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Slovenian Forestry Institute in co-operation with

Slovenian Forestry Service and

Ministry for Agriculture, Forestry and Food

National Questionnaire - SLOVENIA
(Multi Country Report of Forestry)

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National Questionnaire

GENERAL INTRODUCTION

The aim of the project is the evaluation of situation of forestry in the Phare countries in order to identify priority actions aimed at sustainable forest management and biodiversity conservation.

To perform the evaluation of situation of forestry, it is indispensable that the country reports will be prepared according to the common **questionnaire**. These must facilitate the presentation in the country reports of the balanced view of all aspects of forestry and forest related issues.

The questionnaire represents the basis for implementation of the expected project outputs:

- Production of national reports for each of the participating CEE countries, which will detail the status of forests and forestry and problems experienced within each particular country
- Production of a Multi-Country Report
- Identification of worthwhile projects which address specific issues and production of scopes and terms of reference for these to be undertaken in Stage 2 of the forestry programme.

a) National Reports

Following the Term of Reference (TOR) of the Project, these reports will be compiled for each of the CEE countries and will detail the status of forests and forestry within each country. As described previously the reports should be compiled using as a basis the modified draft questionnaire.

b) Multi Country Report of Forestry in CEE Countries

Following the TOR of the Project, this report shall be a summary and overview of the status of forest problems and forestry throughout the whole of Central-Eastern Europe and shall be compiled using the results of the national reports. It should be recognized that this report will be the key document describing the forest and forestry issues within all CEE countries and will form the basis upon which decisions are made concerning future actions within the forestry programme.

The following aspects were leading the work on the presented national questionnaire:

- importance and significance of collected data
- availability of data
- comparability of data
- distinctness and flexibility of questions

The questionnaire needs to address practical issues of sustainable forest management and biodiversity conservation. Nonetheless, the biodiversity issues are only very recently discussed in the public, forest administration, forestry or other nature sciences. Also definition and field collection of biodiversity characteristics is very difficult.

The amendments of the initial questionnaire annexed to the TOR reflect the need to collect more forest and forestry related information for both national and multi-country reports as well as for identification of key areas for the Stage II Forestry Programme. Regardless modification, the questionnaire covers all the specific Project areas: Political and Legal Frames, Biodiversity Monitoring, Demonstration Areas on Sustainable Forest Management and Biodiversity Conservation, Protection of Forest Gene Resources, Communication Systems in Forestry. Especially in the Chapter III "General Forest Information", the questionnaire largely refers to the Follow-Up Process of the Helsinki Ministerial Conference on the Protection of Forests in Europe as well as the UN ECE/FAO Temperate and Boreal Forest Resources Assessment 2000, through which considerable amounts of forest related data are or have been collected.

CONTENTS

GENERAL INTRODUCTION

I POLITICAL AND LEGAL FRAMES

- Forest Policy
- Forest Related Legislation
- Subsidies
- Organizational Structures
- Ownership Structure

II FORESTRY SECTOR AND NATIONAL ECONOMY

III GENERAL INFORMATION ON FORESTRY

- Terms and Definitions
- A) Helsinki Follow-Up Questionnaires
- B) FAO Temperate and Boreal Forest Resources Assessment TBFFA 2000

IV SPECIFIC FOREST-RELATED INFORMATION

- Information on Biodiversity in Forest
- Demonstration Areas on Sustainable Forest Management
- Forest Gene Resources, Gene Reserve Forests

V INFORMATION, EDUCATION, PUBLIC RELATION

- Forest Inventories and Management Planning
- Forest Data Assessment
- Education and Information dissemination
- Public Relations

ANNEX 1: TERMS AND DEFINITIONS USED IN THE QUESTIONNAIRE (Based on the Helsinki Follow-Up and TBFFA 2000 terminology)

CHAPTER I: POLITICAL AND LEGAL FRAMES

Forest and Forest Related Policies

1. Does your country have officially endorsed (e.g., by parliament or government) forest policy and the strategy for its implementation? Could you provide a hard copy if published in English? If not, could you provide the basic facts, and list the principles and objectives?

Yes, we have both the forest policy and the strategy for its implementation, which were adopted by the Parliament of the Republic of Slovenia as the Forest Development Programme of Slovenia (FDPS) (OG of the RS, No. 14/1996). The English hard copy is enclosed.

2. Do you have any officially endorsed (e.g., by parliament or government) biodiversity strategy and action plan for its implementation?

For the forests and forestry in Slovenia the FDPS actually presents also the strategy and action plan for forest biological diversity (because the conservation of forest biological diversity has been already incorporated in close-to-nature forest management). On the other hand the national biodiversity strategy (for all / other sectors) has been under development since 1997 (as the national follow-up of the Pan-European biological and landscape diversity strategy).

3. Is an annual report on forests and forestry published in your country? Could you provide a hard-copy of it? If not, could you list the contents?

Yes, it is so called green report annually published (since 1994) by the Ministry for Agriculture, Forestry and Food (The State of the Forests and Forestry in Slovenia). It has not been translated in English yet. It's main contents are:

1. *Changes in the Forest Area and in the Ownership*
2. *Changes in the Growing Stock and Current Increment*
3. *Annual Felling*
4. *Forest Protection Measures*
5. *Silvicultural Measures*
6. *Wildlife Management Measures*
7. *Forest Infrastructure*
8. *Financing of the Forestry (from the Budget):*
 - *Financing of The State Forest Service*
 - *Financing and Co-Financing of the Programme of Conservation and Sustainable Forest Development*
9. *Forest Timber Assortments and other Forest Goods*
10. *Economic Position of the Forestry*
 - *Forest Timber Production*
 - *Forest Timber Trade*
 - *Management Success in State Forests (The Fund for Agricultural Lands and Forests and Concession Holders).*
11. *Forestry Research*
12. *Forestry Extension and Education*
13. *Forest Management Associations*

4. Are there any development programmes officially endorsed (or being prepared) at the ministerial or sectoral level for the forestry sector of your country? Could you list them, provide basic facts and a brief description?

The FDPS is actually also the forest development programme. Besides of it there is no any special development programme for forestry sector from the aspect of timber production. But the programmes for integral countryside / rural development, including forestry, especially in the mountainous areas are being / shall be prepared.

5. In the framework of the Helsinki Follow-Up Process, did you define, officially approve and publish the national criteria and indicators of sustainable forest management in your country?

Unfortunately not, but formally and in everyday practice we already have much more than criteria and indicators for sustainable forest management (SFM): we have the national forest policy and programme, regional and local forest management plans for SFM, detailed silviculture plans for more than a half of the forests, established (public) forest service for all forests (for planing, guiding the management etc.), etc..

Additional explanation of the detailed silviculture plan (according to the Forest Act):

a) The forest silviculture plan defines »the conditions for harmonizing the use of forests and interventions in forests and forest space, the necessary extent of silviculture and protection of forests, the highest possible degree of their exploitation and conditions for managing the animal world (The Forest Act, Article 8)«.

b) A forest silviculture plan is the implementation plan of the general part of the forest management plans of management units in which are defined according to individual forest ecosystems or their parts:

- forest silviculture aims, guidelines and measures for management;*
- the extent, intensity and urgency of silviculture and protection work;*
- areas in which individual selection of trees for possible cutting are not obligatory;*
- temporal and spatial extent of felling;*
- ways and conditions for obtaining timber;*
- guidelines and work for simultaneously conserving and encouraging the ecological and social functions of a forest.*

Trees for possible felling shall be individually selected (marked) on the basis of forest silviculture plans and their maximum quantity defined.

Forest silviculture plans must be supplemented or replaced in line with changes pertaining to the development of the forests or outside influences on the forests, so as suitably to adapt forest silviculture aims and measures and to define anew the extent of silviculture and protection work (The Forest Act, Article 13)«.

c) On the basis of the forest silviculture plan, the Forest Service shall issue to forest owners, after prior consultation and a joint selection of trees for possible felling, an administrative order (The Forest Act, Article 17). The order shall define:

- necessary silviculture work for renewing forests and tending up to the young pole stage;*
- necessary protection work;*
- guidelines and time limits for carrying out and repetition of individual silviculture and protective works;*
- quantity and structure of trees for the maximum possible felling;*
- guidelines and conditions for cutting and skidding timber;*
- guidelines and conditions for obtaining resin and decorative trees;*
- the period for which the order is issued.*

- c) *The Forest Service shall produce forest silviculture plans for all forests within five years of the enactment of this law (The Forest Act, Article 95).*

Forest and Forest Related Legislation

6. When was the currently valid Act on Nature Protection issued in your country? Is it the new one or a revision of the older act?

In Slovenia, we don't have any nature protection act yet. A part of the nature protection was included in the Act on Environment Protection (1993). But we have the Act on the Protection of the Natural Heritage, which dates from 1981. The new Act on Nature Conservation which shall incorporate also the protection of natural heritage is now under preparation.

7. When was the currently valid Forest Act issued in your country? Is it the new one or a revision of the older act?

The Forest Act was issued in 1993 (OG of the RS, No. 30/1993) as the new one (a hard-copy is enclosed).

8. List other forest related acts and most important regulations influencing forest management in your country:

- issued by cr for the forestry sector (Act on Hunting, Forest Management, etc.)?
- issued by cr for the environmental and other sectors (Act on Nature Conservation, Environmental Impact Assessment, Environmental Protection, etc.)?

The other forest related acts:

a, issued by the agricultural and / or forestry sector:

- i) The Act on Agricultural Lands (OG of the RS, No. 59/1996);*
- ii) The Act on the Fund of Agricultural Land and Forests (OG of the RS, No. 10/1993 and 1/96), which establishes the state Fund for administration and management of the state forests;*
- iii) The Act on Protection, Cultivation and Hunting of Wildlife and Management of Hunting-Districts (OG of the RS, No.25/1976).*

b) issued by the environmental sector:

- iv) The Environment Protection Act (OG of the RS, No. 32/1993 and 1/96);*
- v) The Act on Protection of the Natural Heritage (OG of the RS, No. 1/1981 and 26/92).*

Most important regulations based on the other forest related acts:

- Regulation on the concession for exploitation of forests in the ownership of the Republic of Slovenia (OG of the RS, No. 34/1996), based on a-ii and b-iv;*
- Regulation on the content of the hunting-management plan (OG of the RS, No. .../1976), based on a-iii;*
- Regulation on protection of the endangered animal species (OG of the RS, No. 57/1993), based on b-v;*
- Regulation on protection of the indigenous fungi (OG of the RS, No. 38/1994, 44/1995 and 30/1996), based on b-iv.*

9. Have there been in the transition period (1990-1997) any government / parliamentary resolutions concerning forests and forest management in your country? Would you list them?

The following decisions / regulations were approved by the government in the transition period:

- *Decision on the organisation and starting to work of the Slovenia Forest Service (OG of the RS, No. 72/1993);*
- *Regulation on the tax for maintenance of the forest roads (OG of the RS, No. 38/1994);*
- *Decision on adaptation of the »Slovenian Forestry Institute« as a public research institute to the provisions of the Forest Act (OG of the RS, No. 1/1994);*
- *Operational Programme for the Implementation of the FDPS for the period 1996 - 2000 (approved by the governmental decision in 1995, not published in the OG).*
- *Regulation on additional forest protection measures in the condition of the bark-beetle calamity in the year 1993 (OG of the RS, No. 9/1993) (similar regulations in the 1994, 1995 and 1996 approved by the minister only);*

Also 14 forest management regional plans (for all forest management regions in Slovenia) were approved for the period 1991 - 2000 by the government in 1991. The plans for forest management units (cca. 25 per year) have been approved by the minister.

The most important minister's regulations are:

- *Regulation on cutting and skidding timber (OG of the RS, No.55/1994);*
- *Regulation on minimum professional criteria for forest management companies (for performing forest works) (OG of the RS, No.35/1994);*
- *Regulation on budget financing and co-financing of the forest biological and technical investments (measures) (OG of the RS, No.58/1994 and 19/1995);*
- *Regulation on the contents of the regional wildlife management plan (OG of the RS, No.19/1996);*
- *Regulation on the content of the forest management plan and silviculture plan (OG of the RS, No. 5/1998).*

10. Have there been any systematic discrepancies between the forestry and nature conservation/ environmental sectors attributable to insufficient recognition between the valid forestry and environmental legislation? Could you list the most significant ones?

No, because the nature / environment protection is already incorporated into the forestry legislation and forest management practice (sustainable and close-to-nature management).

11. Were there any significant conflicts between the forestry and other sectors, NGO's and public in the transformation period (1990-1997)? Please, list and shortly describe the most serious ones (year, subject, measures/solutions).

There have been only significant conflicts between the public forestry (sector) and the Slovenian Hunting Association as an NGO, which still lasts because of the positions of hunters associated with the drafting of the new wildlife and hunting regulations (the hunters insist to »conserve« their past rights regarding the wildlife management and hunting regardless of the ownership of the forests). The main conflict is persisting between the hunters associations, the private (forest and land) owners and the local communities.

12. Would you describe the legislation and institutional support to professional associations of forest workers and associations of forest owners?

We do not really have such legislation yet. But, all forest owners (above 1 ha of forest) are supposed to be included in the Chamber for Agriculture and Forestry (at the national and regional levels) for which the new Act is now in the procedure. Because of this fact we don't have any institutional support to such associations, but we have supported the forest owners directly (through the full financing of the public forest service, which is gratis for the owner and through the system of budget incentives / subsidies (see also the attached FLPS).

Subsidies

13. State subsidiary policy - is there any state policy and how does it influence forestry? Which are the possible sources of subsidies for forestry?

