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Development of forest industries in Latvia

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Abstract

Forests have great importance for the Latvian economy, environment, landscape, flora and fauna. Forest sector contribution to the national GDP is 10…12 %, providing employment for 75…80 thousand people. In the paper was analysed accessible forest and wood resources in Latvia, forest harvesting volumes and dynamics of wood processing industries. Efficient investments in wood processing sector and the available local resources have provided the rapid growth of this field. Wood and wood products are the most important Latvian export products. It is also described strengths and weaknesses of the forest sector in Latvia.

Keywords: forest industries, Latvia, forest cluster, resources, market for timber products.

1. Introduction

The development of Latvia's national economy has been greatly influenced both by its geographical position and political, social and economic situation. Advantageous geographical location of Latvia on the Eastern shores of the Baltic Sea and the crossing of ancient trade routes from Russia to Western Europe has determined the development of a significant transport network. Limited natural resources on the one hand and considerably well-developed infrastructure on the other facilitated the creation and speedy progress of processing industries.

Overall targets of Latvian forest policy are to balance possibilities in fulfilling societies interests in maintaining ecological values of Latvia's forests and securing implementation of social functions of forest. The Latvia's Forest Policy underline the principle that the Latvian forest sector has high capacity to provide material and social benefits, and that utilization of this potential will be encouraged to the extent that other values and benefits are not reduced or lost.

The Latvia's Forest Policy identifies **one general goal** - *sustainable management of forests and forest lands*. In the context of the Forest Policy, *sustainable* management is defined as stated by Resolution H1.

The Latvia's Forest Policy's **economic goal** is to guarantee, with the ecological and social concerns in mind, sustainable development and efficiency of the country's forest sector, while providing for the maximum possible increase of the added value created via resource utilisation. In view of its specific public functions, the state-owned forest should be treated as the official capital. The State as the owner of this capital has two basic interests here:

the value of this capital (forest) must not decrease, it should increase;

the owner (the State) is interested to draw income from its capital (forest).

2. Forest Branch in Latvia.

The forestry, wood processing and furniture industries (the forest branch) is the second largest industrial branch in Latvia after the food processing industry. Forests have great importance for the Latvian economy, environment, landscape, flora and fauna. After the restoration of independence the Latvian economy is highly dependent on renewable forest resources as well as on forest industry; the foreign exchange of forest based export made up 35…40 % of the national total.

Latvia is of course in a great need of finding ways of exploiting its natural resources, to earn foreign currency desperately needed for the development of all sectors of the countries economy. It may be tempting to export saw logs and pulpwood as this is seen as a "short-cut" to foreign currency earnings. This may, however, be a dangerous way eventually making Latvia just as a raw material exporter, instead of the highly industrialized country it is. The export of logs should only be done if there is no practical possibilities to process the logs in Latvia and thus add more value to the raw material before it is exported. Thus it may be wise to export pulp logs, as there is no practical means of processing this part of the raw material in Latvia.

Forest Cluster comprises a rather wide group of sub-sectors of industry linked with wood processing and forestry as well as research and development institutes and undertakings indirectly linked with wood industry.

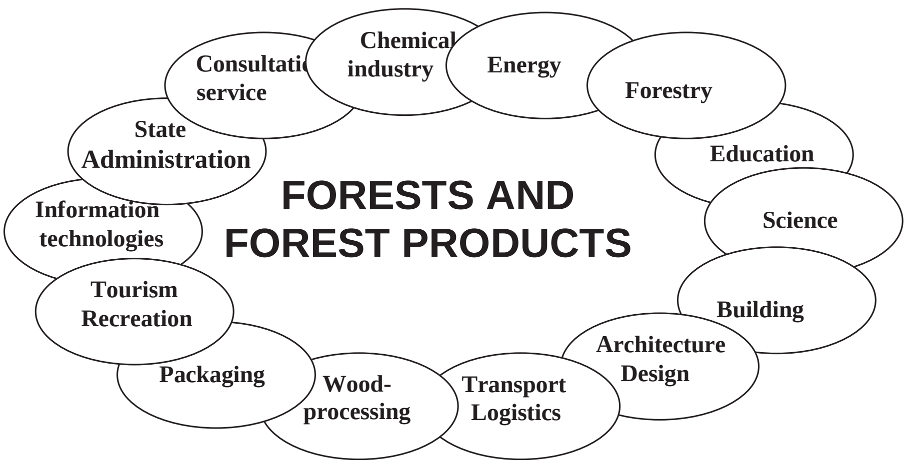


Figure.1. Forest Cluster Structure.

