



Forestry Department

Food and Agriculture Organization of the United Nations

**GLOBAL FOREST RESOURCES
ASSESSMENT**

COUNTRY REPORTS

KYRGYZSTAN

FRA2005/181
Rome, 2005



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 2005 (FRA 2005), which is the most comprehensive assessment to date. More than 800 people have been involved, including 172 national correspondents and their colleagues, an Advisory Group, international experts, FAO staff, consultants and volunteers. Information has been collated from 229 countries and territories for three points in time: 1990, 2000 and 2005.

The reporting framework for FRA 2005 is based on the thematic elements of sustainable forest management acknowledged in intergovernmental forest-related fora and includes more than 40 variables related to the extent, condition, uses and values of forest resources. More information on the FRA 2005 process and the results - including all the country reports - is available on the FRA 2005 Web site (www.fao.org/forestry/fra2005).

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The Global Forest Resources Assessment 2005 Country Report Series is designed to document and make available the information forming the basis for the FRA 2005 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

The Report on the “*FAO Global Forest Resources Assessment 2005*” was prepared at the national level by the State Forest Service of the Kyrgyz Republic, mainly on the basis of the materials from the “*Simultaneous State Forest Fund Account of the Kyrgyz Republic*” for the years 1993, 1998 and 2003.

The State Forest Service implements the Account of the State Forest Fund only within the limits of its authority, and does not possess information for all the forests of the Kyrgyz Republic. Hence, the information presented in the Reporting Tables 1-15 only refers to the State Forest Fund.

There is a need for a nation-wide Forest Resources Assessment / Inventory in Kyrgyzstan, and as the result, in obtaining the information about the current state of forests in the Kyrgyz Republic, and their changes, which is needed for the further development of the forestry sector, and for the protection of the environment.

Abbreviations

| | | |
|----------|---|---|
| FRA-2000 | - | Global Forest Resources Assessment 2000 |
| FRA-2005 | - | Global Forest Resources Assessment 2005 |
| FAO | - | Food and Agriculture Organization of the United Nations |
| UNECE | - | UN Economic Commission for Europe |
| KR | - | Kyrgyz Republic |
| SFF | - | State Forest Fund |
| NSC | - | National Statistical Committee of the Kyrgyz Republic |
| OWL | - | Other wooded land |
| OLTC | - | Other land with tree cover |
| BEF | - | Biomass Expansion Factor |
| DW | - | Density of Wood |
| H | - | High quality (<i>of data / information</i>) |
| M | - | Medium quality |
| L | - | Low quality |
| ID | - | Insufficient Data |
| N/A | - | Not applicable |
| NDA | - | No Data Available |

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1 Table T1 – Extent of Forest and Other wooded land

1.1 FRA 2005 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. |

| | |
|--|--|
| Units | 1000 ha |
| Territory to which the presented/reported data/information refer | All the territory of the country, State Forest Fund (SFF) of the country |
| Reporting years | 1990, 2000, 2005 |

1.2 National data

1.2.1 Data sources

| References to sources of information | Quality (H/M/L) | Variable(s) | Year(s) | Additional comments (coverage) |
|---|-----------------|------------------------|---------|---|
| Forest Code of the Kyrgyz Republic | H | Forest area | 1999 | All the territory of the country |
| Land Code | H | Land use | 1999 | |
| Simultaneous State Forest Account of the Kyrgyz Republic for 1993, Forestry Development Department | M | Forest cover | 1993 | State Forest Fund of the Kyrgyz Republic |
| Simultaneous State Forest Account of the Kyrgyz Republic for 1998, Forestry Development Department | M | Forest cover | 1998 | State Forest Fund of the Kyrgyz Republic |
| Simultaneous State Forest Account of the Kyrgyz Republic for 2003, State Forestry Service | M | Forest cover | 2003 | State Forest Fund of the Kyrgyz Republic |
| Manual (Handbook, Guidance) for the field work, Kyrgyz-Swiss Programme of Support to Forestry | H | Variables in the Table | 1998 | “Spruce belt” of the Issyk-Kuhl oblast (region), <i>Juniperous</i> and <i>Juglans</i> forests of the KR south |
| “Kyrgyzstan in Figures”, official publication, National Statistical Committee of the KR | H | Variables in the Table | 2004 | All the territory of the country |
| Statistical Indexes of the Development of the Kyrgyz Republic and its regions, National Statistical Committee of the KR, Department of International Development of the Great Britain | H | Variables in the Table | 2004 | All the territory of the country |

1.2.2 Classification and definitions

| National class | Definition |
|--|---|
| Forest | Vegetation, which is represented by existing forest species, implementing different protective and other functions, and used for the wood production. The horizontal forest area has minimum canopy cover (crown closeness) of 10 percent, minimum breadth of 25 meters, and minimum height of 2 meters. The forests include the State Forest Fund lands covered by forests, and forests of the municipal (communal) and private ownership. |
| State Forest Fund of the Kyrgyz Republic | The nature-economic entity (object) of the state ownership, representing the totality of all forests, forest and non-forest lands, available for forestry needs, except forests in the municipal (communal) and private ownership. |
| Forest lands | Land areas, which are suitable and intended for growing of forests, as well as those covered by the natural sparse stands/ trees and bushy vegetation (shrubs). Forest lands include areas covered by the forest vegetation and lands not covered by the forest vegetation. |
| Stocked (closed) forest lands | Land areas occupied by young stands with the crown cover of 10 % and higher, and stands of other age classes/ groups, as well as land areas occupied by shrubs (bushes), where stands of trees species can be established without special forest-amelioration work, or where special shrubs (bushes) management activities can be organized. They include the planted forests (plantations) areas. |
| Other forest lands | Land areas, which include non-stocked (open) planted forests, forest nurseries, plantations, areas not covered by forest. |
| Un-stocked planted forests | Land areas with the forest stands that have not reached the stage of the crown closeness. |
| Forest nurseries, plantations | Land areas, which are included into the lands covered by the forest vegetation, and which are intended for growing the forest planting material. |
| Open (un-stocked) forest lands | Forest lands areas not covered by forest, but intended for its regeneration/ reforestation. Include natural sparse stands/ trees and the reforestation fund. |
| Reforestation Fund | Fund that includes forest lands suitable for growing and regeneration of forest (clear-cut areas, burned areas, openings, waste lands). |
| SFF non-forest lands | Land areas of the State Forest Fund (SFF) not suitable for growing forest. Include swamps/ bogs, water, roads, glaciers, pastures, arable lands, etc. |
| Other lands | Include non-forest lands of the State Forest Fund (SFF), agricultural lands, other land areas, covered by the woody vegetation, swamps, and other lands, which are not included in the SFF. |
| Water | Includes major rivers, lakes and water reservoirs. |

Note: The above national definitions and classifications not completely correspond to the definitions applied in FRA-2005, that is why there is a need in the harmonisation of definitions at the international level, and bringing them to a common standard.

1.2.3 Original data

| National category/ class | 1993 1000 ha | 1998 1000 ha | 2003 1000 ha | Average annual change |
|-------------------------------------|-----------------|-----------------|-----------------|-----------------------------|
| Forest lands | 1132.3 | 1143 | 1173.8 | |
| Stocked (closed) forest lands (SFF) | 843.0 | 849.5 | 864.9 | 2.19 |
| Other forest lands | 289.3 | 293.5 | 308.9 | 1.96 |
| Of which: | | | | |
| Un-stocked planted forests | 19.9 | 23.0 | 29.0 | |
| Forest nurseries, plantations | 1.2 | 1.4 | 1.2 | |
| Open (un-stocked) forest lands | 268.2 | 269.1 | 278.7 | |

| | | | | |
|-------------------------|--------------|--------------|--------------|--|
| Of which: | | | | |
| Sparse stands/ trees | 133.5 | 155.8 | 173.2 | |
| Reforestation Fund | 134.7 | 113.3 | 105.5 | |
| Non-forest lands | | | | |
| Other lands */ | 17983.7 | 17973 | 17942.2 | |
| Of which: | | | | |
| Non-forest lands (SFF), | 1729.0 | 2020.2 | 2147.7 | |
| Water | 879.0 | 879.0 | 879.0 | |
| TOTAL | 19995 | 19995 | 19995 | |

*/ approximated data

1.3 Analysis and processing of national data

1.3.1 Calibration

| Data sources | Total Land Area (1000 ha) | Total Water Area (1000 ha) |
|-------------------|------------------------------|-------------------------------|
| National data | 19995 * | 879** |
| FAOSTAT | 19990 | 810 |
| Difference | 5 | 69 |
| Conversion factor | 0.999 | 0.92 |

*/ - Official territory/ area according to the National Statistical Committee (NSC) of the Kyrgyz Republic

**/ - 4.4 % of the total territory of the country, according to the NSC of the Kyrgyz Republic

Note: The calibration of data was implemented without an application of the conversion factor, as the national data are of the official character. Instead, the difference between the FAOSTAT data on “Total area” and “Inland water” and the corresponding national data, was regulated within the variable “Other land” in Table 1.3.2.

