



Mediterranean forests: ecological space and economic and community wealth

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An introductory profile of Mediterranean forests, including a history of forest use and conservation

[Lebanon cedar on Mount Barouk, Lebanon](#)

Although vast expanses of dense forest may not be a typical Mediterranean image, forests play a major ecological role in the region and have always been a fundamental factor in the life of its inhabitants. The close relationship that has developed over time between humans and the forest has sometimes been stable, but more often it has been out of balance and detrimental to forests that are notable for their fragility.

Mediterranean forests account for a mere 1.5 percent of the total wooded surface of the planet. Unsustainable exploitation of their resources over the centuries has resulted in degradation, occurring at varying rates, depending on the vicissitudes of history and the successive civilizations that the Mediterranean basin has seen. In North Africa and the Near East, population growth has led to over exploitation and accelerated degradation of forest resources. In the north of the Mediterranean, fires, land speculation and a growing number of leisure activities, which are also hard to control, are having serious repercussions on the resource. In both cases, the environmental effects are today a matter of concern for both government and the general public.

Although the development problems affecting forest zones take many forms - economic, social and political - it is important to keep in mind the considerable physical and biological potential of the Mediterranean environment. Covering a significant geographical area (81 million ha), Mediterranean forest ecosystems exhibit general features related to their ecology and history as well marked regional differences that result from diverse physical and human contexts. They have a major common factor, however, in their fragility, instability and frequent degradation.

The present article is an introduction to this issue on Mediterranean forests. Following a description of the Mediterranean region is a short, historical section on forests and their use through the ages. Specific climatic and ecological features are examined next in order to gain a better understanding of the structure and organization of forest ecosystems. To conclude, the future of Mediterranean forests is analysed in terms of the problems and issues that have led to the establishment of the Mediterranean Forest Action Programme (MED-FAP).

THE MEDITERRANEAN REGION: DIVERSITIES AND SIMILARITIES

The Mediterranean is a region with many popular, unifying myths but, economically, politically and socially, it is one of the most divided (Joannon and Tirone, 1990). However, a proper perspective on the region can be obtained by focusing on the role of the Mediterranean Sea, which has been a crossroad for centuries and has provided a resource as well as a means of communication and exchange for the surrounding countries.

[FIGURE 1 - Biogeographical range of the olive \(*Olea europea*\)](#)

Source: Ramadé (1991)

Geographically, the Mediterranean region stretches from the European Alps to the Sahara, and from the Atlantic Ocean to the Caspian Sea. It encompasses 25 countries, which can be divided into four groups: southwestern Europe (France, Italy, Portugal, Spain), southeastern Europe (Albania, Bulgaria, Cyprus, Greece, Malta, Romania, Slovenia, Turkey, former Yugoslavia), North Africa (Algeria, Egypt, the Libyan Arab Jamahiriya, Morocco, the Sudan, Tunisia) and the eastern part of the Mediterranean (Israel, Jordan, Lebanon, Saudi Arabia, the Syrian Arab Republic, Yemen).

Many criteria have been suggested for defining the Mediterranean sphere, but the one that best reflects the true situation, and the one on which biogeographers and ecologists are in agreement, is the range of olive cultivation (Figure 1).

The climate, with its long, hot and dry summer season, is the element that draws the Mediterranean countries together and gives a unity to the whole. It has engendered a typical flora and some particularly rich ecosystems (about 2 000 species, of which half are endemic), thereby providing a bridge between those of tropical and temperate zones.

The apparent unity of the Mediterranean region masks a wide range of individual national situations. The constant features of the region are the very different socio-demographic situations of the various country groups, varying levels of development, international labour migration, very marked urbanization of coastal areas, and active harbours and airports (it is the foremost area for tourism in the world).

MED-FAP: A planning tool for sustainable management

The uniqueness of Mediterranean forests, their alarming state of degradation and the similar problems experienced by the different countries of the region are all reasons for the adoption of a specific policy and a programme to mobilize energies on national, regional and international levels.

