### 8 SUMMARY OF MAIN FOREST ISSUES IN WEST ASIA

### Low forest cover and low productivity

Forest cover in most countries in West Asia is very limited, and 12 of the 15 countries in the subregion are classified as low forest-cover countries. The total forest area accounts for only 4 percent of the subregion's land area, corresponding to an average of 0.12 ha per capita. More seriously, the forest area is unevenly distributed, with Turkey and Iran accounting for 73 percent of total forests. However, West Asia countries have an average of 7 percent of their land classified as other wooded land and 42 percent as pastures with sparse trees. In view of the severe climatic conditions, growing stock and wood productivity are extremely low in most countries, not only resulting in very limited timber production, but also making it hard to re-establish forest vegetation once it has been destroyed.

### Land degradation and desertification: the most critical challenges

Land degradation and desertification are widespread and are the most crucial challenges facing West Asian countries. Apart from extreme climatic conditions, land degradation and desertification are mainly caused by human intervention regarding land use and the poor management of agricultural land and rangelands. The direct causes of land degradation and desertification are:

- excessive use of irrigation water for crops, resulting in rising groundwater tables, with soil salinization and sodization problems;
- overgrazing of livestock such as camels, sheep, goats and cattle;
- uncontrolled fires in forests and on other land, caused especially by such human activities as agriculture;
- illegal and excessive fuelwood collection and charcoal production;
- conversion of forests, rangelands and croplands for unplanned urban expansion and infrastructure development;
- conversion of forests, rangelands and croplands for unplanned ecotourism development, including the construction of facilities;
- conversion of forests and rangelands to croplands;
- conflicts, resulting in the direct or indirect destruction or damage of forests.

### Increasing dependence on imports

West Asia's generally low forest cover and low forest productivity limit its production of industrial roundwood and wood products. Turkey dominates the production of all types of wood product. Driven by a rising demand, West Asia has shown increasing dependence on imports of wood products, especially paper and paperboard, wood-based panels and sawnwood, over the past twenty years. During the period 1995–2004, imports grew at a rate of 5.6 percent. In 2004, West Asia's total imports were valued at about US\$5.06 billion.

### Importance of biological diversity

The wide range of landforms, soils and climates in West Asia has resulted in a major variety in ecosystems, ranging from coastal mangroves to deserts and alpine forests. Mangrove ecosystems are unique and highly productive, and constitute a critical element in the hydrosphere on the coasts of the Red Sea and the Arabian Sea, while a unique cloud forest in

southern Oman has self-watering trees. West Asia has suffered a substantial loss of biodiversity and the degradation of vegetation on account of human intervention, although there is a lack of quantitative information.

# Afforestation and reforestation: the main forestry activities, primarily for protective purposes

Environmental improvement is a major objective of reforestation and afforestation programmes in most of the countries. Reforestation is carried out in degraded natural forest areas to restore the biodiversity and other ecological functions of natural forests, or in cleared forest areas to rehabilitate vegetation and restore the landscape. Afforestation is carried out in barren areas for sand-dune fixation or shelterbelt establishment. However, as the main producers of wood products in the subregion, Turkey and Iran have established a certain number of plantations for wood production. West Asia had a total of 3.8 million ha of forest plantations in 2005, representing only 2.7 percent of the world total. The dry climate and sandy soil hamper any significant progress in increasing the scale of reforestation and afforestation.

### Agroforestry: widespread in most West Asian countries

Agroforestry, mostly managed by private farmers, is practised fairly widely in many countries in the subregion, although information is sketchy. Its main form is as green shelterbelts to protect crops from desiccating winds and as fruit orchards to produce fruit and provide environmental services. Agroforestry also contributes significantly to domestic wood supplies, especially in Turkey and Iran. Afforestation and reforestation on rangelands is carried out in Jordan and Oman to rehabilitate rangeland ecosystems and increase their productivity.

### Urban forestry receiving considerable attention

With the process of urbanization, urban forestry has received increasing attention in many countries. Urban and peri-urban forests are playing an important role in protecting cities from sand and dust storms and for recreational and other amenities. City parks and gardens have been established at high expense to enhance major urban centres, especially in the Gulf countries. Most urban and peri-urban forests in West Asia need heavy irrigation, especially in the early stages. In view of the scarcity of fresh water, the use of treated waste water has been developed in some countries to irrigate forest plantations and greenbelts.

### **Ecotourism: potential**

Increased attention is being given to the development of forest-based ecotourism in many countries in the subregion, combined with increasing stress on managing protected areas and national parks. This development is being driven by the overall trend toward development of the tourism sector in many West Asian countries. While the scope for wood production is limited, recreational use could be an important alternative for enhancing the economic viability of forest management. Ecotourism can also help to conserve natural resources, provide employment and develop the rural economy. It is considered to have great potential in many countries.

### Woodfuel and NWFPs: essential to rural livelihoods

Fuelwood and charcoal are mainly used by rural people for cooking and heating, but the extent of reliance on them varies considerably; for example, they are crucial for household energy needs in Afghanistan and Yemen. Fuelwood consumption has decreased over the past 25 years, while charcoal consumption has increased for the subregion as a whole. This trend is a result of increased incomes, ongoing urbanization and access to petroleum and natural gas in many countries. NWFPs are another important source of livelihoods and income in West Asian countries, with the production of such items as pine nuts, carob molasses, natural honey, and medicinal and aromatic plants.

### Need for integrated management of forests and trees

In view of the multiple functions performed by forests and trees, and especially the very low forest cover and large areas covered by scattered trees in most countries in West Asia, forests cannot exist as a distinct sector, but forestry concerns should be addressed in conjunction with other land uses, especially agriculture and range management. Although current forest policy and management are part of agricultural or rangeland policy or management in most countries in West Asia, forest issues tend to be handled on a case-by-case basis, rather than in a comprehensive manner.

### Poor information and weak institutional capacity

The state of information on forests and forestry is very poor in West Asia. Many countries have been unable to provide recent information on the area under forests and other wooded land, the condition of forests, growing stock, etc. The situation is similar with regard to the production, consumption and trade of forest products, and also to the environment. Many countries do not have remote sensing equipment for forests and carry out no forest resource surveys. The lack of forest specialists and the lack of capacity for strategic planning and policy formulation are common weaknesses in many forestry departments in the subregion.

