



Forestry Department

Food and Agriculture Organization of the United Nations

**GLOBAL FOREST RESOURCES
ASSESSMENT 2010**

COUNTRY REPORT

ISRAEL

FRA2010/100
Rome, 2010



The Forest Resources Assessment Programme

Sustainably managed forests have multiple environmental and socio-economic functions important at the global, national and local scales, and play a vital part in sustainable development. Reliable and up-to-date information on the state of forest resources - not only on area and area change, but also on such variables as growing stock, wood and non-wood products, carbon, protected areas, use of forests for recreation and other services, biological diversity and forests' contribution to national economies - is crucial to support decision-making for policies and programmes in forestry and sustainable development at all levels.

FAO, at the request of its member countries, regularly monitors the world's forests and their management and uses through the Forest Resources Assessment Programme. This country report forms part of the Global Forest Resources Assessment 2010 (FRA 2010).

The reporting framework for FRA 2010 is based on the thematic elements of sustainable forest management acknowledged in intergovernmental forest-related fora and includes variables related to the extent, condition, uses and values of forest resources, as well as the policy, legal and institutional framework related to forests. More information on the FRA 2010 process and the results - including all the country reports - is available on the FRA Web site (www.fao.org/forestry/fra).

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The Global Forest Resources Assessment Country Report Series is designed to document and make available the information forming the basis for the FRA reports. The Country Reports have been compiled by officially nominated country correspondents in collaboration with FAO staff. Prior to finalisation, these reports were subject to validation by forestry authorities in the respective countries.

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Introduction

Israel forests are small in area but under intensive use and pressure. When Israel was established in 1948, the woody vegetation was very limited. This is due to generations of over exploitation of forest resources (over grazing, cutting & wild fires). Since 1948, forest department had started wide planting operations from one hand and minimize overgrazing from the other hand. The result is the development of planted forest (mainly pines) and reestablishment of natural type forest (mainly Oaks and Pistacia).

Most of the forest area is managed by KKL – Land Development Authority, Forest Department. KKL is a national organization that acts under the inspection of the Ministry of Agriculture. Some of the natural forests area is National Parks or Natural Reservations and managed by the Nature Reserves and Parks Authority. This report covers all area types.

Today, most areas are protected by the National Forestry Master plan (No. 22) and National Natural Reserves & Parks Master plan (No. 8).

All planted forests and most natural forests are managed by the forest department (there is no private forestry in Israel). The forests have limited commercial value. Management goals are mainly for recreation, landscape improvement, soil conservation and ecological services. Timber production and grazing are considered as by products.

The main hazard to forest resources nowadays is development pressure such as transportation and urbanization development. Other threats are wild fires, public pressure on the land and global changes (such as global warming, droughts etc.).

All forest areas are mapped in a GIS platform. Because of the minimal commercial value of forest resources (for timber), detailed forest inventory activity is limited.

1 Table T1 – Extent of Forest and Other wooded land

1.1 FRA 2010 Categories and definitions

| Category | Definition |
|-----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Forest | Land spanning more than 0.5 hectares with trees higher than 5 meters and a canopy cover of more than 10 percent, or trees able to reach these thresholds <i>in situ</i> . It does not include land that is predominantly under agricultural or urban land use. |
| Other wooded land | Land not classified as “Forest”, spanning more than 0.5 hectares; with trees higher than 5 meters and a canopy cover of 5-10 percent, or trees able to reach these thresholds <i>in situ</i> ; or with a combined cover of shrubs, bushes and trees above 10 percent. It does not include land that is predominantly under agricultural or urban land use. |
| Other land | All land that is not classified as “Forest” or “Other wooded land”. |
| Other land with tree cover (Subordinated to “Other land”) | Land classified as “Other land”, spanning more than 0.5 hectares with a canopy cover of more than 10 percent of trees able to reach a height of 5 meters at maturity. |
| Inland water bodies | Inland water bodies generally include major rivers, lakes and water reservoirs. |

1.2 National data

1.2.1 Data sources

| References to sources of information | Quality (H/M/L) | Variable(s) | Year(s) | Additional comments |
|--------------------------------------|-----------------|-------------|---------|------------------------------------------------------|
| Forest GIS Project | H | | 2008 | With an information assistance by other GIS Projects |
| Statistical abstract of Israel | H | | 2008 | |

1.2.2 Classification and definitions

| National class | Definition |
|-----------------------------|-------------|
| Forest | Same as FRA |
| Other wooded land | Same as FRA |
| Other land | Same as FRA |
| ...of which with tree cover | Same as FRA |
| Inland water bodies | Same as FRA |

1.2.3 Original data

See final reporting table.

1.3 Data for Table T1

| FRA 2010 categories | Area (1000 hectares) | | | |
|-----------------------------|----------------------|-------------|-------------|-------------|
| | 1990 | 2000 | 2005 | 2010 |
| Forest | 132 | 153 | 155 | 154 |
| Other wooded land | 34 | 33 | 33 | 33 |
| Other land | 1998 | 1978 | 1976 | 1977 |
| ...of which with tree cover | 1 | 1 | 1 | 1 |
| Inland water bodies | 43 | 43 | 43 | 43 |
| TOTAL | 2207 | 2207 | 2207 | 2207 |

1.4 Comments to Table T1

| Variable / category | Comments related to data, definitions, etc. | Comments on the reported trend |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Forest | All the data from 2000 and so on was recalculated. This data is more reliable now than it was on previous sent assessments because of more raw data we have. | There is some decline in afforestation and reforestation Since 2004, and there are some fellings in the natural forests (because of massive constructions in Israel, especially in the decade of the 1990's). Although, between 1990 and 2004 there were much afforestations and reforestations to increase significantly the 'Forest' category area value. |
| Other wooded land | All the data from 2000 and so on was recalculated. This Data is more reliable now than it was on previous sent assessments because of more raw data we have. | |
| Other land | | |
| Other land with tree cover | | |
| Inland water bodies | | |

Other general comments to the table

| |
|--|
| |
|--|

Expected year for completion of ongoing/planned national forest inventory and/or RS survey / mapping

| | |
|---------------------------------|------|
| Field inventory | 2012 |
| Remote sensing survey / mapping | 2011 |

2 Table T2 – Forest ownership and management rights

2.1 FRA 2010 Categories and definitions

| Category | Definition |
|-----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Public ownership | Forest owned by the State; or administrative units of the public administration; or by institutions or corporations owned by the public administration. |
| Private ownership | Forest owned by individuals, families, communities, private co-operatives, corporations and other business entities, private religious and educational institutions, pension or investment funds, NGOs, nature conservation associations and other private institutions. |
| Individuals (sub-category of Private ownership) | Forest owned by individuals and families. |
| Private business entities and institutions (sub-category of Private ownership) | Forest owned by private corporations, co-operatives, companies and other business entities, as well as private non-profit organizations such as NGOs, nature conservation associations, and private religious and educational institutions, etc. |
| Local communities (sub-category of Private ownership) | Forest owned by a group of individuals belonging to the same community residing within or in the vicinity of a forest area. The community members are co-owners that share exclusive rights and duties, and benefits contribute to the community development. |
| Indigenous / tribal communities (sub-category of Private ownership) | Forest owned by communities of indigenous or tribal people. |
| Other types of ownership | Other kind of ownership arrangements not covered by the categories above. Also includes areas where ownership is unclear or disputed. |
| Categories related to the holder of management rights of public forest resources | |
| Public Administration | The Public Administration (or institutions or corporations owned by the Public Administration) retains management rights and responsibilities within the limits specified by the legislation. |
| Individuals/households | Forest management rights and responsibilities are transferred from the Public Administration to individuals or households through long-term leases or management agreements. |
| Private institutions | Forest management rights and responsibilities are transferred from the Public Administration to corporations, other business entities, private co-operatives, private non-profit institutions and associations, etc., through long-term leases or management agreements. |
| Communities | Forest management rights and responsibilities are transferred from the Public Administration to local communities (including indigenous and tribal communities) through long-term leases or management agreements. |
| Other form of management rights | Forests for which the transfer of management rights does not belong to any of the categories mentioned above. |

