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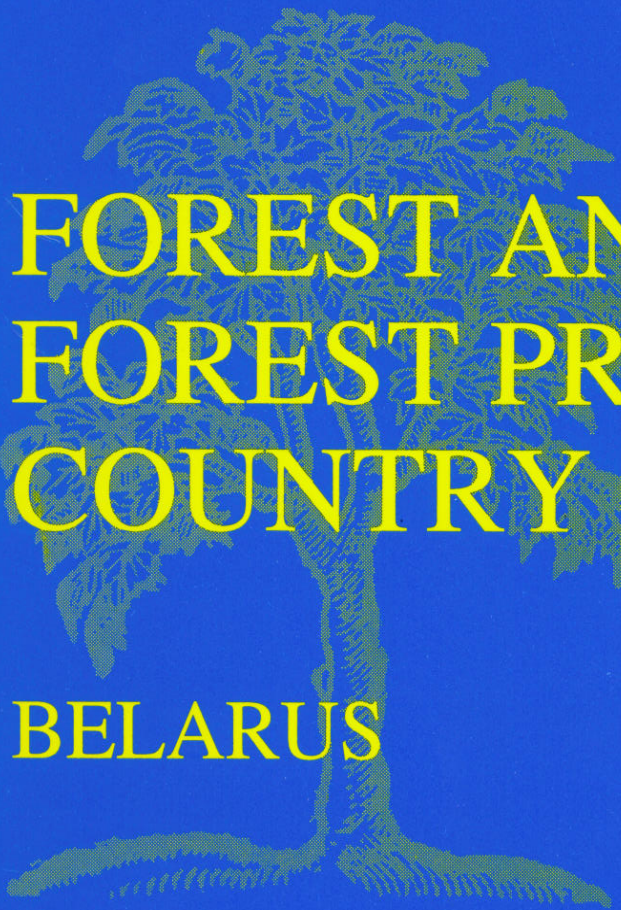

FOREST AND FOREST PRODUCTS COUNTRY PROFILE

BELARUS

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United Nations Economic Commission for Europe and the Food and Agriculture Organization

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FOREST AND FOREST PRODUCTS COUNTRY PROFILE: BELARUS

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NOTE

The designations employed and the presentation of material in this publication do not imply the expression of any opinion whatsoever on the part of the secretariat of the United Nations concerning the legal status of any country, territory, city or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries.

ABSTRACT

The country profile prepared by national experts, includes tables, statistical data, and a brief analysis of the situation and outlook for the forest and forest products sector of Slovenia, including the forest resource, industry structure, production, trade and prices of forest products, and trends in consumption. There is also a list of relevant official and private organizations and publications, with addresses.

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PREFACE BY THE SECRETARIAT

For over 10 years the Timber Section of the ECE/FAO Agriculture and Timber Division has been preparing and issuing profiles of the forest and forest products sector in its member countries, prepared in consultation with national experts, which essentially brought together in a single volume the statistical and other information available in Geneva. The emergence of the countries in transition from a centrally planned to a market economy brought a new urgency to the work. It is widely recognized that there is a need to make available internationally a complete and comparable data set for these countries, which would include basic statistical data, with a long-term time element where possible, as well as up-to-date and reliable information on the status of institutional reform. Among other things, these country profiles will provide the starting point for the analysis of the outlook for these countries in the context of the forthcoming fifth study of European timber trends and prospects (ETTS V).

Profiles have already been issued for the Czech and Slovak Federal Republic (ECE/TIM/64), Hungary (ECE/TIM/66), Poland (ECE/TIM/67), Romania (ECE/TIM/65), Albania (ECE/TIM/73) and Estonia (ECE/TIM/74). Profiles for Bulgaria, Lithuania and the Ukraine will shortly be published. Other transition countries will be covered as fast as resources allow.

The profiles have been prepared by national correspondents, who express their opinions in a personal capacity. The data are from national official sources or the ECE/FAO database.