### Weak policy and legislative framework

Forest policies and legislative frameworks are not in general comprehensive and systematic, since forest issues have been addressed within agricultural or environmental policies and laws in many countries. Only very specific forest issues, such as limitations on fuelwood collection, the promotion of certain NWFPs, the protection of mangroves, incentives for afforestation and reforestation, and the establishment of protected areas are addressed largely from legal perspective. Planning, management and development concerns seldom receive the attention they deserve. Many countries therefore lack any comprehensive development strategy for the forest sector. In addition, decentralization and public participation in forest planning and management decision-making have not yet been reflected in the legislation of many countries. In many countries, the lack of a coherent policy framework, appropriate, complementary legislation and a well-defined institutional structure are recognized as the most important factors leading to forest degradation.

### Centralized public management systems and limited private-sector participation

The administration and management of the forest sector in most West Asian countries highly centralised with a top-down approach to planning and decision-making processes, although the extent of this situation in the various countries differs. The centralized management system has resulted in the weakness and ineffectiveness of local institutions and the lack of participation on the part of local people and other stakeholders. The private sector's involvement in forest management in West Asia is very limited, largely because of the predominantly public ownership of forests and the limited commercial viability of forestry on account of the unfavourable growing conditions.

### NGOs and rural communities: growing importance

NGOs are active in several countries in West Asia. Local NGOs are mainly supported by international NGOs, national governments and individuals. The main spheres of action of NGOs in West Asia have been in raising public awareness concerning environmental and forest issues, conserving and managing forest and wildlife protected areas, supplementing or undertaking development tasks on behalf of government organizations and implementing afforestation and reforestation activities or projects. The formal involvement of community organizations in resource management is still in its very early stages and initiatives to involve local communities in the management of forest and tree resources are only limited. There is also growing recognition of the role of local communities in decision-making relating to forests and woodlands. Overall, the participation of NGOs and rural communities in forest management and activities is increasing in West Asia, driven by growing concern for environmental protection and rural development.

ANNEX 1 DEMOGRAPHIC OVERVIEW OF WEST ASIA IN 2004

Country	Total population (millions)	Population growth (%)	Urban population (% of total)	0-14 (% of total)	15-64 (% of total)	64 and above (% of total)
Afghanistan	28.6*	••	24			
Bahrain	0.7	1.4	90	27.5	69.6	3
Cyprus	0.8	1.2	69	20.4	67.7	11.9
Iran	67	0.9	67	29.8	65.7	4.5
Iraq	28.1*		67			
Jordan	5.4	2.5	79	37.6	59.3	3.1
Kuwait	2.5	2.6	96	24.5	73.8	1.7
Lebanon	3.5	1	88	29.1	63.6	7.3
Oman	2.5	0.9	78	34.9	62.7	2.5
Qatar	0.8	5.8	92	22.3	76.5	1.3
Saudi Arabia	24	2.6	88	37.8	59.4	2.9
Syria	18.6	2.5	50	37.4	59.5	3.1
Turkey	71.7	1.4	67	29.5	65.1	5.4
United Arab Emirates	4.3	6.7	85	22.4	76.5	1.1
Yemen	20.3	3.1	26	28.5	64.2	7.3
West Asia	278.8					

Source: World Development Indicators database.

<sup>\*</sup> Country outlook reports.

ANNEX 2 ECONOMIC OVERVIEW OF WEST ASIA IN 2004

Country	GDP (current US\$) millions	GDP growth (annual %)	GDP per capita (constant 2000 US\$)	Agriculture, value added (% of GDP)	Industry, value added (% of GDP)	Services, value added (% of GDP)
Afghanistan	5 761	8				
Bahrain	11 012	5	13 852			
Cyprus	15 418	4	12 439			
Iran	163 445	6	1 885	10.8	41.5	47.7
Iraq		47				
Jordan	11 515	8	1 940	2.8	28.9	68.4
Kuwait	55 718	7	17 674			
Lebanon	21 768	6	5 606	6.9	20.8	72.3
Oman	24 284	3	8 961	1.9	56	42.1
Qatar						
Saudi Arabia	250 557	5	8 974	4	58.9	37.2
Syria	24 022	2	1 115	23	27.2	49.8
Turkey	302 786	9	3 197	12.9	22.4	64.7
United Arab Emirates	104 204	8	22 173	2.7	55.1	42.2
Yemen	12 834	3	534	13.8	37.5	48.7
West Asia	1 003 324					

Source: World Development Indicators database

ANNEX 3 LAND USE OVERVIEW OF WEST ASIA IN 2003

Country	Land area*	Arable	land	Perma Pastı		Forests woodla	
	1000 ha	1000 ha	%	1000 ha	%	1000 ha	%
Afghanistan	65 209	7 910	12.1	30 000	46.0	867	1.3
Bahrain	71	2	2.8	4	5.6	0	0.0
Cyprus	924	100	10.8	4	0.4	388	42.0
Iran	163 620	16 117	9.9	44 000	26.9	16 415	10.0
Iraq	43 737	5 750	13.1	4 000	9.1	1 749	4.0
Jordan	8 824	295	3.3	742	8.4	135	1.5
Kuwait	1 782	15	0.8	136	7.6	6	0.3
Lebanon	1 023	170	16.6	16	1.6	242	23.7
Oman	30 950	37	0.1	1 000	3.2	1 305	4.2
Qatar	1 100	18	1.6	50	4.5	0	0.0
Saudi Arabia	214 969	3 600	1.7	170 000	79.1	36 883	17.2
Syria	18 378	4 593	25.0	8 338	45.4	496	2.7
Turkey	76 963	23 358	30.3	13 167	17.1	20 864	27.1
<b>United Arab Emirates</b>	8 360	64	0.8	305	3.6	316	3.8
Yemen	52 797	1 537	2.9	16 065	30.4	1 955	3.7
West Asia	688 707	63 566	9.2	287 827	41.8	81 621	11.9

Source: FAOSTAT, 2006

<sup>\*</sup> excluding inland water

ANNEX 4 ESTIMATED MANGROVE AREA IN WEST ASIA

Country	Mangrove area (ha)	Reference year
Bahrain	100	1992
Iran	20 700	1994
Kuwait	2	2000
Oman	2 000	1992
Qatar	500	1992
Saudi Arabia	20 400	1985
United Arab Emirates	4 000	1999
Yemen	927	1993
West Asia	48 629	

Source: Status and trends in mangrove area extent worldwide, FRA 2000 working paper 63, FAO, 2003.