There is a special subsidiary policy for forestry, which was adopted by the government and the parliament (through the adoption of the FDPS). But there is not any subsidies for forestry production, except for thinning of pole stands. There is a system of incentives for forest protection, silviculture (regeneration, tending, »first« thinning, conversion and restoration of stands) and building and maintenance of forest roads (see also the FLPS) The »source« of the incentives (through the integral national budget) is mainly the forest timber selling tax (10 % of the selling price).

14. What is the mechanism of distribution of the subsidies in forestry? What are the legal regulations? Is there any independent commission or other responsible body (provide short description or flow chart) ?

The mechanism of the subsidies distribution was generally adopted by the parliament (through the FDPS) and specially by the minister's regulation. The mechanism is described in the attached FDPS. For the main part of the subsidies distribution - actually for incentives - the Slovenian Forest Service (as an governmental institution) is responsible (according to the annual programme of the »investments« into the forests, also approved by the government). For the smaller part of the subsidies distribution (for pole stands thinning, conversion of stands and building of forest roads) the special ad hoc technical body within the forestry sector of the ministry (appointed by the minister for each public tender) is responsible.

15. Are there any mid-term reviews on the annual distribution of subsidies in forestry?

Until now we only had annual reviews (because of the fact that this new system only started in 1994).

16. Is there any mid-term assessment of the cost-effectiveness of subsidies in forestry?

Not yet.

Additional question :

II/4 Subsidies

We received very heterogeneous answers to this item from individual countries. The expert compiling the multi-country block "Forestry and National Economy" found it useful to refer instead of the Subsidies to the Total Financial Support from the State (or Sources Other than the Production Output of the Forestry Branch). Would you answer the following, please:

	Total Amount (in ECU), Trend in the 90-ies
• Total Financial Support to Forestry:	2941 MIO SIT⁵
• Primary Forest Production ¹	yes / no, 6 % of the total support
• Secondary Forest Production (roads, transport) ²	yes / no, 9 % of the total s.
• Ecological Protection and Recreation (includes compensations) ³	yes / no, 9 % of the total s.
• Other Purposes ⁴	yes / no, 1% of the total s.
• Public Forests Service and research in forestry	yes / no, 75% of the total s.

Estimates of the shares of segments (%) are acceptable upon the absence of exact data.
The use of estimate should be indicated.

Legend: ¹ f. production (regeneration, tending, restoration, conversion ...);

² maintenance of forest roads;

³ forest protection, compensations for protective forests, etc.;

⁴ habitats, compensations for special purpose forests;

⁵ 1 USD = 141,48 SIT (31.12.1996) ⇒ ~ 20.8 MIO USD



Organisational Structure

17. Which ministry is responsible for forest management in your country?

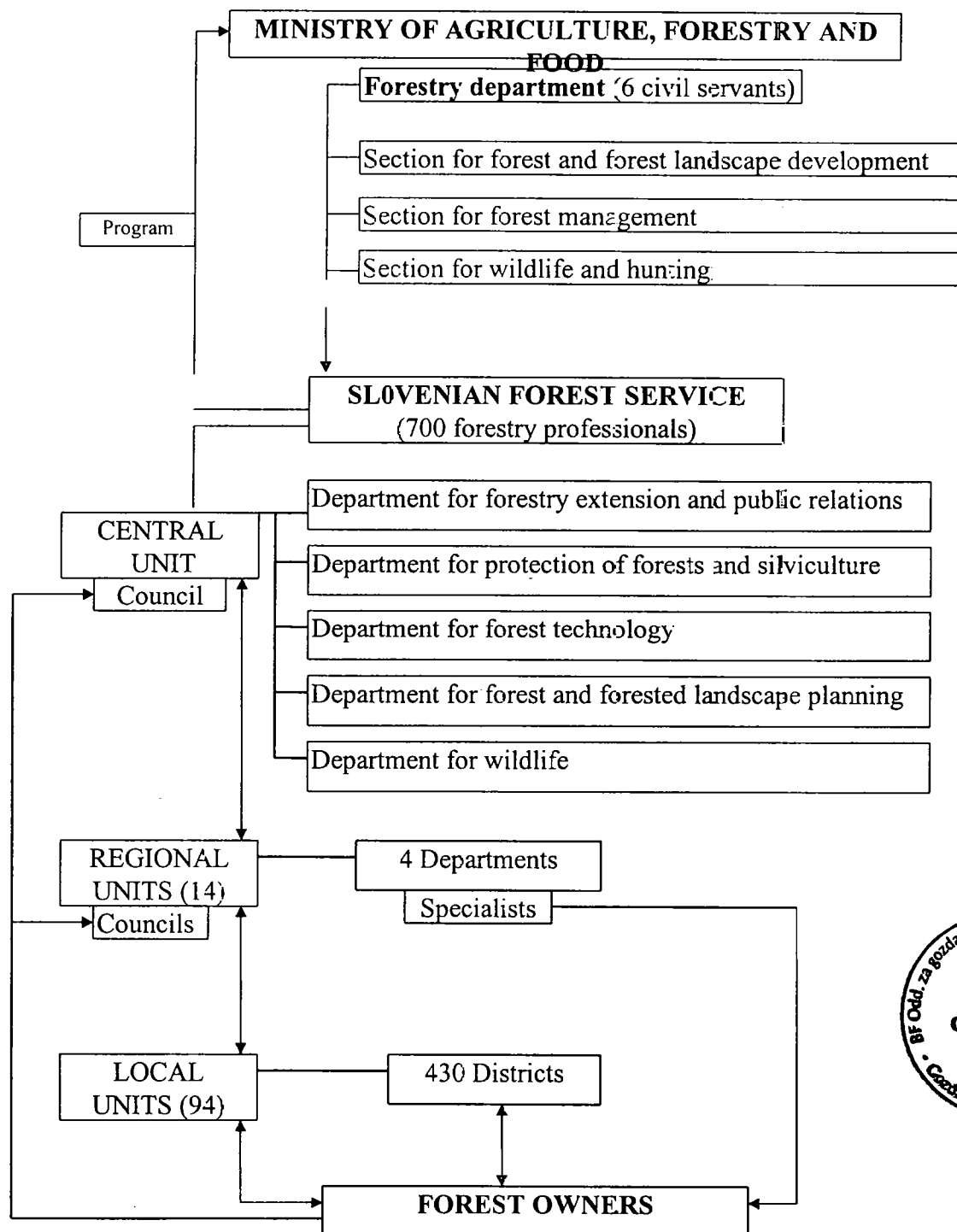
Ministry for Agriculture, Forestry and Food.

18. What is the structure of the state administration of forestry or state forest authorities, if you have them? (flow chart with comments preferred).

The Slovenia Forest Service (SFS) as a public service is the central, independent forestry »administration body«, which is responsible for planning, guiding the forest management (for state and private forests), counselling and extension (for all forest owners). The Forest Service doesn't manage the forests by itself. It is organised at the national (1 central unit), regional (14 regional units) and local level (over 90 local units and over 400 forest districts) and has around 700 (approx. 8 per 10.000 hectares) forestry employees.

The state institution responsible for management of the state forests is the Fund for Agricultural Lands and Forests (FALF), which is also an independent legal person. According to the Act on the FALF (1993) the Fund manages with state forests in the name of the Republic of Slovenia (as state forest owner). The Fund has only a small forestry sector (administration), and it isn't organised as a company (e.g. doesn't have its own forest workers). It only makes (mostly long-term) concession contracts for all forest works with the private forest companies, and monitors their realisation. The revenue (rent) from these contracts belong to the Fund (for its programme, e.g. purchasing forests, maintenance and building forest roads, etc.). The actual work in the state forests is done by private forestry companies (privatised former forest management enterprises) as concession holders and not by the Fund alone (so, the forest works, but not the forests, is completely privatised).

INSTITUTIONAL FRAMEWORK FOR SUSTAINABLE FOREST MANAGEMENT IN SLOVENIA



19. What is the structure of the forestry department at the ministry? (flow chart preferred)

See No. 18.

20. What is the structure of the state administration of environment? (flow chart preferred)

MINISTRY OF THE ENVIRONMENT AND PHYSICAL PLANNING

deals with matters concerning:

- *protection of the environment and nature;*
- *water and the water industry;*
- *geological, seismological, meteorological and other geophysical or natural phenomena;*
- *physical planning, alterations to the landscape construction of buildings and property-law cases relating to real estate;*
- *nuclear safety;*
- *housing matters;*
- *geodesy and geo-oriented information systems, and inspection monitoring in these areas.*

Following offices / administration agencies are part of the structure of the Ministry:

- 1) INSPECTORATE OF THE REPUBLIC OF SLOVENIA FOR THE ENVIRONMENT AND PHYSICAL PLANNING*
- 2) HYDROMETEOROLOGICAL INSTITUTE OF THE REPUBLIC OF SLOVENIA*
- 3) NUCLEAR SAFETY ADMINISTRATION OF THE REPUBLIC OF SLOVENIA*
- 4) SURVEYING AND MAPPING AUTHORITY OF THE REPUBLIC OF SLOVENIA*
- 5) OFFICE OF THE REPUBLIC OF SLOVENIA FOR PHYSICAL PLANNING*
- 6) ADMINISTRATION FOR GEOPHYSICS OF THE REPUBLIC OF SLOVENIA*
- 7) NATURE PROTECTION AUTHORITY OF THE REPUBLIC OF SLOVENIA*

Nature protection authority performs administrative tasks relating to:

- *integrated protection of the environment, natural wealth, values and heritage, water, air, soil, plants and animals, and waste handling;*
- *environmental impact assessments;*
- *public environmental protection service, and the protection of natural wealth, and the professional for funding and for measures of environmental protection;*
- *managing the information system, and professional tasks for the ecological development fund;*
- *the water regime, water management, and other interventions in water;*
- *the strategy of environmental protection and water-industry planning;*
- *investment planning and construction, and maintenance and management of water and water-industry facilities and installations;*
- *public service of water management and issuing concessions for water use, and for removing the consequences of natural and other disasters.*

21. Which non-forestry institutions and authorities influence forest management in your country?

There is no any special non-forestry institution or authority significantly influencing the forest management in our country, except possibly, in the future, the Chamber of Agriculture and Forestry. Concerning the Ministry of Environment, there isn't any problem with the »environmentalists« or the nature »protectionists« because Slovenian forestry has been traditionally sustainable oriented. Our close-to-nature forest management means also the nature / biodiversity conservation at the same time. Among other things, foresters have protected the first virgin forests in Slovenia already 100 years ago.

22. Would you list the associations / unions of forest owners in your country, including basic facts about them?

There isn't any professional association / union of forest owners yet. There are two more or less political associations / unions, the Slovenian Farmers Association and the Slovenian Farmers Movement. Besides them there exist the syndicate of professional forest workers and the syndicate of forest service employees.

23. What is the management structure of state forests: Do the organisational structures supervising the state owned forests (state forest companies or holdings) carry out the forest management (enterprise structure) or do they just contract other companies and only control the management (ownership and management functions are separated)? Please, describe it in a few lines, flow chart preferred.

For the management of state forests the (state) FALF is responsible. Practically, this Fund only administers the management in the state forests and make long-term contracts with the private companies (mainly former forest management enterprises (14) as concession holders) and control their work / fulfilment of the contracts. The ownership function and the real management functions are separated. Also the public forest service functions (e.g. planning, etc.) are separated from the administration and management of the state forests. Thus, for the state forest two state institutions are responsible, and the third management »subject« are private forestry companies (concession holders).

Ownership Structure

24. What is the legal basis for restitution and re-privatization of forests?

The legal basis for restitution (denationalisation) is the Act on Denationalisation (OG of the RS, No. 27/1991). We do not have additional re-privatisation of state forests (only restitution to former forest owners).

25. What is (under valid legislation) the expected forest ownership structure of forests after complete restitution and re-privatisation?

After the denationalisation process we expect about 20 % of public (mainly state) forests remaining (80 % of private forests). But it is important to note that also before the denationalisation (in 1990) private forests prevailed in Slovenia (63 %).

26. Who takes responsibility for the administration of forests with unknown owners or forests which cannot be restituted to their original owners under valid legislation? Would you provide short description of situation in a few words?

The FALF takes the responsibility for management of all state forest (and for owners administration). According to the act, which establishes the FALF (1993), also the forests which are in the process of denationalisation, belong to the state forests - until their reimbursement. We don't have the problem of unknown (former) forest owners and all forests can be restituted according to the act. Until the reimbursement of forests the FALF takes the responsibility for their »owners« administration (and management).

Because all forest owners (or their trustees) in Slovenia are known, the problem practically exist only in the case that a forest owner can really not be contacted by public forest service. In this case the SFS assure the realisation of needed (protection or silvicultural) measures, instead of the forest owner and on the owners or budget costs.

27. What is your approach to restitution of forest infrastructure: roads, buildings special constructions? Are they restituted together with forest land or
- there is special legal regulation
 - they remain in the possession of state
 - there is some other alternative?
- Short description in a few lines preferred.

According to the forest act the forest roads are an integral »part« of the forest, so they can be normally restituted (denationalised) together with the forest. Other objects (buildings or special constructions) in the forests are not an integral part of the forests but could also be restituted (separately from the forest). Because such objects were mainly built by former forest management enterprises, they were subject for privatisation within this enterprises (now private forestry companies as concession holders).

In the possession of the state we now only have a relatively small amount of buildings needed for the work of the public forest service (only those which were not subject of denationalisation), which were not allowed to privatise.

28. Is there any systematic support (financial or institutional) stimulating the management co-operation of small private forest owners

We already have some new forestry co-operatives, but they don't stimulate much the co-operation of small private forest owners. Also their interest for co-operation, because of negative past tradition, is still very low. We don't have yet real institutional support (e.g. Act on the Chamber for Agriculture and Forestry is now in the procedure).