2.2 National data

2.2.1 Data sources

| References to sources of information | Quality (H/M/L) | Variable(s) | Year(s) | Additional comments |
|--------------------------------------|-----------------|-------------|---------|------------------------------------------------------|
| Israel Land Administration | H | | 2008 | GIS system |
| Forest GIS Project | H | | 2008 | With an information assistance by other GIS Projects |

2.2.2 Classification and definitions

| National class | Definition |
|--------------------------------------------|-------------|
| Public ownership | Same as FRA |
| Private ownership | Same as FRA |
| individuals | Same as FRA |
| private business entities and institutions | Same as FRA |

2.2.3 Original data

See final reporting table.

2.3 Data for Table T2

Table 2a - Forest ownership

| FRA 2010 Categories | Forest area (1000 hectares) | | |
|-----------------------------------------------------------------|-----------------------------|------------|------------|
| | 1990 | 2000 | 2005 |
| Public ownership | 129 | 150 | 152 |
| Private ownership | 3 | 3 | 3 |
| ...of which owned by individuals | 2 | 2 | 2 |
| ...of which owned by private business entities and institutions | 1 | 1 | 1 |
| ...of which owned by local communities | 0 | 0 | 0 |
| ...of which owned by indigenous / tribal communities | 0 | 0 | 0 |
| Other types of ownership | 0 | 0 | 0 |
| TOTAL | 132 | 153 | 155 |

Note: If other types of ownership is reported, please specify details in comment to the table.

| | | |
|-----------------------------------------------------------------------------------------|-------------------------------------|-----|
| Does ownership of trees coincide with ownership of the land on which they are situated? | <input checked="" type="checkbox"/> | Yes |
| | <input type="checkbox"/> | No |
| If No above, please describe below how the two differ: | | |
| | | |

Table 2b - Holder of management rights of public forests

| FRA 2010 Categories | Forest area (1000 hectares) | | |
|---------------------------------------|-----------------------------|------------|------------|
| | 1990 | 2000 | 2005 |
| Public Administration | 129 | 150 | 152 |
| Individuals | 0 | 0 | 0 |
| Private corporations and institutions | 0 | 0 | 0 |
| Communities | 0 | 0 | 0 |
| Other | 0 | 0 | 0 |
| TOTAL | 129 | 150 | 152 |

2.4 Comments to Table T2

| Variable / category | Comments related to data, definitions, etc. | Comments on the reported trend |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
| Public ownership | | |
| Private ownership | | |
| Other types of ownership | | |
| Management rights | Anyone is allowed to collect mushrooms or herbs for private use. Endangered species are forbidden to collect. Commercial use is forbidden on public land. | |

| Other general comments to the table |
|---------------------------------------------------------|
| More than 95% of Israel land is under public ownership. |

3 Table T3 – Forest designation and management

3.1 FRA 2010 Categories and definitions

| Term | Definition |
|------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Primary designated function | The primary function or management objective assigned to a management unit either by legal prescription, documented decision of the landowner/manager, or evidence provided by documented studies of forest management practices and customary use. |
| Protected areas | Areas especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means. |
| Categories of primary designated functions | |
| Production | Forest area designated primarily for production of wood, fibre, bio-energy and/or non-wood forest products. |
| Protection of soil and water | Forest area designated primarily for protection of soil and water. |
| Conservation of biodiversity | Forest area designated primarily for conservation of biological diversity. Includes but is not limited to areas designated for biodiversity conservation within the protected areas. |
| Social services | Forest area designated primarily for social services. |
| Multiple use | Forest area designated primarily for more than one purpose and where none of these alone is considered as the predominant designated function. |
| Other | Forest areas designated primarily for a function other than production, protection, conservation, social services or multiple use. |
| No / unknown | No or unknown designation. |
| Special designation and management categories | |
| Area of permanent forest estate (PFE) | Forest area that is designated to be retained as forest and may not be converted to other land use. |
| Forest area within protected areas | Forest area within formally established protected areas independently of the purpose for which the protected areas were established. |
| Forest area under sustainable forest management | To be defined and documented by the country. |
| Forest area with management plan | Forest area that has a long-term (ten years or more) documented management plan, aiming at defined management goals, which is periodically revised. |

3.2 National data

3.2.1 Data sources

| References to sources of information | Quality (H/M/L) | Variable(s) | Year(s) | Additional comments |
|------------------------------------------|-----------------|-------------|---------|---------------------|
| Forest GIS Project | H | | 2008 | |
| Master Plan for Forest and Afforestation | H | | | |

3.2.2 Classification and definitions

| National class | Definition |
|------------------------------|-------------|
| Protection of soil and water | Same as FRA |
| Conservation of biodiversity | Same as FRA |
| Social services | Same as FRA |
| Multiple use | Same as FRA |

3.2.3 Original data

See final reporting table.

3.3 Data for Table T3

Table 3a – Primary designated function

| FRA 2010 Categories | Forest area (1000 hectares) | | | |
|----------------------------------------------------|-----------------------------|------------|------------|------------|
| | 1990 | 2000 | 2005 | 2010 |
| Production | 0 | 0 | 0 | 0 |
| Protection of soil and water | 20 | 21 | 23 | 23 |
| Conservation of biodiversity | 27 | 27 | 27 | 27 |
| Social services | 3 | 4 | 5 | 5 |
| Multiple use | 82 | 101 | 100 | 99 |
| Other (please specify in comments below the table) | 0 | 0 | 0 | 0 |
| No / unknown | 0 | 0 | 0 | 0 |
| TOTAL | 132 | 153 | 155 | 154 |

Table 3b – Special designation and management categories

| FRA 2010 Categories | Forest area (1000 hectares) | | | |
|-------------------------------------------------|-----------------------------|------|------|------|
| | 1990 | 2000 | 2005 | 2010 |
| Area of permanent forest estate | 78 | 78 | 80 | 80 |
| Forest area within protected areas | 27 | 27 | 28 | 28 |
| Forest area under sustainable forest management | 58 | 58 | 60 | 60 |
| Forest area with management plan | 116 | 116 | 119 | 120 |

3.4 Comments to Table T3

| Variable / category | Comments related to data, definitions, etc. | Comments on the reported trend |
|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
| Production | Most Israel forests serve as a multiple use forests. Timber production is only a by-product of forest management activity. Timber production is used/applied, but not as a designated function. | |
| Protection of soil and water | | There is gradual increase over the years |
| Conservation of biodiversity | | |
| Social services | The area of administrative portions of forest, which has facilities for public activities, such as recreation activities, memorial and perpetuation, education and etc., where took under consideration for this data. | There is gradual increase over the years |
| Multiple use | The most common use is grazing. Picking mushrooms and herbs is for private use only. Hunting and grazing are allowed only with a special permit. | There is gradual increase over the years |
| Other | | |
| No / unknown designation | | |
| Area of permanent forest estate | Areas that included in Master Plan for Forests and Afforestation (NMP22). | |
| Forest area within protected areas | | |
| Forest area under sustainable forest management | Israel forests are under a process of detailed planning to comply with Sustainable Management set by KKL Board of Directors. The Area in this category includes forest area that has detailed plans. | |
| Forest area with management plan | | |

