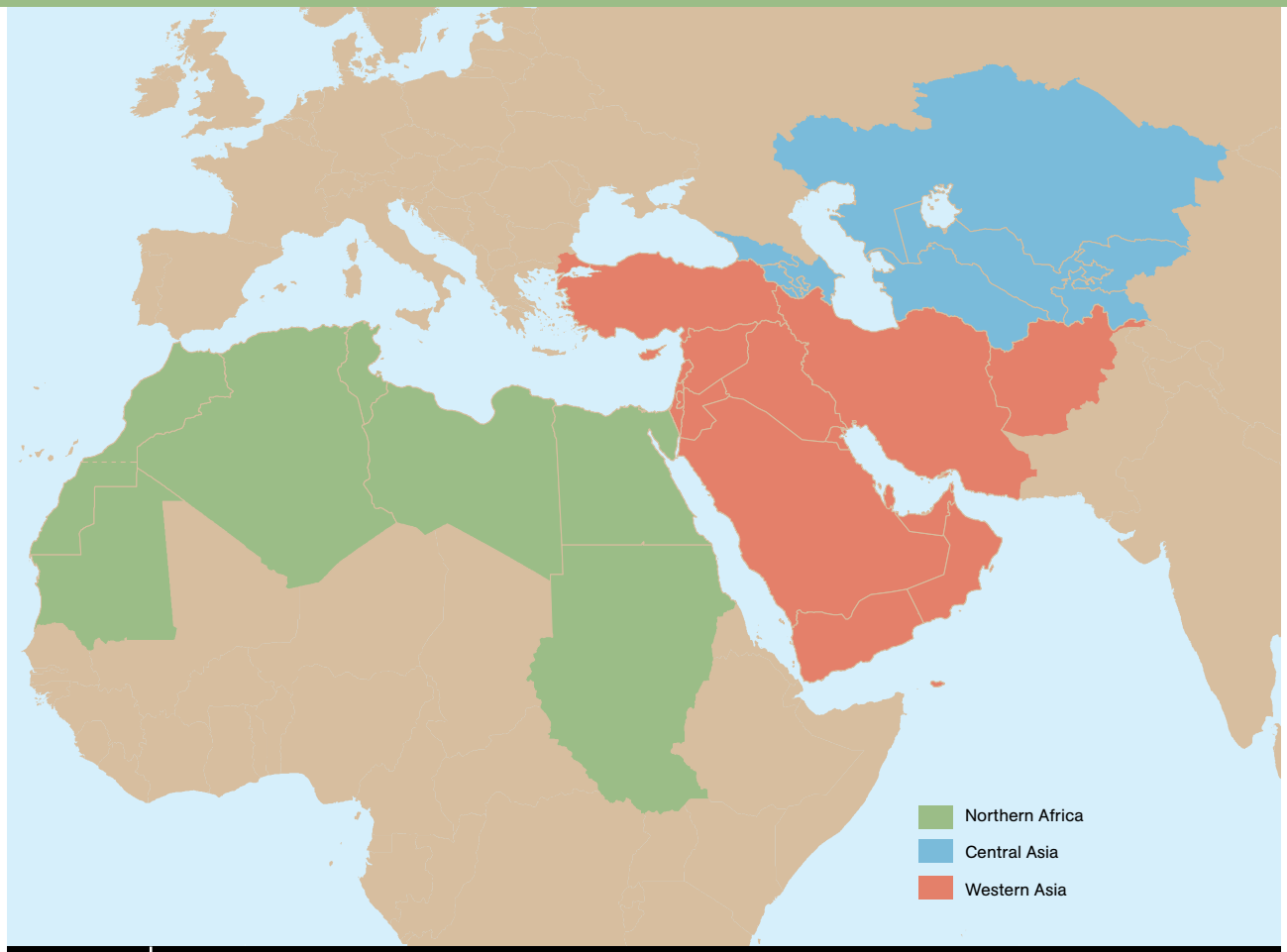


FIGURE 44 | Subregional breakdown used in this report

Northern Africa: Algeria, Egypt, Libyan Arab Jamahiriya, Mauritania, Morocco, Sudan, Tunisia

Central Asia: Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan

Western Asia: Afghanistan, Bahrain, Cyprus, Islamic Republic of Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syrian Arab Republic, Turkey, United Arab Emirates, Yemen

Near East

The present report divides the Near East region into three areas based on geographic proximity and similar forest ecological characteristics: Northern Africa, Central Asia and Western Asia (Figure 44).