On the other hand we now have also some direct (subsidies for structural adaptations of co-operatives) or indirect budget stimulation (advantages for the associated owners if they compete for subsidies at the public tender).

CHAPTER II: FORESTRY SECTOR AND NATIONAL ECONOMY

1. What is the share on the gross domestic product of:
 - forestry in % (statistical yearbook of the country) 0,6 %
 - wood processing industries (%) (statistical yearbook of the country; it should include the primary wood processing, furniture industry and other mechanical processing, pulp industries, other chemical processing of wood) 3,0 %

There exists a probability, that the 3 % of the GDP doesn't represent the outputs of all types of wood processing industry (especially small primary wood processing »companies«). Similarly, it exists also the probability that the 0.6 % of GDP doesn't represent the entire share of forestry, because of extremely »decentralised« private forestry sector (more than 250,000 forest owners as forest managers, the average forest property 2.3 ha, absence of forest owners associations).

2. What is the portion of investments in forestry from total investments to the national economy?
0,15 %
4. Total turn-over of the forestry: *available only for state forests (FALF)*
Total production expenses: *available only for state forests (FALF)*
 Economic result of the branch: *available only for state forests (FALF)*.

We do not really know what is the total turn over of the entire forestry sector. In Slovenia such estimate would be possible only before 1990 (because forest management enterprises have managed practically with all, including private forests - also all timber was sold through this enterprises - so that the management and production »circle« was closed). For estimates of the economic success (result) in different categories of the forest ownership now is necessary to monitor the relevant forest management criteria and indicators. But, until now, such indicators (e.g. production costs) have been monitored in Slovenia only for state forests (30 % of the forests at the moment), for which this estimate is possible.

According to the analyses of the successfulness of forest management in state forests in the 1994 - 1996 period the economic result of the state forest was following:

- a) Trends of timber selling prices and structure of the management costs in state forests in the 1994 - 1996 period:

<i>Timber prices and forest management costs</i>	<i>1994</i>	<i>1995</i>	<i>1996</i>	<i>Average</i>
<i>Timber price (SIT/m³)</i>	<i>6096</i>	<i>6710</i>	<i>6510</i>	<i>6432</i>
<i>Management costs (%):</i>	<i>94</i>	<i>93</i>	<i>99</i>	<i>92</i>
• <i>Production (%)</i>	<i>68</i>	<i>67</i>	<i>82</i>	<i>69</i>
• <i>Silviculture (%)</i>	<i>19</i>	<i>17</i>	<i>13</i>	<i>16</i>
• <i>Forest roads (%)</i>	<i>7</i>	<i>9</i>	<i>4</i>	<i>7</i>

b) *Successfulness of the management in state forests for the 1994 - 1996 period:*

<i>Indicators of the successfulness</i>	<i>1994</i>	<i>1995</i>	<i>1996</i>	<i>Average</i>
<i>Net revenue (rent) from the forests (SIT/m³)</i>	984	539	27	520
<i>Taxes (SIT/m³)</i>	-272	-226	-66	-188
<i>Administration cc.sts (SIT/m³)</i>	-38	-63	-43	-159
<i>SUCCESSFULNESS (SIT/m³)</i>	674	250	-82	173

Note: 1) The timber production in state forests amounted to 688.580 m³ in 1994, 645.368 m³ in 1995 and 672.645 m³ in 1996.

2) Costs of the forest service (planning and guiding the forest management, inc. marking of trees) are not included to production costs, because the forest service is paid from the budget (can be also considered as a indirect state subsidy to all forest owners).

3) Budget subsidies to the FALF are not included.

4) The exchange rate for 1 USD was following: in 1994: 126,46 SIT, in 1995: 125,99 SIT, in 1996: 141,48 SIT.

Source: FERLIN, F., 1998. Successfulness of the New System of Close-to-Nature Forest Management in Slovenia. - Ljubljana, Slovenian Forestry Journal, 56. No. 2

5. Total subsidies into forestry (in national currency) per hectare of forest area:

<i>SORT OF INCENTIVES / SUBSIDIES</i>	<i>YEAR 1996 (Realisation)</i>	<i>YEAR 1996 (Programme)</i>
<i>Indirect - for financing public forest service and research (SIT/ha)</i>	2.022	2.452
<i>Direct - for co-financing of the programme of forest »biological and technical« measures (SIT/ha)</i>	628	924
<i>Compensations and purchasing of forests (SIT/ha)</i>	30	129
<i>TOTAL (SIT/ha)</i>	2.680	3.505

Note: 1USD = 141,48 SIT (31. 12. 1996)

6. Recent development in the forestry you would characterise as stable, revival, growth or recession? Considering the transformation, which are the most apparent changes - in a few words?

Recent development in forestry could be characterised as a recession because of unfavourable natural as well as a general economic (increasing of the production costs, decreasing of the amount, structure and value of forest production) and market condition (low timber selling prices) and also because of the fact that the transition in forestry has not been finished yet (still not normalised relationships between the FALF and concession holders in state forests; still not finished denationalisation process; absence of forest owners associations for rational forest management, etc.).

7. Number of employees in forestry: including self-employed forest owners?

Around 3000 professional staff, approximately 100,000 - 150,000 do the forest work themselves. This forest owners can be considered as a (small) part-time employees, if we consider e.g. that 10-15 m³ is an average timber production per owner and/o. that this is a part time job.

8. Is the income level in forestry below/above the national average?

Including private sector income in forestry is estimated now as below the national average.

9. Domestic timber trade and exports - are there any administrative regulations? If yes, could you provide short description, including the survey of related legislation?

There are no any administrative regulations.

Additional question:

II/6 Please, what is the total number of employees, including self employed forest owners in Slovenia?

The number can be provided as the number of persons-year per year. Expert estimate is acceptable (but should be indicated) upon the absence of reliable statistics.

Around 3.000 professional staff, approximately 100.000-150.000 do the forest work themselves.

This forest owners can be considered as a (small) part-time employers, if we consider e.g. that 10-15m³ is an average timber production per owner and/or that this is a part time job.

Please, provide information on the trends in the 90-ies for:

- | | |
|--|--|
| * Contribution to the GDP - of Forestry | Stable/Increasing/ Decreasing |
| - of Wood Processing Industries | Stable/Increasing/ Decreasing |
| * State (other) Financial Support to Forestry | Stable/ Increasing /Decreasing/No |
| * Economical Result of the Branch without Subsidies and State (or Other) Financial Support & Compensations | Profit/ Loss - Increasing /Decr. |
| * Proportion of Investments in Forestry of the Total in Nat. Economy | Stable/Increasing/ Decreasing |
| * Income Level in Forestry in Comparison with the National Average | Stable /Increasing/Decreasing |
| * Number of Employees in Forestry | Stable/Increasing/ Decreasing |
| - professional staff | Stable/Increasing/ Decreasing |
| - forest owners | Stable/Increasing /Decreasing |

- Would it be possible to find (e.g., in the Statistical Yearbook) the information on:

	Share on GDP	Number of Employees
Forestry	0.6%	2.297
Wood Industries	3.0%	27.889 (tot.)
- Sawmilling*		4.388
- Pulp and Paper*		7.381
- Others*		16.120

* 1995, Statistical yearbook

CHAPTER III: GENERAL INFORMATION ON FORESTRY

TERMS AND DEFINITIONS

In order to obtain comparable information at the multi-country level, the basic terms and definitions applied in the UN-ECE/FAO Temperate and Boreal Forest Resources Assessment 2000, and the Helsinki Process are provided in the Annex to this Questionnaire.

Nonetheless, there are many terms which have different definition in many countries. It would be therefore extremely useful if the national co-ordinator provides definitions of basic forest related terms as they are in use in his/her country. These basic definitions are, for instance:

- a) Forest (difference from the FAO definition of forest in Annex 1)
 - b) Forest Land
 - c) Forestry
 - d) Forests Managed Primarily for Production Functions
 - e) Forests Managed Primarily for Protective Functions (please list sub-categories)
 - f) Forests Managed Primarily for Special Functions (please list sub-categories)
- ...other country-specific definitions referred to in the questionnaire...*

INFORMATION SOURCE - A) HELSINKI FOLLOW-UP PROCESS

Status: Information gathered in the framework of the Helsinki Follow-Up Process has been available at the country level. The national co-ordinator should contact the experts officially appointed in their countries to coordinate the Helsinki Follow-Up and the inventory based on the Helsinki Questionnaire on Criteria and Quantitative Indicators of Sustainable Forest Management.

The numerical codes of criteria and quantitative indicators refer in this part of the questionnaire to the code number of the tables in the Helsinki Questionnaire where corresponding information is available. Nonetheless, many updates and supplements to the information on the Helsinki Criteria and Quantitative Indicators will be necessary.

1. Maintenance and appropriate enhancement of forest resources and their contribution to global carbon cycles

1.1. Area of forest and other wooded land and changes in area classified according to

- forest and vegetation type
- ownership structure (state, municipal, community, church, company, private)
- for non-state forests - size structure
- *species structure %*
- *area of predominantly coniferous, broad-leaved and mixed forests*
- age structure - *if data available, subdivide into conifers and broadleaves*
- *origin of forest (ha)*
 - *plantations*
 - *predominantly planted* - *predominantly coniferous*
 - *predominantly broadleaved*
 - *predominantly naturally regenerated*
 - *virgin/primeval forests.*

DATA REQUIRED:	Unit to be used (if using other unit, please, indicate)	1996	Estimate of the long term trend for the past 50 years	Estimate of the trend in transition period 1990-1997
* Area of forest and other wooded land Classified	1000 ha	1166 ¹ (1099) ²	increasing	increasing
* By vegetation zones (predominating forest types, source FDPS 1996):	1000 ha			within the margins of sample error-stable
zone 1 - Beech and other silver fir forests		163.5		
zone 2 - Beech forests / acidophilous		179.5		
zone 3 - Beech forest / carbonate rock		286.1		
zone 4 - Oak forest		33.3		
zone 5 - Forest of oak and horn beam		87.4		
zone 6 - Common fir forest		49.2		
zone 7 - Pine forest		39.4		
zone 8 - Forest of beech and oak		115.2		
zone 9 - Spruce forest		15.5		
zone 10 - Broad-leaved f. / thermophilous		57.9		
zone 11 - Mountainous beech forest		41.5		
zone 12 - Forest of willow and alder		7.5		
By species structure (current, source FDPS, 1996)	% / growing stock of Sloven. forests			within the margins of sample error-stable
beech		29	increasing	
oak		8	stable	
noble broadleaves		3	increasing	
other broadleaves		7	increasing	
spruce		35	stable	
fir		11	decreasing	
pine		7	increasing	
* By area of predominantly				
- coniferous	1000 ha	358	decreasing	
- broad-leaved		443	increasing	
- mixed forests		365	increasing	
* By ownership, e.g.	%			
Private		70.2	stable	increasing
State Owned		29.8	stable	decreasing
Companies				
Community				
Church forests				
Unknown owner				
Others				
* Concerning private owners, by size classes (if national statistics exists)	%			
0.1- 10 ha		66.2	stable	Stable
10 - 50 ha		29.8	stable	Stable
50 -100 ha		4.0	stable	Increasing
>100 ha		-	-	³

Legend : ¹ forest and other wooded land, ² forests, ³ process of denationalisation is in running

Additional question :

Helsinki-derived TABLE 1.1

- * Classification of forests by ownership: A check question: The category of private forests (apr. 70%) -does include only individual ownership or also other categories of private ownership? Please, check the consistency with the TBFRA-2000.

Year 1996

	(1.000 ha) public	private ownership
TBFRA-2000:	330 (30 %)	769 (70 %)
MC-PHARE:	(29.8 %)	(70.2 %)

Distributions of ownership are for both reports identical. The answer on question about category of private forests - Presented classification is official from Slovenian Forest Service report (SFS report) for year 1996.

Private ownership ⇒ small scale non industrial private forest owners...

Additional question :

Helsinki-derived Table 1.1

*Please, what is the estimated proportion of forests of Slovenia (in %) where the **actual tree species composition corresponds with the natural one**? Expert estimate is acceptable upon the absence of statistics or special studies. Please, provide reference according to which the estimate was done.*

The composition of species of Slovenian forests has been significantly changed (due to the dominance of the Norway spruce) in only about 15% of the forests. Table shows a considerable difference between the current tree composition of Slovenian's forests and the natural composition. This may be attributed to the planting of Norway spruce in the distant past (following the German school forest management) and to the planting of Austrian pine and its further natural dissemination in the Karst.

	Beech	Norway spruce	Silver fir	Oak	Pine	Val.broad. sp.
Potential vegetation (%)	58	8	10	8	2	6
Current vegetation (%)	29	35	11	8	7	3

Plant-sociological mapping of 70% of slov. forest, which were carried out between 1950-1990, show that 90% of the examined forest areas should be covered by broad-leaved forests, while only 10% are conifer forests by nature.