Each profile contains the following main sections:

- an analysis, with the main headings of the general economic situation, the forest resources, forest industries, trade, prices, consumption, institutions and outlook;
- statistical data on the same subjects, with series back to 1964 where possible;
- addresses of relevant organizations and institutions.

The profile for the Republic of Belarus has been prepared by Mr. V. Kuzmenkov, Head of a Division in the Ministry of Forestry, Minsk, Mr. A. Yanushkov, Professor at the Belarus State Technological University, Minsk, and Mr. L. Esimchik, a member of staff of the Forest Institute of the Academy of Sciences of Belarus, Gomel. The secretariat would like to express its profound gratitude to the authors for their excellent work. The work was supported, financially and technically, by the Planning and Statistics Branch, Policy and Planning Division, FAO Forestry Department.

SYMBOLS AND ABBREVIATIONS USED

-	no data available
m^3	cubic metre
m^3 (bk)	cubic metre with bark
m^3 (r)	cubic metre roundwood
ha	hectare
bln.r.	billion roubles
mln.r.	million roubles
mt	metric ton
incl.	including
=	nil or negligible
rub.	national currency note introduced in July 1993. The rate of exchange between the Russian rouble and the Belarus rouble is at present 1:3.6

I. COUNTRY PROFILE

1. Brief historical sketch

The history of the development of the Republic of Belarus is long and quite complex. Situated in the centre of Europe, where east meets west, Belarus has often fallen victim to foreign aggression and become the arena of military operations. Devastating wars on its territory and the need for postwar reconstruction of ruined villages and towns have laid a special imprint on the development of industry, agriculture and forestry. Belarus suffered particularly during the Second World War, when as a result of the German fascist occupation and warlike operations it lost over half its national resources. A quarter of its population perished in the fires of war and the Hitlerian genocide.

The Republic of Belarus obtained the status of a separate State structure in January 1919. Before then its provinces had formed part of the Russian empire. However its present territory was formed in several stages. Thus in 1921, i.e. almost immediately after the creation of the Republic, the Riga Peace Treaty between Russia and Poland awarded western Belarus to Poland. It was not reunited with the eastern part of the Republic until 1939. The present boundaries of Belarus were finally drawn only after the Second World War.

The Republic of Belarus is a crossroads for routes from north to south and west to east. On the one hand, it is a window into Europe for Russia and on the other, a binding link between the Baltic States and the Black Sea States. Its boundaries lack sharply marked natural features. Its frontiers lie on the plains and this promotes the development of land-based transport routes and economic links with neighbouring States.

Until 1990 Belarus formed part of the former Soviet Union, with the status of a Union Republic. When the USSR broke up, Belarus became a separate independent State, recognized by the world community. The Republic of Belarus is a founding member of the United Nations. It belongs to the Community of Independent States established after the break-up of the USSR.

The natural features of Belarus are determined by its position in the west of the Russian plain. Here the influence of the Atlantic is still quite strongly felt and is responsible for a moderately continental, fairly mild and damp climate, favourable to the development of agriculture and forestry.

Belarus has rich underground resources of potassium and sodium salts, natural building materials, peat and groundwater. Industrial reserves of potassium salts amount to about 10 billion tonnes. The reserves of rock salt are practically inexhaustible. There are immense reserves of high-quality lacustrine glacial clays, sandy gravels, dolomites, etc.

Among fuels, in addition to peat (about 4 billion tonnes), oil, associated gas, hard coal, brown coal and oil shales have been discovered. Deposits of iron ore and some non-ferrous and rare metals have been found.

The Republic of Belarus has long been famed for its forests. Total growing stock today amounts to over 1 billion m^3; 33.7% of the Republic's

area is covered by forest. The mean annual increment is evaluated at 25.5 million m^3. On the whole, the forests are made up of the most valuable tree species - pine and spruce.

The area of the Republic is 207,600 km^2. The population is 10.3 million, of whom 7.0 million live in towns and 3.3 million in the countryside. Administratively the Republic is divided into six oblasts: Brest, Vitebsk, Gomel, Grodno, Minsk and Mogilev.