EXTENT OF FORESTS AND OTHER WOODED LAND IN 2005 **ANNEX 5** 

								-				
	_	Forest (:	Forest (1000 ha)		Pla B	nted fore	Planted forests (1000 ha)	ha)	Other \	Other wooded land (1000 ha)	and (10	00 ha)
Country	1990	2000	2005	% of land area (2005)	1990	2000	2005	% of forests (2005)	1990	2000	2005	% of land area (2005)
Afghanistan	1 309	1 015	298	1	1	ı	ı	1	ı	•	,	,
Bahrain	n.s.	n.s.	n.s.	9.0	n.s.	n.s.	n.s.	100	0	0	0	0.0
Cyprus	161	173	174	18.9	က	က	2	2.9	•	214	214	23.1
Iran	11 075	11 075	11 075	8.9	616	616	616	5.6	5 340	5 340	5 340	3.2
Iraq	804	818	822	1.9	15	15	13	1.6	1 245	1 033	927	2.1
Jordan	83	83	83	6.0	40	40	40	47.6	55	54	52	9.0
Kuwait	က	2	9	0.3	က	2	9	100	0	0	0	0.0
Lebanon	121	131	136	13.3	•	•	80	5.7	•	117	106	10.2
Oman	8	2	2	n.s.	2	2	2	100	1 303	1 303	1 303	6.1
Qatar	n.s.	n.s.	n.s.	n.s.	•	•	•	•	n.s.	n.s.	n.s.	n.s.
Saudi Arabia	2 728	2 728	2 728	1.3	•	•	•	•	34 155	34 155	34 155	15.9
Syria	372	432	461	2.5	175	234	264	57.3	35	35	35	0.2
Turkey	089 6	10 052	10 175	13.2	1 839	2 304	2 537	24.9	10 905	10 728	10 689	13.8
United Arab Emirates	245	310	312	3.7	245	310	312	100	4	4	4	0.0
Yemen	549	549	549	~	•	•	•	•	1 406	1 406	1 406	2.7
West Asia	27 132	27 373	27 390		2 938	3 529	3 803		54 448	54 389	54 231	
Source: FRA 2005, FAO.												

ANNEX 6 CHARACTERISTICS OF FORESTS

Country	Total area	Primary	Modified natural	Semi- natural	Productive plantation	Protective plantation	Forest growing
•	1000 ha	1000 ha	1000 ha	1000 ha	1000 ha	1000 ha	stock (m³/ha)
Afghanistan	867	-	867	-	-	-	16
Bahrain	n.s.	-	-	-	-	n.s.	-
Cyprus	174	22	111	36	0	5	46
Iran	11 075	200	10 031	228	616	-	48
Iraq	822	0	809	0	0	13	-
Jordan	83	0	37	6	0	40	30
Kuwait	6	-	-	-	-	6	-
Lebanon	136	0	129	0	8	0	36
Oman	2	-	-	-	-	2	-
Qatar	n.s.	-	-	-	-	-	-
Saudi Arabia	2 728	-	2 728	-	-	-	8
Syria	461	-	198	-	-	264	-
Turkey	10 175	975	5 925	738	1 916	621	138
United Arab Emirates	312	0	0	0	0	312	49
Yemen	549	-	161	388	-	-	9
West Asia	27 390	1 197	20 996	1 396	2 540	1 263	
Source: FRA 2005 FAO							

Source: FRA 2005, FAO

### ANNEX 7 EXTRACTION OF WOOD PRODUCTS

	1990	2000		200	5	
Country	Total	Total	Total	Industrial roundwood	Woodfuel	% of growing
	1000 m³ o.b.	1000 m³ o.b.	1000 m³ o.b.	1000 m³ o.b.	1000 m³ o.b.	stock
Afghanistan	2 391	1 033	863	170	693	6.4
Bahrain	-	-	-	-	-	-
Cyprus	56	28	13	9	4	0.2
Iran	1 681	2 105	2 468	2 448	20	0.5
Iraq	0	9	0	0	0	-
Jordan	6	10	12	3	9	0.5
Kuwait	-	-	-	-	-	-
Lebanon	0	0	0	0	-	0.0
Oman	-	-	-	-	-	-
Qatar	-	-	-	-	-	-
Saudi Arabia	35	46	0	0	0	0.0
Syria	6	5	-	-	-	-
Turkey	36 104	32 024	29 983	11 836	18 147	2.1
<b>United Arab Emirates</b>	0	0	0	0	0	0.0
Yemen	-	-	-	-	-	-
West Asia	40 279	35 260		14 466	18 873	
Source EDA 200E EAO						

Source: FRA 2005, FAO.

ANNEX 8 OWNERSHIP OF FORESTS AND OTHER WOODED LAND

		For	est		C	ther woo	ded land	
Country	Total	Public	Private	Other	Total	Public	Private	Other
	1000 ha	%	%	%	1000 ha	%	%	%
Afghanistan	1 015	100	0	0	-	-	-	-
Bahrain	n.s.	100	0	0	0	-	-	-
Cyprus	173	61.2	38.8	0	214	23.7	76.3	0.0
Iran	11 075	100	0	0	5 340	100.0	0.0	0.0
Iraq	818	100	0	0	1 033	0.0	0.0	100.0
Jordan	83	85.5	0	14.5	54	55.6	22.2	22.2
Kuwait	5	100	0	0	0	-	-	-
Lebanon	131	38.2	60.3	1.5	117	13.7	79.9	6.4
Oman	2	-	-	100.0	1 303	100.0	-	-
Qatar	1	100	0	0	0	-	-	-
Saudi Arabia	2 728	99.3	0.7	0	34 155	99.6	0.4	0.0
Syria	432	100	-	-	35	100.0	-	-
Turkey	10 052	99.9	0.1	0	10 728	100.0	n.s.	0.0
<b>United Arab Emirates</b>	310	100	0	0	4	100.0	0.0	0.0
Yemen	549	5	80	15.0	1 406	5.0	80.0	15.0
Source: FRA 2005 FAO								

Source: FRA 2005, FAO.