The United Nations Conference on Environment and Development (UNCED), held in Rio de Janeiro in June 1992, issued a call to all countries to draw up and implement national forest action programmes and/or forest conservation and sustainable development plans. It cited the Tropical Forests Action Programme (TFAP) - now known as the National Forest Programmes (NFPs) - as an international framework for such initiatives. The TFAP's presence in tropical countries encouraged Mediterranean countries to propose a similar international framework for their region at several intergovernmental and major forestry meetings, particularly the session of the Near East Forestry Commission (Tunis, July 1987), the 14th session of *Silva Mediterranea* (Athens, November 1989) and the 10th World Forestry Congress (Paris, September 1991). The idea of a Mediterranean forestry programme was definitively approved at the March 1992 session of *Silva Mediterranea* in Faro, Portugal.

MED-FAP was drawn up on the basis of the MED report presented by FAO at the same March session, bringing together these recommendations and those of the 10th World Forestry Congress in Paris and of UNCED - especially those found in UNCED's Agenda 21, Chapters 11 (deforestation control) and 12 (management of fragile ecosystems: desertification and drought control). It also draws on experience gained during implementation of the TFAP. The programme was finalized on 5 and 6 June 1993 in Lisbon during the *Silva Mediterranea* session.

MED-FAP offers a general conceptual framework that should serve as a basis for each country to develop a

National Forest Programme (NFP), with more specific strategies and priority lines of action, defining its own strategic framework, spheres of action and programme elements (see Table). Although the countries around the Mediterranean have adopted the concept, aims and principles of MED-FAP, the anticipated financial support for its implementation, especially for the development of national forest action programmes, has not been forthcoming.

Objectives and associated elements of MED-FAP

Programme objectives	Programme elements of the action programme
1. Forest development and management (technical)	1. Knowledge of the resource 2. Development of the resource 3. Expansion of the resource 4. Mobilization of the resource 5. Agroforestry management 6. Fire protection
2. Improved utilization of forest products and services (economic)	7. Fuelwood and energy 8. Timber industries 9. Non-wood forest products
3. Production of ecosystems (ecological)	10. Incorporation of conservation into development policies 11. Forest protection 12. Expansion and management of protected areas 13. <i>In situ</i> and <i>ex situ</i> conservation of genetic resources 14. involvement of local populations 15. Awareness-building and Information activities 16. Boosting of international cooperation
4. Consolidation and modernization of institutions (institutional)	17. Incorporation of forestry into national policies and planning 18. Consolidation of public administrations and associated bodies 19. Development of participatory structures 20. Boosting of national capacities for research and cooperation, and for profiting from their results 21. Revision of legislation, regulations and procedures 22. Technical and professional training 23. Promotion of extension work 24. Boosting of regional and international cooperation
<i>Note:</i> Each element in the programme comprises a set of specific actions that must be carried out in achieve MED-FAP's objectives	

[Precipitation is concentrated in the winter season, often in the form of snow at higher elevations. In the photo: Lebanon cedar in Lebanon](#)

As a generalization, Mediterranean countries can be divided into a northern group and a southern and eastern group. In the first group, which belongs to the European continent, the hinterland is sparsely populated and forests are taking over land abandoned by agriculture. Privately owned forests predominate and are poorly exploited because they are not profitable enough. These countries are experiencing strong pressure from urbanization and tourism, and fires are the main cause of degradation or destruction. Apart from this, their excessive urban concentrations produce pollution and other harmful effects, thereby magnifying the risks of environmental degradation.

In the second group, a high population growth rate, a marked rural density, relatively low standards of living and of income levels and a predominance of public control of forests are significant factors in the pursuit of the agroforestry activities essential for those living along the coast. They also put intense pressure on uncultivated areas. Over exploitation of fuelwood, clearing for agriculture and overgrazing are the main causes of degradation and deforestation, which then result in soil erosion and desertification.