DATA REQUIRED:	Unit to be used (if using other unit, please, indicate)	1996	Estimate of the long term trend for the past 50 years	Estimate of the trend in transition period 1990-1997
Concerning all forests - by age structure¹	1000 ha/ age class			
0 - 20				
21 - 40		31	decreasing	decreasing
41 - 60		18	"	"
61 - 80		43	"	"
81 - 100		90	stable	stable
101 - 120		100	"	"
121 +		61	increasing	increasing
Uneven aged		52	"	"
* Area of forest and other wooded land Classified		530	increasing	increasing
* By origin of forests (indicative numbers) of e.g. - Plantations	% / type			
- Predominantly planted - total		0.1	stable	stable
- predom. Coniferous		15.0	decreasing	decreasing
- predom. broadleaved		15.0	"	"
- Predominantly naturally regenerated		/	/	/
- Virgin / primeval forests		84.9	increasing	increasing
		0.03	stable	stable

Legend : ¹ for high forest for wood supply

1.2. Changes in:

- total volume of the growing stock (if available, divided into conifers and broadleaves. These data should be available from Table 17 of the TBFRA-2000 Inquiry).
- mean volume of the growing stock on forest land
- gross annual increment (if available, divided into conifers and broadleaves. These data should be available in Table 14 of the TBFRA-2000 Inquiry)

DATA REQUIRED	Unit to be used (if using other unit, please, indicate)	1996	Estimate of the long term trend for the past 50 years	Estimate of the trend in transition period 1990-1997
Total volume of the growing stock	10 ⁶ .m ³	310.6	increasing	increasing
- conifers		154.7	increasing	increasing
- broadleaves		155.9	increasing	increasing
Mean volume of the growing stock per hectare forest land	m ³ .ha ⁻¹	266.4 ²	increasing	increasing
		282.6 ¹		
Gross annual increment	10 ⁶ .m ³	7.11	increasing	increasing

¹ calculated from forest land ; ² calculated from forest and other wooded land

2. Maintenance of forest ecosystem health and vitality

2.3. Serious damages caused by biotic or abiotic agents (10-year average):

- a, Severe damage caused by insects and diseases with a measurement of seriousness of the damage as a function of (mortality or) loss of growth
- b, Burnt forest area
- c, Annual area affected by storm damage and volume harvested from these areas
- d, Proportion of regeneration area seriously damaged by game, other animals or grazing
- e, *Area of forests primarily damaged by air pollution*
- f, *Other anthropogenic damage (indicative data, if available)*
 - recreation and leisure activities
 - military activities
 - agriculture (*herbicides, organic ammonium pollution...*)

DATA REQUIRED	Unit to be used (if using another unit, please, indicate it)	1996	Estimate of the long term trend for the past 50 years	Estimate of the trend in transition period 1990-1995
Area seriously affected by insects	1000 ha.year ⁻¹	0.9 ¹	increasing	increasing
Burnt forest area	1000 ha.year ⁻¹	0.3	stable	stable
Volume harvested from burnt areas	1000 m ³ .year ⁻¹	1.5	"	"
Area seriously damaged by storms ¹	1000 ha.year ⁻¹	2.6 ²	increasing	increasing
Volume harvested from these areas	1000 m ³ .year ⁻¹	724	"	"
Total area of regeneration per year	1000 ha.year ⁻¹	7.5	decreasing	stable
Area seriously damaged by game (wild animals)	1000 ha.year ⁻¹	1.0	"	decreasing
Area seriously damaged by grazing (domestic animals)	1000 ha.year ⁻¹	0.05	decreasing	stable
<i>Area of forests primarily damaged by air pollution</i>	1000 ha.year ⁻¹	1.5*	increasing	stable
<i>Other anthropogenic damage (if data available)</i>				
- recreation/leisure activities	1000 ha.year ⁻¹	1.0	increasing	stable
- military activities	1000 ha.year ⁻¹	0.2	stable	stable
- agriculture (<i>herbicides, organic ammonium, regulations, meliorations</i>)	1000 ha.year ⁻¹	1.0*	increasing	stable

¹ by storm, wind, snow or other identifiable abiotic factors, * estimations

² calculated from average growing stock of Slovenian forests (283 m³ / ha)

Helsinki-derived TABLE 2.3

- * Is not there any other serious damage to the forests of Slovenia which was not mentioned in Table 2.3? Is not there, e.g. illegal cutting (in m³) or serious damage by fungal or other diseases (in ha)? Would you provide expert estimates and also comment.

Year 1996

Serious damage by fungal diseases are in SFS report presented by sanitary cutting; for year 1996 ⇒ 101.590 m³. Area seriously damaged by storms we could be classified to damages by snow, by icebreak, by fungal disease, by insects wind storms etc. Data in Table 2.3 are reasonable, explanations are in legend under table in our national report.

Illegal cutting - yes it's present. In SFS report for 1996 is evidenced not allowed cutting 76.062 m³ (3.3 %)

3. Maintenance and encouragement of productive functions of forests (wood and non-wood)

3.2. Percentage of forests area managed according to a management plan or management guidelines

DATA REQUIRED	Unit to be used (if using another unit, please, indicate it)	1996	1987	Estimate of the long term trend for the past 50 years
Area of forests managed according to a management plan or management guidelines*	% forest area	100.0	98.0	increasing

Legend : ¹ wood

DATA REQUIRED	Unit to be used (if using another unit, please, indicate it)	1996	Estimate of the long term trend for the past 50 years	Estimate of the trend in transition period 1990-1997
Area of natural and ancient semi-natural forest types	1000 ha	582 ¹	increasing	stable
Area of strictly protected (non-intervention) forest reserves	1000 ha	15	increasing	stable
Area of forests protected by special management regimes	1000 ha	52	increasing	stable

¹ uneveaged \Rightarrow 530.000 ha, ancient semi-natural (121 +, by age structure) \Rightarrow 52.000 ha
 natural and ancient semi-natural forest types = 530.000 ha + 52.000 ha = 582.000 ha

4.2. Changes in the number and percentage of threatened species in relation to total number of species (using reference list of the IUCN in Annex I). See also Table 10 of the TBFRA-2000.

	All Species in Country		Estimate of long term trend for the past 50 years
	Total Species	Endangered	
Woody Species	243	26	decreasing*
Trees	73	5	"
Other Vascular Flowering Plants	3027	309	decreasing
Ferns	75	16	"
Mosses	755	261	"
Lichens	600	83	"
Mammals	38	45	"
Birds	207 (361**)	121	"
Other Vertebrates (Fish, Amphibians, Reptiles)	144	107	"

*negative trend (estimation)

** Of the 361 bird species, known so far occur in Slovenia, 169 are traditional breeders. In all, there 207 species of breeders, including irregular or occasional breeders)

4.5. In relation to total area, proportion of annual area of natural regeneration (*information on coppice sprouting should be available in Table 11 of the UN-ECE/FAO TBFRA-2000 Inquiry*).

REQUIRED DATA	Unit to be used (if using another unit, please, indicate it)	1996	Estimate of the long term trend for the past 50 years	Estimate of the trend in transition period 1990-1997
Annual area of natural regeneration	1000 ha	6.0	decreasing	stable
Coppice sprouting	1000 ha	1.0	decreasing	stable
Total regenerated area	1000 ha	7.5	decreasing	stable
Planting or seeding of non-forest land	1000 ha	0.01		

5. Maintenance and appropriate enhancement of protective functions in forest management (notably soil and water)

Forests Managed Primarily for Protective and Special Functions (by sub-categories)

REQUIRED DATA	Unit to be used (if using another unit, please, indicate it)	1996	Estimate of long term trend for the past 50 years	Estimate of the trend in transition period 1990-1997
Total area of forests managed primarily for protective functions	1000 ha			
Sub-category 1) Environmental-ecol.	1000 ha	113.8	increasing	increasing
2) soil p.		77.4	"	"
3) water p.		22.2	"	"
4) clima p.		3.1	"	"
5) biotop p.		5.1	"	"
6) other purpose		6.0	"	"
Total area of forests managed primarily for other special functions	1000 ha			
Sub-category 1) social. f.	1000 ha	59.9	increasing	increasing
2) tourist-res.		7.8	"	"
3) hygiene		14.7	"	"
4) education		0.4	"	"
5) investig.		6.6	"	"
6) aesthetic		1.4	"	"
7) heritage		29.0	"	"

INFORMATION SOURCE: B) UN-ECE/FAO TBFRA 2000

Status: At the country level, information of the UN-ECE/FAO Temperate and Boreal Forest Resources Assessment will be available by the end of 1997. The national co-ordinator should contact persons appointed by the respective ministries to co-ordinate and gather information on the TBFRA-2000.

Numerical denomination of quantitative indicators in this part of the questionnaire refers to the TABLE NUMBER in the UN-ECE/FAO TBFRA-2000 Questionnaire. Requests for specific supplementary information or comments are in italics.

Section I - General Forest Resource Information

1. Total area by main land use classes

	Unit to be used (if using another unit, please, indicate it)	1996	Estimate of long term trend for the past 50 years
Total area of the country	km ²	20.257	constant
Area of forest land	km ²	10.988	increasing
Area of agricultural land	km ²	7.871	decreasing
Other land	km ²	1.398	stable

4. High forest and coppice

	Unit to be used (if using another unit, please, indicate it)	1996	Estimate of long term trend for the past 50 years	Estimate of the trend in transition period 1950-1997
Total Area of High Forest	1000 ha	925 ¹ 54 ²	increasing	stable
Total Area of Coppice and Coppice With Standards	1000 ha	110 ¹ 10 ²	decreasing	stable

¹forest available for wood supply, ²forest not available for wood supply

Section II - Biological Diversity and Protection Status

TBFRA TABLE 8: Protection status

IUCN Categories I and II..... and IUCN categories III to VI (should be given in full compliance with Table 8 of the TBFRA-2000) - additional

	1.000 ha	trend
Forest Land	1.099	
- total of the IUCN categories I and II	22,4	increas
- total of the IUCN categories III and VI	56,3	increas
Other wooded land	67	
- in IUCN categories I and II	2	increas
- in IUCN categories III to VI	3.4	increas

12. Species diversity and origin of seed and planting material used in the forest. If national statistics exist, several-year average is preferred. *Please, specify in kgs harvested seed or thousands of nursery produced plants used for reforestation or hectares of planted area*

Table presents a year average of seed and planting material used in the forest in period 1994 - 1997 in thousands of nursery produced plants used for reforestation (Source: Slovenian Forest Service)

Indigenous species English name	Latin name	Total of which	Known local provenance	Known non-local provenance	Unknown provenance	Estimate of the trend in transition period 1990-1997
Norway spruce	<i>Picea abies</i>	790	790	-	-	decreased
common silver fir	<i>Abies alba</i>	17	12	5	-	stable
Scots pine	<i>Pinus sylvestris</i>	16	2	14	-	stable
Austrian pine	<i>Pinus nigra</i>	16	-	-	16	stable
common larch var. Alpica	<i>Larix decidua</i> var. <i>Alpica</i>	58	40	18	-	stable
common larch var. Sudetica	<i>Larix decidua</i> var. <i>Sudetica</i>	19	-	-	19	decreased
common beech	<i>Fagus sylvatica</i>	221	100	81	40	increased
sessile oak	<i>Quercus petraea</i>	54	25	19	10	increased
common oak	<i>Quercus robur</i>	144	50	54	30	increased
sweet chestnut	<i>Castanea sativa</i>	0,2	-	-	0,2	stable
common walnut	<i>Juglans regia</i>	1	-	-	1	stable
sycamore	<i>Acer pseudoplatanus</i>	123	60	40	23	increased
Norway maple	<i>Acer platanoides</i>	1	-	-	1	increased
common ash	<i>Fraxinus excelsior</i>	170	80	55	35	increased
narrow-leaved ash	<i>Fraxinus angustifolia</i>	0,1	-	-	0,1	stable
small-leaved lime, broad-leaved lime	<i>Tilia cordata</i> , <i>Tilia platyphyllos</i>	8	-	-	8	increased
common hornbeam	<i>Carpinus betulus</i>	0,2	-	-	0,2	stable
wild cherry	<i>Prunus avium</i>	17	2	10	5	increased
wild service tree	<i>Sorbus torminalis</i>	0,1	-	-	0,1	increased
common alder	<i>Alnus glutinosa</i>	62	55	5	2	increased
willow	<i>Salix</i> sp	0,2	-	-	0,2	stable
rowan	<i>Sorbus aucuparia</i>	3	-	-	3	increased
Introduced species						
Douglas fir	<i>Pseudotsuga menziesii</i>	4	-	-	4	decreased
Northern red oak	<i>Quercus rubra</i>	17	-	-	17	decreased
black locust	<i>Robinia pseudacacia</i>	1	-	-	1	decreased
poplars ssp.	<i>Populus</i> (hybrids)	6	-	-	6	decreased

Section III - Wood Supply and Carbon Sequestration Functions

16. Fellings and removals, items 16.1, 16.2, 16.3

	Total Annual Removals		Volume of	
	Overbark	Underbark	Intermediate Fellings	Fellings of Losses*
	(million m ³ o.b)	(million m ³ u.b)	(million m ³ o.b)	(million m ³ o.b)
Forest total	1.2	1.1	2.3	1.1
Coniferous	0.6	0.5	1.5	0.9
Broadleaved	0.6	0.6	0.8	0.2

* - e.g., damaged by insects, **pollution**, fires, storms, avalanches

Additional question:

Please, would you describe briefly the short-term (1990-1997) and long-term (past 50 years) trends in the total removals (felling), intermediate fellings and fellings of losses (increasing decreasing, stable)

	total amount of felling (1.000 m ³)
allowable 1991-2000	2.912 (100%)
actual felling 1991	2.099 (72%)
1992	2.168 (74%)
1993	2.088 (72%)
1994	2.255 (77%)
1995	2.092 (72%)
1996	2.330 (80%)

Trend (1991-1996): stable (or loose incr.), 1950-1995 (1947: 2.860, 1956: 2.913, 1961: 2.887, 1970: 3.141, 1980: 3.318/1.000m³), loose incr. but in last decade decr.