Other general comments to the table

expert estimation – 1990 data put as same as 2000 for management categories

4 Table T4 – Forest characteristics

4.1 FRA 2010 Categories and definitions

| Term / category | Definition |
|----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Naturally regenerated forest | Forest predominantly composed of trees established through natural regeneration. |
| Introduced species | A species, subspecies or lower taxon, occurring <u>outside</u> its natural range (past or present) and dispersal potential (i.e. outside the range it occupies naturally or could occupy without direct or indirect introduction or care by humans). |
| Characteristics categories | |
| Primary forest | Naturally regenerated forest of native species, where there are no clearly visible indications of human activities and the ecological processes are not significantly disturbed. |
| Other naturally regenerated forest | Naturally regenerated forest where there are clearly visible indications of human activities. |
| Other naturally regenerated forest of introduced species (sub-category) | Other naturally regenerated forest where the trees are predominantly of introduced species. |
| Planted forest | Forest predominantly composed of trees established through planting and/or deliberate seeding. |
| Planted forest of introduced species (sub-category) | Planted forest, where the planted/seeded trees are predominantly of introduced species. |
| Special categories | |
| Rubber plantations | Forest area with rubber tree plantations. |
| Mangroves | Area of forest and other wooded land with mangrove vegetation. |
| Bamboo | Area of forest and other wooded land with predominant bamboo vegetation. |

4.2 National data

4.2.1 Data sources

| References to sources of information | Quality (H/M/L) | Variable(s) | Year(s) | Additional comments |
|--------------------------------------|-----------------|-------------|---------|------------------------------------------------------|
| Forest GIS Project | H | | 2008 | With an information assistance by other GIS Projects |

4.2.2 Classification and definitions

| National class | Definition |
|------------------------------------|-------------|
| Other naturally regenerated forest | Same as FRA |
| of which of introduced species | Same as FRA |
| Planted forest | Same as FRA |
| of which of introduced species | Same as FRA |

4.2.3 Original data

See final reporting table.

4.3 Data for Table T4

Table 4a

| FRA 2010 Categories | Forest area (1000 hectares) | | | |
|------------------------------------|-----------------------------|------------|------------|------------|
| | 1990 | 2000 | 2005 | 2010 |
| Primary forest | 0 | 0 | 0 | 0 |
| Other naturally regenerated forest | 66 | 65 | 67 | 66 |
| ...of which of introduced species | 0.5 | 0.5 | 0.5 | 0.5 |
| Planted forest | 66 | 88 | 88 | 88 |
| ...of which of introduced species | 21 | 28 | 27 | 26 |
| TOTAL | 132 | 153 | 155 | 154 |

Table 4b

| FRA 2010 Categories | Area (1000 hectares) | | | |
|-----------------------------|----------------------|------|------|------|
| | 1990 | 2000 | 2005 | 2010 |
| Rubber plantations (Forest) | 0 | 0 | 0 | 0 |
| Mangroves (Forest and OWL) | 0 | 0 | 0 | 0 |
| Bamboo (Forest and OWL) | 0 | 0 | 0 | 0 |

4.4 Comments to Table T4

| Variable / category | Comments related to data, definitions, etc. | Comments on the reported trend |
|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Primary forest | | |
| Other naturally regenerating forest | | Data for the year 2000 is estimated only. Our data for this year from previous assessments may be not a precise data, because of insufficiency on some raw data for the naturally regenerated forest area. |
| Planted forest | 1)Area data of introduced species comes only from the calculated area of planted forest stands, which have at least 80 percent dispersion of introduced species. 2)Introduced species data for the year 2000 may has a deviation of plus/minus 1 unit. | |
| Rubber plantations | | |
| Mangroves | | |
| Bamboo | | |

| Other general comments to the table |
|-------------------------------------|
| |

5 Table T5 – Forest establishment and reforestation

5.1 FRA 2010 Categories and definitions

| Term | Definition |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Afforestation | Establishment of forest through planting and/or deliberate seeding on land that, until then, was not classified as forest. |
| Reforestation | Re-establishment of forest through planting and/or deliberate seeding on land classified as forest. |
| Natural expansion of forest | Expansion of forests through natural succession on land that, until then, was under another land use (e.g. forest succession on land previously used for agriculture). |

5.2 National data

5.2.1 Data sources

| References to sources of information | Quality (H/M/L) | Variable(s) | Year(s) | Additional comments |
|--------------------------------------|-----------------|-------------|---------|------------------------------------------------------|
| Forest GIS Project | H | | 2008 | With an information assistance by other GIS Projects |

5.2.2 Classification and definitions

| National class | Definition |
|----------------|-------------|
| Afforestation | Same as FRA |
| Reforestation | Same as FRA |

5.2.3 Original data

Afforestation: expert estimates including introduced species in afforestation.

5.3 Data for Table T5

| FRA 2010 Categories | Annual forest establishment (hectares/year) | | | ...of which of introduced species ¹⁾ (hectares/year) | | |
|-----------------------------------------|---------------------------------------------|------|------|-----------------------------------------------------------------|------|------|
| | 1990 | 2000 | 2005 | 1990 | 2000 | 2005 |
| Afforestation | 2200 | 0 | 0 | 600 | 0 | 0 |
| Reforestation | 800 | 800 | 350 | 200 | 200 | 100 |
| ...of which on areas previously planted | 800 | 800 | 350 | 200 | 200 | 100 |
| Natural expansion of forest | 8 | 10 | 12 | 0 | 0 | 0 |

Note: The figures for the reporting years refer to the averages for the 5-year periods 1988-1992, 1998-2002 and 2003-2007 respectively.

5.4 Comments to Table T5

| Variable / category | Comments related to data, definitions, etc. | Comments on the reported trend |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|
| Afforestation | | |
| Reforestation | | Expected reforestation rate for the next 5 years is about 400-500 ha. per year. |
| Natural expansion of forest | We observe the phenomenon of natural expansion of pines outside the forest area. We don't have accurate numbers. The numbers are expert estimation and might change in the future after research and mapping work. | |

| Other general comments to the table |
|-------------------------------------|
| |

6 Table T6 – Growing stock

6.1 FRA 2010 Categories and definitions

| Category | Definition |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Growing stock | Volume over bark of all living trees more than X cm in diameter at breast height (or above buttress if these are higher). Includes the stem from ground level or stump height up to a top diameter of Y cm, and may also include branches to a minimum diameter of W cm. |
| Growing stock of commercial species | Growing stock (see def. above) of commercial species. |

6.2 National data

6.2.1 Data sources

| References to sources of information | Quality (H/M/L) | Variable(s) | Year(s) | Additional comments |
|--------------------------------------|-----------------|-------------|---------|-----------------------------------------------------------------------------|
| Inventory | M | | | Inventory is accomplished about every 10 years in all planted forest areas. |

6.2.2 Classification and definitions

| National class | Definition |
|-------------------------------------|-------------|
| Growing stock | Same as FRA |
| Growing stock of commercial species | Same as FRA |

6.2.3 Original data

See final reporting table.