ECOLOGICAL FEATURES OF MEDITERRANEAN ENVIRONMENTS

Climatic factors and types

The Mediterranean climate is defined as an extratropical climate, characterized by seasonal and daily photoperiodism and a rainfall concentrated in the cold and relatively cold seasons, with a dry, warmer summer season (Emberger, 1954).

The summer dry season may last from two to six months. Annual rainfall ranges from about 100 mm in pre-desertic zones to more than 2 500 mm on some mountains exposed to moist winds (the Pyrenees and Cévennes in France, the Rif in Morocco). Temperatures in the coldest month (usually January) can vary from -17°C in the eastern part of Anatolia in Turkey or the eastern Central Atlas Mountains in Morocco to +10°C on the Mediterranean coast, while temperatures in the hottest months (July and August) can reach 38°C. Average monthly temperatures vary from 5 to 18°C.

[FIGURE 2A - Distribution area of selected species of sclerophyllous Laurifoliae as a function of Emberger's pluviothermic coefficient and the average of the minimums of the coldest month](#)

Source: Quézel, 1976

The classification most often used was developed by Emberger (1939), using a two-dimensional diagram in which the value of the "pluviothermic quotient"¹ of a specified locality is the Y-axis and the average of the coldest month is the X-axis. Representation of a set of stations in the Mediterranean biogeographical area made it possible to define four climatic zones: *arid*, *semi-arid*, *subhumid* and *humid*. The furthest stations where a given Mediterranean plant is found are marked on the diagram and the plant's bioclimatic range can thereby be specified (Figure 2). Given the amount of mountainous terrain around the Mediterranean, the altitudinal limits of climates vary according to latitude, under the combined effect of thermal and altitudinal gradient and increased rainfall. We can thus distinguish a succession of stages of vegetation in Mediterranean mountains, defined according to climatic types, with the limits of the latter varying with latitude: *infra-Mediterranean*, *thermo-Mediterranean*, *eu-Mediterranean*, *supra-Mediterranean*, *mountain Mediterranean* and *oro-Mediterranean* (Quézel, 1976).

$$^1 Q = P/0.5 (M + m) (M - m)$$

P = annual rainfall in mm

M = average of the maximums of the hottest month (°C)

m = average of the minimums of the coldest month (°C)

[FIGURE 2B - Distribution area of selected Mediterranean conifers as a function of Emberger's pluviothermic coefficient and the average of the minimums of the coldest month](#)

Source: Quézel, 1976

Mediterranean soils

The soils of the Mediterranean region are extremely varied because of the great diversity of mother rock and variations in slope. They are generally set on a sedimentary geological substratum, lying under a metamorphosed soil. In some places there is volcanic terrain -often ancient - or very localized crystalline outcrops. Basically, these soils are fragile, apart from those in the major alluvial plains.

Figure 3 shows the zonal and intrazonal distribution of Mediterranean soils in schematic form, together with their physical and chemical evolutionary processes according to bioclimatic environments and vegetation stages.

As a general rule, these soils are sensitive to rainfall erosion in humid zones and wind erosion in

dry zones, especially when plant cover is poor or degraded.

FIGURE 3 - Morocco: soil zones and intrazonas

Source: Quézel, 1976

STRUCTURE AND ORGANIZATION OF FOREST ECOSYSTEMS

Mediterranean forests at present cover about 81 million ha, or 9.4 percent of the region's total land area, a much-reduced proportion when compared with their former extent. Table 1 shows the distribution of forests and maquis by type and country.