One of the key objectives of the Forest Cluster is to ensure long-term growth by increasing production and exports of goods and services with higher value added respecting sustainable development principles and promoting innovations. Long-term development strategy of the cluster was worked out; enterprises and institutions linked with various activities of the cluster participated in this work. Successful development of the forest sector contributes to the development of the related sectors as well as to the whole national economy. Providing that forest sector contribution to the nation GDP is 10…12 %, then forest cluster – 15…16 %, providing employment for 75…80 thousand people.

3. Forest and Wood Resources in Latvia

Since the early 1920's the forest area of Latvia has increased from 24.7 % in year 1923 to 45.4 % in 2005, consisting presently 2.932 million ha of productive forest lands. In the land reform process in Latvia large areas of agricultural lands were abandoned and the process of aforestation of these lands is promoted. It is foreseen that approximately 350 000 ha can be overgrown during a 10-year period increasing the total forest coverage will be increasing up to 49 %.

In the Latvian forests the entire **standing volume** is up to 585 million m^3. Mean volume of the stands is 200 m^3/ha. The higher standing volumes are in state-owned forests as the result of better silvicultural treatment. Latvia's forests total current annual increment is calculated 16.5 million m^3 (6.3 m^3 per ha annually), including 9.6 million m^3 in conifer stands. Natural die-off is estimated to make up 3.3 million m^3 per year including 1.9 million m^3 in conifer stands.

Around 60 % of the forest are dominated by softwoods, where 2/3 are represented by pine forests and about 1/3 by spruce forests. The main hardwood species is birch representing about 28 % of all forests. Other important species are white alder, aspen and black alder. Oak and ash are represented on small areas about 0.5 % each.

Since the time when Latvia regained its independence, Latvia's **forest ownership model is** facing essential changes. The forest may be owned by the state, local governments and natural or legal persons. After the land reform and the restitution of land (and also forest) ownership rights Latvia has an essential part of privately owned forests:

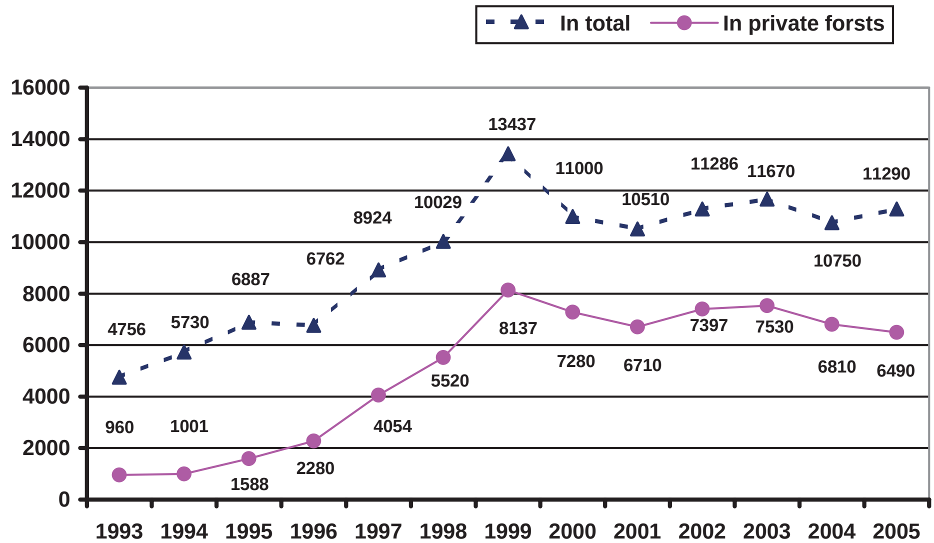
- According to Law on Land reform land which was in private ownership up to 21.06.1940 was returned to previous owners or their inheritors.
- Considering the forest ownership structure before the 21.06.1940 and essential increase of forest covered area since that time it is forecasted that 50 % or 1.5 million ha of the forest will be under state ownership.
- The rest or about 45 % is and will be dispersed among many small private owners.
- Municipalities are playing minor role as forest owners in Latvia, except Riga city.