6.3 Data for Table T6

Table 6a – Growing stock

| FRA 2010 category | Volume (million cubic meters over bark) | | | | | | | |
|-------------------------------------|-----------------------------------------|------|------|------|-------------------|------|------|------|
| | Forest | | | | Other wooded land | | | |
| | 1990 | 2000 | 2005 | 2010 | 1990 | 2000 | 2005 | 2010 |
| Total growing stock | 5.9 | 5.6 | 5.7 | 5.8 | NA | NA | NA | NA |
| ... of which coniferous | 3.3 | 3.0 | 3.1 | 3.2 | NA | NA | NA | NA |
| ... of which broadleaved | 2.6 | 2.6 | 2.6 | 2.6 | NA | NA | NA | NA |
| Growing stock of commercial species | 0.2 | 0.2 | 0.2 | 0.2 | NA | NA | NA | NA |

Table 6b – Growing stock of the 10 most common species

| FRA 2010 category / Species name | | | Growing stock in forest (million cubic meters) | | |
|----------------------------------|---------------------------------|-------------------------------|---------------------------------------------------|------------|------------|
| Rank | Scientific name | Common name | 1990 | 2000 | 2005 |
| 1 st | <i>Pinus halepensis</i> | Aleppo pine | 1.7 | 1.3 | 1.3 |
| 2 nd | <i>Quercus calliprinos</i> | Palestine oak, Kermes oak | 1.3 | 1.3 | 1.3 |
| 3 rd | <i>Pinus brutia</i> | Turkish pine | 0.9 | 1.0 | 1.1 |
| 4 th | <i>Cupressus sempervirens</i> | Mediterranean cypress | 0.3 | 0.3 | 0.3 |
| 5 th | <i>Pinus pinea</i> | Stone pine | 0.2 | 0.2 | 0.2 |
| 6 th | <i>Ceratonia siliqua</i> | Carob tree | 0.1 | 0.1 | 0.1 |
| 7 th | <i>Olea europea</i> | Olive tree | 0.1 | 0.1 | 0.1 |
| 8 th | <i>Eucalyptus gomphocephala</i> | Tuart tree | 0.1 | 0.1 | 0.1 |
| 9 th | <i>Eucalyptus camaldulensis</i> | River Red Gam | 0.1 | 0.1 | 0.1 |
| 10 th | <i>Acacia cyanophylla</i> | Blue-leafed (golden) wattle | 0.1 | 0.1 | 0.1 |
| Remaining | Others | | 1.0 | 1.0 | 1.0 |
| TOTAL | | | 5.9 | 5.6 | 5.7 |

Note: Rank refers to the order of importance in terms of growing stock, i.e. 1st is the species with the highest growing stock. Year 2000 is the reference year for defining the species list and the order of the species.

Table 6c – Specification of threshold values

| Item | Value | Complementary information |
|--------------------------------------------------------------------------------------------|-------|---------------------------|
| Minimum diameter (cm) at breast height ¹ of trees included in growing stock (X) | 8 | |
| Minimum diameter (cm) at the top end of stem for calculation of growing stock (Y) | 2 | |
| Minimum diameter (cm) of branches included in growing stock (W) | 8 | |
| Volume refers to “above ground” (AG) or “above stump” (AS) | AG | |

¹ Diameter at breast height (DBH) refers to diameter over bark measured at a height of 1.30 m above ground level or 30 cm above buttresses if these are higher than 1 m.

6.4 Comments to Table T6

| Variable / category | Comments related to data, definitions, etc. | Comments on the reported trend |
|-------------------------------------------|---------------------------------------------|--------------------------------|
| Total growing stock | | |
| Growing stock of broadleaved / coniferous | | |
| Growing stock of commercial species | | |
| Growing stock composition | | |

| Other general comments to the table |
|-------------------------------------|
| |

7 Table T7 – Biomass stock

7.1 FRA 2010 Categories and definitions

| Category | Definition |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Above-ground biomass | All living biomass above the soil including stem, stump, branches, bark, seeds, and foliage. |
| Below-ground biomass | All biomass of live roots. Fine roots of less than 2mm diameter are excluded because these often cannot be distinguished empirically from soil organic matter or litter. |
| Dead wood | All non-living woody biomass not contained in the litter, either standing, lying on the ground, or in the soil. Dead wood includes wood lying on the surface, dead roots, and stumps larger than or equal to 10 cm in diameter or any other diameter used by the country. |

7.2 National data

7.2.1 Data sources

| References to sources of information | Quality (H/M/L) | Variable(s) | Year(s) | Additional comments |
|--------------------------------------|-----------------|-------------|---------|-----------------------------------------------------------------------------|
| Inventory | L | | | Inventory is accomplished about every 10 years in all planted forest areas. |

7.2.2 Classification and definitions

| National class | Definition |
|----------------------|-------------|
| Above-ground biomass | Same as FRA |
| Below-ground biomass | Same as FRA |
| Dead wood | Same as FRA |

7.3 Data for Table T7

| FRA 2010 category | Biomass (million metric tonnes oven-dry weight) | | | | | | | |
|----------------------|-------------------------------------------------|-------------|-------------|-------------|-------------------|------|------|------|
| | Forest | | | | Other wooded land | | | |
| | 1990 | 2000 | 2005 | 2010 | 1990 | 2000 | 2005 | 2010 |
| Above-ground biomass | 7.6 | 7.3 | 7.4 | 7.5 | NA | NA | NA | NA |
| Below-ground biomass | 1.9 | 1.8 | 1.8 | 1.8 | NA | NA | NA | NA |
| Dead wood | 0.08 | 0.09 | 0.08 | 0.08 | NA | NA | NA | NA |
| TOTAL | 9.58 | 9.19 | 9.28 | 9.38 | NA | NA | NA | NA |

7.4 Comments to Table T7

| Variable / category | Comments related to data, definitions, etc. | Comments on the reported trend |
|----------------------|---------------------------------------------|--------------------------------|
| Above-ground biomass | | |
| Below-ground biomass | | |
| Dead wood | | |

| Other general comments to the table |
|-------------------------------------|
| |

8 Table T8 – Carbon stock

8.1 FRA 2010 Categories and definitions

| Category | Definition |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Carbon in above-ground biomass | Carbon in all living biomass above the soil, including stem, stump, branches, bark, seeds, and foliage. |
| Carbon in below-ground biomass | Carbon in all biomass of live roots. Fine roots of less than 2 mm diameter are excluded, because these often cannot be distinguished empirically from soil organic matter or litter. |
| Carbon in dead wood | Carbon in all non-living woody biomass not contained in the litter, either standing, lying on the ground, or in the soil. Dead wood includes wood lying on the surface, dead roots, and stumps larger than or equal to 10 cm in diameter or any other diameter used by the country. |
| Carbon in litter | Carbon in all non-living biomass with a diameter less than the minimum diameter for dead wood (e.g. 10 cm), lying dead in various states of decomposition above the mineral or organic soil. |
| Soil carbon | Organic carbon in mineral and organic soils (including peat) to a specified depth chosen by the country and applied consistently through the time series. |

8.2 National data

8.2.1 Classification and definitions

| National class | Definition |
|--------------------------------|-------------|
| Carbon in above-ground biomass | Same as FRA |
| Carbon in below-ground biomass | Same as FRA |
| Carbon in dead wood | Same as FRA |
| Carbon in litter | Same as FRA |
| Soil carbon | Same as FRA |

8.2.2 Original data

Soil carbon: The soil carbon was measured only in one forest and then extrapolated for the rest of the country. This forest is a pine plantation that established at the edge of the Negev desert between the years 1965 and 1969. The site located at the transition between sub-humid and arid Mediterranean climatic zones.