TABLE 1. Mediterranean forests and maquis according to main types and countries ('000 ha)

Country	Conifer				Broad-leaved					Total broad-leaved	Various maquis and garrigues	Overall total
	Aleppo pine, Brutia pine	Thuyas, junipers	Other conifers	Total conifers	Evergreen oak	Beech, deciduous oak	Chestnut	Wild olive, carob	Arganier			
Spain	1 300	62	1 779	3 141	3 155	1 326	163	0	0	4 644	10 070	17 855
France	80	0	105	185	800	700	135	2	0	1 637	300	2 122
Italy	130	0	114	244	2 585	1 190	244	0	0	4 019	0	4 263
former Yugoslavia	50	0	40	90	35	...	...	0	0	94	776	960
Albania	...	...	...	156	302	...	...	0	0	489	395	1 040
Greece	528	0	514	1 042	743	1 268	28	0	0	2 039	0	3 081
Turkey	3220	458	4 694	8 372	590	7 520	183	0	0	8 293	823	17 488
Cyprus	116	0	5	121	0	0	0	0	0	0	52	173
Syrian Arab Rep.	70	0	25	95	43	20	0	0	0	63	0	158
Lebanon	5	11	16	32	33	10	0	0	0	43	0	75
Israel	30	0	0	30	35	5	0	0	0	40	0	70
Libyan Arab Jam.	5	153	0	155	1	0	0	50	0	51	0	206
Tunisia	340	455	2	797	213	25	0	70	0	308	0	1 105
Algeria	843	762	43	1 648	1 154	67	0	100	0	1 321	0	2 969
Morocco	65	971	144	1 180	1 712	24	0	500	700	2 936	458	4 574

The special nature of Mediterranean forests is bound, on the one hand, with their considerable variety in terms of biogeography, history, climate and appearance, and, on the other, with the instability and vulnerability resulting from the Mediterranean environment and human activity.

Forest ecosystems can be divided into different vegetation groups (Quézel, 1976), as follows:

- i) thermophilic wild olive and pistachio scrub;
- ii) Mediterranean conifer forests of Aleppo pine, Brutia pine, maritime pine, stone pine, Barbary thuya and Phoenician juniper;
- iii) sclerophyllous evergreen oak forest of holm oak, cork oak, Kermes oak, etc.;
- iv) deciduous forests of zeen oak, afares oak, Lebanese oak, tauzin oak, hornbeam, ash and, occasionally, beech;

v) mountain or high-altitude forests of cedar, black pine and firs;

vi) oro-Mediterranean-stage stands of arborescent juniper and thorny xerophytes.

In the arid steppe and desert ecosystems, the natural vegetation is generally low and sparse because of the inadequacy and irregularity of rainfall and the low relative humidity. Arid steppe areas have a rainfall of between 100 and 400 mm, sometimes producing forest stands or scrub, but are more often steppes in the strict sense. Landscapes typical of these arid bioclimates are: i) arganier forest or scrub; ii) Atlas pistachio and jujube scrub; iii) acacia scrub; iv) grass (esparto) or subshrub (artemisia and Chenopodiaceae) steppes. These areas are used primarily for grazing sheep.

Deserts occupy the largest stretches of land in the region, and the most common ecosystems in these areas are a result of the sandy substratum. They also produce a number of plant communities that can play a major role in combating desertification.

Table 2 summarizes the types of forest found in the Mediterranean region according to the ecological work of various authors (Abi Saleh, 1978; Akman *et al.*, 1979; Assodollahi *et al.*, 1982; Barbero and Quézel, 1976; Benabid, 1985; Di Castri and Mooney, 1973; Emberger, 1930; Genile, 1982; M'Hirit, 1982 and 1993; Quézel, 1981; Quézel and Barbero, 1982; Rivas Martinez, 1982).

TABLE 2. Types of Mediterranean forest (climate, soil, vegetation)