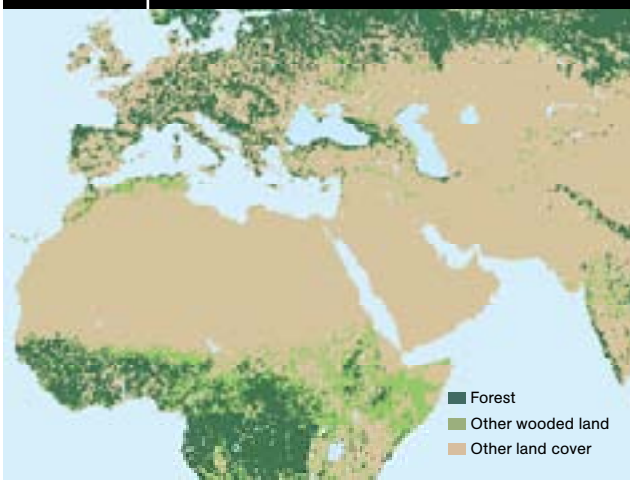
The countries in Northern Africa are also included in the chapter on Africa. Hence, the totals found in the regional tables throughout this report should not be summed, as it would result in double counting. Global statistics can be found in the tables in the annex of this report or in the main report of FRA 2005 (FAO, 2006a).

EXTENT OF FOREST RESOURCES

The extent of forest resources in the Near East is very low. The estimated forest area for the region in FRA 2005 was 120 million hectares, about 3 percent of the world's forest area (Figure 45 and Table 26). In contrast, the Near East has 15 percent of the world's land area. Forests cover about 6 percent of the land area in the Near East, compared with 30 percent globally. Of the 31 countries included in this report, seven have forest cover exceeding 10 percent of the total land area: Armenia, Azerbaijan, Cyprus, Georgia, Lebanon, the Sudan and Turkey. The remaining 24 countries are considered to have low forest cover (less than 10 percent of the land area).

The world lost about 3 percent of its forest area from 1990 to 2005. In Central and Western Asia, forest area is essentially stable – it is declining slightly in some countries and increasing slightly in others, with the exception of Afghanistan, where it is declining rapidly (Figure 46).

FIGURE 45 Extent of forest resources



SOURCE: FAO, 2001a.

FIGURE 46 Forest change rates by country or reporting area, 2000–2005

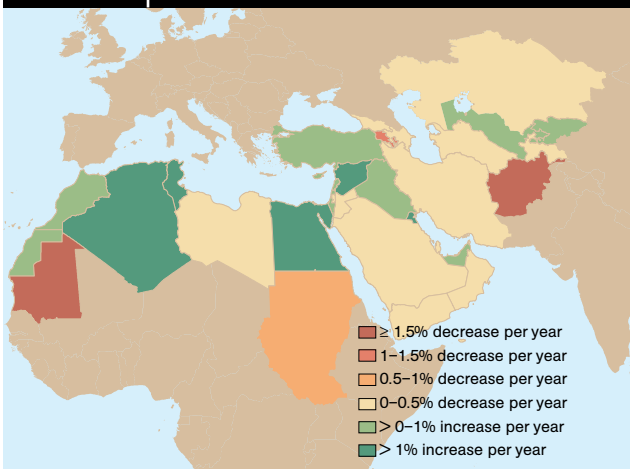


TABLE 26

Extent and change of forest area

Subregion	Area (1 000 ha)			Annual change (1 000 ha)		Annual change rate (%)	
	1990	2000	2005	1990–2000	2000–2005	1990–2000	2000–2005
Northern Africa	84 790	79 526	76 805	–526	–544	–0.64	–0.69
Central Asia	15 880	15 973	16 017	9	9	0.06	0.06
Western Asia	27 295	27 546	27 570	25	5	0.09	0.02
Total Near East	**127 966**	**123 045**	**120 393**	**–492**	**–530**	**–0.39**	**–0.43**
World	**4 077 291**	**3 988 610**	**3 952 025**	**–8 868**	**–7 317**	**–0.22**	**–0.18**

TABLE 27
Area of forest plantations

Subregion	Area (1 000 ha)			Annual change (1 000 ha)	
	1990	2000	2005	1990–2000	2000–2005
Northern Africa	7 696	7 513	7 503	–18	–2
Central Asia	1 274	1 323	1 193	5	–26
Western Asia	3 022	3 623	3 895	60	55
Total Near East	**11 991**	**12 460**	**12 591**	**47**	**26**
World	**101 234**	**125 525**	**139 466**	**2 424**	**2 788**

Algeria, Egypt, Morocco and Tunisia all experienced an increase in forest area in recent years as a result of increased forest plantations. However, the Sudan lost almost 12 percent of its forest area from 1990 to 2005. It remains the most forested country in the region, but this could change if actions are not taken to reverse the high rate of deforestation.