8.3 Data for Table T8

| FRA 2010 Category | Carbon (Million metric tonnes) | | | | | | | |
|----------------------------------------|--------------------------------|-------------|-------------|-------------|-------------------|------|------|------|
| | Forest | | | | Other wooded land | | | |
| | 1990 | 2000 | 2005 | 2010 | 1990 | 2000 | 2005 | 2010 |
| Carbon in above-ground biomass | 3.6 | 3.4 | 3.5 | 3.5 | NA | NA | NA | NA |
| Carbon in below-ground biomass | 1.2 | 1.1 | 1.1 | 1.2 | NA | NA | NA | NA |
| Sub-total: Living biomass | 4.8 | 4.5 | 4.6 | 4.7 | NA | NA | NA | NA |
| Carbon in dead wood | 0.04 | 0.04 | 0.04 | 0.04 | NA | NA | NA | NA |
| Carbon in litter | 0.01 | 0.01 | 0.01 | 0.01 | NA | NA | NA | NA |
| Sub-total: Dead wood and litter | 0.05 | 0.05 | 0.05 | 0.05 | NA | NA | NA | NA |
| Soil carbon | 3.97 | 4.02 | 4.07 | 4.12 | NA | NA | NA | NA |
| TOTAL | 8.82 | 8.57 | 8.72 | 8.87 | NA | NA | NA | NA |

| | |
|------------------------------------------------|----|
| Soil depth (cm) used for soil carbon estimates | 50 |
|------------------------------------------------|----|

8.4 Comments to Table T8

| Variable / category | Comments related to data, definitions, etc. | Comments on the reported trend |
|--------------------------------|---------------------------------------------|--------------------------------|
| Carbon in above-ground biomass | | |
| Carbon in below-ground biomass | | |
| Carbon in dead wood | | |
| Carbon in litter | | |
| Soil carbon | | |

| Other general comments to the table |
|-------------------------------------|
| |

9 Table T9 – Forest fires

9.1 FRA 2010 Categories and definitions

| Category | Definition |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| Number of fires | Average number of vegetation fires per year in the country. |
| Area affected by fire | Average area affected by vegetation fires per year in the country. |
| Vegetation fire (supplementary term) | Any vegetation fire regardless of ignition source, damage or benefit. |
| Wildfire | Any unplanned and/or uncontrolled vegetation fire. |
| Planned fire | A vegetation fire regardless of ignition source that burns according to management objectives and requires limited or no suppression action. |

9.2 National data

9.2.1 Data sources

| References to sources of information | Quality (H/M/L) | Variable(s) | Year(s) | Additional comments |
|--------------------------------------|-----------------|-------------|---------|---------------------|
| Forest Fires Database | H | | | Updated regularly |

9.2.2 Classification and definitions

| National class | Definition |
|-----------------------|-------------|
| Number of fires | Same as FRA |
| Area affected by fire | Same as FRA |
| Wildfire | Same as FRA |

9.2.3 Original data

Forest Dpt. is in charge of controlling fires on open areas in Israel. The information is "Fires Database" that is managed by the Forest Dpt.

9.3 Data for Table T9

Table 9a

| FRA 2010 category | Annual average for 5-year period | | | | | |
|-----------------------------------|----------------------------------|-----------------|---------------|-----------------|---------------|-----------------|
| | 1990 | | 2000 | | 2005 | |
| | 1000 hectares | number of fires | 1000 hectares | number of fires | 1000 hectares | number of fires |
| Total land area affected by fire | 7.1 | 1091 | 4.47 | 1043 | 2.24 | 970 |
| ... of which on forest | 0.63 | 593 | 0.77 | 665 | 0.7 | 629 |
| ... of which on other wooded land | 1.21 | 121 | 0.49 | 101 | 0.33 | 81 |
| ... of which on other land | 5.27 | 377 | 3.22 | 277 | 1.21 | 260 |

Table 9b

| FRA 2010 category | Proportion of forest area affected by fire (%) | | |
|-------------------|------------------------------------------------|------|------|
| | 1990 | 2000 | 2005 |
| Wildfire | 100 | 100 | 100 |
| Planned fire | 0 | 0 | 0 |

Note: The figures for the reporting years refer to the averages of annually affected areas for the 5-year periods 1988-1992, 1998-2002 and 2003-2007 respectively

9.4 Comments to Table T9

| Variable / category | Comments related to data, definitions, etc. | Comments on the reported trend |
|-------------------------|---------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| Area affected by fire | | Fire fighting strategy is improving. Area affected by fire is usually determined by 1-2 very large wild fires every few years. |
| Number of fires | | |
| Wildfire / planned fire | | |

| Other general comments to the table |
|-------------------------------------|
| |

10 Table T10 – Other disturbances affecting forest health and vitality

10.1 FRA 2010 Categories and definitions

| Term | Definition |
|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Disturbance | Damage caused by any factor (biotic or abiotic) that adversely affects the vigour and productivity of the forest and which is not a direct result of human activities. |
| Invasive species | Species that are non-native to a particular ecosystem and whose introduction and spread cause, or are likely to cause, socio-cultural, economic or environmental harm or harm to human health. |
| Category | Definition |
| Disturbance by insects | Disturbance caused by insect pests. |
| Disturbance by diseases | Disturbance caused by diseases attributable to pathogens, such as bacteria, fungi, phytoplasma or virus. |
| Disturbance by other biotic agents | Disturbance caused by biotic agents other than insects or diseases, such as wildlife browsing, grazing, physical damage by animals, etc. |
| Disturbance caused by abiotic factors | Disturbances caused by abiotic factors, such as air pollution, snow, storm, drought, etc. |

10.2 National data

10.2.1 Data sources

| References to sources of information | Quality (H/M/L) | Variable(s) | Year(s) | Additional comments |
|--------------------------------------|-----------------|-------------|---------|-----------------------------------------------------------------------------|
| Inventory | M | | | Inventory is accomplished about every 10 years in all planted forest areas. |
| Foresters reports | M | | | |

10.2.2 Classification and definitions

| National class | Definition |
|---------------------------------------|-------------|
| Disturbance by insects | Same as FRA |
| Disturbance by diseases | Same as FRA |
| Disturbance caused by abiotic factors | Same as FRA |

10.3 Data for Table T10

Table 10a – Disturbances

| FRA 2010 category | Affected forest area (1000 hectares) | | |
|--------------------------------------------|--------------------------------------|--------------|--------------|
| | 1990 | 2000 | 2005 |
| Disturbance by insects | 10.395 | 2.298 | 2.579 |
| Disturbance by diseases | 0.30 | 0.05 | 0.025 |
| Disturbance by other biotic agents | 0 | 0 | 0 |
| Disturbance caused by abiotic factors | 0.50 | 1.268 | 0.002 |
| Total area affected by disturbances | 11.195 | 3.616 | 2.606 |

Notes: The figures for the reporting years refer to the averages of annually affected areas for the 5-year periods 1988-1992, 1998-2002 and 2003-2007 respectively.

The total area affected by disturbances is not necessarily the sum of the individual disturbances as these may be overlapping.