Section IV - Forest condition

20. Forest condition

Defoliation classes:	All species		Coniferous		Broadleaved	
	0 and 1	2,3 and 4	0 and 1	2,3 and 4	0 and 1	2,3 and 4
(Percentage sample trees)						
1987 4 x 4 km	19789 / 79.1%	5228 / 20.9%	7375 / 65.7%	3852 / 34.3%	12405 / 90%	1376 / 10%
1991 4 x 4 km	11125 / 84.4%	2050 / 15.6%	3578 / 75.7%	1276 / 24.3%	7148 / 90.2%	774 / 9.8%
1993 16x16 km	662 / 81.1%	154 / 18.9%	277 / 72.9%	103 / 27.1	385 / 88.3%	51 / 11.7%
1994 16x16 km	688 / 84.3%	128 / 15.7%	299 / 80.6%	72 / 19.4	389 / 87.4%	56 / 12.6
1995 4 x 4 km	13079 / 76.5%	4009 / 23.5%	5042 / 70.8%	2083 / 29.2%	8037 / 80.7%	1926 / 19.3%
1996 16x16 km	819 / 80.8%	195 / 19.2%	295 / 73.8%	105 / 26.2%	524 / 85.3%	90 / 14.7%
1997 16x16 km	750 / 74%	264 / 26%	264 / 67.5%	127 / 32.5%	486 / 78%	137 / 22%

Legend 0: less than 10%, 1: >10-25%, 2: >25%-60%, 3: >60%<100%, 4: > 100%

Section V - Socio-economic functions

23. Access to, and use of, forest and other wooded land by public

1. Please, give an estimate of the area of forest and other wooded land to which the general public is legally NOT allowed to access:

Total	0 ha
- Publicly owned forest (state, municipal, other public forests)	5000 ha
- Privately owned forest	0 ha

Note:

There is a very few such forests in Slovenia: forests round the special army locations (2.300 ha), water-pumping areas (700 ha) and game fences (2.000 ha).

2. Has there been a long-term change in the area to which the public has legally had access:

- Publicly owned forest (state, municipal, other public forests) ¹	<u>Increasing</u> /Stable/Decreasing
- Privately owned forest	Increasing/ <u>Stable</u> /Decreasing

¹*The regimes of access to forests for non-wood goods doesn't differ from the general access regime.*

The owner of forest must (Forest Act, 1993):

- *allow free access to and movement in the forest to others;*
- *allow bee-keeping, hunting and the recreational gathering of fruits, herbal plants, mushrooms and wild animals in accordance with regulations.*

3. What are the reasons for not allowing public access, and for the change (if any) in the situation?

There are three reasons:

- 1) Military reasons: access is not allowed, reduced from 16.000 ha to 2.300 ha*
- 2) Water-pumping areas : 700 ha (estimation, no change)*
- 3) Game fences: 2.000 ha (no change)*

4. For a recent year or period, please describe pattern of visitor use of different ownership categories of forest (in a few lines). Provide quantitative data or expert estimates you may have, e.g., give actual figures or estimates of areas of forest with high visitor intensity or the number of visitors/days by the public to forest (year/period:)

- State owned:	9 million visitors hours /year
- Other publicly owned (municipal, community)	1 million visitors hours /year
- Owned by private institutions:	visitors/days
- Owned by individuals:	10 million visitors hours /year

5. Please, describe if appropriate, regimes of access to forests for non-wood goods (e.g., mushroom gathering, services, recreation, hunting) when they differ from the general access regime:

Mushroom gathering is limited to 2 kg per person daily, in protected areas hunting is strictly regulated and carried out by hunting (based on wildlife management plans). Where private forests are grown predominantly for non wood goods local authorities may restrict gathering in those forests.

24. Goods (wood and non-wood) and selected services provided by forest and other wooded land:
Please, provide on a separate sheet short descriptions (not more than 20 lines) of the most important types of goods and services provided by forest and other wooded land, whether demand for them is increasing, stable or decreasing; likewise their supply potential, and so on, under each of the following headings:

Goods - Products

1. Wood

Wood supply from Slovenian forests has decreased in nineties from 3.5 million m³ to 2.4 million m³. In relation to the allowable cut determined in forest management plans that are made for all Slovenian forests, regardless of ownership, the actual cut attains only 80%, in relation to the increment, however, only 40%. The level of cutting is especially low in forests where there are small holdings since the potential income from the forest represents a very small proportion of the total income of the owner. Another characteristic is that the decrease is greater for the small diameter wood since costs of extraction in many cases (thinning) overwhelm the market prices for the pulp and fire-wood.

2. Products for human consumption: food, beverages, medicinal plants and extracts (e.g., fruits, berries, nuts, honey, game meat, mushrooms, etc.)

There have traditionally been many products for human consumption deriving from the forest. The number of species used for these purposes has decreased, but there is still a number of species that are used quite frequently, mostly in combination with forest recreation. This is the reason why we even notice an increase of gathering of such products around urban areas. Some of the products, like mushrooms, berries, chestnuts, honey, propolis are of considerable economic importance for local people in the countryside.

3. Fodder and forage (grazing, range)

Usage of forests for grazing is decreasing and is allowed only in limited areas where it cannot harm forest ecosystems and their functions to a greater extent. It is tolerated in forests around traditional mountain pastures with stable soil conditions. Forest grazing is of very small economic importance.

4. Other non-wood goods (products), e.g. cork, resin, tannins, Christmas trees, decorative foliage, mosses, essential cosmetic oils, industrial extracts, wool and skins, etc.).

*Usage of resin (*Pinus silvestris*) has been abandoned years ago because of consequent bad damages on trees. Chestnut is still used for tannins, but this is more a matter of chemical usage of wood than a matter of a non-wood product. There is a large number of forest species (120) used for industrial extracts, but the quantities gathered are rather small although usage is stable. Stable and quite high is also usage of Christmas trees, while usage of other decorative products is increasing. Hunting trophies are still the main motive for hunting for the majority of 23.000 hunters in Slovenia. From some 15% of the hunting area in Slovenia the trophies are sold to tourist hunters.*

Services

5. Protection against soil erosion by wind or water, avalanches, mud and rock slides, flooding, air pollution, etc.

Protection function of forests in Slovenia is being evaluated as are the other forest functions as well. Where protection function of the forest dictates the way of forest management, forests are declared protection forests. Protection function is taken into account also in forests where it is not so much emphasised, but still has to be observed. Forest management practice is therefore oriented towards small scale interventions and regeneration under canopy. Clear-cutting is absolutely avoided.

6. Social and economic values (e.g. hunting and fishing, other leisure activities, including recreation, sport and tourism)

Forests are being evaluated also in respect to their increasing importance for recreation and tourism. Where these functions are recognised as important forests may be declared forests-with-a-special-purpose. On such areas forest management guidelines include necessary activities for the optimal functioning of forests in this sense, including the diversification of the forest structure and working out of the necessary recreation trails and roads as well as their maintenance. In case income from the forest is diminished because of the special management regime required, forest owners may demand compensation from the organisation interested in forest recreation and tourism. Hunting in Slovenia is not only regarded as a leisure activity. Hunters also have the duty to maintain and enhance the equilibrium between the vegetation potential of the forest and primary consumers (mammals). Nearly all secondary consumers are protected.

7. Aesthetic, cultural, historical, spiritual and scientific values (including landscape and amenity)

In Slovenia the following forest functions are recognised and evaluated in this context: education, research, natural heritage, cultural heritage and aesthetic. For the educational purposes there are a lot of forest nature trails worked out and maintained that are used for visits of the school children and for recreation. For research into forest ecosystems a network of forest reserves was established two decades ago. Most of them are declared natural heritage, but there are many other natural heritage sites recorded and preserved in the forest as well. The same is valid for the cultural heritage due to the good co-operation between the Forest Service and the Institute for Protection of Natural and Cultural Heritage. To the aesthetic function is paid special attention in recreation and tourist areas, although on the landscape level we can say that with the restriction of clear cutting and the close-to-nature orientation of forest management to the aesthetic function of forests is paid due regard in the whole country.

CHAPTER IV: SPECIFIC FOREST RELATED INFORMATION

Information on Biodiversity in Forests

1. Recognition of biodiversity: Could you shortly list where, how, and which systematic measures or institutional strengthening systematically support recognition of biodiversity issues in forest management in your country (e.g. new forest legislation, guidelines for forest management planning, legal or institutional support to nature conforming management)

Biodiversity of forests has been recognised by the following legal and political / strategic support, by sustainable management planning and by technical and institutional support:

1. *The Act on Forests (1993) which legalise the sustainable and close-to-nature forest management and biodiversity conservation;*
 2. *The Programme of Development of Forests in Slovenia (1996) with its Operational Programme (action plan) 1996 - 2000;*
 3. *Plans for management with forests (regional and local forest management plans, silviculture management plans) and wildlife (regional wildlife management plans), all of them made by the Slovenian Forest Service;*
 4. *Sustainable and close-to-nature forest management practise, which has also a long tradition in Slovenia (the 1st for more than 100 years, the 2nd for more than 30 years), in all forests;*
 5. *Budget financing and co-financing of measures which directly or indirectly support forest biodiversity (according to the annual programme);*
 6. *Establishing of the public forest service (SFS) for all forests (in 1994), which is responsible for guiding forest management and biodiversity conservation.*
2. Which are the acts and legal regulations in support of biodiversity conservation issued in your country in the transition period 1990-1997? Would you list them and give a short description ?

In general this is the Act on Environmental Protection (1993) and - specially for forests - the Act on Forests (1993) with its PDFS (1996). On the basis of the first act the national Programme of Environmental Protection (PEP) is now under preparation.

The Environmental Protection Act regulates the protection of living environment and the natural environment inseparably linked with it, and the general conditions of the use of natural resources... with the aim of conservation, protection and preservation, improvement and development of the integrity, diversity, and quality of natural elements, natural ecosystems, natural resources, and the natural treasures. The fundamental objectives of environmental protection are:

- *the continuing conservation of the vitality of nature, biological diversity, autochthonous living species and biological balance;*
- *conservation of the diversity and quality of natural resources, natural genetic stocks and productive soil;*
- *conservation, preservation and restoration of the diversity and the cultural and aesthetic worth of the landscape and other non-expendable natural resources;*
- *decreasing consumption of natural resources, material and energy.*

Under this act the two following, in this respect important regulations, were issued:

- *The regulation on preservation and protection of the endangered (wild) animal species (OG of the RS, No. 57/1993): many species of reptiles and snakes, birds and mammals (among both of them esp. pray species) were preserved (set on the »red« list);*
- *The regulation on the preservation and protection of fungi (OG of the RS, No. 38/1994, 44/1995 and 30/1996): 50 species of fungi were preserved (set on the »red« list) and limitations for their picking up (e.g. 2 kg per person and day), selling and export of all others fungi species were endorsed (e.g. export of fresh fungi is not allowed).*

- The regulation on preservation of endangered plant species (e.g. from the forest species *Taxus baccata* and *Quercus ilex*) had been endorsed in 1981 (on the basis of the Act on Protection of the Natural and Cultural Heritage, No. 1/1981)

The Forest Act regulates the biodiversity conservation through close-to-nature and multi-purpose forest management with the objective of permanently and optimally ensuring both the integrity of the forest ecosystems and their functions. Under the act the forest management plans are drawn up for all forests, irrespective of their ownership, and must be observed by all owners. Forest management plans are drawn up at the regional and local levels, and silvicultural plans are made at the site level. The spatial part of the forest management plans links forestry directly with landscape planning. The act also regulates the regional wildlife management planning, which is under the responsibility of the SFS. Forest owners are supposed to subsequently manage their forests according to the plans by not exceeding the maximum levels of felling. They also have to carry out the necessary silviculture and protection measures. In accordance with the system of close-to-nature forest management, trees will be individually selected for felling by the forest service. The forest act stipulates that special consent be sought for any changes in use of forest land and prohibits all actions which decrease the productivity of forest sites or threaten the existence or functions of the forest. Clear cutting as a system is prohibited, and gathering of forest fruits is subject to restrictions. In the area of forestry protection the act stipulates, among others, that chemical substances may be used in the forest only in exceptional cases. Strict measures are laid down for the construction of forest roads; a special feature of the act is that such roads are of public importance. The act regulates also the status of protective forests and forests with special purpose and the method by which this status is conferred. The act establishes the SFS for planning, guidance on forest management (incl. biodiversity conservation) and counselling.

Of special importance for forest biodiversity conservation are the following (minister's) regulations (to be) issued under the forest act:

- *The regulation on protection of forests (still in draft version);*
 - *The regulation on the contents of the regional wildlife management plan (OG of the RS, No. 19/1996);*
 - *The regulation on forest management and silviculture plans (OG of the RS, No. 5/1998).*
3. Do you have any official nature conservation or biodiversity policy, strategy or development plan? Would you provide a reference to published information, list the principles and objectives?

Outside the forests and forestry we don't have any (endorsed) official nature/ biodiversity conservation documents yet. The Draft Strategy of Nature Conservation has been prepared, but not adopted (in the parliament) yet, because the new Act on Nature Conservation has also not been prepared and adopted yet. Also the above mentioned PEP - part of which also the nature conservation strategy could be - hasn't been prepared yet.

4. Maps of forest sites or forest types: If there are any, would you give a brief description of the provided information (including the scales) and the owner?

The distribution of forest plant associations and their classification within particular forest management units is available in FOREST SURVEY database, according to the standard Central-European method (Braun-Blanquet). Owner: Slovenian Forest Service.

5. Studies and maps of potential (natural) forest vegetation: If there are any, would you describe the methodology of assessment and construction of maps including scales?

The general one is The Map of the Forest Vegetation in Slovenia from 1975, Scale 1 : 100.000, Standard: Central-European method (Braun-Blanquet), Basic unit: site association regarding phyto-climatic territory.