The total area of other wooded land is roughly equal to that of forest land area. However, data for other wooded land are incomplete, with several of the larger countries, including the Sudan, not having produced estimates for 2005.

Globally, forest plantations account for about 4 percent of total forest area. In the region, forest plantations account for about 10.5 percent of forest area (Table 27). Forest plantations play a particularly important role in several countries with low forest cover – for example in Kuwait, Oman and the United Arab Emirates, 100 percent of the forest area is made up of forest plantations.

In short, as might be expected in one of the world's driest regions, the Near East is dominated by countries with low forest cover, with about 80 percent having less than 10 percent cover. The global average is five times the average in the Near East. In such conditions, forests and trees outside forests play important ecological, social and economic roles. Forest plantations are also very important in the region and continue to expand, particularly in Western Asia.

BIOLOGICAL DIVERSITY

The area of primary forests is fairly stable in Central and Western Asia, but is steadily declining in Northern Africa. As with forest area as a whole, the largest losses are taking place in the Sudan.

Although forest area designated primarily for conservation has increased slightly in the past five years, the area has been fairly stable since 1990 (Table 28). In contrast, this parameter has been increasing on a fairly regular basis in most other regions and in the world as a whole.

Other indicators of biological diversity include the number of tree species per country (Figure 47) and the number of species considered to be endangered or vulnerable. Based on the information available, there is no evidence that forest biological diversity is either substantially decreasing or increasing in the region.

FIGURE 47 Number of native tree species

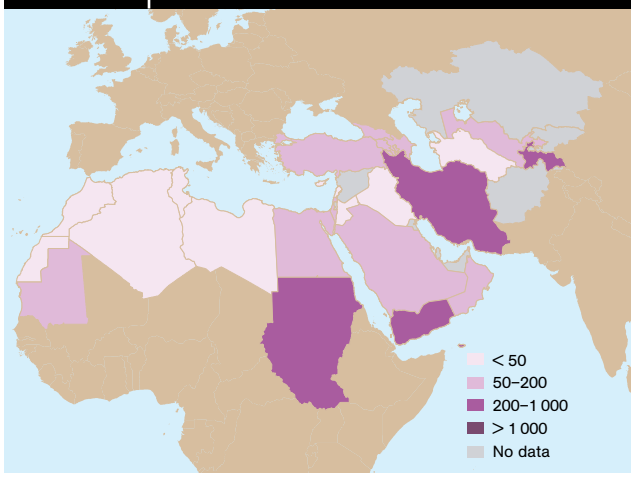


TABLE 28
Area of forest designated primarily for conservation

Subregion	Area (1 000 ha)			Annual change (1 000 ha)	
	1990	2000	2005	1990–2000	2000–2005
Northern Africa	9 773	9 051	8 687	–72	–73
Central Asia	856	1 095	1 663	24	114
Western Asia	888	1 031	1 098	14	13
Total Near East	**11 516**	**11 176**	**11 448**	**–34**	**54**
World	**298 424**	**361 092**	**394 283**	**6 267**	**6 638**

TABLE 29
Forest fires in selected countries

	Average annual number of fires	Average annual area burned *(ha)*	Time period for available data
Algeria	1 739	54 797	1991–2000
Cyprus	156	1 955	1995–2004
Islamic Republic of Iran	–	6 500	1998–2002
Kazakhstan	–	179 000	1998–2002
Morocco	315	3 340	1990–1999
Turkey	2 306	12 069	1988–2004

FOREST HEALTH AND VITALITY

In Central Asia, fire accounts for about 50 percent of the area disturbed, whereas in Northern Africa and Western Asia, it accounts for about 10 percent or less. All disturbances are poorly reported for Northern Africa.

Fire and insect pests are the greatest threat to forest health in the region. However, the data are not highly reliable, as most countries do not maintain good records on forest disturbances.