Type	Climate and vegetation stage			Soil		Type of forest (dominant species)
	Rainfall (mm)	Variation (%)	Dry season (months)	Type	Evolutionary process	
Desertic and subdesertic	P<100	<100	10-12	- Grey soils, sierozem - Sodic soils	- Calcareous crusting - Salinization	- Tree steppes with <i>Acacia raddiana</i> and <i>A. Seyal</i> - Subdesertic steppes with Euphorbias and Chenopodiaceae - Regs and <i>Hammada sp.</i> with <i>Haloxylon sp.</i>
Arid (lower Mediterranean)	100<P<300	50-100%	7-9	- Brown steppe soils, Brunizem - Sodic soils	- Isohumism - Calcareous crusting - Salinization	- Arganier forest or scrub in Atlantic Morocco - Atlas pistachio and jujube scrub in North Africa/Near East - Gum acacia scrub in Atlantic Morocco - Esparto and artemisia steppes
Semi-arid (thermo-Mediterranean)	300<P<600	25-50%	4-7	- Chestnut soils - Red fersiallitic soils - Vertisols and planosols	- Isohumism - Calcareous crusting	- Thermophilic steppes with wild olive and mastic - Aleppo pine forest all around the Mediterranean - Brutia pine forest in Anatolia and Near East - Barbary thuya and Phoenician juniper forest in North Africa - Cypress forest
Subhumid (upper Mediterranean)	600<P<800	10-25%	3-5	- Red fersiallitic soils - Brown fersiallitic soils	- Rubification	- Aleppo pine, Brutia and maritime pine forests all around the Mediterranean - Stone pine in Spain and Italy - Sclerophyllous oak forests: holm, cork, Kermes
Humid (supra-	P>600	10-25%	3-5	- Brown	-	- Fir forests on mountains all

<i>and mountain Mediterranean)</i>				fersiallitic soils - Brown tempered soils - Brown leached soils	Brunification - Leaching	around the Mediterranean - Maritime and black pine forests - Cork oak forests - Deciduous oak forests: zeen, tauzin, afares and downy oaks in the western section; hairy, black, Valonia and oriental hornbeam oaks in the eastern section - Cedar forests: Atlas cedar in North Africa, Lebanon cedar in Turkey, Syrian Arab Rep. and Lebanon
High mountain (<i>oro-Mediterranean</i>)	R>500			Lithosols and regosols		- Dry cedar and juniper forest - Juniper forests: <i>J. excelsa</i> , <i>J. thurifera</i> , thorny xerophytes

The main Mediterranean forest products can be divided into two categories: wood and non-wood vegetable products, and animal products. A third category, described as "integral", i.e. connected with the ecosystem, tourism and society, can also be distinguished (Baldini, 1993). Table 3 gives a classification of Mediterranean forest products and their connection with formal economic sectors (industry, urban markets, etc.) and informal sectors (local peoples' concerns, village activities, household consumption, etc.).

Forest use through the ages

The impact of human action on the natural environment in the Mediterranean region has been significant for about 7 000 to 8 000 years. In the Near East, the beginnings of cultivation and animal husbandry, which affected forests in the form of clearing, date back 10 000 years. These activities then spread to Crete and Greece in about 6000 BC and to the western Mediterranean basin in about 5500 to 4500 BC. The first civilizations were already flourishing, marked by strong demographic growth and an increasing need for farmland and wood. The greatest expansion of agriculture occurred during the Roman era (between the second century BC and the fifth century AD) (Pons and Quézel, 1985; Skouri, 1994). Means of travel also developed at this time. Being poor in forests, the Egyptians imported cedar and juniper wood from Syria and Lebanon for their fleets, while wood for naval and urban construction was taken from the Roman colonies (Seigue, 1985). These activities grew during the time of the Phoenician, Greco-Roman and Carthaginian civilizations - starting in about 1000 BC and continuing for several centuries.

TABLE 3. Main non-wood products of Mediterranean forests

Production	Products	Economic sector	
		Formal	Informal
1. Forest	-Cork	+	+
	- Resin	+	+
	- Fruit (acorns, carobs etc.)	+	+
2. Plant	- Wild fruit		+
3. Mostly leafy	- Medicinal plants	+	+
	- Marketable aromatic plants	+	+
	- Wild flowers	+	+
	- Asparagus etc.		+
4. Mycological	- Edible fungus	+	+
	- Truffles	+	+

5. Zoological	- Sweet honey	+	+
	- Bitter honey	+	+
6. Animal	- Game	+	+
	- Agroforestry	+	+
7. Related to the ecosystem and tourism	- Environment	+	+
	- Landscape	+	+

The eastern Mediterranean was not spared, and its forest cover was drastically reduced by the Venetians and Byzantines. Not only was wood the main source of energy, but it was also an essential material in shipbuilding, a particularly important activity for these trading and warfaring empires.