As a result of land reform the ownership structure as of January 1, 2005, is the following: state forests – 49.9 % of the total area, private – 42.9 %, local governments, private enterprises and other forests take up 7.2 % of the total forest area. At present there are up to 154 400 private forest owners in Latvia; average size of holdings in private ownership is 8.2 ha. To date the average area of holdings is too small, shape and location of some is unsuitable for effective forest management, utilization and protection.

4. Forest production

Basic information to estimate allowable cut is taken from Latvian forest inventory system. The volumes for final and intermediate cuttings are specified in the forest management plans both nationally and at operational levels. They are based on the protection status of the respective stands, the age structure and the dominant tree species. Annually accepted amounts of logging ensure wood processing enterprises with domestic raw materials. Taking into account the experience of the Nordic countries, where a intensive forest management is carried out, the possible allowable cut would be increased up to 12 million m^3 in the near future in Latvia (up to 4 m^3/ha per year).

The implementation of the privatisation programs increased the amount of roundwood and processed timber for sale. As shown in table, since 1993 the volumes of forest harvesting in Latvia were continuously increased. This increase of cuttings attributes mainly to the private forests, where harvesting volume in year 2003 was 7,8 times higher than in year 1993.



* duration of the forest management year 1999 was 15 months.

Figure.2. Forest harvesting volumes in Latvia, 1000 m^3.

4. Long tradition of Wood Processing

The four major periods of Latvian technological advancement are characteristic for the development of Latvian wood processing industries, too.

a. prior to World War I. The first woodworking enterprises – predecessors of wood mechanical processing in Latvia emerged at the beginning of the 17th century. The very first steam powered sawmill in Riga was put into operation at the beginning of the 19th century; there were already six sawmills of that type which were producing for export. As a timber port Riga took a steady lead in the Russian Empire. One third of the Russian timber export went through the port of Riga in the 60-ties and the 70-ties of the 19th century and the major part of the assortments was produced in Riga sawmills. At the turn of the century 40 million cubic feet (1.3 million m^3) of sawn timber was exported from Riga to Western Europe every year.

Along with the sawmilling other wood processing branches developed in the second half of the 19th century – the first paper mill, plywood and match factories were established. 50 000 m^3 plywood or 25 % of the total Russian Empire production capacity were produced in Latvia in 1913. The main points of destination for the export of sawn materials and plywood at the beginning of the 20th century were England, Holland, Germany, France and Belgium.

b. between the World Wars. In coming years the growth of the national economy was interrupted by the World War 1 – for more than four years Latvia was the direct war zone and industrial machinery, including wood processing equipment, was evacuated to Russia. When the War was over and the reconstruction of the national economy was started in Europe, Latvia still suffered from the liberation fights and renovation of the national economy was started only in 1921, in the frames of the first independent Republic of Latvia. Wood processing output became Latvia's main export product. One half to one third of all timber from the annual cut was used to rebuild dwellings, buildings and farms destroyed during the war.

There were 800 frame saws in Latvia in the early thirties and despite their out-of-date equipment they produced up to 750 000 m^3 of export quality sawn materials per year. 445 sawmills with 523 frame saws employed 6603 people and produced 765 207 m^3 of sawn timber in the year 1936. In 1937 Latvia joined the European Timber Exporter's Convention and sawn timber export of 500 000 m^3 per year was applied. In 1939 the Latvian plywood industry comprised 15 mills, produced 83 000 m^3 of plywood annually, which were for the most part exported. The main countries of sale were Great Britain, Germany, the Netherlands, Belgium and Denmark.

c. the post World War 2 era. In 1940 Soviet power was established in Latvia and the destruction process of the national economy was started. It was continued when World War 2 started in 1941. After the World War 2 the national economy of Latvia was totally incorporated into the Soviet planned economy and governed from Moscow. Even at that time wood processing had a strong impact on the national economy and it had acknowledged success. The furniture produced in Latvia was considered the best in the former USSR. Plywood, particleboard, fibreboard and pulp were produced here as well. All enterprises belonged to the State and most of them were under jurisdiction of the Ministry of Wood Processing. In 1960 there were produced 1.25 million m^3 of sawn timber, 120 000 m^3 of plywood, 130 000 m^3 of particleboard and 774 000 standard matchboxes.