Over the past few years, some severe dieback and decline phenomena have been affecting mainly junipers and cedars, which serve both productive and protective functions. The multiplicity of interrelated causes is being examined, and there is interest in establishing a regional information exchange network.

Examples of decline include *Juniperus procera* in the Asir highlands, Saudi Arabia; *Cedrus atlantica* in Algeria and Morocco, representing the world's genetic base for Atlantic cedars; *Cedrus libani* in Lebanon; *Juniperus phoenicea* in the Libyan Arab Jamahiriya; and *Juniperus polycarpus* in Kyrgyzstan and Oman.

In Lebanon, *Cedrus libani* was under serious threat from repeated defoliations caused by a new pest, the cedar web-spinning sawfly, *Cephalcia tannourinensis*. Fortunately, concerted efforts in management reduced the risk to local trees and gene stock and prevented transboundary spread.

Woody invasive species are also causing some concern in the region, such as mesquite (*Prosopis* spp.) in Oman, the Sudan and Yemen.

Near Eastern countries established an agreement to create the Near East Plant Protection Organization in 1993. The agreement has been ratified by eight countries (most recently the Syrian Arab Republic in July 2005), but two more ratifications are required for it to enter into force.

Forest fires also have a serious impact on forest health in a number of countries in the region. Data were available for six countries (Table 29) (FAO, 2006d).

In recent years, community-based fire management programmes have been developed that emphasize a broad approach to fire prevention and control. For example, an integrated fire management project with financial support from Italy is under way in the coastal areas of the Syrian Arab Republic. It aims to restore degraded coastal ecosystems through participatory approaches to fire management.

An effective response requires good information about forest resources; access to science and expertise to address the more serious threats; and a commitment to take effective action to counter the threats, including the commitment of financial and human resources.

PRODUCTIVE FUNCTIONS OF FOREST RESOURCES

Some 36 percent of the forest area in the Near East is designated primarily for production, similar to the global average of 34 percent. However, there is a downward trend in forest area so designated, both in the region and in the world as a whole (Table 30).

TABLE 30
Area of forest designated primarily for production

Subregion	Area *(1 000 ha)*			Annual change *(1 000 ha)*	
	1990	2000	2005	1990–2000	2000–2005
Northern Africa	35 067	32 899	31 331	–217	–313
Central Asia	27	28	28	n.s.	0
Western Asia	9 539	9 563	9 513	2	–10
Total Near East	**44 633**	**42 490**	**40 872**	**–214**	**–323**
World	**1 324 549**	**1 281 612**	**1 256 266**	**–4 294**	**–5 069**

NOTE: n.s. = not significant

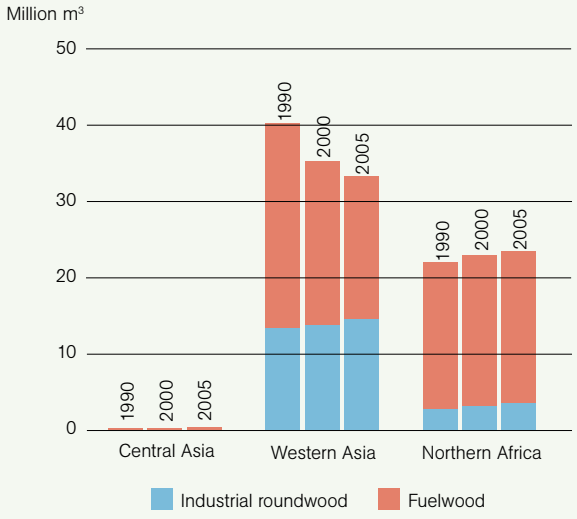
TABLE 31
Growing stock

Subregion	Growing stock					
	(million m³)			*(m³/ha)*		
	1990	2000	2005	1990	2000	2005
Northern Africa	1 436	1 409	1 390	17	18	18
Central Asia	1 004	1 041	1 061	63	65	66
Western Asia	1 959	2 069	2 111	72	75	77
Total Near East	**4 399**	**4 520**	**4 562**	**34**	**37**	**38**
World	**445 252**	**439 000**	**434 219**	**109**	**110**	**110**

Forest management for industrial wood production is limited to a few countries in the region, for example the Islamic Republic of Iran, the Sudan and Turkey. There is a history of wood production in Cyprus, but the emphasis in recent years has been to set aside forests for recreational purposes.