MAIN SUPPLIERS OF WOOD-BASED FOREST PRODUCTS TO WEST ASIA IN 2004 **ANNEX 9** 

Total forest products	products	U,	Sawnwood			Plywood		Pa	Particle board		ш	Fibreboard		Papel	Paper & paperboard	ard
Supplier	Value: 1000 US\$	Supplier	Value: 1000 US\$	Quantity:	Supplier	Value: 1000 US\$	Quantity:	Supplier	Value: 1000 US\$	Quantity:	Supplier	Value: 1000 US\$	Quantity:	Supplier	Value: 1000 US\$	Quantity: tonnes
Germany	513 273	Romania	1 787 736	185 391	Indonesia	372 637*	143 552	Bulgaria	120 392	22 813	Romania	505 922*	70 756	Germany	403 479*	429 621
Russian Fed	469 041	Russian Fed	1 409 485	168 870	China	49 704	16 128	Turkey	85376*	19 597	Italy	477 592*	906 902	Finland	471 106*	313 394
Finland	385 025	Chile	430 274	76 442	Finland	18 153*	14 082	Greece	87 328	16 052	China	494 624*	60 155	Sweden	524 042*	265 482
Sweden	373 203	Canada	425 774	33 627	UAE	23 800	666 6	Italy	*70957*	12 484	Germany	127 453	50 290	Russian Fed	406 406*	197 998
Indonesia	359 058	NSA	223 351	37 832	Malaysia	30 017	8 131	Spain	60125*	9 780	Spain	334 360*	47 045	Italy	233 323*	190 009
NSA	330 404	Ukraine	171 854	7 488	Singapore	25 312	5 772	Romania	63267*	9 282	Turkey	206 773*	40 151	Indonesia	260 355*	173 981
Romania	306 220	Sweden	156 097	70 019	Russian Fed	9 366*	4 705	Germany	13784*	4 883	Poland	266 555*	37 438	Austria	237 070*	154 492
Italy	284 098	Austria	145 361	18 600	Jordan	11 512*	4 699	Austria	10919*	3 185	Switzerland	67 543*	25 702	France	161 324*	137 729
Austria	201 851	Germany	138 667	11 125	Romania	5 848*	2 549	Pakistan	8214*	2 557	Indonesia	155 945*	21 885	Netherlands	186 963*	120 638
Spain	160 006	Finland	95 445	29 087	Germany	2 521*	2 394	Indonesia	10 782	2 528	Malaysia	108 765	16 762	NSA	201 474*	113 794
France	156 795	Turkey	89 032	3 598	India	3 939	2 179	France	6385*	2 196	Brazil	123 183*	15 495	Korea Rep	166 024*	107 131
Canada	153 871	Italy	81 371	4 759	Italy	2 530*	1 971	Belgium	<b>1366</b> *	1 867	Luxembourg	30 049	12 807	Canada	196 841*	98 086
Netherlands	128 295	NAE	76 608	16 458	Pakistan	4 003*	1 802	Chile	4 882	1 046	UAE	48 569	9 921	Spain	126 986*	90 687
Korea Rep	110 247	Singapore	76 250	5 089	Unspecified	2 424*	1 686	Saudi Arabia	1897	915	¥	65 473*	689	Portugal	91 250*	59 671
China	103 283	Malaysia	54 262	23 507	Austria	3 288*	1 456	China	3469*	889	Russian Fed	57 559	8 416	¥	44 981*	56 883
Turkey	101 024	Saudi Arabia	41 712	1676	Turkey	2718*	1 437	Poland	2915*	968	Austria	11 336*	026 9	Belgium	105 684*	55 944
Brazil	97 501	India	41 646	4 441	Bulgaria	1 988*	1 378	Thailand	2 593	819	Argentina	£6 006*	6 447	Brazil	83 072*	44 431
Chile	82 824	Spain	25 625	1 498	Spain	1 274	1317	Malaysia	3 199	780	France	15 604*	6 260	Japan	42 800*	38 051
Belgium	73717	New Zealand	5 622	2 547	Thailand	1 583	1 245	Unspecified	915	293	Belgium	15 929*	2 680	Romania	*990 82	34 417
¥	71 733	Slovenia	5 394	1363	France	1 627*	1 096	India	925*	269	Portugal	27 629	4 449	India	45 640*	33 672
Ukraine	71 157	Cameroon	4 964	2 354	Sweden	2 494	647	Sweden	468*	497	Thailand	16 192	4 427	Turkey	34 135*	33 140
Source: UN Co	OMTRADE da	Source: UN COMTRADE database. * declared by partner.	red by partner.													

ANNEX 10 STATUS OF PROTECTED AREAS IN WEST ASIAN COUNTRIES

		77 to to 1		Ia to VI, no category	category		í	:
		category	Ia to VI	(M & T)	T)	Ia to VI (M & T)	(⊿ & ⊥)	Total land area*
Country	i otal sites	(M&T) sites	sites	Area (ha)	% of land area	Area (ha)	% of land area	1000 ha
Afghanistan	7	7	7	218 629	0.34	218 629	0.34	65 209
Bahrain	Z	4	2	000 9	8.45	850	1.20	71
Cyprus	19	19	10	91 982	9.94	78 232	8.46	925
Iran	152	152	129	11 463 764	96.9	11 001 430	6.67	164 820
Iraq	8	8	8	541	0.00	541	0.00	43 832
Jordan	36	36	12	973 403	10.91	917 300	10.28	8 921
Kuwait	7	7	5	59 700	3.35	27 250	1.53	1 782
Lebanon	24	24	2	7 818	0.75	4 000	0.38	1 040
Oman	9	9	9	2 982 840	14.04	2 982 840	14.04	21 246
Qatar	13	13	4	13 669	1.24	1 669	0.15	1 100
Saudi Arabia	81	81	78	82 643 217	38.44	82 365 945	38.32	214 969
Syria	28	28	0	358 348	1.94	0	00.00	18 518
Turkey	477	474	85	3 353 170	4.33	1 255 922	1.62	77 482
<b>United Arab Emirates</b>	19	19	2	455 866	5.45	40	00.00	8 360
Yemen	4	4	0	362 500	0.69	0	0.00	52 797
West Asia	988	882	350	102 991 447	15.12	98 854 648	14.51	681 072

\* FRA 2005, FAO.