Production rates increased every year in accordance with the traditions of the socialistic planned economy and in the early seventies sawn timber production capacity reached 1.55 million m^3. Until the seventies sawn goods were exported only under the USSR trademark through *Exportles* company in Moscow. In the following years sawn timber export from Latvia was stopped and it was used only for domestic consumption, e.g., in furniture production and construction. In 80-ties wood processing as well as all Latvian and Soviet economy entered a period of stagnation.

d. independence (post 1991). Since the establishment of independence in 1991 wood processing started to develop more dynamically in comparison with other industries, where transition from socialistic to market economy was more sophisticated or next to impossible at all. Over recent years the Latvian wood processing industry in the state enterprises privatisation program has been completed and businesses operating in this sector are privately owned. After the Declaration of Independence the structure of the sawmill industry changed considerably. Large production units have been privatised and new sawmill established, partly together with foreign investors. The developments show that these enterprises have mastered conditions in a market economy, enabling further development by attracting investment. Latvian exporters have found good markets for their timber in the UK, Germany, the Benelux countries and in the Near East.

5. Wood Processing industries in Latvia

A large number of people have been employed by the **sawmilling industry**. Relatively small investments are required to convert sawlogs into sawn timber. Furthermore, there is a large (more than 5.7 million m^3 sawlogs annually per one shift) processing capacity already in Latvia. This existing capacity can be utilized in a cost effective way in the short run as the production capital is already there. The output from sawmills has reached nearly the limits of Latvian sawlog resources while there is still opportunity to improve quality and added value of sawmilling products and production efficiency of sawmills. Therefore more and more companies invest in kiln drying and other technologies for the value-added processes. Main problems to be addressed in sawmilling development (especially in small sawmills) are:

debarking; *sorting of logs, sawn timber and quality control*; *drying*; *market for sawmilling residues*.

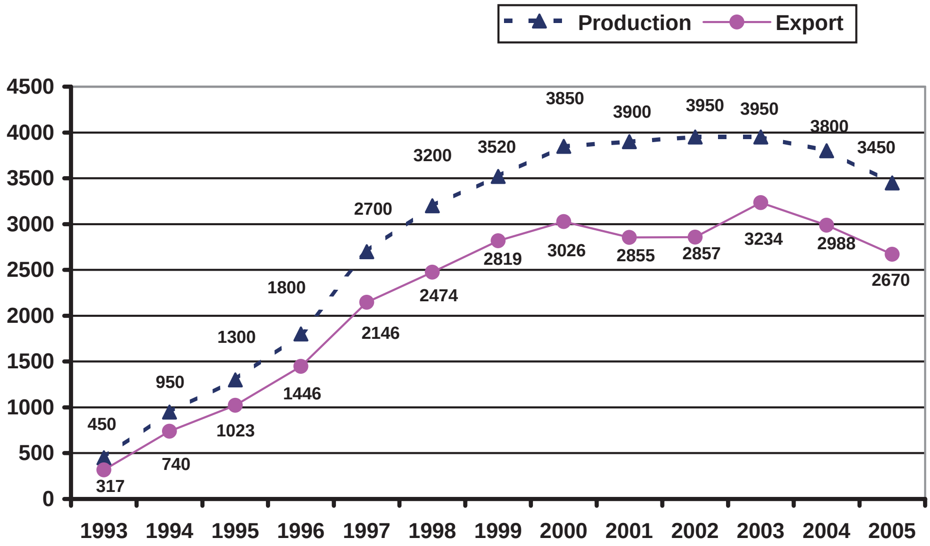


Figure.3. Dynamics of production capacities and export of sawn timber, 1000 m^3.

Plywood production has a long history in Latvia. Activities in this field started in the plant *Latvijas Bērzs,* which was founded in 1873. In October, 1992, on the basis of state enterprise *Plywood Production Union of Latvia*, the joint-stock company *Latvijas Finieris* was established. In the course of years *Latvijas Finieris* has become a multi-profile woodworking company. The assortment offered has increased substantially: plywood of various types of coating, plywood for interior and exterior use, plywood veneered, varnished or painted, etc. From 2000 to 2004 were established 10 product developing trading regional enterprises outside of Latvia (Sweden, Germany, United Kingdom, Spain, USA, France, Finland, Italy, the Netherlands, Japan). Year by year the company keeps to confirm that its operations and produced production are in compliance with the requirements of Latvian and internationally recognized standards by receiving certificates in accordance to its stage of actions.