1.3.2 Estimation and forecasting

| National category/ class | 1990* 1000 ha | 2000 1000 ha | 2005 1000 ha |
|-------------------------------------|------------------|-----------------|-----------------|
| Forest lands | | | |
| Stocked (closed) forest lands (SFF) | 836.4 | 858.3 | 869.3 |
| Other forest lands | 283.4 | 303.0 | 312.8 |
| Non-forest lands | | | |
| Other lands | 18060.2 | 18018.7 | 17997.9 |
| Water | 810.0 | 810.0 | 810.0 |
| TOTAL | 19990 | 19990 | 19990 |

*/ - Due to the lack of data for the basic (reference) period 1988-1990, the estimate for 1990 was implemented taking into account the annual changes for the basic period (reference) period 1993-2003, i.e. from the 1993 data there were deducted the number of years before 1993 multiplied by the annual change. According to the experts’ opinion, this estimation reflects quite closely the current situation.

1.4 Reclassification into FRA 2005 classes

| National category/ class | FRA 2005 Categories | | | |
|--------------------------|---------------------|------|------------|-------|
| | Forest | OWL | Other land | Total |
| Forest | 100% | | | 100% |
| Other forest lands | | 100% | | 100% |
| Other land | | | 100% | 100% |

The estimated area of “Other wooded land” is derived from the national category “Other forest land” within the State Forest Fund and includes also areas that would qualify as “Forest” according to the FRA 2005 definitions. However, no quantitative information is available that allow for an appropriate subdivision into “Forest” and “Other wooded land” according to the FRA 2005 definitions, therefore all this area has been classified as “Other wooded land”.

1.5 Data for National reporting table T1

| FRA 2005 Categories | Area (1000 hectares) | | |
|-----------------------------|----------------------|--------------|--------------|
| | 1990 | 2000 | 2005 |
| Forest | 836.4 | 858.3 | 869.3 |
| Other wooded land | 283.4 | 303.0 | 312.8 |
| Other land | 18060.2 | 18018.7 | 17997.9 |
| ...of which with tree cover | NDA | NDA | NDA |
| Inland water bodies | 810.0 | 810.0 | 810.0 |
| TOTAL | 19990 | 19990 | 19990 |

1.6 Comments to National reporting table T1

The priority direction of the forest policy of the Kyrgyz Republic is the increase of the forest area of the Republic as a whole up to 6 %. Presently, this indicator is equal to 4.32 %. The increase of forest areas during the period 1993-2003 was on the following reasons:

- Transfer of lands from State Land Fund to the State Forest Fund;
- Natural regeneration of forests;
- Discontinuation of clear-cuts;
- Transfer of un-stocked planted forests into the stocked (closed) forest lands.

2 Table T2 – Ownership of Forest and Other wooded land

2.1 FRA 2005 Categories and definitions

| Category | Definition |
|-------------------|---|
| Private ownership | Land owned by individuals, families, private co-operatives, corporations, industries, religious and educational institutions, pension or investment funds, and other private institutions. |
| Public ownership | Land owned by the State (national, state and regional governments) or government-owned institutions or corporations or other public bodies including cities, municipalities, villages and communes. |
| Other ownership | Land that is not classified either as “Public ownership” or as “Private ownership”. |

| | |
|---|--|
| Units | 1000 ha |
| Territory to which the presented/reported data/information refer | All the territory of the country, State Forest Fund (SFF) of the country |
| Reporting years | 1990, 2000, 2005 |

2.2 National data

2.2.1 Data sources

| References to sources of information | Quality (H/M/L) | Variable(s) | Year(s) | Additional comments |
|---|-----------------|------------------------|---------|--|
| Simultaneous State Forest Account of the Kyrgyz Republic for 1993, Forestry Development Department | M | Forest ownership | 1993 | State Forest Fund of the Kyrgyz Republic |
| Simultaneous State Forest Account of the Kyrgyz Republic for 1998, Forestry Development Department | M | Forest ownership | 1998 | State Forest Fund of the Kyrgyz Republic |
| Simultaneous State Forest Account of the Kyrgyz Republic for 2003, State Forest Service | M | Forest ownership | 2003 | State Forest Fund of the Kyrgyz Republic |
| Statistical Indexes of the Development of the Kyrgyz Republic and its regions, National Statistical Committee of the KR, Department of International Development of the Great Britain | H | Variables in the Table | 2004 | All the territory of the country |

2.2.2 Classification and definitions

| National category/ class | Definition |
|--------------------------|-----------------------------------|
| Private ownership | none |
| Public ownership | Land areas in the state ownership |
| Other ownership | none |

2.2.3 Original data

All forest land in the Kyrgyz Republic are owned by the state

2.3 Data for National reporting table T2

| FRA 2005 Categories | Area (1000 hectares) | | | |
|---------------------|----------------------|--------------|-------------------|--------------|
| | Forest | | Other wooded land | |
| | 1990 | 2000 | 1990 | 2000 |
| Private ownership | 0 | 0 | 0 | 0 |
| Public ownership | 836.4 | 858.3 | 283.4 | 303.0 |
| Other ownership | 0 | 0 | 0 | 0 |
| TOTAL | 836.4 | 858.3 | 283.4 | 303.0 |

3 Table T3 – Designated function of Forest and Other wooded land

3.1 FRA 2005 Categories and definitions

Types of designation

| Category | Definition |
|--------------------------|--|
| Primary function | A designated function is considered to be primary when it is significantly more important than other functions. This includes areas that are legally or voluntarily set aside for specific purposes. |
| Total area with function | Total area where a specific function has been designated, regardless whether it is primary or not. |

Designation categories

| Category / Designated function | Definition |
|--------------------------------|--|
| Production | Forest / Other wooded land designated for production and extraction of forest goods, including both wood and non-wood forest products. |
| Protection of soil and water | Forest / Other wooded land designated for protection of soil and water. |
| Conservation of biodiversity | Forest / Other wooded land designated for conservation of biological diversity. |
| Social services | Forest / Other wooded land designated for the provision of social services. |
| Multiple purpose | Forest / Other wooded land designated to any combination of: production of goods, protection of soil and water, conservation of biodiversity and provision of social services and where none of these alone can be considered as being significantly more important than the others. |
| No or unknown function | Forest / Other wooded land for which a specific function has not been designated or where designated function is unknown. |

| | |
|---|---|
| Units | 1000 ha |
| Territory to which the presented/reported data/information refer | Forests and Other wooded lands under the authority of the State Forest Service of the Kyrgyz Republic |
| Reporting years | 1990, 2000, 2005 |

3.2 National data

3.2.1 Data sources

| References to sources of information | Quality (H/M/L) | Variable(s) | Year(s) | Additional comments |
|---|-----------------|----------------|---------|--|
| Simultaneous State Forest Fund Account of the Kyrgyz Republic for 1993, Forestry Development Department | M | Table coverage | 1993 | State Forest Fund of the Kyrgyz Republic |
| Simultaneous State Forest Fund Account of the Kyrgyz Republic for 1998, Forestry Development Department | M | Table coverage | 1998 | State Forest Fund of the Kyrgyz Republic |
| Simultaneous State Forest Fund Account of the Kyrgyz Republic for 2003, State Forest Service | M | Table coverage | 2003 | State Forest Fund of the Kyrgyz Republic |