From the decline of Byzantine Empire (about AD 640) until the mid-nineteenth century, exporting and importing countries were linked by sea, with wood being shipped from Syria, the Maghreb, Spain and Sicily to the shipyards of southern Syria (Tyre, Haïfa), North Africa (Tunis, Sousse, the Sirte coast and Tripoli), but especially Egypt (Alexandria). In the sixteenth century, however, Mediterranean sea power started to shift to the Iberian Peninsula, with the creation of the Spanish and Portuguese colonial empires. During this period, the herder culture in the east and south of the basin contributed to the greater stability of wooded areas (Le Houérou, 1988).

[Land reclamation with olive trees In the Syrian Arab Republic](#)

In the nineteenth century, a new phase of development began, and is still continuing in different ways in the northern and southern parts of the basin. In the southern countries, with rapid population growth, precarious resources and a low standard of living in the countryside compared with that enjoyed in the plains and towns, people's dependence on forest resources has continued and even increased. In the north, on the other hand, the transformation of agriculture, together with industrialization and economic growth, has intensified the rural exodus and the abandonment of farming in the hinterland, thus allowing forests to regenerate. However, human and industrial concentration in this part of the basin has meant the decline of natural ecosystems in the industrial and coastal regions, as they have come under the onslaught of urbanization and infrastructure for tourism as well as increases in fires and pollution.

[The famous St Victoire mountains In France, with natural regeneration advancing some ten years after a disastrous forest fire in 1987](#)

THE FUTURE OF MEDITERRANEAN FORESTS

The centuries-old use of land in the Mediterranean region has led to various forms of conflict between agriculture and forestry: the clearing of wooded land, overgrazing, desertification of dry zones and watershed erosion in mountain areas. And now tourism is also affecting the countryside.

The human factors responsible for degradation and deforestation are manifold, and may seem contradictory: expansion of cultivated areas and increasing pressure on forests for fuelwood and grazing in the east and south of the Mediterranean; the abandonment of grazing land to forest; the abandonment of farming; and tourist growth and land speculation by tourism promoters and builders in the north.

Mediterranean forests have shrunk in area and have lost both biomass and biodiversity. Thirty years ago, the forest areas of the region were estimated at 85 million ha, with 20 million ha actually being covered by forest. An FAO survey of forest resources in 1980 established forest areas at 81 million ha. The annual rate of deforestation between 1981 and 1990 in North Africa and the Near East was 114 000 ha (FAO, 1994) or 1.1 percent, whereas it is no more than 0.8 percent in tropical countries.

The disappearance of many ecosystems and species from the region has become a major concern. Desertification in the south and east, together with degradation of existing stands, has impoverished the genetic heritage. It has been estimated that, of the 5 551 endemic species recorded, 3 738 are rare, vulnerable or endangered. Ramadé (1991) devotes a whole chapter to the endangered ecosystems and genetic heritage of the region.

This situation has been so extensively described and analysed (Benabid, 1985; FAO, 1993; Le Houérou, 1988; Nahal, 1984; Marchand *et al.*, 1990; M'Hirit and Maghnouj, 1994; Skouri, 1994; Tomaselli, 1976) that it is unnecessary to dwell on it here. It will be more helpful to identify the constraints on Mediterranean forests, explaining why their management is far from optimal. The main constraints are linked to regeneration difficulties, the economic value of forests, fires and dieback.

The difficulties of natural regeneration and the steady shrinking of forests cannot be ignored. The population pressure in countries with burgeoning demographic growth is unfortunately posing very real problems for any systematic forestry today. The factors involved are overgrazing, over exploitation of wood (especially for fuel) and the use of forests as reserve farmland. These phenomena are chiefly a reflection of inappropriate agricultural and forestry policies, with forestry not being properly integrated into rural development, and land tenure systems and management methods failing to provide local people with sufficient motivation to contribute to a more sustainable management of their forests.