Source: GEO 4 statistics: http://www.unep-wcmc.org/wdpa/

# ANNEX 11 RURAL DEVELOPMENT POLICIES OF SELECTED COUNTRIES IN WEST ASIA

Country	Programme/plan	Summary
Cyprus	Rural Development Plan 2004–2006	Within this plan, the Government provides finance for forest owners taking measures to protect and conserve their forests. The plan also provides grants to encourage public and private owners to restore burnt areas.
Turkey	8 <sup>th</sup> Five-Year Development Plan 2000–2005	The Government aims to help the rural economy by reducing pressure on forests. It also plans to reduce the proportion of the rural population and the share of agriculture in the national economy.
Iran	4 <sup>th</sup> Five-Year Development Plan 2005–2010 (in preparation)	The Government intends to integrate agricultural and rural development efforts into the goal of economic liberalization while maintaining an emphasis on equitable distribution.
Lebanon	Rural Development Programme	The programme provides assistance to small and medium-scale farmers, with a view to sustainable human development through start-up activities, including improvements in health, social services, education and income-generating non-agricultural activities.
Yemen	2 <sup>nd</sup> Five-Year Economic and Social Development Plan 2001–2005	The plan aims to confront the dual challenge of poverty and unemployment by encouraging investment to absorb the annual increase in the labour force, particularly focusing on labour-intensive activities such as agriculture, construction and small-scale manufacturing, by providing incentives to labour-intensive methods and technologies and encouraging their settlement in rural areas.

Source: FOWECA thematic study, Bashour 2005

# ANNEX 12 STATUS OF RATIFICATION OF INTERNATIONAL CONVENTIONS AND AGREEMENTS AS AT 2006

Country	UNCBD	UNFCCC	Kyoto Protocol	UNCCD	CITES	Ramsar Convention	World Heritage Convention
Afghanistan	*	*		*	*		*
Bahrain	*	*		*		*	*
Cyprus	*	*	*	*	*	*	*
Iran	*	*	*	*	*	*	*
Iraq							*
Jordan	*	*	*	*	*	*	*
Kuwait	*	*	*	*	*		*
Lebanon	*	*		*		*	*
Oman	*	*	*	*			*
Qatar	*	*	*	*	*		*
Saudi Arabia	*	*	*	*	*		*
Syria	*	*	*	*	*	*	*
Turkey	*	*		*	*	*	*
United Arab Emirates	*	*	*	*	*		*
Yemen	*	*	*	*	*		*

Source: State of the World's Forestry, FAO, 2005; websites of the various conventions

### **STATUS** POLICY, **ANNEX 13 OF NATIONAL FOREST** LEGISLATION AND INSTITUTIONAL FRAMEWORK

Country	National forest legislation	National forest policy <sup>5</sup>	National forest programme	National forest authority <sup>6</sup>
Afghanistan	*	x <sup>7</sup>		*
Bahrain				
Cyprus	*	*	*	*
Iran	*			*
Iraq	*			*
Jordan		х		*
Kuwait				
Lebanon	*			*
Oman				*
Qatar				*
Saudi Arabia	*			*
Syria	*	х		*
Turkey	*	*	*	*
United Arab Emirates				
Yemen				*

Country outlook reports, 2005 UNFF, UNCCD, UNCBD website Source:

FOWECA thematic study, Bashour 2005

 <sup>&</sup>lt;sup>5</sup> Refers to independent forest policy statement at national level.
 <sup>6</sup> Refers to authority responsible at central governmental level.
 <sup>7</sup> Refers to the policy that is in the process of formulation.

# ANNEX 14 GOVERNMENT/LOCAL AUTHORITIES RESPONSIBLE FOR OR CONCERNED WITH FORESTS

Country	Authorities responsible	Mandate of authorities responsible	Organization/capacity of authorities responsible	Other authorities concerned
Afghanistan	Department of Forestry and Rangeland, Ministry of Agriculture and Food	management, use, protection and regeneration of natural forests, forest plantations, rangelands, national parks and wildlife resources	<ul> <li>11 directorates in HQ</li> <li>1 office in each of 34 provinces</li> <li>196 technical staff</li> <li>1 215 administrative and support staff</li> <li>very limited budget</li> <li>very little access to training</li> <li>no survey or inventory of forest resources</li> </ul>	
Cyprus	Department of Forests, Ministry of Agriculture, Natural Resources and the Environment (MANRE)	administration of state forests     implementation of government forest policy     implementation of forest development plans     cooperation with the fire brigade regarding fire-fighting     collaboration with other government services and NGOs to implement the National Forest Programme and forest policy	719 staff:  25 professional foresters and university graduates  263 foresters and college graduates  158 permanent forest workers, skilled and semi-skilled  273 seasonal forest workers, skilled, semi-skilled and unskilled  the forestry budget has been steadily increased over the past 10 years; forestry has been cofinanced by the European Union and the national budget, with a total budget of US\$24.2 million in 2004	Environmental Service of MANRE     Department of Agriculture of MANRE     Wildlife and Game Service of the Ministry of the Interior     Town Planning Department of the Ministry of the Interior     Land and Survey Department of the Ministry of the Interior     Cyprus Tourism Organization of the Ministry of Commerce, Industry and Tourism     Police Fire Service of the Ministry of Justice and Public Order     Environmental Committee     Planning Bureau of the Ministry of Finance