3.2.2 Classification and definitions

| National class | Definition |
|---|---|
| Forest function | Economic (practical) designation of forests. There are Water-protecting, Protective, Sanitary-hygienic and health-supporting (recreation), Special, and Forest exploitation functions. |
| Water-protecting function | These functions are implemented by the protected (“forbidden”) belts of forests along the riverbanks /shores, lakes, water reservoirs, and other water objects. |
| Protective function | These functions are implemented by the soil erosion preventing forests, protective forest belts along the railroads and auto-roads of the state, republic or regional importance, state forest belts, “bayiratch” (gorge, ravine, gully) forests, which are of high importance for the protection of the environment. |
| Sanitary-hygienic and health-supporting (recreation) function | These functions are implemented by the forests of the “green belts” (zones) around cities, other settlements and industrial enterprises. |
| Special functions (designated for special purposes) | These functions are implemented by forests constituting the reservation/ preservation fund (specifically protected nature territories – forests of natural parks (“zapovednic”), national nature parks, wildlife preservation areas (“zakaznik”) vegetation / plants and animals’ kingdom of unique ecosystems, specifically preserved forest plots/ areas, forests of scientific and historical importance, natural monuments), walnut producing/ trade zones, forest fruits producing stands. |
| Exploitable forests function (Forest exploitation function) | These functions are implemented by forests / OWL, where industrial fellings of wood, and other forms of harvesting of other forest products/ raw material, are taking place (Exploitable forests). |

3.2.3 Original data

| National class | Area (1000 ha) | | |
|---|----------------|--------------|--------------|
| | 1993 | 1998 | 2003 |
| Forest | 843.0 | 849.5 | 864.9 |
| Water-protecting function | 0 | 0 | 0 |
| Protective function | 683.8 | 670.9 | 678.8 |
| Sanitary-hygienic and health-supporting (recreation) function | 16.2 | 13.1 | 13.7 |
| Special functions | 143.0 | 165.5 | 172.4 |
| Of which: | | | |
| Reservation/ preservation fund | 33.7 | 53.6 | 59.1 |
| Forest fruits producing stands | 109.3 | 111.9 | 113.3 |
| Forest exploitation function */ | 0 | 0 | 0 |
| Other wooded land | 289.3 | 293.5 | 308.9 |
| Water-protecting function | 0 | 0 | 0 |
| Protective function | 255.3 | 253.7 | 257.5 |
| Sanitary-hygienic and health-supporting (recreation) function | 4.5 | 3.7 | 4.1 |
| Special functions | 29.5 | 36.1 | 47.3 |
| Of which: | | | |
| Reservation/ preservation fund | 3.7 | 14.8 | 25.4 |
| Forest fruits producing stands | 25.8 | 21.3 | 21.9 |
| Forest exploitation function | 0 | 0 | 0 |

3.3 Reclassification into FRA 2005 classes

| National class | FRA 2005 Categories | | | | | |
|---|---------------------|------------------------------|------------------------------|-----------------|------------------|------------------------|
| | Production | Protection of soil and water | Conservation of biodiversity | Social services | Multiple purpose | No or unknown function |
| Forest | | | | | | |
| Protective function | | 100% | | | | |
| Sanitary-hygienic and health-supporting (recreation) function | | | | 100% | | |
| Special functions | | | | | | |
| Reservation/ preservation fund | | | 100% | | | |
| Forest fruits producing stands | | | | | 100% | |
| Other wooded land | | | | | | |
| Protective function | | 100% | | | | |
| Sanitary-hygienic and health-supporting (recreation) function | | | | 100% | | |
| Special functions | | | | | | |
| Reservation/ preservation fund | | | 100% | | | |
| Forest fruits producing stands | | | | | 100% | |

Note: According to the Forest Code of the Kyrgyz Republic, all forests in Kyrgyzstan have nature/ environment protection status, predominantly aiming at the ecological and sanitary-hygienic and health-supporting (recreational) objectives and, except for the “forest exploitation zone”, forbidding the industrial cutting/felling (harvesting) of wood. This information, as well as the table above, is used as a basis for the compilation of T3.

3.4 Analysis and processing of national data

3.3.2 Estimation and forecasting

For Primary function, linear interpolation and extrapolation was applied in the following way:

| FRA 2005 Categories / Designated function | Area (1000 ha) | | | Average change/yr | Area (1000 ha) | | |
|---|----------------|--------------|--------------|-------------------|----------------|--------------|--------------|
| | 1993 | 1998 | 2003 | | 1990 | 2000 | 2005 |
| Forest | 843.0 | 849.5 | 864.9 | 2.19 | 836.4 | 858.3 | 869.3 |
| Production | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Protection of soil and water | 683.8 | 670.9 | 678.8 | -0.5 | 685.3 | 680.3 | 677.8 |
| Conservation of biodiversity | 33.7 | 53.6 | 59.1 | 2.54 | 26.1 | 51.5 | 64.2 |
| Social services | 16.2 | 13.1 | 13.7 | -0.25 | 16.9 */ | 14.4 */ | 13.2 |
| Multiple purpose | 109.3 | 111.9 | 113.3 | 0.4 | 108.1 | 112.1 | 114.1 |
| No or unknown function | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other wooded land | 289.3 | 293.5 | 308.9 | 1.96 | 283.4 | 303.0 | 312.8 |
| Production | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Protection of soil and water | 255.3 | 253.7 | 257.5 | 0.22 | 254.6 | 256.8 | 257.9 |
| Conservation of biodiversity | 3.7 | 14.8 | 25.4 | 2.17 | NDA***/ | 18.9 | 29.8 **/ |
| Social services | 4.5 | 3.7 | 4.1 | -0.04 | 4.6 | 4.2 | 4.0 |
| Multiple purpose | 25.8 | 21.3 | 21.9 | -0.39 | 27.0 | 23.1 | 21.1 |
| No or unknown function | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

*/ - Rounding off was applied to decrease the value to bring in consistency with Tables T1, T2 and T4

**/ - Rounding off was applied to increase the value to bring in consistency with Tables T1, T2 and T4

***/- The 1990 data for OWL on “*Conservation of biodiversity*” was estimated as a negative value. Consequently, NDA was reported.

3.5 Data for National reporting table T3

| FRA 2005 Categories / Designated function | Area (1000 hectares) | | | | | |
|---|----------------------|--------------|--------------|--------------------------|------------------|------------------|
| | Primary function | | | Total area with function | | |
| | 1990 | 2000 | 2005 | 1990 | 2000 | 2005 |
| Forest | | | | | | |
| Production | 0 | 0 | 0 | 553.7 | 559.3 | 562.1 |
| Protection of soil and water | 685.3 | 680.3 | 677.8 | 836.4 | 858.3 | 869.3 |
| Conservation of biodiversity | 26.1 | 51.5 | 64.2 | 26.1 | 51.5 | 64.2 |
| Social services | 16.9 | 14.4 | 13.2 | 836.4 | 858.3 | 869.3 |
| Multiple purpose | 108.1 | 112.1 | 114.1 | not appl. | not appl. | not appl. |
| No or unknown function | 0 | 0 | 0 | not appl. | not appl. | not appl. |
| Total - Forest | 836.4 | 858.3 | 869.3 | not appl. | not appl. | not appl. |
| Other wooded land | | | | | | |
| Production | 0 | 0 | 0 | 0 | 0 | 0 |
| Protection of soil and water | 254.6 | 256.8 | 257.9 | 283.4 | 303.0 | 312.8 |
| Conservation of biodiversity | NDA | 18.9 | 29.8 | NDA | 18.9 | 29.7 |
| Social services | 4.6 | 4.2 | 4.0 | 4.6 | 4.2 | 4.0 |
| Multiple purpose | 27.0 | 23.1 | 21.1 | not appl. | not appl. | not appl. |
| No or unknown function | 0 | 0 | 0 | not appl. | not appl. | not appl. |
| Total – Other wooded land | 283.4 | 303.0 | 312.8 | not appl. | not appl. | not appl. |

3.6 Comments to National reporting table T3

The total area with function – production was derived from table T4 – “Forest exploitation zone”.