When assessed solely on the basis of wood production (which may include cork), the economic value of Mediterranean forests is generally low, given the fairly poor productivity of these ecosystems. Transactions involving other marketable forest products (hunting, aromatic or medicinal plants, resin, fodder resources, honey, etc.) do not always fall under official control. The non-marketable roles of forests -biodiversity reservoir, protection of freshwater resources, soil conservation, recreational value (including the importance of scenery), ecotourism, etc. - are of major importance in the region, but how can they be quantified with a view to attracting the finance needed to ensure that forest management is geared towards maintaining this heritage?

Forest fires are a major scourge, particularly to the north of the Mediterranean, and spring from a combination of physical, biological and human factors, particularly the flight away from land. Dieback refers to regression and localized or generalized mortality. Not enough is yet known about the cause, but there is probably more than one. The most worrying case at present is that of the cork oak in many parts of its range (Spain, Portugal, Italy, Morocco, Tunisia).

Historical overview of interest shown in Mediterranean forests

1911 - 11th Intergovernmental Congress on Agriculture and Forestry, Madrid (the congress highlighted the need for Mediterranean forest cooperation)

1922 - Creation of the *Silva Mediterranea* Committee on Mediterranean forestry issues as a body for consultation, assistance and dissemination of information

1960 - Mediterranean Development Project formulated by FAO

1962 - Creation of the International Committee on Advanced Mediterranean Agricultural Studies under the aegis of the Organisation for Economic Co-operation and Development (cooperative research and advanced training)

1971 - Establishment of the United Nations Educational, Scientific and Cultural Organization's Man and the Biosphere Programme (MAB), an international programme for research, training and dissemination of information

1975 - Launching of the United Nations Development Programme's Mediterranean Action Plan (MAP); International Conference in Barcelona on pollution control and ecosystem protection

1982 - Launching of the European Economic Community's Wood as Raw Material Programme

1988 - Launching of the Mediterranean Environment Programme by the World Bank and the European Investment Bank
1990 - "Launching of the "Forest" Programme and the MED CAMPUS interuniversity programme
1993-Development of FAO's Mediterranean Forest Action Programme (MED-FAP) within the frame work of <i>Silva Mediterranea</i>
1996 - Launching of the European Union's MEDA Programme for integrated rural development and conservation of Mediterranean forest ecosystems - Creation of the international association "Mediterranean Forests"

The Mediterranean region has been attracting increasing attention from the international community for several decades now. Awareness of the ecological, social, economic and environmental benefits to be drawn from wooded areas and of the disastrous effects of their degradation or destruction is responsible for a growing interest in the forest sector (Anon., 1990; FAO, 1993, Plan Bleu, 1989).

Table 4 outlines the main stages of interest shown in Mediterranean forests.

CONCLUSION

Forests have played a fundamental role in people's lives during the various civilizations that have flourished in the Mediterranean region. The relationship that has grown up between humans and forests has sometimes been stable, but more often it has been unbalanced and detrimental to the region's forests, which are not only very varied but are also fragile, sensitive and vulnerable. As a form of ecological space and economic and community wealth, Mediterranean forests have seen and are still undergoing types of exploitation that lead to conflicts of interest involving social, economic, landholding and environmental issues.

The many roles of Mediterranean forests and their importance for the population have been thrown into sharper relief towards the end of this century. This new awareness and revival of interest have given rise to many scientific studies, both regional and international, and set in motion many programmes concerned with the future of Mediterranean forest ecosystems.

The Mediterranean Forest Action Programme, initiated by FAO in 1993 in the context of its Committee on Mediterranean Forestry Questions, *Silva Mediterranea*, offers a strategic framework and planning instrument for the sustainable management of Mediterranean forests. However, its implementation will depend on the political will of the various countries in the region for forest conservation and development as part of a more dynamic North-South cooperation.

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