Country	Authorities responsible	Mandate of authorities responsible	Organization/capacity of authorities responsible	Other authorities concerned
Iran	Forest, Rangeland and Watershed Management Organization, Ministry of Agricultural Jihad	establishment of guidelines, planning, implementation and monitoring of programmes for desertification control, forestry and rangeland management and development, and urban and periurban forestry     enforcement of policies, legislation and regulations pertaining to land use, forestry, conservation, rangeland management and desertification control	Departments include     Forest Management,     Afforestation and     Parks, Rangeland     Management, Sand     Dune Fixation and     Desertification     Control, Extension     and Public     Participation, Training,     Protection, Legal     Affairs, Land Survey,     Planning, and     Institutional Affairs.     32 provincial offices     with a few subunits     each;     weak in resource     inventory, long-term     planning, extension     and the participatory     approach	
Iraq	Horticulture and Forests Public Company of the Ministry of Agriculture  Directorates of Agriculture of the various governorates	supervision of agricultural, administrative and financial aspects of forests		
Jordan	Forestry Directorate, Ministry of Agriculture	forest conservation and protection     enforcement of the Agriculture Law with regard to forest protection	36 field offices within the agricultural directorates  Divisions include: Afforestation and Nurseries, Forest Management, Land and Survey, and Biodiversity and Seeds	
	Ministry of the Environment	management of nature reserves		

Country	Authorities responsible	Mandate of authorities responsible	Organization/capacity of authorities responsible	Other authorities concerned
Lebanon	Rural Development and Natural Resources Directorate, Ministry of Agriculture  Ministry of the Environment	implementation of forestation projects     natural resource protection, supervision and management, including forest fire prevention, management and control; combating of illegal wood harvesting; and forest pest control     provision of assistance whenever necessary     implementation of the National Reforestation Plan     natural resource protection and management,	175 staff, with a plan to recruit 75 new forest guards  receives an annual budget of about US\$1 million for afforestation and reforestation activities  established in 1993  US\$16 million for a five-year reforestation programme	Green Plan, Ministry of Agriculture     National Centre for Remote Sensing, National Council for Scientific Research
Oman	Rangeland Resources Department, General Directorate of Animal Health, Ministry of Agriculture and Fisheries  Directorate General of Agriculture, Livestock and Fisheries (DGAAF), Dhofar Governorate Ministry of Regional Municipalities, the Environment and Water Resources  Directorate General of the Environment and Water Resources, Dhofar	including protected areas  Ivestock breeding programmes  woodland and rangeland management  combating of soil and vegetation degradation  desertification control  environmental protection  environmental protection, including rangeland and forest protection  desertification control	the central government has been allocating decreasing financial support to DGAAF has been receiving decreasing financial support in recent years no forest and rangeland survey	municipalities of the various governorates     Town Planning High Committee

Country	Authorities responsible	Mandate of authorities responsible	Organization/capacity of authorities responsible	Other authorities concerned
Qatar	Forestation and Rangeland Division of the Department of Agricultural Development, Ministry of Municipal Affairs and Agriculture	development, protection and establishment of forest areas     maintenance of new types of forest and grazing plants in cooperation with other agencies     expansion of mangroves along the coasts     expansion of nature reserves     proposal of legislation to develop forests		
Saudi Arabia	Directorate of Rangelands and Forests, Ministry of Agriculture	implementation of forestation programme forest improvement sand-dune stabilization forest protection development and supervision of rangelands supervision of national parks	lack of forestry specialists     lack of forest management plans	Ministerial Committee for the Environment     National Commission for Wildlife Conservation and Development     Meteorology and Environmental Protection Administration     Ministry of Municipal and Rural Affairs     Ministry of Petroleum and Mineral Wealth     Ministry of Finance     Ministry of Economy and Planning     Ministry of the Interior     Ministry of Water     Supreme Commission for Tourism
Syria	Directorate of Forests and Afforestation, Ministry of Agriculture and Agrarian Affairs	forest management, development and protection     supervision of forestation projects	<ul> <li>560 forest rangers</li> <li>142 fire fighters and supervisory technicians</li> <li>69 forest offices and monitoring towers</li> <li>15 fire-fighting centres</li> <li>Departments include Investment, Biodiversity Protection, and Protected Area Management</li> <li>the Directorate of Forests and Afforestation has been receiving increasing funds in recent years</li> </ul>	

Country	Authorities responsible	Mandate of authorities responsible	Organization/capacity of authorities responsible	Other authorities concerned
	Ministry of the Environment and Forestry (MEF)	reforestation     erosion control     range improvement     seedling production     protected areas     national parks     wildlife     forest villages     research work	4 units     81 provincial directorates     11 forest research institutes  the combined budgets of MEF and GDF in 2003 were about US\$820 million	Ministry of Agriculture and Rural Affairs     Ministry of Tourism
Turkey	General Directorate for Forestry (GDF), in coordination with an MEF unit	forest protection, development and management	3 units     27 regional directorates     217 forest district directorates     1 312 forest subdistricts  most resources, both capital and human, are allocated to forest fire control	
United Arab Emirates	Ministry of Agriculture and Fisheries  Special Bureau of His Highness the Head of the State and His Highness the Crown Prince  Forest Departments of Abu Dhabi and Al Ain  municipalities of the various emirates.	afforestation and reforestation     urban forestry     desertification control     wildlife and protected areas	no forest survey	Marine Resource     Research Centre     Natural History     Museum
Yemen	General Directorate of Forestry and Desertification Control, Ministry of Agriculture and Irrigation	supervision of the forest sector     formulation of policies and preparation of forest management strategies and plans     desertification control     implementation of forestation campaigns	120 staff, including 24 professionals  minimal financial resources allocated, less than 1% of the total Ministry of Agriculture budget	General Corporation for Environmental Protection General Corporation for Water Resources General Corporation for Water and Sewage Disposal General Corporation for the Tourism Development General Corporation for
	Environment Protection Authority	management of protected areas	a 4-year protected natural area project, implemented by the World Bank and funded by GEF, with a total budget of US\$740 000	Development of the Islands  General Corporation for Agricultural Research and Extension

Source:

Country outlook reports, 2005 Country travel reports, 2004 and 2005 FOWECA thematic study, Bashour 2005