4 Table T4 – Characteristics of Forest and Other wooded land

4.1 FRA 2005 Categories and definitions

| Category | Definition |
|-----------------------|--|
| Primary | Forest / Other wooded land of native species, where there are no clearly visible indications of human activities and the ecological processes are not significantly disturbed. |
| Modified natural | Forest / Other wooded land of naturally regenerated native species where there are clearly visible indications of human activities. |
| Semi-natural | Forest / Other wooded land of native species, established through planting, seeding or assisted natural regeneration. |
| Productive plantation | Forest / Other wooded land of introduced species, and in some cases native species, established through planting or seeding mainly for production of wood or non wood goods. |
| Protective plantation | Forest / Other wooded land of native or introduced species, established through planting or seeding mainly for provision of services. |

| | |
|---|---|
| Units | 1000 ha |
| Territory to which the presented/reported data/information refer | Forests and Other wooded lands of the State Forest Fund |
| Reporting years | 1990, 2000, 2005 |

4.2 National data

4.2.1 Data sources

| References to sources of information | Quality (H/M/L) | Variable(s) | Year(s) | Additional comments |
|---|-----------------|------------------------|---------|--|
| Simultaneous State Forest Account of the Kyrgyz Republic for 1993, Forestry Development Department | M | Forest characteristics | 1993 | State Forest Fund of the Kyrgyz Republic |
| Simultaneous State Forest Account of the Kyrgyz Republic for 1998, Forestry Development Department | M | Forest characteristics | 1998 | State Forest Fund of the Kyrgyz Republic |
| Simultaneous State Forest Account of the Kyrgyz Republic for 2003, State Forest Service | M | Forest characteristics | 2003 | State Forest Fund of the Kyrgyz Republic |
| Manual (Handbook, Guidance) for the field work: Status, Objectives, measures, Kyrgyz-Swiss Programme of Support to Forestry | H | Variables in the Table | 2000 | State Forest Fund of the Kyrgyz Republic |

4.2.2 Classification and definitions

| National class | Definition |
|---|--|
| Natural forests | Land areas covered by the naturally regenerated forest vegetation, which include two zones: Non-exploitable forest zone and Forest exploitation zone |
| Non-exploitable forest zone | Land areas covered by the naturally regenerated forest vegetation, where neither technical, nor economic forest utilisation, as well neither planting of forests or collateral use/activities, are allowed |
| Forest exploitation zone | Land areas covered by the forest vegetation, where wood cutting (except clear-cut) and removals, as well as planting of forests or/and collateral use/activities, are possible. |
| Planted forest areas (zone also available for planting forests and collateral use/activities) | Land areas covered by forest vegetation, which was established through planting or seeding |
| Protective planted forests | Land areas covered by forest vegetation, which was established through planting or seeding, predominantly with the protective objectives |
| Forest fruits producing stands | Land areas covered by forest vegetation, which was established through planting or seeding, predominantly for the production of non-wood products |

4.2.3 Original data

| NATIONAL CATEGORIES/CLASSES | 1993 | 1998 | 2003 |
|--------------------------------|--------------|--------------|--------------|
| Forests | 843.0 | 849.5 | 864.9 |
| Natural forests | 793.4 | 794.1 | 801.5 |
| Non-exploitable forest zone | 238.0 | 238.2 | 240.5 |
| Forest exploitation zone | 555.4 | 555.9 | 561.0 |
| Planted forest areas | 49.6 | 55.4 | 63.4 |
| Protective planted forests | 29.4 | 35.7 | 40.1 |
| Forest fruits producing stands | 20.2 | 19.7 | 23.3 |

4.3 Reclassification into FRA 2005 classes

| FRA 2005 Categories | Primary | Modified natural | Semi-natural | Productive plantation | Protective plantation |
|--------------------------------|---------|------------------|--------------|-----------------------|-----------------------|
| Non-exploitable forest zone | 100% | | | | |
| Forest exploitation zone | | 100% | | | |
| Protective planted forests | | | | | 100% |
| Forest fruits producing stands | | | | 100% | |

4.4 Analysis and processing of national data

4.3.2 Estimation and forecasting

| FRA 2005 Categories | Area (1000 hectares) | | | |
|-----------------------|----------------------|--------------|--------------|-----------------------|
| | Forest | | | Average Annual Change |
| | 1993 | 1998 | 2003 | |
| Primary | 238.0 | 238.2 | 240.5 | 0.25 |
| Modified natural | 555.4 | 555.9 | 561.0 | 0.56 |
| Semi-natural | NDA | NDA | NDA | |
| Productive plantation | 20.2 | 19.7 | 23.3 | 0.31 |
| Protective plantation | 29.4 | 35.7 | 40.1 | 1.07 |
| TOTAL | 843.0 | 849.5 | 864.9 | |

4.5 Data for National reporting table T4

| FRA 2005 Categories | Area (1000 hectares) | | | | | |
|-----------------------|----------------------|--------------|--------------|-------------------|------|------|
| | Forest | | | Other wooded land | | |
| | 1990 | 2000 | 2005 | 1990 | 2000 | 2005 |
| Primary | 237.2 | 239.7 | 241.0 | NDA | NDA | NDA |
| Modified natural | 553.7 | 559.3 | 562.1 | NDA | NDA | NDA |
| Semi-natural | NDA | NDA | NDA | NDA | NDA | NDA |
| Productive plantation | 19.3 | 22.4 | 24.0 | NDA | NDA | NDA |
| Protective plantation | 26.2 | 36.9 | 42.2 | NDA | NDA | NDA |
| TOTAL | 836.4 | 858.3 | 869.3 | NDA | NDA | NDA |

Note: To correspond to the title of the category/notion «*Primary forest*», the forests in the country, have to be divided into 2 parts: forests where there is no anthropogenic influence (un-accessible terrain), which constitute some 25 % of the total area of the “Non-exploitable” forest zone in the country, and forests, where neither technical, nor economic forest utilisation, as well neither planting of forests or collateral use/activities, are allowed.

5 Table T5 – Growing stock

5.1 FRA 2005 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. |
| Commercial growing stock | The part of the growing stock of species that are considered as commercial or potentially commercial under current market conditions, and with a diameter at breast height of Z cm or more. |

| | |
|--|---|
| Units | Volume (million cubic meters over bark) - roundwood |
| Territory to which the presented/reported data/information refer | Forests and Other wooded lands of the State Forest Fund |
| Reporting years | 1990, 2000, 2005 |

5.2 National data

5.2.1 Data sources

| References to sources of information | Quality (H/M/L) | Variable(s) | Year(s) | Additional comments |
|---|-----------------|----------------|---------|--|
| Simultaneous State Forest Fund Account of the Kyrgyz Republic for 1993, Forestry Development Department | M | Table coverage | 1993 | State Forest Fund of the Kyrgyz Republic |
| Simultaneous State Forest Fund Account of the Kyrgyz Republic for 1998, Forestry Development Department | M | Table coverage | 1998 | State Forest Fund of the Kyrgyz Republic |
| Simultaneous State Forest Fund Account of the Kyrgyz Republic for 2003, State Forest Service | M | Table coverage | 2003 | State Forest Fund of the Kyrgyz Republic |

5.2.2 Classification and definitions

| National class | Definition |
|------------------------------|--|
| Growing stock (forest stand) | Volume of stem wood of all living trees in the given forest stand. |
| Commercial growing stock | none |

5.2.3 Original data

| National class | Volume (million cubic meters over bark) | | | | | | |
|--------------------------|---|-------|-------|-----------------------|-------------------|------|------|
| | Forest | | | | Other wooded land | | |
| | 1993 | 1998 | 2003 | Average Annual Change | 1993 | 1998 | 2003 |
| Growing stock | 23.50 | 24.48 | 28.87 | 0.537 | NDA | NDA | NDA |
| Commercial growing stock | 0 | 0 | 0 | | 0 | 0 | 0 |

5.3 Analysis and processing of national data

5.3.2 Estimation and forecasting

Linear interpolation and extrapolation were applied to estimate the 1990, 2000 and 2005 values, based on the original data from 1993 and 2003.

| National class | Volume (million cubic meters over bark) | | | | | |
|--------------------------|---|-------|-------|-------------------|------|------|
| | Forest | | | Other wooded land | | |
| | 1990 | 2000 | 2005 | 1990 | 2000 | 2005 |
| Growing stock | 21.89 | 27.26 | 29.94 | NDA | NDA | NDA |
| Commercial growing stock | 0 | 0 | 0 | 0 | 0 | 0 |

5.4 Data for National reporting table T5

| FRA 2005 Categories | Volume (million cubic meters over bark) | | | | | |
|--------------------------|---|-------|-------|-------------------|------|------|
| | Forest | | | Other wooded land | | |
| | 1990 | 2000 | 2005 | 1990 | 2000 | 2005 |
| Growing stock | 21.89 | 27.26 | 29.94 | NDA | NDA | NDA |
| Commercial growing stock | 0 | 0 | 0 | 0 | 0 | 0 |

| Specification of country threshold values | Unit | Value | Complementary information |
|---|------------|-------|---|
| 1. Minimum diameter at breast height of trees included in Growing stock (X) | cm | 8 | |
| 2. Minimum diameter at the top end of stem (Y) for calculation of Growing stock | cm | 7 | varies between 6 and 8 |
| 3. Minimum diameter of branches included in Growing stock (W) | cm | | Branches are not included into the growing stock volume |
| 4. Minimum diameter at breast height of trees in Commercial growing stock (Z) | cm | none | Not defined |
| 5. Volume refers to “Above ground” (AG) or “Above stump” (AS) | AG / AS | AS | AS |
| 6. Have any of the above thresholds (points 1 to 4) changed since 1990 | Yes/No | No | No changes |
| 7. If yes, then attach a separate note giving details of the change | Attachment | - | - |