Growing stock in the region is increasing (Table 31). However, in the Near East it only represents about 1 percent of the global total, compared with 3 percent of the forest area. A relatively low growing stock per hectare is characteristic of arid and semi-arid forest ecosystems.

FIGURE 48 Wood removals



Throughout the region, fuelwood is the major source of energy in rural households, where it is used for heating and cooking. About two-thirds of the wood in the Near East is used for fuel, compared with a global average of 40 percent (Figure 48). However, as fossil fuel prices rise, it can be anticipated that fuelwood use will increase in all parts of the world.

PROTECTIVE FUNCTIONS OF FOREST RESOURCES

The trend in area of forest designated primarily for protective functions is positive (Table 32). This is an indication that governments recognize the importance of

FIGURE 49 Designated primary functions of forests, 2005

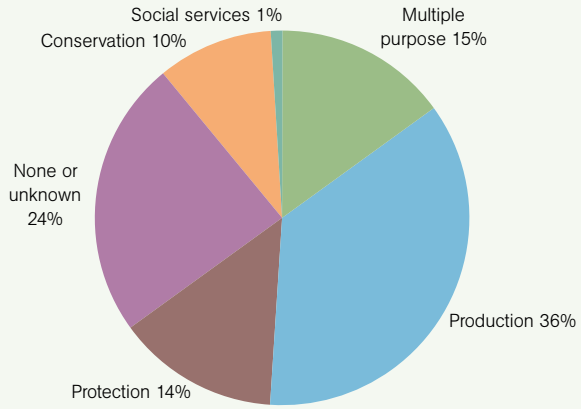


TABLE 32
Area of forest designated primarily for protection

Subregion	Area *(1 000 ha)*			Annual change *(1 000 ha)*	
	1990	2000	2005	1990–2000	2000–2005
Northern Africa	3 645	3 819	3 861	17	8
Central Asia	10 328	10 958	10 962	63	1
Western Asia	1 751	1 974	2 085	22	22
Total Near East	**15 724**	**16 752**	**16 908**	**103**	**31**
World	**296 598**	**335 541**	**347 217**	**3 894**	**2 335**

the protective functions of forests and trees, for example in combating desertification. The area designated for protective functions in 2005 was about 14 percent of total forest area, compared with a global average of about 8 percent. However, not all countries use this designation, and some protective functions may be included under "multiple purpose" (Figure 49).

About 35 percent of forest plantations were designated primarily for protection, compared with a global average of about 20 percent.

SOCIO-ECONOMIC FUNCTIONS

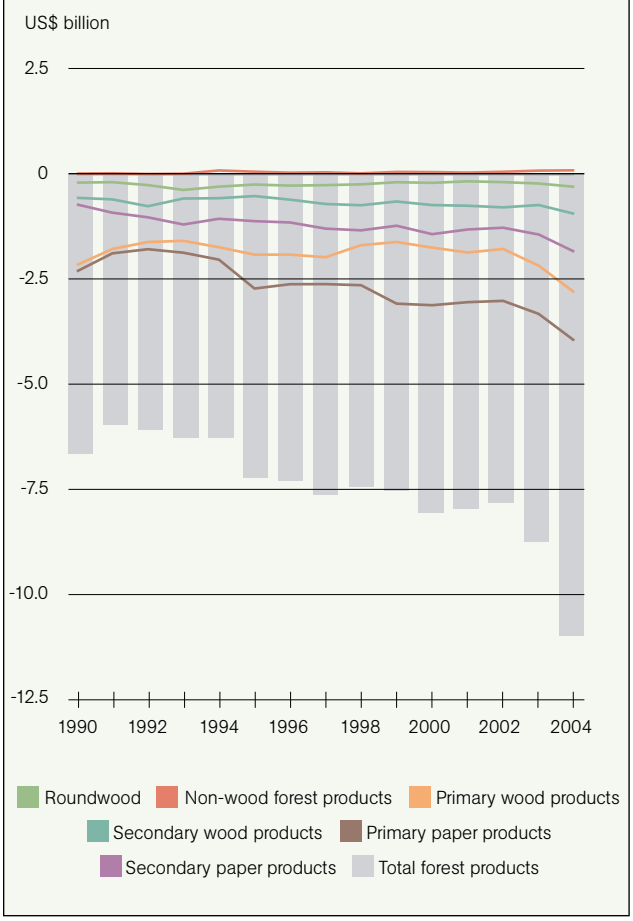
The value added by the forest sector in one year in the Near East is about US$5 billion.

