
Coastal Zone Management
Groundwater Resources Control
Air Pollution Control

ALGERIA
Environmental Policy Support
EIA Unit Phase II
Algiers Solid Waste Management
Environmental Assessment of Housing Projects
Water Management in the Oran Region
Waste Water Treatment Study
Pollution Control in Ports and Beaches
Boumerdes-Reghaia Industrial Pollution Control
Medgeobase

CROATIA
Development of appropriate waste water treatment
disposal solutions for small Adriatic Towns
Management Plan of Coastal urban centers
Historic conservation of Split center
Completion of GIS coverage of Split/Kastela
developed under METAP I
Strategy for sustainable development of coastal zone

CYPRUS
Port Reception Facilities
Akamas Management Plan - Second Phase
MEDGEOBASE and Coastal Natural/ Ecological Inventory

EGYPT
Water and Sewage Treatment in the Nile Delta
Integrated Conservation and development of the Mediterranean Coastal Zone
Public/Private Sector Partnership for Historic Conservation
Cairo Sludge Disposal
Solid Waste Sector

Greece
Support to EIA for selected projects

ISRAEL
Dan Region Sewerage
Prevention of Pollution of Kishon River

ITALY
Waste water reuse

LEBANON
Preparation of Environmental Strategy
Assessment of clean up / rehabilitation requirements of coastal strip
Development of long term investment program for waste water facilities
Environmental Pollution Regulation

**TURKEY**
Preparation of Environmental Strategy
Hazardous waste management in Marmara
Menderes Wetlands Protection
Monitoring of waste discharges from ships
Enhancing public participation in implementation of new environmental legislation and regulations
Environmental Institutions
Preparation of Coastal Code

**MALTA**
MEDGEOBASE

**MOROCCO**
Sectoral Environmental Management Units/
Central EIA unit (Second Phase)
Casablanca and Mohameda Environmental Audits
Hazardous waste management
Solid waste management in small medium cities (Kenitra)
Water Information System
MEDGEOBASE

**SPAIN**
Water Resource Management

**SLOVENIA**
Hazardous and Solid waste Management
Capacity Building for EIA

**SYRIA**
Preparation of Environmental Strategy
Establishment of Regional Environmental Authorities and Laboratories
Urban Solid and Hazardous Waste Management Program
Protection of Oil Ports of Banias and Tartous Establishment of EIA Unit

**TUNISIA**
Treatment of industrial waste water of Ben-Arous industrial zone
Improvement and strengthening requirements for the monitoring of coastal and surface waters
Protection of coastal lagoons and wetlands in the Hammamet Gulf
Control of municipal industrial pollution in coastal estuaries
Conservation of Kerkennah Islands
Conservation of Carthage Archeological Park
Environmental Training (municipalities, Banks, consultants, journalists)
TRAINING

National Organizations

Environmental Planning and Management Compendium
Reader

Municipal Organizations

Environmental Planning and Management Compendium
Compendium
Municipal Env. Audits and Action Plans
Env. Impact Assessment Training

Private Sector Institutions, Educational Institutions and Training

Environmental Training for Financial Intermediaries
Env. Impact Assessment Training
Env. Impact Assessment Training
Env. Education for Schools of Agriculture
Env. Education for Faculties of Economics/Finance
Compendium
EIA Reader
Reports/Dissemination
Mediterranean Basin

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