6 Table T6 – Biomass stock

6.1 FRA 2005 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 living 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 biomass | 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. |

| | |
|---|---|
| Units | Biomass (million metric tonnes oven-dry weight) |
| Territory to which the presented/reported data/information refer | Forests and Other wooded lands of the State Forest Fund |
| Reporting years | 1990, 2000, 2005 |

6.2 National data

6.2.1 Data sources

| References to sources of information | Quality (H/M/L) | Variable(s) | Year(s) | Additional comments (coverage) |
|---|-----------------|----------------|---------|--|
| Simultaneous State Forest Fund Account of the Kyrgyz Republic for 1993, Forestry Development Department | M | Table coverage | 1993 | State Forest Fund of the Kyrgyz Republic |
| Simultaneous State Forest Fund Account of the Kyrgyz Republic for 1998, Forestry Development Department | M | Table coverage | 1998 | State Forest Fund of the Kyrgyz Republic |
| Simultaneous State Forest Fund Account of the Kyrgyz Republic for 2003, State Forest Service | M | Table coverage | 2003 | State Forest Fund of the Kyrgyz Republic |

6.2.2 Classification and definitions

Note: The FRA 2005 categories and definitions were applied for the compilation of this table.

6.2.3 Original data

| National class | Growing Stock in Forests (million cubic meters) | |
|---|--|--------------|
| | 1990* | 2000* |
| Spruce - <i>Picea Schrenkiana</i> | 11.49 | 14.46 |
| Juniper (var. tree) - <i>Juniperus turkestanica</i> | 3.17 | 3.64 |
| Walnut - <i>Juglans</i> | 2.25 | 2.69 |
| Marple - <i>Acer turkestanica</i> | 1.06 | 1.18 |
| Juniper (var. creeping) - <i>Juniperus turkestanica</i> | 0.75 | 0.75 |
| Fir – <i>Abies</i> spp. | 0.30 | 0.55 |
| Poplar – <i>Populus</i> spp. | 0.19 | 0.50 |
| Apple-tree – <i>Malus</i> spp. | 0.33 | 0.42 |
| Pine – <i>Pinus</i> spp. | 0.28 | 0.32 |
| Birch – <i>Betula</i> spp. | 0.08 | 0.29 |
| Remainder of species | 1.99 | 2.46 |
| Total | 21.89 | 27.26 |

*/- Data are from the Tables T5 and T 10 (taking into account the linear interpolation method)

Note: There are no national data on the biomass stock, as well as on the density of stem wood, values of the biomass expansion factors and the root/shoot ratio. Therefore, the standard FRA 2005 biomass data, presented in the Tables 5.2-5.5 of the Appendix 5 of the “Guidelines for Country Reporting to FRA 2005” were used.

6.3 Analysis and processing of national data

Calculation of the biomass stock of living trees. Year 2000.

| Tree Species | Growing Stock (million m3) | Basic density (tons/m3) | Stem biomass (mln. tons) | BEF*/ | AG biomass (mln. tons) | Root/ Shoot Ratio | BG biomass (mln. tons) |
|---|-------------------------------|----------------------------|-----------------------------|-------|---------------------------|-------------------------|---------------------------|
| Spruce - <i>Picea Schrenkiana</i> | 14.46 | 0.40 | 5.78 | 1.3 | 7.51 | 0.32 | 2.40 |
| Juniper (var. tree) - <i>Juniperus turkestanica</i> | 3.64 | 0.4 | 1.46 | 1.3 | 1.90 | 0.46 | 0.87 |
| Walnut - <i>Juglans</i> | 2.69 | 0.53 | 1.43 | 1.4 | 2.00 | 0.43 | 0.86 |
| Marple - <i>Acer turkestanica</i> | 1.18 | 0.52 | 0.61 | 1.4 | 0.85 | 0.43 | 0.37 |
| Juniper (creeping) - <i>Juniperus turkestanica</i> | 0.75 | 0.4 | 0.30 | 1.3 | 0.39 | 2.83 | 1.10 |
| Fir – <i>Abies</i> spp. | 0.55 | 0.40 | 0.22 | 1.3 | 0.29 | 0.32 | 0.09 |
| Poplar – <i>Populus</i> spp. | 0.50 | 0.35 | 0.18 | 1.4 | 0.25 | 0.43 | 0.11 |
| Apple-tree – <i>Malus</i> spp. | 0.42 | 0.49 | 0.21 | 1.4 | 0.29 | 0.43 | 0.13 |
| Pine – <i>Pinus</i> spp. | 0.32 | 0.42 | 0.13 | 1.3 | 0.17 | 0.32 | 0.06 |
| Birch – <i>Betula</i> spp. | 0.29 | 0.51 | 0.15 | 1.4 | 0.21 | 0.43 | 0.09 |
| Remainder of species | 2.46 | 0.44 | 1.08 | 1.35 | 1.46 | 1.01 | 1.48 |
| Total | 27.26 | | 11.55 | | 15.32 | | 7.56 |

*/- Coefficient refers to the temperate climatic zone

Biomass stock calculation on the basis of the weighted conversion factors for 1990, 2000, 2005

| | Growing Stock (million m3) | Weighted conversion factor (AG Biomass) | Weighted conversion factor (BG Biomass) | AG biomass (mln. tons) | BG biomass (mln. tons) |
|------|-------------------------------|--|--|---------------------------|---------------------------|
| 1990 | 21.89 | | | 12.30 | 6.07 |
| 2000 | 27.26 | 0.562 | 0.2773 | 15.32 | 7.56 |
| 2005 | 29.94 | | | 16.83 | 8.30 |

6.4 Data for National reporting table T6

| FRA 2005 Categories | Biomass (million metric tonnes oven-dry weight) | | | | | |
|---|---|--------------|--------------|-------------------|------|------|
| | Forest | | | Other wooded land | | |
| | 1990 | 2000 | 2005 | 1990 | 2000 | 2005 |
| Above-ground biomass | 12.30 | 15.32 | 16.83 | NDA | NDA | NDA |
| Below-ground biomass | 6.07 | 7.56 | 8.30 | NDA | NDA | NDA |
| TOTAL: Biomass of living trees | 18.37 | 22.88 | 25.13 | NDA | NDA | NDA |
| Dead wood biomass */ | NDA | NDA | NDA | NDA | NDA | NDA |
| TOTAL | NDA | NDA | NDA | NDA | NDA | NDA |

*/ - There are no national data on deadwood biomass. The standard values suggested by IPCC-GPG for the calculation were not used.

7 Table T7 – Carbon stock

7.1 FRA 2005 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 living 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 biomass | 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 a minimum diameter chose by the country for lying dead (for example 10 cm), in various states of decomposition above the mineral or organic soil. This includes the litter, fomic, and humic layers. |
| 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. |

| | |
|---|---|
| Units | Biomass (million metric tonnes oven-dry weight) |
| Territory to which the presented/reported data/information refer | Forests and Other wooded lands of the State Forest Fund |
| Reporting years | 1990, 2000, 2005 |

7.2 National data

7.2.1 Data sources

| References to sources of information | Quality (H/M/L) | Variable(s) | Year(s) | Additional comments (coverage) |
|---|-----------------|----------------|---------|--|
| Simultaneous State Forest Fund Account of the Kyrgyz Republic for 1993, Forestry Development Department | M | Table coverage | 1993 | State Forest Fund of the Kyrgyz Republic |
| Simultaneous State Forest Fund Account of the Kyrgyz Republic for 1998, Forestry Development Department | M | Table coverage | 1998 | State Forest Fund of the Kyrgyz Republic |
| Simultaneous State Forest Fund Account of the Kyrgyz Republic for 2003, State Forest Service | M | Table coverage | 2003 | State Forest Fund of the Kyrgyz Republic |

7.2.2 Classification and definitions

Note: The FRA 2005 categories and definitions were applied for the compilation of this table.