The value added of the forest sector in the Near East was somewhat volatile during the 1990s, peaking in 1995 (Figure 50). The percentage contribution of the forest sector to the overall regional economy is declining steadily, owing in large part to overall economic growth in the region: other key sectors are growing, particularly oil, while the forest sector is relatively stable.

The value of imported forest products is almost five times the value of exports. Forest products account for a declining percentage of the total value of all goods traded, both in the region and globally. The value of forest products traded has risen substantially, but the value of goods traded in other sectors has risen even more dramatically.

The highest-value forest products imported into the region are primary paper products and primary wood products, such as plywood, lumber and particle board, followed by secondary products such as furniture and other products manufactured from wood (Figure 51). This is a positive sign, because it indicates that a significant share of the manufacturing of secondary products is taking place within the region, thus creating income and employment.

FIGURE 51 Trends in net trade of forest products by subsector



NOTE: A positive value indicates net export. A negative value indicates net import.

FIGURE 50 Trends in value added in the forest sector, 1990–2000

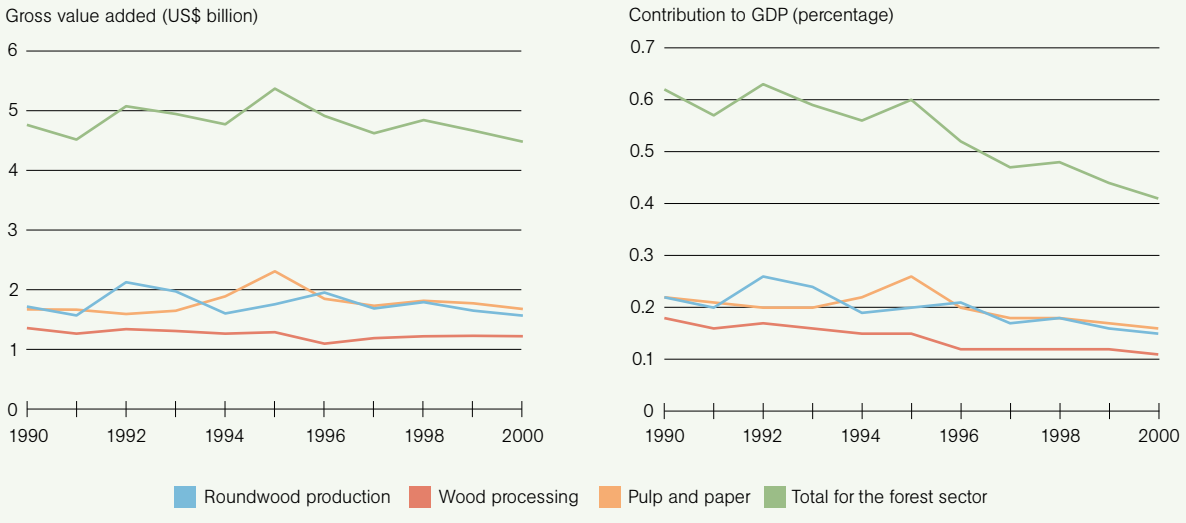
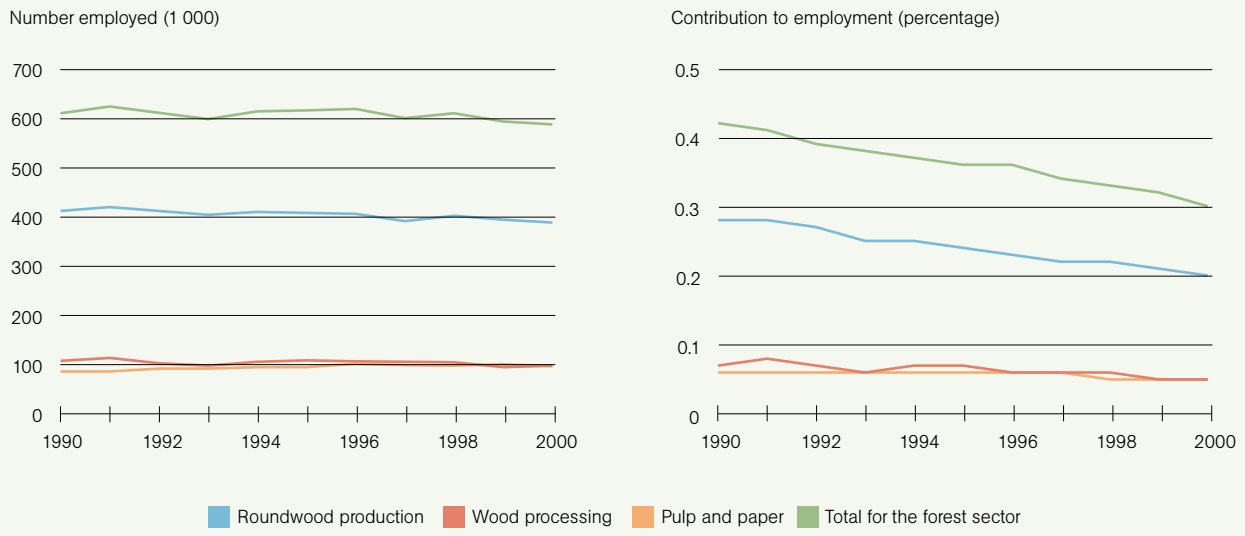


