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STATISTICAL INDICATOR SYSTEM FOR FORESTRY AND FOREST EXPLOITATION

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ABSTRACT

One of the main objectives of the development of the Romanian statistical indicators system for forestry and forest exploitation was the harmonization of the statistical information characterizing the forest area and other lands covered by forest vegetation with the European forest statistical system standards (EUROSTAT) and other international bodies (United National Organization for Agriculture and food - FAO, Organization for Economic Cooperation and Development - OECD, International Tropical Timber Organization).

During the development of the Romanian system of statistical indicators for forestry and forest exploitation it was considered that it should present the highest degree of representativity at all reference levels (local, regional-county and national). Also, one of the aims was that the system should allow the establishment and appropriate knowledge on the indicators as content, legislative framework, political and environment context, establishing methodology and available data sources, possibilities to establish them and the presentation method for each indicator.

This system contains 25 statistical indicators included in 6 groups according to their content, with special reference to the general characteristics of the forests and other wooded lands, ownership over forest lands, size and structure of the growing stock, forest yield, regeneration and increase of forest area and other wooded lands, area with felling and the harvested wood volume, the phytosanitary status and wood and non-wood products harvested.

In order to establish the statistical indicators for forestry and forest exploitation a general plan for collecting the information was developed based on statistical surveys, monitoring studies and administrative reports. These methods of collecting information are organized and planned so that they contain the entire reference population and the content

of the indicators set which will be established. These components of the general plan for information collection refers to the statistical reference populations , the periods for data collecting, representativity level (county, national) as we as to the content (structure) of the reports.

According to the content, the statistical forest indicators, harmonized with the ones in the statistical systems of the European Union and FAO, shows in the same time the specific characteristics of the Romanian system for the sustainable development of the forest resource.

Keywords: statistical indicators, forestry, forest exploitation, growing stock, forest yield

BACKGROUND

In Romania, the forests cover about 26.7% of the country and forestry and forest exploitation are major fields in the national economy.

Beside the incontestable role played by the forest, as an important component of the Romanian society environment, it represent also a first rate renewable economic resource, reaching a mean annual allowable cut of about 17 million m³ with relatively low costs

The wood provided by the forest due to its sustainability, is a raw material in constructions, furniture industry, paper industry, house heating and for the food and drug industry. Also, the forest provides for many specific non-wood products and has a special impact on human health and life quality.

Although the Romanian forestry has an important database included in the annual forest reports and in forest management plans, developed on the concept of sustainable forest management, it has a very low representation in the national statistic system as compared with other fields, even if the forest vegetation covers about one third of the country. Due to the low share of forest information in the national statistical system and to the fact that they are not harmonized with the ones included in the forest indicator system of EU and other international institutions, Romania is low, sometimes wrongly represented and even absent in the statistical reports developed by them. Consequently, there is a strong need to use the existing information in forestry and forest exploitation, their harmonization with the ones internationally used and the development of a national statistical indicator system for forestry and forest exploitation, harmonized with the European standards.

LEGISLATION FRAMEWORK

One of the main objectives in the development of the statistical indicator system for forestry and forest exploitation consists in the harmonization of the statistical information classifying the forests and other woodlands with the standards of the forest statistical system of EU (EUROSTAT) and other international organizations (FAO, OECD,

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ITTO).

In the last decade, both in Europe and the world and in Romania a major interest was shown for the forest and environment-related issues; consequently, legislation acts, important to sustainable forest management and forest statistics, were endorsed. In this context, all the nationally and internationally endorsed legislation acts have been analyzed and considered in the development of the Romanian statistical indicator system for forestry and forest exploitation and that "represents the legal and statistical foundation for the latest FAO program Forest Resources Assessment - FRA (2000)", program considered as the most comprehensive FAO report since the organization was established. Consequently, the United Nations and European Union through the FAO subprogram - TBFRA have developed in 2000 one of the most updated and comprehensive statistical report on the forest resources in the temperate and Boreal region (Europe, North America, Australia, Japan and New Zealand), report that was used as a starting point for this statistical system.

DEVELOPMENT OF THE STATISTICAL INDICATOR SYSTEM

In the development of the statistical indicator system in forestry and forest exploitation, it was considered that they should have the highest level of representativity in all reference levels (local, county, regional and national). In the same time it was meant that the designed system should lead to the appropriate determination and knowledge on the indicators that made it up, in accordance with their content, legal framework and political and environmental context, the methodology for determination and the available data sources, possibilities for determination and presentation nature for each indicator.

In content, the statistical forest indicators, harmonized with the ones in the statistical systems of EU and other specific international organizations, reflect, in the same time, the particularities of the Romanian system for forest resource management. The indicator system was developed, in accordance with the sustainable management/development concept, both for characterization of forests and other woodlands, and for stressing out the concerns for their complex and multiple use.