The detailed descriptions and maps of forest plant associations and sub-associations exists for around 2/3 of Slovenia, Scale 1 : 5.000, 1 : 10.000, 1 : 25.000; Standard Central-European method (Braun-Blanquet).

6. Does your national nature conservation agency have any central databases of plant and animal species? For which groups of species? Could you list the institutions or authorities which keep these databases?

There is no central database of plant and animal species in Slovenia. There are many different institutions keeping this databases: Agency for Nature Protection within the Ministry of Environment and Spatial Planning, regional institutions for protection of natural and cultural heritage, Faculty and Institute for Biology of the University of Ljubljana, Biological Institute of the Slovenian Academy of Science and Arts, Biotechnical Faculty, Natural Museum, Slovenian Forestry Institute, Slovenian Forest Service, etc..

7. Would you list the main research programs and projects related to forest biodiversity?

The research forestry programme was endorsed through PDFS and includes following biodiversity research topics (projects) or topics specially related to the biodiversity:

- *biodiversity of forest ecosystems (as a general project);*
- *close-to-nature forest management (as a general project),*
- *wildlife in the forest ecosystem and landscape,*
- *forest reserves,*
- *population-genetic and eco-physiological studies of forest tree species;*
- *bio-indication of stress in forest trees and forest ecosystems*
- *integral monitoring of forest ecosystems,*
- *landscape-ecological typification of the forested landscape*
- *nature and principles of functions of the forest, etc..*

Demonstration Areas on Sustainability of Forest and Biodiversity Management

8. Do you have any large areas which provide or can provide demonstration on the close to nature forest management and biodiversity conservation. If yes, could you list and describe them in few words (location, area, specificities)?

First, the whole Slovenia with its long sustainable forest management tradition and conserved, diverse forests can serve as a demonstration area for close-to-nature forest management and biodiversity conservation (according to D. Mlinšek).

Second, in Slovenia we have large forest areas with conserved forest ecosystems (incl. bears, wolves and lynx) and virgin forests or natural forest reserves, with a very long tradition of forest management planning (the 1st plans in 1771) and selection forest management (such as dinaric beech-fir forests in Koccevje or Notranjska Region, also potential regional parks); another very interesting region with close-to-nature forest management is included in the Triglav National Park (Gorenjska Region).

Third, we have many conserved forest districts or forest management units (network of more than 50) with model close-to-nature management (for all types of forests, including long-term close-to-nature conversion of spruce monocultures).

9. Who is the responsible authority on national parks and nature reserves: Ministry of Agriculture /Ministry of Environment/other authority (give name of the authority in either case)

The responsible authority for national parks and natural non-forest reserves is the Ministry of Environment and Spatial Planning. The authority responsible for the forest reserves is the Ministry for Agriculture, Forestry and Food.

10. Who supervises management of forests (state, private) in the national parks: authorities subordinated to the Ministry of Agriculture or Ministry of Environment?

The management of state and private forests in the national (and other) parks is supervised by the Slovenian Forest Service, which is an independent legal person supervised by the Ministry for Agriculture, Forestry and Food.

11. Are there any systematic forestry activities focused on reconstruction and biodiversity restoration in man-made forests (coniferous monocultures, reforested agricultural lands...)

Yes, especially in the northern part of the country, in spruce monocultures, where some systematic biodiversity measures (e.g. under-planting of beech) have been applied for the last 20 - 30 years; as well as in the Karst region (south-eastern part) in planted Austrian black pine stands, where natural processes (natural successions with native broad-leaved tree species) have been enhanced by forest management planning and practice.

12. What is the planned area of agricultural land to be set aside and re-afforested within the next 10/20 years. What total area of agricultural lands is considered to be re-afforested in the long-term?

In Slovenia, there isn't a plan of re-afforestation of agricultural lands, because this is still a continuous natural process. In the FDPS we have considered that there is no need for systematic further extension of the forest area.

Forest Gene Resources, Gene Reserve Forests

13. Does your country have legislative regulations for forest seed and forest reproduction material in your country (seed zones, declaration and seed harvest from seed collection stands, nursery produced plants, seed orchards...)? Please, give a reference to the valid legal regulations and guidelines.

Valid legal regulations and guidelines for forest seed and forest reproduction material in Slovenia:

- *Act on forest seed and seedlings (OG of the RS, No. 42/73)*
- *Forest act (OG of the RS, No. 30/93)*
- *Act on plant health protection (OG of the RS, No. 82/94)*
- *Act on protection of the environment (OG of the RS, No. 32/93)*
- *The Forest Development Programme of Slovenia (OG of the RS, No. 14/96)*
- *Decree on financing and co-financing investments in forests (OG of the RS, No. 58/94)*
- *Regulation on institutions which provide certificates for exported seeds (OG of the SFRYU, No. 18/66)*

- Regulation on quality norms and other criteria for the trade of forest seeds and on the methods for its analysis (OG of the SFRYU, No. 45/68)

The Act on forest seed and seedlings (1973) is at the moment in revised. In 1998 a new Act on forest reproduction material will be prepared according to the Directives of the European Commission including the OECD scheme. Revisions have also included present existing seed zones of different forest tree species.

14. What conservation categories for genetic resources of forest trees do you recognize? Could you list and provide basic facts for individual categories, including the areas, number of objects, number of individuals, entries etc.?

In situ conservation

According to the Slovenian Forest Act of 1993, all forests are managed in **close-to-nature** way. Due the traditionally close-to-nature oriented forest management for sustainable and multifunctional use, the species composition in 85% of the Slovenian forests is close or very similar to the potential one. All of them can be classified as Category VI of the IUCN management categories: "protected area managed mainly for the sustainable use of natural ecosystems".

Sustainable, **close-to-nature** and multifunctional forest management implies: small-scale flexible forest management, adapted to site **conditions** and the natural forest **processes**; active protection of natural populations of forests trees; protection and conservation of biological diversity in forests; support of the ecological and economical stability of forests by improving the growing stock; tending of all developmental stages and all forests for supporting of vital and high-quality forests trees, which could optimally fulfil all functions of forests; natural regeneration is supported in all forests; if seedlings are used, they should be derived from adequate seed sources / provenances, and only adequate species can be used.

Additionally, ca 135.000 ha of forests are protected under different IUCN categories.

Protected forests	IUCN category	Area of forests (ha)	Protected since
Triglav National Park	II / V	36,240	1924, 1981
36 regional parks	V, one III	30,045	most from 1984 or later
137 forest reserves	I	10,421	some from 1887, 1973
Protection forests	I / V	55,400	most from 1852
Seed stands	IV / VI	2,799	1955, update till 1987

The first revision of the seed stands was done in 1987, the second is just about to be finished. The main change in the last ten years is in planned search for seed stands of broadleaf tree species, whereby the number of these seed stands has risen from 68 (of 404 in total) in 1987 to cca 168 this year.

Most forest stands are regenerated naturally, only 10% are from nursery seedlings material, while seeds are mostly collected from yearly re-acknowledged seed stands. Therefore no special attention is given to ex situ conservation of forests genetic resources in Slovenia.

Ex situ conservation

Seed orchards (15 in total; however only 4 are still managed and in use)

Tree species	Location	Year of establishment	Source of material	Area (ha)	Clones / seedlings	State
<i>L. decidua alpica</i>	Ljubno	1983	Vršiče, Radovna (Slo)	2,00	?	
<i>P. omorica</i>	Poèivainik	1988	Tara (YU)	1,50	38 / 1661	abandoned
<i>A. glutinosa</i>	Murska šuma	1988	Murska šuma	1,80	55 / 330	
<i>F. angustifolia</i>	Hrašeica	1989	Hrašeica	2,00	60 / 505	

Forest seed bank

Tree species	Number of acceses	Provenances	Year of keeping
<i>P. abies</i>	65	35	1971-1992, 1995
<i>P. sylvestris</i>	2	1	1990, 1992
<i>A. alba</i>	1	1	1992
<i>L. decidua</i>	1	1	1989

The data for all accessions comprise the register no., locality of seed source, its height above sea level, bed-rock, potential forest type, age of stand, phenotype class of the seed stand, date of fructification, date of arrival to the seed bank, percentage of germination, moisture content etc.

Provenance tests, tests of offspring and living archives

Tree species	Location	Reasearch plots	Year of establishment	Provenances / clones / seedlings
<i>A. alba</i>	Boè	4	1987	
<i>P. menziesii</i>	Brkini, Javornik	2	1971, 1972	27
<i>P. nigra</i>	Hajoze, ekanc	2	1977, 1988	17
<i>P. abies</i>	Hrušica	1	1987	10
<i>P. abies</i>	6 locations	1 x 6	1991	2
<i>Populus spp.</i>	Zdobrova	1	1994 -1996	43 clones
<i>Metasequoia glyptostroboides</i>	Zdobrova	1	1993	350 trees from seeds

(Source: Èerne, Kraigher: The Republic of Slovenia, Country report. International Conference and Programme for Plant Genetic Resources, Ministry of Agriculture, Forestry and Food, 1996)

15. Reproduction material of which species has been imported to your country? Please, provide indicative figures on the quantity and main countries of origin?

A year average of seed imported in Slovenia in a two year period 1996 - 97 in kg of seed
(Source: Ministry for Agriculture, Forestry and Food)

Country of origin	Latin name	Quantity
Bosnia and Herzegovina	<i>Quercus</i>	16000
Croatia	<i>Cupressus</i>	4255
Croatia	<i>Abies</i>	400
Croatia	<i>Acer</i>	113
Macedonia	<i>Pinus</i>	9800
Macedonia	<i>Quercus</i>	125
Macedonia	<i>Cedrus</i>	50
Macedonia	<i>Cupressus</i>	50
Macedonia	<i>Abies</i>	38
Yugoslavia	<i>Carpinus</i>	2419
Yugoslavia	<i>Quercus</i>	2200

A year average of seedlings imported in Slovenia in a two year period 1996 - 97 in thousands of plants (Source: Ministry for Agriculture, Forestry and Food)

Country of origin	Latin name	Quantity
Croatia	<i>Picea</i>	150
Croatia	<i>Thuja</i>	2
Germany	<i>Picea</i>	54
Germany	<i>Alnus</i>	10
Germany	<i>Thuja</i>	2
Germany	<i>Larix</i>	3
Germany	<i>Fraxinus</i>	4
Germany	<i>Carpinus</i>	3
Germany	<i>Acer</i>	2
Germany	<i>Abies</i>	2
Germany	<i>Pinus</i>	1
Hungary	<i>Carpinus</i>	23
Hungary	<i>Acer</i>	5
Hungary	<i>Alnus</i>	5
Hungary	<i>Thuja</i>	5
Italy	<i>Tilia</i>	2
Netherlands	<i>Thuja</i>	25
Netherlands	<i>Fagus</i>	5
Netherlands	<i>Abies</i>	7
Netherlands	<i>Pinus</i>	3
Netherlands	<i>Viburnum</i>	3
Netherlands	<i>Alnus</i>	2



16. Reproduction material of which species have been exported from your country? Please, provide indicative figures on the quantity and main countries of destination?

A year average of seed exported from Slovenia in a two year period 1996 / 97 in kg of seed
(Source: Ministry for Agriculture, Forestry and Food)

Country of destination	Latin name	Quantity	Country of destination	Latin name	Quantity (kg)
Austria	<i>Quercus robur</i>	1250	Germany	<i>Carpinus betulus</i>	800
Austria	<i>Quercus petraea</i>	250	Germany	<i>Acer</i>	135
Austria	<i>Pinus nigra</i>	113	Germany	<i>Fraxinus ornus</i>	59
Austria	<i>Abies alba</i>	11	Germany	<i>Taxus baccata</i>	50
Belgium	<i>Quercus patraec</i>	2000	Germany	<i>Tilia</i>	20
Belgium	<i>Quercus robur</i>	1000	Germany	<i>Betula pubescens</i>	18
Belgium	<i>Carpinus betulus</i>	600	Germany	<i>Ginkgo biloba</i>	11
Belgium	<i>Acer</i>	532	Germany	<i>Picea omorica</i>	2
Belgium	<i>Quercus pubescens</i>	500	Hungary	<i>Acer</i>	47
Belgium	<i>Pinus</i>	255	Hungary	<i>Picea omorika</i>	1
Belgium	<i>Taxus baccata</i>	111	Italy	<i>Cupressus</i>	120
Belgium	<i>Sorbus</i>	19	Italy	<i>Tilia</i>	75
Belgium	<i>Picea omorika</i>	18	Italy	<i>Fagus silvatica</i>	50
Belgium	<i>Thuja</i>	4	Italy	<i>Taxus baccata</i>	20
Bosnia and Herzegovina	<i>Picea abies</i>	168	Macedonia	<i>Picea abies</i>	13
Bosnia and Herzegovina	<i>Pinus nigra</i>	105	Netherlands	<i>Quercus petraea</i>	7000
Bosnia and Herzegovina	<i>Pinus silvestris</i>	85	Netherlands	<i>Quercus robur</i>	650
Bosnia and Herzegovina	<i>Abies alba</i>	55	Netherlands	<i>Carpinus betulus</i>	450
Bosnia and Herzegovina	<i>Acer</i>	35	Netherlands	<i>Acer</i>	375
Bosnia and Herzegovina	<i>Quercus robur</i>	25	Netherlands	<i>Quercus cerris</i>	100
Bosnia and Herzegovina	<i>Fraxinus excelsor</i>	20	Netherlands	<i>Tilia</i>	38
Bosnia and Herzegovina	<i>Robinia pseudoaccacia</i>	7	Poland	<i>Pinus heldreichii, P. nigra, P. peuce, P. strobus</i>	50
Bosnia and Herzegovina	<i>Larix</i>	6	Switzerland	<i>Quercus robur</i>	450
Bosnia and Herzegovina	<i>Taxus baccata</i>	5	United Kingdom	<i>Quercus</i>	12000
Bosnia and Herzegovina	<i>Tilia</i>	5	United States	<i>Acer</i>	202
Bosnia and Herzegovina	<i>Ginkgo biloba</i>	2	United States	<i>Tilia</i>	100
Bosnia and Herzegovina	<i>Taxodium</i>	1	United States	<i>Pinus halepensis, P. pinea, P. strobus</i>	95
Croatia	<i>Abies alba</i>	17	United States	<i>Pinus nigra</i>	70
Denmark	<i>Pinus peuce, P. leucodermis</i>	6	United States	<i>Picea omorika</i>	1
Denmark	<i>Picea abies</i>	3	Yugoslavia	<i>Picea abies</i>	152
France	<i>Cupressus sempervirens</i>	95	Yugoslavia	<i>Pinus silvestris</i>	40
France	<i>Pinus sylvestris</i>	90	Yugoslavia	<i>Cedrus</i>	1
France	<i>Acer</i>	13			
France	<i>Sorbus</i>	11			
France	<i>Pinus halepensis</i>	10			