FIGURE 52 Employment in the formal forest sector



Although employment in the forest sector remained fairly stable throughout the 1990s, the share of forest-sector employment in total employment in the region declined from about 0.4 to 0.3 percent (Figure 52). As with data for wood removals and value added the employment data indicate that forestry is a relatively flat industry, while other key sectors are growing.

It is important to recall that many of the most important functions of forests are not valued in the marketplace. The NWFPs and fuelwood that are gathered and used but not sold in the market are also not fully reflected in official economic statistics. Thus the data in this section only provide a partial basis for assessing the socio-economic importance of forests. This is a dilemma of forestry in the Near East and other regions.

LEGAL, POLICY AND INSTITUTIONAL FRAMEWORK

There are considerable differences in the evolution of forests and forestry among different countries in the region, depending on the individual histories and development trajectories (FAO, 2006h).

Prior to the break-up of the Union of Soviet Socialist Republics, countries in Central Asia shared common histories and policies but, in the past 15 years, they have had different patterns of development. The forest sector has been adversely affected because of a decline in an affordable and accessible energy supply, a reduction in timber availability and a reduction in human and financial resources. These changes have had a generally negative impact on forests. However, some economies have subsequently begun to develop rapidly as countries have learned to adapt to more open economies and political processes.

Countries in the Near East are heavily influenced by the external political and economic environment. Because of its dominant role in global energy supply, the Near East is more affected by external global forces than are most other regions of the world.

A number of countries have demonstrated political commitment to forests over the past 15 years. Among those that have enacted new forest policies or laws are Morocco, Saudi Arabia, the Sudan, the Syrian Arab Republic, Tunisia, Turkey and Uzbekistan (FAO, 2006e). Countries with forestry educational institutions include Algeria, Cyprus, Egypt, the Islamic Republic of Iran, Iraq, Morocco, Saudi Arabia, the Sudan, the Syrian Arab Republic and Turkey.

Responsibility for forest management has been transferred to the environment ministry in many countries, reflecting a growing recognition of the potential role of forests in meeting environmental objectives and perhaps a declining role for their productive functions. A problem in a number of countries is a lack of clarity regarding the responsibilities of different institutions for forest and rangeland management. Competition among ministries and agencies reduces the effectiveness of forest management in some countries.

SUMMARY OF PROGRESS TOWARDS SUSTAINABLE FOREST MANAGEMENT

Progress is being made in a number of areas. In many countries in the region, forest cover is stable and deforestation is not a big problem. Leaders throughout the region have recognized the importance of forests, and most countries have taken steps to expand and protect forests through laws, policies and programmes.

It is not surprising that the countries having the most difficulty managing their forests and controlling deforestation are those experiencing conflict, including Afghanistan, Iraq and the Sudan.

A key limiting factor for countries striving to improve the management of their forests is the absence of adequate resources. Most forest resources are publicly owned, but either public resources are increasingly scarce or the allocated share of the public budget is inadequate. The forest sector must do a better job of making the benefits of forests known to political decision-makers, as well as promoting sustainable private-sector investment in forests.

Some countries in other regions have been successful in using incentives for good forest management, as well as experimenting with payments for environmental services. The potential of this approach in the Near East has yet to be fully explored.

Despite the problems and limitations faced by countries in the Near East, experience has shown that progress can be and is being made through effective strategies for mobilizing knowledge and resources.