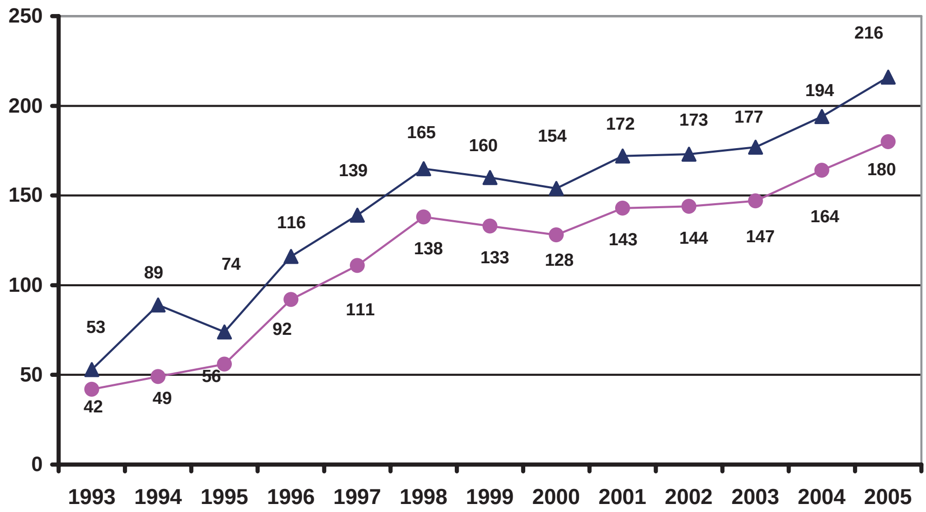


Figure.4. Dynamics of production capacities and export of plywood, 1000 m^3.

During last years interest about birch increases significantly. Management of forests in Latvia that was predominant so far is the main reason to current situation – due to lack of young and middle-aged birch stands we can predict shortage of birch wood resources after 30…40 years. In this case, initiative has been followed from forest industry. Wood processing companies not only invest in new birch plantation establishing projects, but also are paying attention to popularize advantage of planting birch among private forest owners. Interest about planting of birch has increased considering the problem of abandoned agricultural lands. One of the solutions could be afforestation of these lands. Using birch in afforestation is advisable not only from economical point of view. Deciduous tree species are also very valuable to make more diversified amenity forests.

The **furniture industry** was and still is an important branch in the Latvian woodworking industries. The main development problems during the transition period after regaining independence were the lack of customer oriented marketing strategy and a complete new market situation. Privatisation in furniture industry is mainly completed and is considered as an important precondition to attract investment. Number of privatised and newly established private companies have successfully found their new market niches and reoriented their production towards Western markets, local consumers or new Eastern market situation. A rather new direction rapidly developing in Latvia is the production of solid wood furniture. Many enterprises have managed to penetrate Western markets with their solid wood products.

Currently there are slightly more than 300 companies in Latvia producing furniture or furniture components. Among them 10 companies can be considered as medium sized (annual turnover 1 to 4 million USD). Furniture producers are situated mainly in urban areas especially in Riga. Latvian furniture producers are familiar with traditions and demands in potentially huge Eastern (namely CIS) markets but risks there are still high. Now furniture or furniture components exports to Western markets has a tendencies of the growth annually.

6. Forest products market situation and foreign trade

Forest products trade could be characterised as following:

- Week domestic market for forest and wood processing products - main reason is low average income and low level of private long-term investments such as construction.
- Exports accounting about 90 % of all sales.
- Completely changed sales direction - from East to West, mainly EU.
- Relatively high amount of exported unprocessed wood (year 1997 - 2.12 million m^3 of roundwood and 1.031 million tons of fuelwood, year 2000 – 4.19 million m^3 of roundwood and 0.793 million tons of fuelwood, year 2005 – 3,749 million m^3 of roundwood and 2.08 mullions tons of fuelwood, including chips and sawdust).
- High and rising environmental awareness of consumers of Latvian forest products in main importing countries as UK and Germany.