# ANNEX 15 INSTITUTIONS OF NGOS AND CIVIL SOCIETY ORGANIZATIONS

Country	NGOs/civil society organizations	Functions/programmes	Sponsors/partners
Cyprus	Federation of Environmental and Ecological Organizations of Cyprus	<ul> <li>protection of nature and wildlife</li> <li>genetically modify organisms</li> <li>waste management etc.</li> <li>exhibitions, demonstrations, symposia and lectures on environmental and cultural issues</li> </ul>	<ul> <li>founded in 1988 by a number of environmental NGOs</li> <li>comprised of 15 member NGOs</li> <li>financial resources: members' environmental projects; UNOPS; and Research Promotion Foundation (government funding)</li> </ul>
	Cyprus Professional Foresters Union	support to the Forestry     Department's mandate     focus on private forest     management	supported by the Forest Department
	Union of Cyprus Communities	rural villages	composed of the presidents of rural villages
Jordan	Royal Society for the Conservation of Nature	responsible for the supervision of wildlife protected areas, including the reintroduction of extinct species, the control of hunting and the supervision of hunting rules and regulations	
	Friends of the Cedars of God	a local NGO, working on the protection, management and conservation of the Cedars of God Forest	personal sponsorship
Lebanon	Association for Forest Development and Conservation	<ul> <li>reforestation activities</li> <li>building awareness of natural resource conservation</li> <li>tree nurseries</li> <li>workshops, seminars, training courses for local communities</li> </ul>	Forest Development and Conservation Centre of Lebanon,WWF, Spanish Aid Agency, European Union, Istituto per la Cooperazione Universitaria, Government of Lebanon
	Society for the Protection of Nature in Lebanon	management of protected areas based on the traditional <i>hima</i> system, combined with ecotourism development	local communities
Turkey	Turkish Foundation to Combat Soil Erosion and for Reforestation and Natural Habitat Protection	<ul> <li>building of public awareness of various environmental issues such as land erosion, deforestation, the falling productivity of farmland and threats to the biodiversity</li> <li>development and implementation of model projects for rural development, rangeland rehabilitation and reforestation</li> </ul>	founded in 1992 by two prominent Turkish businessmen     more than 177 000 members and 555 volunteer representatives     main challenge is villagers' participation
	Forestry Cooperatives Central Union of Turkey	<ul><li>organization of forest villagers</li><li>timber harvesting</li></ul>	<ul> <li>a semi-NGO supported by the government</li> <li>legally founded in 1997</li> <li>1 822 member cooperatives, encompassing 1.2 million forest farmers</li> </ul>

Source: Country outlook reports, 2005

Country travel reports, 2004 and 2005

# ANNEX 16 INSTITUTIONS OF FOREST EDUCATION, TRAINING AND RESEARCH

Country	Education and training	Research
Afghanistan	<ul> <li>undergraduate level at:</li> <li>Department of Forestry and Natural Resources of the Faculty of Agriculture, Kabul University</li> <li>Agricultural Faculties of Balkh, Herat and Nagarhar Universities</li> </ul>	
Cyprus	Cyprus Forestry College (providing 2-year diploma course)	
Iran	7 natural resource faculties, providing training on forest, rangeland, watershed and desert management, including PhD courses in the field of renewable natural resources	<ul> <li>Forest and Rangeland Research Institute</li> <li>7 faculties as listed in the education and training square to the left</li> </ul>
Jordan	<ul> <li>Forestry Directorate conducts local training on forest resource management and conservation</li> <li>technicians are trained in Syria or Cyprus</li> <li>professional foresters are trained in Turkey and Iraq</li> </ul>	
	American University of Beirut	<ul> <li>American University of Beirut</li> </ul>
	University of Saint Joseph	<ul> <li>University of Saint Joseph</li> </ul>
	Balamand University	<ul> <li>Balamand University</li> </ul>
Leballoll	Holy Spirit University	<ul> <li>Holy Spirit University</li> </ul>
	Lebanese University	<ul> <li>Lebanese University</li> </ul>
	<ul> <li>Forest Development and Conservation Centre of Lebanon</li> </ul>	
		<ul> <li>Natural and Environmental Research Institute</li> </ul>
		<ul> <li>Prince Sultan Bin Abdulaziz Centre for</li> </ul>
Saudi Arabia		Environmental, Water and Desert Research, King
		Saoud University
		<ul> <li>other universities</li> </ul>
	Faculty of Agriculture, Halab University	<ul> <li>universities</li> </ul>
	<ul> <li>Faculty of Agriculture, Latakia University</li> </ul>	<ul> <li>Public Corporation for Scientific and Agricultural</li> </ul>
Syria	Faculty of Agriculture, Damascus University	Research
	Faculty of Agriculture, Dier Ez Zur University     Arah Inetituite for Egrectiv, and Rangaland Management	
	. I	
F	الانتخاباً acutiles in various universities, such as the University of اعتجاباً	Kesearch and Development Department of the
ı urkey	ואמווסמו	<ul> <li>Millistry of the Environment and Polestry</li> <li>11 other forest research institutions</li> </ul>
Yemen	non-existent	non-existent