7.2.3 Original data

| National class | Area (1000 ha) | | | Average annual change | Area (1000 ha) | | |
|-----------------|----------------|--------------|--------------|-----------------------|----------------|--------------|--------------|
| | 1993 | 1998 | 2003 | | 1990 | 2000 | 2005 |
| Coniferous | 362.3 | 379.4 | 401.9 | 3.96 | 350.3** | 390.1** | 409.8 |
| Of which: Trees | 272.2 | 280.1 | 297.1 | 2.49 | 264.7 | 289.7** | 302.1 |
| Bushes | 90.1 | 99.3 | 104.8 | 1.47 | 85.6** | 100.4 | 107.7 |
| Broadleaved | 339.8 | 390.1 | 434.1 | 9.4 | 311.6 | 405.7** | 452.9 |
| Un-known */ | 140.9 | 80.0 | 28.9 | -11.2 | 174.5 | 62.5** | 6.6** |
| Total | 843.0 | 849.5 | 864.9 | 2.19 | 836.4 | 858.3 | 869.3 |

*/ - Data on forests under the state ownership on the agricultural lands (i.e. not Forest Fund lands)

**/ - These values have been slightly modified (by one decimal point only) to adjust them to the totals

7.3 Analysis and processing of national data

7.3.2 Estimation and forecasting

a) Carbon in living biomass and deadwood

| FRA 2005 Categories | Biomass (million metric tonnes) | | | Carbon (Million metric tonnes) | | |
|--|---------------------------------|--------------|--------------|--------------------------------|--------------|--------------|
| | 1990 | 2000 | 2005 | 1990 | 2000 | 2005 |
| Carbon in above-ground biomass | 12.30 | 15.32 | 16.83 | 6.15 | 7.66 | 8.42 |
| Carbon in below-ground biomass | 6.07 | 7.56 | 8.30 | 3.04 | 3.78 | 4.15 |
| Sub-total: Carbon in living biomass | 18.37 | 22.88 | 25.13 | 9.19 | 11.44 | 12.57 |
| Carbon in dead wood biomass */ | NDA | NDA | NDA | NDA | NDA | NDA |
| Total | NDA | NDA | NDA | NDA | NDA | NDA |

Coefficient suggested by IPCC-GPG = 50 %

Note: There are no national data on carbon stock in living trees and deadwood biomass; the data were calculated on the basis of the standard values suggested by IPCC-GPG for the carbon stock.

b) Calculation of carbon stock in litter

| FRA 2005 Categories | Area, 1000 ha | | | Carbon (Million metric tonnes) | | |
|---------------------|---------------|--------------|--------------|--------------------------------|-------------|-------------|
| | 1990 | 2000 | 2005 | 1990 | 2000 | 2005 |
| Coniferous */ | 350.3 | 390.1 | 409.8 | 7.1 | 7.9 | 8.3 |
| Broadleaved **/ | 311.6 | 405.7 | 452.9 | 8.8 | 11.4 | 12.8 |
| Un-known ***/ | 174.5 | 62.5 | 6.6 | 4.23 | 1.52 | 0.16 |
| TOTAL | 836.4 | 858.3 | 869.3 | 20.1 | 20.8 | 21.3 |

*/ - Coefficient suggested by IPCC-GPG = 20.3

**/ - Coefficient suggested by IPCC-GPG = 28.2

***/ - Coefficient = 24.25, the mean value of the IPCC-GPG coefficients

Note: There are no national data on carbon stock in litter; the calculation was done on the basis of the standard values suggested by IPCC-GPG. However, the forests in Kyrgyzstan have very low stocking, and in such cases, using the IPCC-GPG default values may result in a considerable overestimation. Carbon in litter has therefore been reported as “Insufficient Data” in the final table.

c) Calculation of carbon stock in soil

Note: There are no national data on carbon stock in soil

7.4 Data for National reporting table T7

| FRA 2005 Categories | Carbon (Million metric tonnes) | | | | | |
|--|--------------------------------|--------------|--------------|-------------------|------|------|
| | Forest | | | Other wooded land | | |
| | 1990 | 2000 | 2005 | 1990 | 2000 | 2005 |
| Carbon in above-ground biomass | 6.15 | 7.66 | 8.42 | NDA | NDA | NDA |
| Carbon in below-ground biomass | 3.04 | 3.78 | 4.15 | NDA | NDA | NDA |
| Sub-total: Carbon in living biomass | 9.19 | 11.44 | 12.57 | NDA | NDA | NDA |
| Carbon in dead wood | NDA | NDA | NDA | NDA | NDA | NDA |
| Carbon in litter | ID | ID | ID | NDA | NDA | NDA |
| Sub-total: Carbon in dead wood and litter | NDA | NDA | NDA | NDA | NDA | NDA |
| Soil carbon to a depth of _____ cm | NDA | NDA | NDA | NDA | NDA | NDA |
| TOTAL CARBON | ID | ID | ID | NDA | NDA | NDA |

8 Table T8 – Disturbances affecting health and vitality

8.1 FRA 2005 Categories and definitions

| Category | Definition |
|-------------------------|--|
| Disturbance by fire | Disturbance caused by wildfire, independently whether it broke out inside or outside the forest/OWL. |
| Disturbance by insects | Disturbance caused by insect pests that are detrimental to tree health. |
| Disturbance by diseases | Disturbance caused by diseases attributable to pathogens, such as a bacteria, fungi, phytoplasma or virus. |
| Other disturbance | Disturbance caused by other factors than fire, insects or diseases. |

| | |
|---|---|
| Units | 1000 ha |
| Territory to which the presented/reported data/information refer | Forests and Other wooded lands of the State Forest Fund |
| Reporting years | 1990, 2000 |

8.2 National data

8.2.1 Data sources

| References to sources of information | Quality (H/M/L) | Variable(s) | Year(s) | Additional comments (coverage) |
|--|-----------------|-------------|------------|--------------------------------|
| Forest Fires Account Book (SFS/ GLS) | H | | 2000 | State Forest Fund |
| Results of the annual forest pathological inspection | H | | 1990, 2000 | State Forest Fund |

8.2.2 Classification and definitions

Note: The FRA 2005 categories and definitions were applied for the compilation of this table.

8.2.3 Original data

Information from the data sources were inserted directly in the reporting table.

8.3 Data for National reporting table T8

| FRA-2005 Categories | Average annual area affected (1000 hectares) | | | |
|-------------------------|--|------|-------------------|------|
| | Forests | | Other wooded land | |
| | 1990 | 2000 | 1990 | 2000 |
| Disturbance by fire | NDA | 0.06 | NDA | NDA |
| Disturbance by insects | 70.0 | 60.0 | NDA | NDA |
| Disturbance by diseases | 16.0 | 10.0 | NDA | NDA |
| Other disturbance | NDA | NDA | NDA | NDA |

Note: No forest pathological inspection has been carried out in the OWL areas

9 Table T9 – Diversity of tree species

9.1 FRA 2005 Categories and definitions

| Category | Definition |
|--|--|
| Number of native tree species | The total number of native tree species that have been identified within the country. |
| Number of critically endangered tree species | The number of native tree species that are classified as “Critically endangered” in the IUCN red list. |
| Number of endangered tree species | The number of native tree species that are classified as “Endangered” in the IUCN red list. |
| Number of vulnerable tree species | The number of native tree species that are classified as “Vulnerable” in the IUCN red list. |

| | |
|---|-------------------|
| Units | Numbers |
| Territory to which the presented/reported data/information refer | Country territory |
| Reporting years | 2000 |

9.2 National data

9.2.1 Data sources

| References to sources of information | Quality (H/M/L) | Variable(s) | Year(s) | Additional comments |
|---|-----------------|---------------|---------|---------------------|
| IUCN 2004. <i>2004 IUCN Red List of Threatened Species</i> . www.redlist.org | H | Species lists | 2004 | World coverage |

9.2.2 Classification and definitions

Note: The FRA 2005 categories and definitions were applied for the compilation of this table.