Table 1. Value structure of wood and wood products exported from Latvia

Wood and wood products		Value structure, % Year 1999	Year 2002	Year 2005
Sawn timber		**50.7**	**48.9**	**37.2**
Roundwood		**12.1**	**14.6**	**12.3**
Furniture		**10.7**	**10.3**	**9.8**
Processed wood articles		**5.7**	**8.3**	**11.2**
Plywood		**8.7**	**7.5**	**8.4**
Wood pulp and paper		**2.8**	**2.8**	**6.3**
Fuelwood		**4.0**	**2.3**	**7.7**
Veneer		**1.2**	**1.0**	**0.9**
Particleboard		**1.4**	**1.0**	**1.8**
Hardboard		**0.6**	**0.4**	**0.1**
Matches		**0.3**	**0.3**	**0,3**
Other wood products		**1.5**	**2.2**	**4.0**
In total		**100 %**	**100 %**	**100 %**
Total value of exported wood and wood products	million LVL	**436.3**	**562.3**	**796.85**
	million EUR	**~ 620**	**~ 800**	**1133.82**

Efficient investments in wood processing sector and the available local resources have provided the rapid growth of this field. Wood and wood products are the most important Latvian export products (Table 1). In year 2005 the total value of exported wood based products reached LVL 797 millions (EURO 1134 millions) - 35 % of the total value of exports. If we compare the relative growth dynamics of the value of wood and wood product exports from 1992 to 2005, it has reached a value of more than 48 times higher.

One of the fundamental problems of the wood market in Latvia is the problem of export of unprocessed roundwood. Analyse of the structure of exported roundwood shows, that mainly was exported the pulpwood: 1.691 million m^3 of coniferous (90.5 % of the volume of exported coniferous roundwood) and 1.626 million m^3 of non-coniferous roundwood (86.5 % of the exported volume) - year 2005.

Table 2. Roundwood export from Latvia

Year	1930	1992	1994	1996	1998	2000	2001	2002	2003	2004	2005
Million m^3	0.55	0.51	1.95	1.47	2.76	4.19	3.99	4.22	3.92	4.14	3.75

Gradually is growing the value of wood and wood products imports too; the rate of growing of the imports is lower than the rate of growing of the exports. In year 2005 the total value of forest branch imports reached LVL 285.5 millions (406.2 millions EUR); 41.1 % of that was the value of imported paper and paperboard and 11.9 % - the value of imported furniture (furniture exports value was LVL 77.735 millions or 2.3 time higher than imports value). Roundwood was imported by the value of LVL 36.8 million, sawn timber – by the value of LVL 53.2 million, plywood, particleboards and hardboards by the value of LVL 23.94 million. The value of imported processed wood articles reached LVL 13.9 million in year 2005.

7. Conclusion

Since regaining independence in 1991, the forest industry started to develop more dynamically in comparison with other industries, where transition from socialist to market economy sophisticated. The forest sector is among the most thriving sectors of the national economy, contributing to the stabilisation of the country's foreign trade balance. Forest industry, including wood processing, is the Latvia's only industry, showing a positive export/import balance. Successful utilisation of locally available renewable forest resources has achieved iyt.

Strengths of the Forest sector in Latvia:

- Historically, climate and geographically favourable conditions for forestry with quantitative, diverse and renewable forest resources, providing functioning of harvesting and timber processing enterprises, thus contributing to decrease of employment problems in rural areas.
- Long-standing traditions in forestry and wood processing.
- Major part of requirements regarding forest management partly were in compliance with EU, changes were not so sharp and in some case even became more tolerant.
- Forest products have taken and are maintaining a firm niche in the global forest products market.

- The roles and interests of forest sector institutions, non-governmental and professional organisations, and interest groups have been clearly defined.

Weaknesses of the Forest sector:
- A big number of private owners manage small areas of forests lands.
- There is no working compensation mechanism on considerable relieves for restricted forest management.
- Forest sector is unbalanced because of lack of industrial capacities for processing low-grade wood and industrial residues, also pulpwood.
- Low competitive capacity of the big number of small and medium enterprises, unfavourable situation for investments thus introduction of new technologies is slow.
- Insufficient funding and support for research and education in order to ensure competitiveness in the forest sector.
- Insufficient level of society understanding (knowledge) about forest sector, its priorities and ongoing processes.

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