The Belarus economy took shape as a component part of the unified national economic complex of the former USSR. It is closely integrated with the economies of other CIS republics, and particularly the Russian Federation. Belarus is a fairly developed industrial-agrarian country with a preponderance of engineering and metal-working industries. The pattern of the national economy was formed under the influence of the Soviet Union's planning bodies; over a period of many years they laid down rapid rates of development for heavy industry without taking into account the availability in the Republic of the appropriate raw materials, power or components or even the size of the internal market. At the same time the construction of machines for the forest industry and agro-industrial complexes was insufficiently developed, although there was the necessary local raw material base and domestic resources for these sectors. Agriculture and forestry to a certain extent acted as investment donors for the development of heavy engineering and metal-working.

As in all countries with a centrally-planned economy, by the end of the eighties in Belarus the shortcomings of the existing economic model had become manifest. A radical economic reform based on market forces became necessary. However, to carry out such a reform, economic as well as political transformations were needed, particularly a new legislative basis for the establishment of a market economy.

The Belarus Supreme Council has adopted laws on property, enterprises, banks and banking activities, the prevention of monopolistic practices and the development of competition, joint stock companies, entrepreneurship, securities and a stock exchange, commodity exchanges, foreign investments, etc. Gradual transformations have begun to take place in the economic system on the basis of this legislation.

2. Present economic situation

1991-1993 were years of an overall decline in production in the Belarus economy. Compared with 1990 for example, in 1991 the gross domestic product fell by 1% and in 1992 by a further 11%; the national income fell by 2% and 12%, industrial production by 1% and 10%, agricultural production by 5% and 14% and retail trade turnover (at comparable prices) by 8% and 31% respectively in those two years.

The processes of production decline were not halted in 1993. As before, the economic situation of the Republic suffered from the adverse effects of a lack of fuel and energy resources; high rates of inflation and monetary instability. As a result gross national product compared with 1992 fell by 9%; the volume of industrial production and national income by 10%, capital investments by 13% and retail trade turnover by 21%. The retail price index for goods and services reached 1,676.8. The proportion of unemployed is 1.4% of the economically active population; it increased in 1993 by 2.8 times.

External trade of the Republic with the countries of the former USSR amounted in 1993 to US$ 1.4 billion or 94% of the figure recorded in 1992. The export/import balance became negative, whereas in 1992 it had been positive.

In 1993 Belarus conducted foreign trade operations with 96 countries. Foreign trade turnover amounted to US$ 1.5 billion but had decreased by comparison with the previous year by $310 million, or 17%. Goods to the value of $710 million were exported (a reduction of 33%) and goods to the value of $745 million were imported (99.2% of the 1992 figure).

The principal foreign trade partners of Belarus are the European countries, which account for almost 70% of foreign trade turnover. Among them are Germany, Switzerland, Austria, Great Britain, Netherlands, Italy, France, etc. The proportional importance in trade turnover of the former CMEA countries declined from 28.9% in 1992 to 24.8% in 1993. Trade with the United States of America also declined.

The structure of exports in 1993 showed that the most important export commodities were mineral fertilizers (25.5%); means of transport (11.3%) and machines and equipment (7.3%).

The reorganizing of the Republic's economy is going ahead slowly. In 1993 the number of cooperatives, small enterprises and joint stock companies registered amounted to about 32,000. They were responsible for 4% of the value of the main production assets and 7% of the goods produced. Among the reasons for the slow development of entrepreneurship and the structural changes needed are above all the lagging-behind of systematic transformation of the economy, the continuing predominance of the State sector, monopolism and socio-economic instability. However, the geopolitical position of the Republic and its recognition as a sovereign State have aroused heightened interest in the Belarus market among foreign business circles. In the last 3 years, representatives of about 500 foreign firms and organizations have paid business visits to Belarus. This has contributed to increasing the number of joint enterprises with a participation of foreign capital. For further development of the links established, it is proposed to stabilize the socio-political environment and to improve the regulatory and legal basis necessary for intensification of economic reform.