9.3 Data for National reporting table T9

| FRA 2005 Categories | Number of species (year 2000) |
|------------------------------------|-------------------------------|
| Native tree species | ID |
| Critically endangered tree species | 0 |
| Endangered tree species | 0 |
| Vulnerable tree species | 1 |

9.4 Comments to National reporting table T9

Only one vulnerable species was found in the IUCN Red List (*2004 IUCN Red List of Threatened Species*. <www.redlist.org>) concerning Kyrgyzstan – *Malus sieversii*

10 Table T10 – Growing stock composition

10.1 FRA 2005 Categories and definitions

List of species names (scientific and common names) of the ten most common species.

| | |
|---|---|
| Units | Million cubic meters |
| Territory to which the presented/reported data/information refer | Areas, reported in the Table T1 under the category “Forest” |
| Reporting years | 1990 и 2000 |

10.2 National data

10.2.1 Data sources

| References to sources of information | Quality (H/M/L) | Variable(s) | Year(s) | Additional comments |
|---|-----------------|---------------|---------|--|
| Simultaneous State Forest Fund Account of the Kyrgyz Republic for 1993, Forestry Development Department | M | Growing stock | 1993 | State Forest Fund of the Kyrgyz Republic |
| Simultaneous State Forest Fund Account of the Kyrgyz Republic for 1998, Forestry Development Department | M | Growing stock | 1998 | State Forest Fund of the Kyrgyz Republic |
| Simultaneous State Forest Fund Account of the Kyrgyz Republic for 2003, State Forest Service | M | Growing stock | 2003 | State Forest Fund of the Kyrgyz Republic |

10.2.2 Original data

| National class | Growing Stock in Forests (million cubic meters) | | | Average Annual Change |
|---|---|--------------|--------------|-----------------------|
| | 1993 | 1998 | 2003 | |
| Spruce - <i>Picea Schrenkiana</i> | 12.38 | 12.46 | 15.35 | 0.297 |
| Juniper (var. tree) - <i>Juniperus turkestanica</i> | 3.31 | 3.46 | 3.78 | 0.047 |
| Walnut - <i>Juglans</i> | 2.38 | 2.45 | 2.82 | 0.044 |
| Maple - <i>Acer turkestanica</i> | 1.10 | 1.18 | 1.22 | 0.012 |
| Juniper (var. creeping) - <i>Juniperus turkestanica</i> | 0.75 | 0.75 | 0.75 | 0.0 |
| Fir – <i>Abies</i> spp. | 0.38 | 0.59 | 0.63 | 0.025 |
| Poplar – <i>Populus</i> spp. | 0.28 | 0.40 | 0.59 | 0.031 |
| Apple-tree – <i>Malus</i> spp. | 0.36 | 0.40 | 0.45 | 0.009 |
| Birch – <i>Betula</i> spp. | 0.14 | 0.23 | 0.35 | 0.021 |
| Pine – <i>Pinus</i> spp. | 0.29 | 0.31 | 0.33 | 0.004 |
| Remainder of species | 2.13 | 2.25 | 2.6 | 0.047 |
| TOTAL | 23.50 | 24.48 | 28.87 | 0.537 |

10.3 Analysis and processing of national data

Note: The FRA 2005 categories and definitions were applied for the compilation of this table.

10.3.1 Estimation and forecasting

Linear extrapolation and interpolation were applied between the 1993 and 2003 values (see the table above) to estimate the 1990 and 2000 values

10.4 Data for National reporting table T10

| FRA 2005 CATEGORIES / SPECIES NAME (SCIENTIFIC NAME AND COMMON NAME) | Growing Stock in Forests (million cubic meters) | |
|---|--|--------------|
| | 1990 | 2000 |
| Spruce - <i>Picea Schrenkiana</i> | 11.49 | 14.46 |
| Juniper (var. tree) - <i>Juniperus turkestanica</i> | 3.17 | 3.64 |
| Walnut - <i>Juglans</i> | 2.25 | 2.69 |
| Marple - <i>Acer turkestanica</i> | 1.06 | 1.18 |
| Juniper (var. creeping) - <i>Juniperus turkestanica</i> | 0.75 | 0.75 |
| Fir – <i>Abies</i> spp. | 0.30 | 0.55 |
| Poplar – <i>Populus</i> spp. | 0.19 | 0.50 |
| Apple-tree – <i>Malus</i> spp. | 0.33 | 0.42 |
| Pine – <i>Pinus</i> spp. | 0.28 | 0.32 |
| Birch – <i>Betula</i> spp. | 0.08 | 0.29 |
| Remainder of species | 1.99 | 2.46 |
| TOTAL | 21.89 | 27.26 |

11 Table T11 – Wood removal

11.1 FRA 2005 Categories and definitions

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

| | |
|---|---|
| Units | 1000 cubic meters over bark - roundwood |
| Territory to which the presented/reported data/information refer | Forests and Other wooded lands of the State Forest Fund |
| Reporting years | 1990, 2000, 2005 |

11.2 National data

11.2.1 Data sources

| References to sources of information | Quality (H/M/L) | Variable(s) | Year(s) | Additional comments |
|--|-----------------|-------------|------------|--|
| Summary Report of the State Forest Service (SFS/ GLS) | H | Removals | 1994, 2000 | State Forest Fund of the Kyrgyz Republic |
| Simultaneous State Forest Fund Account of the Kyrgyz Republic for 2003, State Forest Service | M | Removals | 2003 | State Forest Fund of the Kyrgyz Republic |

11.2.2 Classification and definitions

Note: The FRA 2005 categories and definitions were applied for the compilation of this table.

11.2.3 Original data

| National category/ class | Volume in 1000 cubic meters of roundwood over bark | | | | | | |
|--------------------------|--|-------------|-------------|-----------------------|-------------------|----------|----------|
| | Forest | | | | Other wooded land | | |
| | 1994 | 2000 | 2003 | Average Annual Change | 1994 | 2000 | 2003 |
| Industrial roundwood | 4.7 | 12.7 | 11.2 | 0.7 | 0 | 0 | 0 |
| Woodfuel | 25.3 | 32.3 | 24.9 | - 0.04 | 0 | 0 | 0 |
| TOTAL for Country | 30.0 | 45.0 | 36.1 | | 0 | 0 | 0 |

11.3 Analysis and processing of national data

11.3.1 Estimation and forecasting

| National class | Volume in 1000 cubic meters of roundwood over bark | | | | | |
|--------------------------|--|-------------|-------------|-------------------|----------|----------|
| | Forest | | | Other wooded land | | |
| | 1990 | 2000 | 2005 | 1990 | 2000 | 2005 |
| Industrial roundwood | NDA | 12.7 | 12.6 | 0 | 0 | 0 |
| Woodfuel | NDA | 32.3 | 24.8 | 0 | 0 | 0 |
| TOTAL for Country | NDA | 45.0 | 37.4 | 0 | 0 | 0 |

Linear extrapolation was applied between the 1994 and 2003 values (see the table above) to estimate the values for 2005

11.4 Data for National reporting table T11

| FRA 2005 Categories | Volume in 1000 cubic meters of roundwood over bark | | | | | |
|--------------------------|--|-------------|-------------|-------------------|----------|----------|
| | Forest | | | Other wooded land | | |
| | 1990 | 2000 | 2005 | 1990 | 2000 | 2005 |
| Industrial roundwood | NDA | 12.7 | 12.6 | 0 | 0 | 0 |
| Woodfuel | NDA | 32.3 | 24.8 | 0 | 0 | 0 |
| TOTAL for Country | NDA | 45.0 | 37.4 | 0 | 0 | 0 |

12 Table T12 – Value of wood removal

12.1 FRA 2005 Categories and definitions

| Category | Definition |
|----------------------------------|--|
| Value of industrial wood removal | Value of the wood removed for production of goods and services other than energy production (woodfuel). |
| Value of woodfuel removal | Value of the wood removed for energy production purposes, regardless whether for industrial, commercial or domestic use. |

| | |
|---|---|
| Units | 1000 USD according to the exchange rate in the given year |
| Territory to which the presented/reported data/ information refer | Forests of the State Forest Fund |
| Reporting years | 1990, 2000, 2005 |

12.2 National data

12.2.1 Data sources

| References to sources of information | Quality (H/M/L) | Variable(s) | Year(s) | Additional comments |
|---|-----------------|-------------|------------------|--|
| Summary Report of the State Forest Service (SFS/ GLS) | H | Removals | 1994, 2000, 2003 | State Forest Fund of the Kyrgyz Republic |

12.2.2 Classification and definitions

Note: The FRA 2005 categories and definitions were applied for the compilation of this table.