Table 10b – Major outbreaks of insects and diseases affecting forest health and vitality

| Description / name | Tree species or genera affected (scientific name) | Year(s) of latest outbreak | Area affected (1000 hectares) | If cyclic, approx. cycle (years) |
|--------------------|---------------------------------------------------|----------------------------|-------------------------------|----------------------------------|
| Disturbance 1 | <i>Matsucoccus josephi</i> | 1980 - 1990 | 7.276 | |
| Disturbance 2 | <i>Thaumetopea wilkinsoni</i> | 2007 - 2008 | 2.40 | |
| Disturbance 3 | <i>Orthotomicus erosus</i> | 1998 - 2000 | 1.08 | |
| Disturbance 4 | <i>Phorocanta semipunctata</i> | 1998 - 2000 | 0.186 | |
| Disturbance 5 | <i>Leptocybe invasa</i> | 2005 – 2008 | 1.0 | |
| Disturbance 6 | <i>Ophelimus maskelli</i> | 2005 – 2008 | 0.5 | |
| Disturbance 7 | <i>Lymantria dispar</i> | 1999 – 2000 | 1.5 | |
| Disturbance 8 | <i>Pineus pini</i> | 2005 – 2008 | 0.05 | |
| Disturbance 9 | <i>Seiridium cardinale</i> | 1982 – 1989 | 0.1 | |
| Disturbance 10 | <i>Displodia pinea f. sp. cupressi</i> | 1982 – 1989 | 0.2 | |

Note: Area affected refers to the total area affected during the outbreak.

Table 10c – Area of forest affected by woody invasive species

| Scientific name of woody invasive species | Forest area affected 2005 (1000 hectares) |
|-------------------------------------------------------------|-------------------------------------------|
| <i>Sp.1: Acacia saligna</i> | 0.54 |
| <i>Sp.2: Acacia victoria</i> | 0.03 |
| <i>Sp.3: Acacia salicina</i> | 0.03 |
| <i>Sp.4: Parkinsonia aculeata</i> | 0.02 |
| Total forest area affected by woody invasive species | 0.62 |

Note: The total forest area affected by woody invasive species is not necessary the sum of the values above, as these may be overlapping.

10.4 Comments to Table T10

| Variable / category | Comments related to data, definitions, etc. | Comments on the reported trend |
|---------------------------------------|----------------------------------------------------------------------|--------------------------------|
| Disturbance by insects | | |
| Disturbance by diseases | | |
| Disturbance by other biotic agents | | |
| Disturbance caused by abiotic factors | Most of the damage caused by very strong drought in years 1999-2000. | |
| Major outbreaks | | |
| Invasive species | | |

| Other general comments to the table |
|-------------------------------------|
| |

11 Table T11 – Wood removals and value of removals

11.1 FRA 2010 Categories and definitions

| Category | Definition |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| Industrial roundwood removals | The wood removed (volume of roundwood over bark) for production of goods and services other than energy production (woodfuel). |
| Woodfuel removals | The wood removed for energy production purposes, regardless whether for industrial, commercial or domestic use. |

11.2 National data

11.2.1 Data sources

| References to sources of information | Quality (H/M/L) | Variable(s) | Year(s) | Additional comments |
|--------------------------------------|-----------------|-------------|---------|---------------------|
| Forestry Database | M | | | Updated regularly |

11.2.2 Classification and definitions

| National class | Definition |
|-------------------------------|-------------|
| Industrial roundwood removals | Same as FRA |

11.3 Data for Table T11

| FRA 2010 Category | Industrial roundwood removals | | | Woodfuel removals | | |
|---------------------------------------------------|-------------------------------|--------|--------|-------------------|------|------|
| | 1990 | 2000 | 2005 | 1990 | 2000 | 2005 |
| Total volume (1000 m ³ o.b.) | 76 | 81 | 22 | 2 | 2 | 5 |
| ... of which from forest | 76 | 81 | 22 | 2 | 2 | 5 |
| Unit value (local currency / m ³ o.b.) | 240 | 420 | 480 | 350 | 350 | 350 |
| Total value (1000 local currency) | 18,240 | 34,020 | 10,560 | 700 | 700 | 1750 |

Note: The figures for the reporting years refer to the averages of annually affected areas for the 5-year periods 1988-1992, 1998-2002 and 2003-2007 respectively.

| | 1990 | 2000 | 2005 |
|------------------------|------|------|------|
| Name of local currency | NIS | NIS | NIS |

11.4 Comments to Table T11

| Variable / category | Comments related to data, definitions, etc. | Comments on the reported trend |
|-----------------------------------------------|---------------------------------------------|------------------------------------------------------------------------------------------|
| Total volume of industrial roundwood removals | | Wood removals decreased due to shutdown of MDF plant that was the main consumer of wood. |
| Total volume of woodfuel removals | Figures provided for 1990 same as 2000 | |
| Unit value | NIS – new Israeli shekel | Prices for firewood increased due to increased prices of other energy. |
| Total value | NIS (thousand) | |

| Other general comments to the table |
|---------------------------------------------------------------------------------------------------------|
| Wood fuel removals are mainly from "other wooded land" and no data is reported on this type of removals |

12 Table T12 – Non-wood forest products removals and value of removals

12.1 FRA 2010 Categories and definitions

| Term | Definition |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------|
| Non-wood forest product (NWFP) | Goods derived from forests that are tangible and physical objects of biological origin other than wood. |
| Value of NWFP removals | For the purpose of this table, value is defined as the market value at the site of collection or forest border. |

NWFP categories

| Category |
|----------------------------------------------------------|
| <u>Plant products / raw material</u> |
| 1. Food |
| 2. Fodder |
| 3. Raw material for medicine and aromatic products |
| 4. Raw material for colorants and dyes |
| 5. Raw material for utensils, handicrafts & construction |
| 6. Ornamental plants |
| 7. Exudates |
| 8. Other plant products |
| <u>Animal products / raw material</u> |
| 9. Living animals |
| 10. Hides, skins and trophies |
| 11. Wild honey and bee-wax |
| 12. Wild meat |
| 13. Raw material for medicine |
| 14. Raw material for colorants |
| 15. Other edible animal products |
| 16. Other non-edible animal products |

12.2 National data

12.2.1 Data sources

| References to sources of information | Quality (H/M/L) | Variable(s) | Year(s) | Additional comments |
|--------------------------------------|-----------------|-------------|---------|---------------------|
| Expert estimation | L | | | |

12.3 Data for Table T12

| Rank | Name of product | Key species | Unit | NWFP removals 2005 | | NWFP category |
|---------------------------|--------------------|-----------------------------|------|--------------------|-----------------------------|---------------|
| | | | | Quantity | Value (1000 local currency) | |
| 1 st | Gundelia | <i>Gundelia toumefortii</i> | NA | NA | NA | 1 |
| 2 nd | Carob | <i>Ceratonia siliqua</i> | NA | NA | NA | 1 |
| 3 rd | Laurel | <i>Laurus nobilis</i> | NA | NA | NA | 3 |
| 4 th | Sage | <i>Salvia spp.</i> | NA | NA | NA | 3 |
| 5 th | Syrian marjoram | <i>Majorana syriaca</i> | NA | NA | NA | 3 |
| 6 th | Chukar | <i>Alectoris chukar</i> | NA | NA | NA | 12 |
| 7 th | Wild boar | <i>Sus scrofa</i> | NA | NA | NA | 12 |
| 8 th | Mountain gazelle | <i>Gazelle gazella</i> | NA | NA | NA | 12 |
| 9 th | Suillus granulatus | Suillus granulatus | NA | NA | NA | 3 |
| 10 th | | | | | | |
| All other plant products | | | | | NA | |
| All other animal products | | | | | NA | |
| TOTAL | | | | | NA | |

| | 2005 |
|------------------------|------|
| Name of local currency | |

12.4 Comments to Table T12

| Variable / category | Comments related to data, definitions, etc. |
|----------------------------|---------------------------------------------|
| 10 most important products | |
| Other plant products | |
| Other animal products | |
| Value by product | |
| Total value | |

| Other general comments to the table |
|---------------------------------------------------------------------------------------------------|
| All the uses of NWFP allowed only for private use and no commercial use is allowed on public land |