The Government has developed an economic programme for the stabilization of the economy and a budget for 1994 which have been approved by the Supreme Council. They set the task of slowing down the decline in production, ensuring further structural changes, improving export opportunities for the national economy, reducing the rates of inflation, improving the balance of payments, encouraging investment activities and going over from comprehensive to specific social protection. It is expected that in 1994 the economy will improve somewhat. An important role is to be played by the transition to a rouble zone of a new type and intensification of economic links with the Russian Federation, with which the Republic of Belarus has strong integrative economic connections.

3. Forest resources

Among the natural riches of Belarus the forests occupy a special place. Satisfying various human needs, they have since ancient times been drawn into the productive cycle and as a result have become the subject of intensive economic activity.

A favourable geographical position and the existence of convenient land and river transport routes have contributed to the development of the timber trade and the felling of forests. The condition of forest resources has been greatly affected by wars and the needs of post-war reconstruction of the national economy. In those years as a rule the standards of forest management were not met and practically no regeneration work was carried out. As a result immense damage was inflicted on the forests and the forest cover of the country declined. Between 1852 and 1917, for example, forest cover declined from 45% to 22%. In the pre-war years as a result of the development of forest regeneration, by 1940 the forest cover of Belarus had risen to 26.7%. However, by 1945 it had already decreased to 21.5%. This was the effect of excessive felling during the war years and the occupation and the lack of any effort to regenerate or look after the forest.

In the post-war period forestry was rehabilitated. In forests of State importance forestry enterprises known as "leskhozy" were established, which carried out forest regeneration work, protected and maintained the forests and cared for them. Felling for the main categories of use (felling of mature forest) was done by "lespromkhozy" - State tree-felling enterprises. Practically all the forests in Belarus were covered by forest management practices. Forestry was conducted on the basis of forest management plans. In the post-war period trees have been planted or sown on an area of more than 2 million hectares. As a result the forest cover of Belarus has increased from 21.5 to 33.7%. The productivity and quality of the forests has risen, as has their ecological and economic value.

The economic basis for forestry in Belarus is State ownership of the forests and other means of production. The forests were declared to be general national assets in the very first years of Soviet power. Later, as regards type of ownership, all forests were divided into forests of State importance, on the basis of which State forestry was organized, and forests of the agricultural cooperatives - the collective farms. The Ministry of Forestry of Belarus is a national body in charge of managing the forests and the forest economy.

The proportion of forest land in the overall land area of the Republic is shown in table 2. The distribution of forests by form of ownership and utilization is reflected in table 3.

As emerges from the data given, on 1 January 1992 the total forestry area was 8.24 million hectares, 6.99 million hectares of which comprised forests proper. The mean forest cover of the area of Belarus was 33.7%. There are 0.7 hectares of forest and 101 m^3 of growing stock per head of population.

The forest owners are mainly enterprises of the Ministry of Forestry. They manage 81.8% of all the Republic's forests. The collective farms own and use 5.7% of all forests, while 12.5% are run by various other branches of the administration.

Among the forests belonging to other branches of the administration are the "Belovezhskaya Pushcha" National Park, the Berezina biosphere park, the Pripyat landscape-hydrological and the Poles'e radio-ecological nature reserves. The total area of forest reserves is 376,000 hectares, or 1.81% of the area of the Republic.

To preserve rare species of plants and wild animals and for other purposes 70 State reservations of national importance with a total area of 664,000 hectares have been formed on the forest territory of the Republic.

The distribution of forests by economic importance is shown in table 4. As will be seen from data in that table, the total stock of standing timber amount to 1.05 billion m^3. The mean annual increment is 25.5 million m^3.