12.2.3 Original data

| National category/ class | Value of roundwood removal (1000 SOM) | | | | | | |
|--------------------------|---------------------------------------|----------------|----------------|-----------------------|-------------------|------|------|
| | Forest | | | | Other wooded land | | |
| | 1994 | 2000 | 2003 | Average Annual Change | 1990 | 2000 | 2005 |
| Industrial roundwood | 3407.5 | 19050.0 | 20160.0 | 1861.4 | 0 | 0 | 0 |
| Woodfuel | 2277.0 | 6460.0 | 6225.0 | 438.7 | 0 | 0 | 0 |
| TOTAL | 5684.5 | 25510.0 | 26385.0 | | 0 | 0 | 0 |

12.3 Analysis and processing of national data

| National category/ class | Value of roundwood removal (1000 SOM) | | | | | |
|--------------------------|---------------------------------------|----------------|----------------|-------------------|------|------|
| | Forest | | | Other wooded land | | |
| | 1990* | 2000 | 2005 | 1990 | 2000 | 2005 |
| Industrial roundwood | NDA | 19050.0 | 23882.8 | 0 | 0 | 0 |
| Woodfuel | NDA | 6460.0 | 7102.4 | 0 | 0 | 0 |
| TOTAL | NDA | 25510.0 | 30985.2 | 0 | 0 | 0 |

*/- The data for 1990 would be very difficult to estimate as the value of wood was calculated in Roubles

FAOSTAT USD\$ rates are applied namely:

2000 – 1(one) USD = 48.3 SOM, 2003 – 1(one) USD = 44.19 SOM

12.3.1 Estimation and forecasting

Linear extrapolation was applied between the values of 1994 and 2003 to estimate the values for 2005 (see Table 12.2.3)

12.4 Data for National reporting table T12

| FRA 2005 Categories | VALUE OF ROUNDWOOD REMOVAL (1000 USD) | | | | | |
|----------------------|---------------------------------------|--------------|--------------|-------------------|------|------|
| | Forest | | | Other wooded land | | |
| | 1990 | 2000 | 2005 | 1990 | 2000 | 2005 |
| Industrial roundwood | NDA | 394.4 | 540.5 | 0 | 0 | 0 |
| Woodfuel | NDA | 133.7 | 160.7 | 0 | 0 | 0 |
| TOTAL | NDA | 528.1 | 701.2 | 0 | 0 | 0 |

13 Table T13 – Non-wood forest product removal

13.1 FRA 2005 Categories and definitions

The following categories of non-wood forest products have been defined:

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

| | |
|---|--|
| Units | Mass in tonnes or kilogram's (kg) for all categories of plant and animal products, except living animals, hides, skins and trophies, which are reported in numbers |
| Territory to which the presented/reported data/information refer | Forests and Other wooded lands of the State Forest Fund |
| Reporting years | 1990, 2000, 2005 |

13.2 National data

13.2.1 Data sources

| References to sources of information | Quality (H/M/L) | Variable(s) | Year(s) | Additional comments |
|--|-----------------|----------------------|-----------|----------------------------------|
| Report of the Department of the Biodiversity Preservation and Regulation of the Bio-Resources Utilisation (2004) | M | Relevant information | 2002-2004 | All the territory of the country |

13.2.2 Classification and definitions

Note: The FRA 2005 categories and definitions were applied for the compilation of this table.

13.2.3 Original data

| National category/ class | Scale factor | Unit | NWFP removal | | |
|--|--------------|--------|-------------------|--------------------|--------------------|
| | | | 2002 | 2003 | 2004 |
| <u>Plant products / raw material</u> | | | | | |
| 1. Food | | | NDA | NDA | NDA |
| 2. Fodder | | | NDA | NDA | NDA |
| 3. Raw material for medicine and aromatic products | 1000 | kg | 225.2 | 334.5 | 299.2 |
| 4. Raw material for colorants and dyes | | | NDA | NDA | NDA |
| 5. Raw material for utensils, handicrafts & construction | | | NDA | NDA | NDA |
| 6. Ornamental plants | | | NDA | NDA | NDA |
| 7. Exudates | | | NDA | NDA | NDA |
| 8. Other plant products | 1000 | kg | 120.0 | 160.0 | NDA |
| <u>Animal products / raw material</u> | | | | | |
| 9. Living animals | | | | | |
| Birds | | Number | 525 | 1 | 0 |
| Mammals | | Number | 0 | 1 ^{2/} | 6 ^{1/} |
| Insects | | Number | 450 | 0 | 1040 |
| 10. Hides, skins and trophies | | Number | 3407 | 2321 | 2169 |
| 11. Wild honey and bee-wax | | | NDA | NDA | NDA |
| 12. Bush meat | 1000 | kg | 0 | 0.031 | 0 |
| 13. Raw material for medicine*/ | 1000 | kg | 2.519 | 8.83 | 8.003 |
| 14. Raw material for colorants | | | NDA | NDA | NDA |
| 15. Other edible animal products**/ | 1000 | kg | 0.23 | 0.16 | 0.2 |
| 16. Other non-edible animal products | | Number | 300 ^{3/} | 2300 ^{3/} | 1510 ^{3/} |

*/ - Refers to bio-tar

**/ - Refers to Marmot fat

Footnotes:

^{1/} - Squirrels

^{2/} - Fallow-Deer

^{3/} - Dried insects

13.3 Analysis and processing of national data

13.3.1 Estimation and forecasting

Data for 2005 in T13 are based on the mean annual data for 2002-2004

13.4 Data for National reporting table T13

| FRA 2005 Categories | Scale factor | Unit | NWFP removal | | |
|---|--------------|-------------|--------------|------|-------|
| | | | 1990 | 2000 | 2005 |
| <u>Plant products / raw material</u> | | | | | |
| 1. Food | | | NDA | NDA | NDA |
| 2. Fodder | | | NDA | NDA | NDA |
| 3. Raw material for medicine and aromatic products | 1000 | kg | NDA | NDA | 286.3 |
| 4. Raw material for colorants and dyes | | | NDA | NDA | NDA |
| 5. Raw material for utensils, handicrafts & construction | | | NDA | NDA | NDA |
| 6. Ornamental plants | | | NDA | NDA | NDA |
| 7. Exudates | | | NDA | NDA | NDA |
| 8. Other plant products | 1000 | kg | NDA | NDA | 140 |
| <u>Animal products / raw material</u> | | | | | |
| 9. Living animals (<i>insects</i>) | | num bers | NDA | NDA | 497 |
| 10. Hides, skins and trophies | | num bers | NDA | NDA | 2632 |
| 11. Wild honey and bee-wax | | | NDA | NDA | NDA |
| 12. Bush meat | | | NDA | NDA | NDA |
| 13. Raw material for medicine | 1000 | kg | NDA | NDA | 6.45 |
| 14. Raw material for colorants | | | NDA | NDA | NDA |
| 15. Other edible animal products | 1000 | kg | NDA | NDA | 0.196 |
| 16. Other non-edible animal products (<i>dried insects</i>) | | kg | NDA | NDA | ID |

13.5 Comments to National reporting table T13

There are no national data for the period 1990-2001, and it is not possible to forecast the non-wood forest products removal on the basis of a very short basic period, especially for the products, which are being removed not permanently.

For category 16 – Other non-edible animal products – the national data on 1370 dried insects were not possible to convert to weight, hence Insufficient data (ID) is reported.

The experts' opinion is that the table should not be considered for analysis and conclusions because of the lack of sufficient national data.

14 Table T14 – Value of non-wood forest product removal

No data are available for this reporting table

15 Table T15 – Employment in forestry

15.1 FRA 2005 Categories and definitions

| Category | Definition |
|---------------------------------|--|
| Primary production of goods | Employment in activities related to primary production of goods, like industrial roundwood, woodfuel and non-wood forest products. |
| Provision of services | Employment in activities directly related to services from forests and woodlands. |
| Unspecified forestry activities | Employment in unspecified forestry activities. |

| | |
|-----------------|--|
| Units | 1000 person-years, full-day employment |
| Reporting years | 1990, 2000 |

15.2 National data

15.2.1 Data sources

| References to sources of information | Quality (H/M/L) | Variable(s) | Year(s) | Additional comments |
|---|-----------------|-------------|------------------|------------------------------|
| State Statistical Committee of the Kyrgyz Republic (<i>Natzstatcom</i> KR) | H | Employment | 1991, 1998, 2000 | All territory of the country |

15.2.2 Classification and definitions

The FRA 2005 categories and definitions were applied for the compilation of this table.

15.2.3 Original data

| National class | Employment (1000 person-years) | | |
|--|--------------------------------|------------|------------|
| | 1991 | 1998 | 2000 |
| Employment of the population in forestry | 6.1 | 4.8 | 4.2 |
| Total | 6.1 | 4.8 | 4.2 |

The 1991 value has been used as an estimate for year 1990.

15.3 Data for National reporting table T15

| FRA 2005 Categories | Employment (1000 person-years) | |
|---------------------------------|--------------------------------|------------|
| | 1990 | 2000 |
| Primary production of goods | NDA | NDA |
| Provision of services | NDA | NDA |
| Unspecified forestry activities | 6.1 | 4.2 |
| TOTAL | 6.1 | 4.2 |