The development of each indicator was performed in accordance with the Statistical report on forest resources within the FAO subprogram TBFRA-2000. The sheet for each indicator includes: description of the indicator, political and environmental context; available data and methodology framework; indicator presentation form; conclusions.

Description of indicator refers to the explicit defining of the indicator and of information included in it.

Political and environment context includes the legal framework for forest policy at national and international levels where that indicator is included, the achievement of the objectives and actions for forest and environment strategy, the summing up of the (positive or negative) effects on the environment.

Available data and methodology framework refers to the existing data sources,

methodology for determination of the indicator and its representativity level.

Presentation form refers to the detailed structure of the indicator and the component information (Table 1).

Structure of the indicator "Forest area and of other woodlands in accordance with the intensity of operations" (Example) Table 1

INDICATOR: Forest area and of other woodlands in accordance with the intensity of operations On: 31st of December 200..

Item	TOTAL	Ownership		
		public	private	
0	1	2	3	4
1	1. Forests TOTAL			
2	1. Natural forests			
3	2. Semi natural forests			
4	3. Artificially regenerated forests			
5	2. Other woodlands			
6	1. Other natural woodlands			
7	2. Other semi natural woodlands			

In order to establish the statistical indicators for forestry and forest exploitation, parts of the developed system, it was needed to develop a general plan for collecting the needed information. This information is collected in statistical surveys, studies, monitoring systems and administrative reports, organized and planned so that they can cover all the statistical reference population as well as the content of the entire set of statistical indicator to be established.. Consequently, they were classified in the following groups:

1. General characterization of forests and other woodlands

Indicators:

1. Country area in relation with main land categories
2. Structure of forest vegetation (forests and other woodlands)
3. Structure of forests and other woodlands in relation with intensity of human operations
4. Structure of forests and other woodlands in relation with their functions
5. Structure of forests and other woodlands in relation with wood harvesting availability
6. Forest structure in relation with the used system
7. Structure of the national forest area
8. Structure of the national forest area by species

II. Ownership on forests and other woodlands

Indicators:

9. Structure of forests and other woodlands in relation with ownership
10. Structure of forests and other woodlands in relation with categories by property size
11. Distribution of the number of owners of forests and other woodlands by categories of property size

III. Size and structure of the growing stock, yield and forest productivity

Indicators:

12. Forest structure by age classes in the national forest stock available for harvesting
13. Structure of the standing wood volume estimated in forests and other woodlands
14. Increment of forests and forest vegetation in other woodlands

IV. Regeneration and expansion of forest area and other woodlands

Indicators:

15. Structure of the regenerated areas in relation with nature of operations
16. Structure by species of regeneration operations applied in forests and other woodlands

V. Area of forests with felling and the resulted wood volume

Indicators:

17. Area of forests with felling
18. Structure by beneficiaries of the wood volume estimated standing or harvested from forests
19. Structure of the wood estimated standing and harvested from forests for different companies
20. Structure of the wood estimated standing or harvested from forests for the supply of population
21. Harvested wood volume
22. Roundwood volume

VI. The phytosanitary status of the forests and other woodlands

Indicators:

23. Forest and other woodlands damages
24. Tree shares by groups of defoliation categories

VII. Wood and non-wood goods harvested from the forest.

Indicators:

25. Amount and value of wood and non-wood goods harvested from forests

The grouping of indicators was done in accordance with the content of indicators, the

ways of collecting the information, the statistical reference population, periodicity of determinations, period for collection of information and the representativity level, as it follows:

Ways of collecting information:

- Statistical surveys (SILV 1)
- Administrative reports (Statistical situation on land categories in the general cadastre, forest management plans)
- Monitoring systems (national forest inventory, forest monitoring)

Statistical reference population:

- Forest owners
- Natural persons
- Legal persons
- Structures for the management of public state forests
- National Forest Administration
- Other administrative-territorial units (villages, towns, cities)

Periodicity

- Statistical surveys - annual
- Administrative reports - periodic 5-10 years
- Monitoring systems - periodic 5-10 years

Reference period

- annual - 31st of December , 200...
- periodic - last period of 5-10 years.

Period for collection of information

- annual - January-February in the year following the reference period
- periodic - year following after the reference period of 5-10 years

Representativity level

- county
- national

Content of the resulted reports

- see example (Table 1)

Organizing, implementation and providing for the functioning of the general plan for ways to collect the information needed in the determination of the statistical indicators for forestry and forest exploitation will be coordinated by the central public authorities responsible for forestry and forest exploitation, in cooperation with the National Statistic Institute and it will be implemented by the administrative structures managing the public forests (National Forest Administration, other administrative, territorial structures), forest owners and local public authorities (local councils).