A year average of seedlings exported from Slovenia in a two year period 1996 / 97 in thousands of plants (Source: Ministry for Agriculture, Forestry and Food)

Country of destination	Latin name	Quantity
Bosnia and Herzegovina	<i>Picea abies</i>	150
Croatia	<i>Picea abies</i>	403
Croatia	<i>Abies alba</i>	4
Croatia	<i>Picea pungens</i>	4
Czech Republic	<i>Picea abies</i>	166
Czech Republic	<i>Abies nordmanniana</i>	126
Czech Republic	<i>Picea pungens</i>	88
Germany	<i>Carpinus betulus</i>	10
Hungary	<i>Carpinus betulus</i>	25
Italy	<i>Picea abies</i>	240
Italy	<i>Carpinus betulus</i>	44
Italy	<i>Ainus glutinosa</i>	36
Italy	<i>Acer palmatum,</i> <i>A. monspessulanum,</i> <i>A. platanoides, A. pseudoplatanus</i>	25
Italy	<i>Picea pungens</i>	15
Italy	<i>Quercus cerris</i>	16
Italy	<i>Viburnum iantana</i>	12
Italy	<i>Fraxinus americana</i>	10
Italy	<i>Fraxinus ornus</i>	10
Italy	<i>Picea omorika</i>	10
Italy	<i>Robinia pseudoaccacia</i>	10
Italy	<i>Abies alba</i>	9
Italy	<i>Tilia</i>	7
Italy	<i>Betula verrucosa</i>	6
Italy	<i>Abies nordmanniana</i>	4
Italy	<i>Cedrus atlantica</i>	4
Italy	<i>Liquidambar styraciflua</i>	4
Italy	<i>Liriodendron tulipifera</i>	3
Italy	<i>Populus tremula</i>	3
Italy	<i>Pinus nigra</i>	2
Italy	<i>Quercus rubra</i>	2
Italy	<i>Pinus silvestris</i>	1
Italy	<i>Quercus robur</i>	1
Russian Federation	<i>Picea abies</i>	5
Yugoslavia	<i>Abies alba</i>	4

17. Has a national system of gene reserves been developed/ is in preparation/is not (yet) developed?
Please, provide a brief information.

The professional outlines for the possible national system of gene reserves in Slovenia is under development. So far some seed stands (depending on the size and tree species) and the forest reserves (although designed merely for scientific purposes & gene conservation, while use of forest reproductive material from them is not allowed) can be listed as gene reserves. The forest reserve network comprises 173 reserves with a total area of 10.421 hectares.

The national strategy for conservation and protection of forests gene resources is in preparation in collaboration with the Ministry for Agriculture, Forestry and Food and with the Ministry for Landscape and Environment, as part of their National strategy for protection of biological and landscape diversity programme.

18. Could you provide figures on current and planned area as well as the number of gene reserves, including target forest tree species ?

No figures on current neither on planned areas and the number of gene reserves can be provided at the moment. The target forest tree species, for which different detailed strategies are envisaged, are:

- the majority tree species (spruce, silver fir, pines, larch, beech, oaks) will have first priority regarding conservation of their gene reserves. Conservation activities include species, population and gene mapping, including the delimitation of the autochthonous (not merely indigenous) stands and of the extreme populations, followed by propositions for the size and location of gene reserves, these latter possibly combined with the existing seed stands. The activities have started so far with spruce and beech;*
- the minority tree species will be considered as smaller localised conservation centres (populations);*
- for endangered or vulnerable species, including all those, which occur in Slovenia in their geographical borderline, conservation activities will include mapping and protection of individual trees;*
- for several questionable tree species or those, which are inclined to hybridisation, also taxonomical morphological and genetical studies are envisaged.*

Additional questions :

IV/14 You mentioned the seed bank. Do you have a separate **seed bank for forest tree species** - or the seeds of forest tree species included in the national seed (gene) bank together with agricultural crop plants?

The Slovenian forest gene bank includes: 404 seed stands, 103 accessions of forests seeds, 4 seed orchards, 2 living archives, 4 provenance trials. All components are run separately from agricultural crop plants, but the central data bank is about to be set up together.

IV/15, 16. Are the imports and exports of forest tree reproduction material (seed and seedlings) adequately overviewed and controlled (regulated if necessary) by the state inspector? Do you have a special inspection (seed service) for forest tree species. Please comment in a few words.

The use of forest reproductive material in Slovenia is defined by the Forest Act (1993): only appropriate and approved Slovenian provenances of forest seeds are allowed to be used for regeneration inside Slovenia.

he professional forest seed inspection service is under reconstruction at the moment. All import of seed needs special approval from the Ministry for Agriculture, Forestry and Food. However, it does not need certificates of provenance (which will be regulated only after the new Act on Forest Reproductive Material, which is under preparation, is accepted).

CHAPTER V: INFORMATION, EDUCATION, PUBLIC RELATIONS

Forest Inventories and Forest Management Planning

1. Provide information on the kind of national inventory you have:
Is your national forest inventory based on the summation of data obtained through local/regional forest inventories?
Were any practical steps undertaken to prepare national inventory based on sample plots?

*Yes, our forest inventory based on local inventories. Data about growing stock, increment and about some other **characteristics** of stands are collecting primarily on sample plots.*

In 1995 there was made an attempt of national inventory. But we will retain local inventories as a base of forest data in Slovenia.

2. Who carries out the forest inventories in your country?

Slovenia Forest Service. (Above mention attempt of national inventory was made by Forest Institute of Slovenia).

3. What is the periodicity of revisions of Forest Management Plans?

10 years.

4. Are data from field inventories gathered in a central database even if collected by different organisations? In which institution or company does the central database exist?

Yes, data collected in central database - in Slovenian Forest Service.

5. Forest management plans: Is there only one central institution or do you have several (also private) organisations authorised for forest management planning?

Only Slovenia Forest Service elaborates forest management plans in Slovenia.

6. Could you list and introduce legal regulations covering the forest management planning? Which are the most significant changes in the forest management planning in the transition period 1990-1997

The forest management planning is covered by The regulation on forest management and silviculture plans (OG of the RS, No. 5/1998).

According to Forest Act (1993), Regulation for Forest Management Plans and Silvicultural Plans (1998) stipulates further most important matters:

- *the contents of forest management and silvicultural plans, including obligatory tables and maps;*
- *the criteria for further forest functions: ecological functions (the protection of forest plot and stands, hydrological, biotopic, climatic functions), social functions (protective function - protection of facilities, recreational, tourist, educational, research, hygiene-health functions, the function of protecting the natural and cultural heritage, defence, aesthetic functions), productive functions (timber production, exploiting other forest resources, game management);*
- *the criteria for forest land (Forest Act: forest land includes forest plot and non-forest plots of land that are ecologically and functionally linked to forest, together guaranteeing the performance of the function of the forest);*
- *basic criteria for forest classifying;*
- *the criteria for using the inventory methods.*

There are no 'tectonic' changes in the forest management planning in the transition period. More emphasis has been given to the forest spatial planning, systematic sample plots has become a basic method for forest stands measurements, all information are included in spatial information system etc..

7. For what size of forest areas (in average) are the forest management plans periodically prepared?

There are 253 Forest management units in Slovenia from 2.000 to 8.000 ha big. Slovenian Forest Service elaborates forest management plans for one tenth (approximately) of these units each year. But every ten years Slovenian Forest Service elaborate »strategic« regional forest management plans for all 14 forest regions in Slovenia which measure from 30.000 to 140.000 ha. There are no special inventories for these regional forest management plans.

8. Is there a possibility for other than forest state authorities local communities and/or NGO's to influence the forest management planning procedures? Please describe the situation in a few words.

The procedure of adoption of forest management plan obligatory includes the public presentation of its draft, so theoretically all public may contribute to its contents. The new regional forest management plans for the period 2001 - 2010 will be adopted by the Government of the Republic of Slovenia.

9. Do you map the forest types or biotopes in the framework of forest inventories? In order to obtain information on the level of detail of such surveys (if there is any), how many forest types do you recognise in your country?

We map the sites and forest types. The scale of these maps is 1: 5.000 - 1: 10.000. In average we recognise 5 - 10 different sites in each forest management unit and approximately 65 in Slovenia. Of course, within sites (associations) there are also many sub-associations.

10. Do you conduct forest soil mapping? If yes, how many types are recognised and what scale the maps were produced?

Slovenia soil map have just been finishing - in the scale of 1:25.000.

11. Would you provide a list of national geo-referenced digital databases on forests, forestry and environment (if there are any)?

GOZDIS is Slovenian GIS database and provide next databases on forests, forestry and environment:

- *forest edge*
- *forest functions*
- *forest ownership*
- *aerial photographs*
- *Landsat and Spot images, etc.*

12. Were any historical surveys carried out in your country down to the level of management units for which the forest management plans are elaborated?

Yes, first management plan in Slovenia was made in 1771 - it is preserved. We have several management units with preserved management plans from the time of 19th century

13. Would you provide a small-scale map (1:1.000.000-5.000.000) of the distribution of forests in your country?

FOREST AREAS OF SLOVENIA



Forest Data Assessment

The questions in this block correspond with the structure of the National Report to be prepared in your country for the FAO-ECE Workshop on Temperate and Boreal Forest Resources Assessment 2000 and Criteria and Indicators of Sustainable Forest Management in Countries in Transition, Gmunden, Austria, October 1-4, 1997. Contact national co-ordinator of the TBFRA-2000 !

14. Forest Statistics: Please, list relevant forest and forest related statistical reports in your country. Specify in each report the responsible organisation and its status (legal-state owned, education, private) and the area which it covers.

Annual reports of the Slovenian Forest Service. All forest management plans. Statistical analyses, made by Slovenian Forestry Institute, Annual reports of the Ministry of Agriculture, Forestry and Food.

Slovenian Forest Service was already introduced. Slovenian Forestry Institute is public research institution, founded mainly by the Government of the Republic of Slovenia.

15. Data Sources: please, describe shortly for each above mentioned statistics the method of data assessment (e.g. national inventory, forest management plans, operational forest management records, summary forest statistics, questionnaires, other primary /summary data).

- *National inventory ⇒ until now assessments were made on 4 x 4 km network (cca 7 sampling plots)*
- *Forest management plans ⇒ the data assessment is based on permanent plots combined with other growing stock estimates and visual assessments (e.g. temporary sample plots with Bitterlich method or other methods...)*

16. Data Storage and Analysis: please, describe shortly for each forest and forest related statistics the data storage and analysts.

- *data storage* ⇒ CD Rom, 4 mm Data tape
- *data analysis* ⇒ ArcInfo and ArcView (GIS) and Foxpro for forest management plans

17. Would you list the forest and forest-related monitoring systems in your country? Do you have any focused on the of forest biodiversity monitoring. If yes, could you briefly describe it?

Beside ICP Monitoring on the level I which has attribute of National Forest Inventory and experimental Monitoring on the level II, they are some other activities such as :

- *monitoring of influence of herbivorous games on forest regeneration*
- *monitoring of capercaillie (Petrao urogallus L.) in forests*

Monitoring method for establishing the influence of herbivorous games on forest regeneration:

- *each 4 years the proportion of damaged individuals of young growth (separately for different species and height classes) is established on sample plots 5 by 5 m, arranged systematically on network 2 by 2 km in all Slovenian forest;*
- *in the meantime - between two detailed inventory, a brief method is applicated on all sample plots.*

18. At which levels do you carry out the ICP Forest Monitoring. How many check points or plots are use for level I, II, and III?

ICP Forest Monitoring on level I is running since 1985 on 4 x 4 km and 16 x 16 km national grid, which includes 43 points (forest health status, forest soils and mineral nutrition status of forest trees, partly vegetation reléves). Levels II and III are not taking place at the moment. However preparation and implementation of level II and III methodology are already finished on three of five potential plots (level II) and on one watershed area (level III).

Education and Information Dissemination

19. Would you describe and provide basic facts on the forestry education system in your country (professional schools, ranger schools, university faculties, other educational bodies) ?

Slovenian forestry education system consists of:

- *three-year vocational forestry and wood technology school (GLŠC Postojna) ⇒ forester*
- *four-year secondary forestry and wood technology school (GLŠC Postojna) ⇒ forest tech.*
- *Biotechnical Faculty, Dept. of Forestry at University Ljubljana ⇒ dipl.eng. Forestry (B.Sc.)*
- *postgraduate studies at Biotechnical Faculty, Forestry Dept. at University Ljubljana ⇒ specialists, M. Sc., Ph.D.*
- *training courses for forest workers (GLŠC Posiojna, Slovenian forest service) ⇒ special subjects*

20. Is there a specialised institution or stable network for the training of forest workers and managers? Would you provide basic facts concerning it?