Source: Country outlook reports, 2005
Country travel reports, 2004 and 2005

### REFERENCES

- **Akerlund, U. 2005**. *Urban and peri-urban forestry and greening in West and Central Asia: experience, constraints and prospects*. FOWECA thematic study report. Rome, FAO.
- **Bashour, L. 2005**. Land use dynamics and policy and institutional changes in West Asian countries. FOWECA thematic report. Rome, FAO.
- **Boulay, A & Nair, C.T.S. 2005**. Forest related environmental issues in the West and Central Asia: problems and outlook. FOWECA thematic report. Rome, FAO.
- **Broadhead, J., Bahdon, J. & Whiteman, A. 2001**. Past trends and future prospects for the utilization of wood energy, Annex 2. Woodfuel consumption modelling and results. Working paper GFSOS/WP/05. Rome, FAO.
- Cirelli, T.M., Kamperis, M. & Michaelides D.E. 2006. Report on forestry legislation in Cyprus. Rome, FAO.
- **Czudek, R. 2005.** Wildlife issues and development prospects in West and Central Asia. FOWECA Working Paper. Rome, FAO.
- **Dimitrakopoulos, A.P. & Mitsopoulos, I.D. 2006.** Report on fires in the Mediterranean region. Working Paper FM/8/E. Rome, FAO.
- **Dixon, J. & Gulliver, A. with Gibbon, D. 2001.** Farming systems and poverty, improving farmers' livelihoods in a changing world. Rome & Washington D.C., FAO and World Bank.
- FAO. 2001a. Global Forest Resources Assessment 2000. FAO Forestry Paper 140. Rome.
- **FAO. 2001b.** Global ecological zoning for the Global Forest Resources Assessment 2000. FRA 2000 working paper 56. Rome.
- **FAO. 2003.** Forestry Outlook Study for Africa, Regional Report opportunities and challenges towards 2020. FAO Forestry Paper 141. Rome.
- **FAO. 2005b.** The state of food and agriculture: agricultural trade and poverty can trade work for the poor. Rome.
- **FAO. 2006.** Global Forest Resources Assessment 2005: Progress towards sustainable forest management. FAO Forestry Paper 147. Rome.
- FAOSTAT database: http://faostat.fao.org/Default.aspx
- **Government of Afghanistan. 2005**. FOWECA Country Outlook Paper for Afghanistan. Kabul, Ministry of Agriculture, Animal Husbandry and Food.
- **Government of Cyprus. 1999.** *National Forest Programme of Cyprus and National Forest Policy Statement.* Nicosia, Forestry Department.

- **Government of Cyprus. 2005.** FOWECA Country Outlook Paper for Cyprus. Nicosia, Forestry Department.
- **Government of Iraq. 2005**. FOWECA Country Outlook Paper for Iraq. Baghdad, Ministry of Agriculture.
- Government of the Islamic Republic of Iran. 2005. FOWECA Country Outlook Paper for Iran. Teheran, High Council for Range and Forest Administration.
- **Government of Jordan. 2005.** FOWECA Country Outlook Paper. Amman, Ministry of Agriculture.
- Government of the Kingdom of Saudi Arabia. 2004. Forestry Outlook Study. Riyadh, Range and Forestry Directorate.
- Government of Lebanon. 2005. FOWECA Country Outlook Paper. Beirut, Ministry of Agriculture.
- **Government of Oman. 2005.** FOWECA Country Outlook Paper. Salalah, General Directorate of Animal Wealth, Ministry of Agriculture and Fisheries.
- **Government of Syria. 2005.** FOWECA Country Outlook Paper. Damascus, Forest Department.
- **Government of Turkey. 2005.** FOWECA Country Outlook Paper. Ankara, Ministry of Environment and Forestry.
- **Government of the United Arab Emirates. 2005.** FOWECA Country Outlook Paper. Dubai, Ministry of Agriculture and Fisheries.
- **Government of Yemen. 2005.** FOWECA Country Outlook Paper. Sana'a, Ministry of Agriculture and Irrigation.
- **Lebedys, A. 2004.** Trends and current status of the contribution of the forest sector to national economies. Forest Finance Working Paper FSFM/ACC/07. Rome, FAO.
- Løyche, Wilkie M. & Fortuna, S. 2003. Status and trends in mangrove area extent worldwide. Forest Resources Assessment 2000 Working Paper 63. Rome, FAO.
- Ma, Q. 2004a. Travel report to Turkey. Rome, FAO.
- Ma, Q. 2004b. Travel report to Cyprus. Rome, FAO.
- Ma, Q. 2005a. Travel report to United Arab Emirates and Sultanate of Oman. Rome, FAO.
- Ma, Q. 2005b. Travel report to the Republic of Yemen. Rome, FAO.

**Policy Assistance Branch. 2004.** *Agricultural development policies in the Near East region: challeges and issues.* Draft. Cairo, Regional Office for the Near East, FAO.

**Rouchiche, S. 2003.** Role of planted forests and trees outside forests in sustainable forest management: Sultanate of Oman. FO Working Paper FP/31E. Rome, FAO.

Rouchiche, S. & Haji Mirsadeghi, M.A. 2003. Role of planted forests and trees outside forests in sustainable forest management: Islamic Republic of Iran. FO Working Paper FP/32E. Rome, FAO.

UN COMTRADE database: http://comtrade.un.org

**UNDP. 2002.** *The Arab Human Development Report 2002.* New York, UNDP Regional Bureau for Arab States.

**UNECE Timber Committee. 2006**. *Market statement – Turkey*. Geneva: http://www.unece.org/trade/timber/mis/market/market-64/turkey.pdf

**UNEP. 2002.** *Global Environment Outlook 3.* Nairobi, UNEP Division of Early Warning and Assessment.

UNEP. 2007. Global Environment Outlook 4 – environment for development

UNEP - WCMC website and databases: http://www.unep-wcmc.org

United Nations Statistics Division – Common Database: http://unstats.un.org/unsd/cdb/cdb advanced data extract.asp

World Bank. 2005. Prospects for the global economy. http://web.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTDECPROSPECTS/EXTG BLPROSPECTS/0,,menuPK:615470~pagePK:64218926~piPK:64218953~theSitePK:6125 01,00.html

World Bank. 2007. World development report 2008 - Agriculture for development

World Development Indicators (WDI) database: http://publications.worldbank.org/WDI

**World Resources Institute. 2005**. *Watersheds of the world 2005 – earth trends data tables*. http://earthtrends.wri.org/pdf library/data tables/wat 2005

World Trade Organization, 2005. World Trade Report 2005. Geneva.

### FORESTRY POLICY AND INSTITUTIONS WORKING PAPERS

No.	Title
1	Understanding the interface between natural woodlands and HIV/AIDS-affected communities in Southern Africa. 2004.
2	Miombo woodlands and HIV/AIDS interactions: Mozambique country report. 2004.
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9	Tree seed education at agricultural and forestry colleges in eastern and southern Africa. An interactive needs assessment and proposed curriculum. 2005.
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11	Community based enterprise development for the conservation of biodiversity in Bwindi World Heritage Site, Uganda. 2006.
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20	The status and trends of forests and forestry in West Asia. Subregional report of the Forestry Outlook Study for West and Central Asia. 2008

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