13 Table T13 – Employment

13.1 FRA 2010 Categories and definitions

| Category | Definition |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Full-time equivalents (FTE) | A measurement equal to one person working full-time during a specified reference period. |
| Employment | Includes all persons in paid employment or self-employment. |
| Paid employment | Persons who during a specified reference period performed some work for <u>wage or salary</u> in cash or in kind. |
| Self-employment | Persons who during a specified reference period performed some work for <u>profit or family gain</u> in cash or in kind (e.g. employers, own-account workers, members of producers' cooperatives, contributing family workers). |

13.2 National data

13.2.1 Data sources

| References to sources of information | Quality (H/M/L) | Variable(s) | Year(s) | Additional comments |
|----------------------------------------------------------------------|-----------------|---------------------|---------|---------------------|
| Contribution of the forestry sector to national economy, 1990 - 2006 | M | Forestry employment | 2008 | FAO study |

13.2.2 Original data

Figures taken from the FAO study: “Contribution of the forestry sector to national economies 1990 – 2006”

13.3 Data for Table T13

| FRA 2010 Category | Employment (1000 years FTE) | | |
|---------------------------------------------|-----------------------------|------|------|
| | 1990 | 2000 | 2005 |
| Employment in primary production of goods | 4 | 3 | 1 |
| ...of which paid employment | na | na | na |
| ...of which self-employment | na | na | na |
| Employment in management of protected areas | na | na | na |

13.4 Comments to Table T13

| Variable / category | Comments related to data, definitions, etc. | Comments on the reported trend |
|---------------------------------------------|---------------------------------------------|--------------------------------|
| Employment in primary production of goods | | |
| Paid employment / self-employment | | |
| Employment in management of protected areas | | |

| Other general comments to the table |
|-------------------------------------|
| |

14 Table T14 – Policy and legal framework

14.1 FRA 2010 Categories and definitions

| Term | Definition |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Forest policy | A set of orientations and principles of actions adopted by public authorities in harmony with national socio-economic and environmental policies in a given country to guide future decisions in relation to the management, use and conservation of forest and tree resources for the benefit of society. |
| Forest policy statement | A document that describes the objectives, priorities and means for implementation of the forest policy. |
| National forest programme (nfp) | A generic expression that refers to a wide range of approaches towards forest policy formulation, planning and implementation at national and sub-national levels. The national forest programme provides a framework and guidance for country-driven forest sector development with participation of all stakeholders and in consistence with policies of other sectors and international policies. |
| Law (Act or Code) on forest | A set of rules enacted by the legislative authority of a country regulating the access, management, conservation and use of forest resources. |

14.2 Data for Table T14

| Indicate the existence of the following (2008) | | | |
|--------------------------------------------------------|-------------------------------------|---------------------------------------------------------------------------|-------------------|
| Forest policy statement with national scope | <input checked="" type="checkbox"/> | Yes | |
| | <input type="checkbox"/> | No | |
| If Yes above, provide: | Year of endorsement | 2006 | |
| | Reference to document | See in comments | |
| National forest programme (nfp) | <input type="checkbox"/> | Yes | |
| | <input checked="" type="checkbox"/> | No | |
| If Yes above, provide: | Name of nfp in country | Master Plan for Forests and Afforestation (NMP22) | |
| | Starting year | 1995 | |
| | Current status | <input type="checkbox"/> | In formulation |
| | | <input type="checkbox"/> | In implementation |
| | | <input checked="" type="checkbox"/> | Under revision |
| Reference to document or web site | <input type="checkbox"/> | Process temporarily suspended | |
| | | http://www.kkl.org.il | |
| Law (Act or Code) on forest with national scope | <input checked="" type="checkbox"/> | Yes, specific forest law exists | |
| | <input type="checkbox"/> | Yes, but rules on forests are incorporated in other (broader) legislation | |
| | <input type="checkbox"/> | No, forest issues are not regulated by national legislation | |
| If Yes above, provide: | Year of enactment | 1926 | |
| | Year of latest amendment | 2008 | |
| | Reference to document | Forest act No.5, 1926 | |

| In case the responsibility for forest policy- and/or forest law-making is decentralized, please indicate the existence of the following and explain in the comments below the table how the responsibility for forest policy- and law-making is organized in your country. | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-----|
| Sub-national forest policy statements | | Yes |
| | V | No |
| If Yes above, indicate the number of regions/states/provinces with forest policy statements | | |
| Sub-national Laws (Acts or Codes) on forest | | Yes |
| | V | No |
| If Yes above, indicate the number of regions/states/provinces with Laws on forests | | |

14.3 Comments to Table T14

| Variable / category | Comments related to data, definitions, etc. |
|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Forest policy statement with national scope | This document is not available on a website. This is an official Board of Directors decision |
| National forest programme (nfp) | |
| Law (Act or Code) on forest with national scope | Forest act No.5, 1926 was made by the British Mandate. Under revision. The latest amendment obligates to map all the trees that might get heart by any development plan. The developers must consult KKL before the plan can be approved and also plant new trees instead of the trees that was removed. |
| Sub-national forest policy statements | |
| Sub-national Laws (Acts or Codes) on forest | |

| Other general comments to the table |
|-------------------------------------|
| |

15 Table T15 – Institutional framework

15.1 FRA 2010 Categories and definitions

| Term | Definition |
|-----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| Minister responsible for forest policy-making | Minister holding the main responsibility for forest issues and the formulation of the forest policy. |
| Head of Forestry | The Head of Forestry is the Government Officer responsible for implementing the mandate of the public administration related to forests. |
| Level of subordination | Number of administrative levels between the Head of Forestry and the Minister. |
| University degree | Qualification provided by University after a minimum of 3 years of post secondary education. |

15.2 Data for Table T15

Table 15a – Institutions

| FRA 2010 Category | 2008 | |
|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|
| Minister responsible for forest policy formulation : please provide full title | Government of ISRAEL, Minister of Agriculture | |
| Level of subordination of Head of Forestry within the Ministry | | 1 st level subordination to Minister |
| | | 2 nd level subordination to Minister |
| | V | 3 rd level subordination to Minister |
| | | 4 th or lower level subordination to Minister |
| Other public forest agencies at national level | Keren Kayemet L'Israel – Forest Dpt. A national authority that is responsible for all planted and most of natural forests in Israel. | |
| Institution(s) responsible for forest law enforcement | Keren Kayemet L'Israel | |

Table 15b – Human resources

| FRA 2010 Category | Human resources within public forest institutions | | | | | |
|--------------------------------------------------|---------------------------------------------------|---------|--------|---------|--------|---------|
| | 2000 | | 2005 | | 2008 | |
| | Number | %Female | Number | %Female | Number | %Female |
| Total staff | 1,100 | %10 | 800 | %10 | 550 | %10 |
| ...of which with university degree or equivalent | 160 | na | 140 | na | 110 | na |

Notes:

1. Includes human resources within public forest institutions at sub-national level
2. Excludes people employed in State-owned enterprises, education and research, as well as temporary / seasonal workers.