- *Training courses for forest workers organised from Secondary professional forestry and wood technology school (GLŠC Postojna)*
- *Training for forest workers (internal programme) and forest owners organised from Slovenian forest service*

Training courses of Slovenian forest service are organised also in co-operation with (for forest owners) :

- *secondary professional forestry and wood technology school (GLŠC Postojna);*
- *Slovenian forestry institute;*
- *Dept. for forestry (Biotechnical University), etc.*

21. Would you list the forestry periodicals in your country - professional
- scientific.

*professional : Gozdarski vestnik / Slovenian journal of forestry, founded and published by Zveza gozdarskih društev (Association of Forests societies)
SLO ISSN 0017-2723*

*scientific : Zbornik gozdarstva in lesarstva / Research Reports, Forestry and Wood Science and Technology
Issued by Slovenian Forestry Institute and University of Ljubljana, Biotechnical faculty,
Dep. of forestry & Dep. of Wood Science and Technology
ISSN 0351-3114, ISBN 961-90316-2-8*

22. Would you list the most comprehensive booklets, fact sheets, folders introducing the forestry, sustainable forest management and related environmental issues, which are available for broad public in your country? Are there any in foreign languages?

- *There are materials prepared for public information introducing the forestry, published by Slovenian Forestry Service and Ministry of agriculture, forestry and food (fire protection, proper behaviour, avoiding danger at forest work etc.).*
- *Sustainable forest management is presented in Forest Development Programme of Slovenia (FDPS, English version), college books, articles in Slovenian journal of Forestry and Research Reports and special editions of concerned subjects published by Slovenian Association of Forests societies.*

Additional questions :

Question I

Please, could you list the specialisation's studied at the Forestry Department of the University?

Biotechnical Faculty (University of Ljubljana) ; Department of Forestry and Renewable Forests Resources, Ljubljana

Undergraduate Studies:

3-year higher-education professional study of forestry and management of renewable resources;

4-year university level study of forestry, in 4th year students may choose among 3 subprograms:

- **Management of Wildlife;**
- **Management of Renewable Resources;**
- **Urban Forestry**

Postgraduate Programme:

- **2-year Master's programme in forestry and management of renewable resources;**
- **2-year Master's programme in the conservation of natural heritage;**
- **a doctoral programme in forestry;**
- **a 2-year Master's programme in environmental protection;**

There are possibilities to study as a forester also on different departments of biotechnical (Agronomy, Biology and others) or on other faculties.

Please, could you list specialisation's at the secondary forestry schools?

There is only one secondary forestry school: Secondary professional forestry and wood technology school (GLŠC Postojna)

Concerning the university forestry education, please, indicate attention in the curricula paid to the following areas:

	Major Subjects	Minor Subjects
- Entrepreneuria. Activities/Marketing*	one - several	one - several
- socio-economic Aspects	one - several	one - several
- Environmental Issues	one - several	one - several
- Biodiversity/Nature Conservation	one - several	one - several

Minor subjects are those which are optional, without examination, or short courses

Public relations

23. Are there any working units specialised in the practical development of public relations in your forestry sector (separately state authorities, associations of forest owners, private/state owned forest holdings). Would you list and describe them briefly?

Until now only in the SFS, which has a special unit for »Country Development and Public Relations (forest owners and general public).

24. Would you provide the list of NGO's acting in the area of forest management?

There are more than 100 NGO in Slovenia that are dealing with ecological problems but there are only few of them that are well organised, exceeding local significance. Slovenian foresters contribute much to these organisations and many foresters are members of NGO's. Following NGO's are more important:

- *The Regional Forestry Associations (14) and (1) Central Association of Forest Societies,*
- *The Association of Environmental Protection Societies;*
- *The Movement for Forest Protection,*
- *The Slovenian Ecological Movement.*

25. Would you describe briefly the organisation of the forestry science and research in your country?

Slovenia has one forest faculty and one forest institute. Almost all scientific and developmental researches in the field of forestry are realised by these two organisations. There is a good co-operation between these organisations and the Slovenian Forest Service. Several experts of the Slovenian Forest Service collaborate with scientists in research projects, some of them use to create also their own research.

Additional questions :

Are some of the NGO's involved in solving of practical forest/forestry problems? Would you mention them?

They made critical remarks on forestry and forest policy in transition in last decade (articles in newspapers, professional literature, they attend in debate on el. medium etc.). Problems of denationalisation, influence of political parties on forestry policy, separation of the past central organised forestry and its consequences and drastic decrease of importance of forestry in public are the main domain of their criticism.

Communication between NGOs and the State Environmental Authorities	systematic/ sporadic /none
NGOs and the Forestry (Agricultural) Authorities	systematic/ sporadic /none

Question III

Co-ordination of the State Forestry (Agricultural) Authorities and Environmental Authorities in the area of:

Public Relations systematic and close - **partial** - none

Forest-Related Research* systematic and close - **partial** - none

***In year 1997 they started to co-operate in forest-related research projects (endangered species of forests fauna due to adapting of forest planning, monitoring of forest ecosystems).**

Question IV

Reflection in the forestry research topics of socio-economic Aspects	Priority- Partial -Low
Environmental/Sustainability Issues	Priority -Partial-Low
Economical/Ownership Transformation	Priority- Partial -Low
Biodiversity/Nature Conservation	Priority- Partial -Low

Identification of Priorities

Identify and describe - the most important issues with respect to the implementation of the Multi-Country Forestry Programme PHARE. Would you also provide a brief explanation.

The most important issues for Multi-Country Forestry Programme could be:

- *Preparation of national and multi-country programme(s) and action plane(s) for forest biodiversity conservation;*
- *Preparation of the national and multi-country programme(s) and action plane(s) for conservation of forest genetic resources;*
- *Development of national and multi-country policy frames for financial supporting (incentives) of sustainable forest management and forest biological diversity;*
- *Development of the methodology for the evaluation / classification of the naturalness of the forest ecosystems (including habitats of the endangered animal species);*
- *Development of the methodology for monitoring of the forest ecosystem biodiversity (on model areas).*
- *Establishing of model areas for ecologically and economically sustainable forest management (national and multi-country framework of sustainably managed forest areas);*
- *Performing a multi-country education and training programme in sustainable / close-to-nature forest management, and workshops for forestry administrators, managers and decision makers (on model forest areas).*



Slovenia (Summary)

The Republic of Slovenia is a Central European and also Mediterranean country bordering to Italy, Austria, Hungary and Croatia. Its total area is 20.256 sq km, its coast line to the Adriatic Sea is 46,6 km long. The relief is very heterogeneous, it is more mountainous in the northern and western parts. There are Alps with the highest Slovenian mountain Triglav (2864 m above sea level) and the karstic Dinaric mountains. To the east and Southeast the country is hilly and it is low in the Pannonian plain.

Climate. Three different types of climate influence the country: Mediterranean climate at the coast and in the south-western part, alpine in the northern part, continental in eastern and south eastern part. Mean annual precipitation ranges from 800 mm (Pannonian plain) or 1000 mm (on the coast) to 2600 mm (Alps), but in average it is 1600 mm.

Forests account for 54% of the country's surface. Natural grasslands, which cover 24.7%, represent around 2/3 of agricultural land use, and arable lands, 12.1% (EPR Report, 1997).

The main characteristics of the country are following (Anon. 1997):

- It has rich biological and landscape diversity on a small surface area;
- It shows high diversity and endemism in troglobiotic species;
- It is a corridor area and an ecotone between the Dinaric mountains and the Alps; the Pannonian plain and the Mediterranean basin;
- It covers a relatively large forest complex with vital populations of large mammals;
- It maintains natural and semi-natural ecosystems in relatively good ecological conditions;
- It covers diverse climatic and pedological types.

The history of forestry in Slovenia was strongly influenced by Central European developments; serious forest exploitation because of iron and glass industries, excessive felling due to extensive agricultural production, extreme deforestation in the Submediterranean area, where only 5-10% of the forest remained (MLINŠEK 1996).

Very important for the Slovene forestry was "The forest Rule for the Duchy of Carniola" from year 1771. The first forester appear as graduates of the Forestry High School in Mariabrunn near Vienna. J. Ressel also famed as technical inventor, worked successfully as a forester (1817-1857) and he made the first plans for the afforestation of Karst. In 1868 issued "Instructions how the individual peasants and whole community should deal with the forest" as a first Slovene professional publication. At same time a forestry school for the forest owners was opened.

Same following facts illustrate Slovenian forestry in past decades:

1. As from the passing of the Forestry Act close-to-nature forestry became obligatory (1948). It includes also the prohibition of clear cutting for all forests and transition from extensive silvicultural systems to selection-cutting systems and appropriate silvicultural ways of forest tending;
2. To supervise sustainability, the "control method" was introduced as a forest management method. In the course of the past four decades appropriate management plans with 10-year inventory periods become obligatory for all forests.
3. The Forest Reserve Fund, referred to as "Biological Amortisation Fund", was to cover the costs of the forest service activities.

4. Due to transition also forestry is in the process of reorganisation where new forms of organisation are being searched. The framework for the protection and management of forests in Slovenia is based on the Forest act (1993). It determines the protection, silviculture, exploitation and use of forests as natural resources with aim of ensuring the co-natural and multi-purpose management in accordance with the principles of protection of environment and natural values, long term and optimal functioning of forests as ecosystems.

Of the total forest area approximately 53%, are semi-natural forests originating from natural regeneration and differ only little from natural. 15.000 ha of strictly protected forest reserves and 52.000 ha of forests protected by special management regimes are found in Slovenia (CHAPTER III, TABLE 3.2).

The broadleaves tree specie's share (by area) in the overall species composition (Chapter III, Helsinki-Table 1.1) is 38.0% mostly with beech dominating. Conifers (30.7%) are represented mainly by Norway spruce (35%). Beech trees represent about 55% of the forest, pure conifers forests 9% and pure deciduous forests 17%. Most of the forest are mixed forests, 55% of them dominated by deciduous trees and 45% by conifers. The high forests represents 89 % and coppice 11%.

Administrative and Legal Frames

Ministry responsible for forest sector is Ministry of agriculture, Forestry and Food. The current valid Forest Act was issued in 1993 (OG of the RS, No. 30/1993). Till now, we don't have any nature protection act (in preparation). A part of nature protection was included in the Act on Environmental Protection (1993).

Forest ownership

The state owned forest represent 30% and individually owned forests 70%.

Conservation of Forest Biodiversity

Slovenia has relatively few protected areas and only one national park. A network of strictly protected forest reserves has been established. They represents 1% of the forest area. Some of them are virgin forests. Another 6% of the forests are protected forests which have remained practically untouched.

Forest condition

Growing stock in transition period is increasing, the mean volume of the growing stock per hectare forest land in year 1996 was 266.4 m³ for forest land and other wooded land and 282.6 m³ for forest land (Chapter III/Helsinki table 1.2). The net annual increment (TBFRA, table 15, total) was 6.395 million m³. The allowable cut for period 1991-2000 is 2.9 mil. m³ (1.68 mil. m³ for conifers and 1.23 mil. m³ for broadleaves). Annual amount of felling was in 1996 2.33 mil. m³ (Table 16).

In 1996, the national survey of forest condition was carried out on 43 permanent sampling plots of 16 x 16 km grid. The present results reveal an average defoliation of 18.7% for Slovenian forests on the whole. For almost twenty percent of the stands (PD 18.8%) the causes of defoliation were unknown. Conifers were defoliated to a higher extent (MD 22.5%), especially in case of *Abies* spp. (MD 36.0%), whereas the rate of defoliation in broadleaves was lower than in the previous year (MD 16.3%). The highest proportions of damaged trees occurred in the vicinity of local pollutants (thermal power plants, industrial basins, etc.).

Management of Forests

The forest managed primarily for protective functions (environmental-ecol., soil, water, climate, biotope protection) represent 19,5%. The forest with special functions (social. F., tourist f., hygiene, education, invest., aesthetic, heritage) share 10,3% (Chapter III/Helsinki Table 5).

Of the management system selection management system – group-wise selection management (femal management system) is predominate, the shelter-wood system shares approximately 20% and selection system 5-10%.

Position of Forestry Sector in National Economy

The contribution of forestry to the gross domestic product was 0,6% (from statistical yearbook), while share of wood processing industries (primary wood processing, furniture industry and other mechanical processing, pulp industries, other chemical processing of wood) represents 3,0 % in year 1996. (there exists a probability, that mentioned data doesn't represent the entire value due to extremely "decentralised" private forestry sector)

The proportion of investments to forestry from total investments to the national economy was 0,15% (1996).

Subsidies

The state finances and subsidises forestry activities on the basis of silvicultural plans and other operational projects within the framework of the investment programme for forests, drawn up by the Slovenian Forest Service for the current year. In year 1996 total subsidies into forestry (in the national currency; indirect for SFS, co-finn. of the program. of forest biol. and tech., compositions and purch. of for.) per ha of forest regarding to programme were 3.505 SIT/ha, realised subsidies were 2.680 SIT/ha (76,5%; Chapter II/5).

Employment and Incomes

Including private sector income of forestry is estimated now as below the national average.

Forestry Education

University education is provided by Biotechnical Faculty, University of Ljubljana, Department of Forestry and Renewable Forests Resources in Ljubljana. There is one Secondary professional forestry and wood technology school in Postojna (GLŠC Postojna). The extension system (training courses for forest workers, forest owners etc.) is represented by Secondary professional forestry and wood technology school together, Slovenian Forestry Service, Slovenian Forestry Institute and Department of Forestry and Renewable Forests Resources.

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