15.3 Comments to Table T15

| Variable / category | Comments related to data, definitions, etc. | Comments on the reported trend |
|----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
| Minister responsible for forest policy formulation | | |
| Level of subordination of Head of Forestry within the Ministry | Keren Kayemet L'Israel is a national organization that deals with many aspects of open land development (agriculture, water resources, forest) Forest Dpt. responsibility for forestry comes from the Ministry of Agriculture by law. The Forest Department Director gets his or her nomination as the "National Forest Official" from the minister. Once a year the ministry of Agriculture approves the Forest Department yearly forestry plans. Throughout the year, there is a limited connection or inspection of the forest department activity. | |
| Other public forest agencies at national level | Natural Reserves & Parks authority. | |
| Institution(s) responsible for forest law enforcement | KKL – Land Development authority. | |
| Human resources within public forest institutions | Keren Kayemet L'Israel faced during the last 10 years 3 rounds of human resources cuttings due to budget cuttings. In general we see constant reduction in human resources. Most of field work and parts of the professional work are done by outsourcing. | |

Other general comments to the table

| |
|--|
| |
|--|

16 Table T16 – Education and research

16.1 FRA 2010 Categories and definitions

| Term | Definition |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| Forest-related education | Post-secondary education programme with focus on forests and related subjects. |
| Doctor's degree (PhD) | University (or equivalent) education with a total duration of about 8 years. |
| Master's degree (MSc) or equivalent | University (or equivalent) education with a total duration of about five years. |
| Bachelor's degree (BSc) or equivalent | University (or equivalent) education with a duration of about three years. |
| Technician certificate or diploma | Qualification issued from a technical education institution consisting of 1 to 3 years post secondary education. |
| Publicly funded forest research centers | Research centers primarily implementing research programmes on forest matters. Funding is mainly public or channelled through public institutions. |

16.2 Data for Table T16

| FRA 2010 Category | Graduation ¹⁾ of students in forest-related education | | | | | |
|-----------------------------------------|--------------------------------------------------------------------------------|---------|--------|---------|--------|---------|
| | 2000 | | 2005 | | 2008 | |
| | Number | %Female | Number | %Female | Number | %Female |
| Master's degree (MSc) or equivalent | na | na | 3 | %30 | 10 | %25 |
| Bachelor's degree (BSc) or equivalent | na | na | na | na | 20 | %40 |
| Forest technician certificate / diploma | na | na | na | na | na | na |
| FRA 2010 Category | Professionals working in publicly funded forest research centres ²⁾ | | | | | |
| | 2000 | | 2005 | | 2008 | |
| | Number | %Female | Number | %Female | Number | %Female |
| Doctor's degree (PhD) | na | na | na | na | 6 | %30 |
| Master's degree (MSc) or equivalent | na | na | na | na | 0 | 0 |
| Bachelor's degree (BSc) or equivalent | na | na | na | na | 0 | 0 |

Notes:

1. Graduation refers to the number of students that have successfully completed a Bachelor's or higher degree or achieved a certificate or diploma as forest technician.
2. Covers degrees in all sciences, not only forestry.

16.3 Comments to Table T16

| Variable / category | Comments related to data, definitions, etc. | Comments on the reported trend |
|---------------------------------------------------------|---------------------------------------------|--------------------------------|
| Graduation of students in forest-related education | | |
| Professionals working in public forest research centres | | |

Other general comments to the table

Israel does not have a forestry faculty/university. Four years ago established a unique program for open-area management and sustainable development (master & bachelor degree) at Hebrew University's Faculty of Agriculture, Food, & Environmental Studies that teach some forestry subjects. In addition there are few research centres that deal with forestry.

17 Table T17 – Public revenue collection and expenditure

17.1 FRA 2010 Categories and definitions

| Category | Definition |
|-----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Forest revenue | All government revenue collected from the domestic production and trade of forest products and services. For this purpose, forest products include: roundwood; sawnwood; wood-based panels; pulp and paper; and non-wood forest products. As far as possible, this should include revenue collected by all levels of government (i.e. central, regional/provincial and municipal level), but it should exclude the income of publicly owned business entities. |
| Public expenditure | All government expenditure on forest related activities (further defined below). |
| Operational expenditure (sub-category to Public expenditure) | All government expenditure on public institutions solely engaged in the forest sector. Where the forest administration is part of a larger public agency (e.g. department or ministry), this should only include the forest sector component of the agency's total expenditure. As far as possible, this should also include other institutions (e.g. in research, training and marketing) solely engaged in the forest sector, but it should exclude the expenditure of publicly owned business entities. |
| Transfer payments (sub-category to Public expenditure) | All government expenditure on direct financial incentives paid to non-government and private-sector institutions, enterprises communities or individuals operating in the forest sector to implement forest related activities. |
| Domestic funding | Public expenditure funded from domestic public financial resources, including: retained forest revenue; forest-related funds; and allocations from the national budget (i.e. from non-forest sector public revenue sources). |
| External funding | Public expenditure funded from grants and loans from donors, non-governmental organisations, international lending agencies and international organisations, where such funds are channelled through national public institutions. |

17.2 National data

17.2.1 Original data

See final reporting table

17.3 Data for Table T17

Table 17a - Forest revenues

| FRA 2010 Categories | Revenues (1000 local currency) | |
|---------------------|-----------------------------------|------|
| | 2000 | 2005 |
| Forest revenue | nd | nd |

Table 17b - Public expenditure in forest sector by funding source

| FRA 2010 Categories | Domestic funding (1000 local currency) | | External funding (1000 local currency) | | Total (1000 local currency) | |
|---------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|-------------------------------------------------|-------------------------------------------|------|--------------------------------|-------|
| | 2000 | 2005 | 2000 | 2005 | 2000 | 2005 |
| Operational expenditure | na | na | na | na | 116000 | 57000 |
| Transfer payments | na | na | na | na | 0 | 0 |
| Total public expenditure | na | na | na | na | 116000 | 57000 |
| If transfer payments are made for forest management and conservation, indicate for what specific objective(s) - Please tick all that apply. | <input type="checkbox"/> | Reforestation | | | | |
| | <input type="checkbox"/> | Afforestation | | | | |
| | <input type="checkbox"/> | Forest inventory and/or planning | | | | |
| | <input type="checkbox"/> | Conservation of forest biodiversity | | | | |
| | <input type="checkbox"/> | Protection of soil and water | | | | |
| | <input type="checkbox"/> | Forest stand improvement | | | | |
| | <input type="checkbox"/> | Establishment or maintenance of protected areas | | | | |
| | <input type="checkbox"/> | Other, specify below | | | | |
| Picnic sites, fire fighting, forest road construction and maintenance. | | | | | | |

17.4 Comments to Table T17

| Variable / category | Comments related to data, definitions, etc. | Comments on the reported trend |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Forest revenue | | There is a little revenue from KKL products (Blue Box, books. Post stamps). Bigger revenue comes from donations. The forests itself do not provide revenue. Forests in Israel are serving mainly for ecological and social objectives. |
| Operational expenditure | | Between years 2003-2006 KKL faced a dramatic cut in the budget. Lately this trend changed in a positive way. |
| Transfer payments | All forestry budget is KKL money that comes from its resources (land revenue). No transfer payments come from the government for forestry. | |

| Other general comments to the table |
|-------------------------------------|
| |