Intensive exploitation of the forests in the past, caused by military operations and the needs of post-war restoration of the ruined national economy, led to a distortion in the normal age structure of the forests (table 5). This applies above all to the proportion of mature forests, which at the present time constitute 4.6% of the forest-covered area. Of the forest, 15.7% belongs to the category of stands approaching maturity and 42.7% to the medium-aged category. Young trees of age classes I and II occupy 37.0% of the forested area. For that reason one of the tasks of forestry is to gradually even out the age structure of the forest, which will make it possible in the future to utilize the timber at a rate equivalent to the mean annual increment.

Valuable timber species are represented in the Belarus forests (table 6). Among them a leading place is occupied by the pine (57.4%), while the fir accounts for 11.4% and hard-wooded broadleaved species for 4% of the forest area. The Republic's foresters are carrying out work designed to further improve the species structure of the forests.

Changes in forest assets that have occurred since 1945 are shown by the data in tables 7 and 8. During this period the forested area increased by 31.4% and the total standing timber stock by 3.3 times.

In the long term, it is anticipated that by the year 2020 there will be a further improvement in quantitative and qualitative forest indicators and in particular that the amount of growing stock will increase, thus making it possible to considerably increase the extent of felling.

The forests of Belarus are a source not only of raw timber but also of other products. They include mushrooms, berries, valuable medicinal plants, technical raw materials, resin, sugar and syrup. In the Republic's forests medicinal raw materials to a value of 7-8 billion roubles are prepared every year.

The picking and processing of non-wood forest products have now become a constant and quite considerable component in the productive activities of the forestry undertakings.

The forests play an important water-conserving and environment-protecting role in Belarus. They give off annually about 77 million tonnes of oxygen and absorb 93.2 million tonnes of carbon dioxide.

Depending on their economic role, all the forests are divided into two groups. To the first group are assigned forests that play a particularly important protective role: to it 38.4% of forests belong. In such forests economic activity is aimed at preserving and intensifying their environmental protection functions.

In their turn the forests are suffering from man-made damage. Great harm is done by forest fires. In 1992, for example, there were fires over an area of 16.9 thousand hectares (table 10) and 12.5 thousand hectares of forest stands were destroyed. The pollutant emissions from industrial enterprises have a harmful effect on the forests. The results of forest monitoring carried out in 1991-1992 showed that the degree of defoliation of the forest is quite high (table 11).

Great damage was done to forests and forestry by the accident at the Chernobyl nuclear power station. Annual losses at 1992 prices exceed 1.6 billion roubles. Almost 21% of the forests were contaminated with radionuclides and this led to limitations being put on the use of timber and other forest products.

4. Forest Industry

The forest industry of the Republic of Belarus is one of the oldest branches of the national economy. A high level of development was characteristic of the Byelorussian provinces that formed part of the former Russian empire. This was helped by the favourable geographical position of the Byelorussian region and the availability of high-quality timber resources. As a result a quite highly developed forest sector of the economy was formed, in which practically all known branches of the industrial processing of timber was represented. In regard to some types of timber products, Belarus occupied one of the leading places in the national economy of the former USSR. Thus, about 20% of the all-Union production of matches, about 10% of plywood, over 8% of wood-based panels and 5% of furniture were made in Belarus.

The logging industry forms the basis for the forest sector of the economy. Its task is to cut timber, subject it to primary processing and transport it. Logging is done by enterprises in many branches of the administration but the leading role is played by enterprises of the Bellesbumprom combine, which is responsible for 60% of timber removals. About 30% falls to the share of the leskhoz forestry enterprises, which carry out logging work mainly in the course of improvement felling.

Two forest industry undertakings ("lespromkhozy"), 6 logging and 8 woodworking enterprises belonging to Bellesbumprom, 83 leskhozy of the Ministry of Forestry and the logging sectors of enterprises in other branches of the administration that manage forests deal with logging for the main end-uses.

The volume of logging carried out is determined by the calculated size of the area to be cut, which is established for each enterprise and is the level of utilization that will ensure the Forest's continuity and prevent its exhaustion. Altogether at the present time, for all forms of forest use,

about 10 million m^3 of timber and fuel wood are cut every year. This volume of felling satisfies 80-85% of the needs of the national economy of Belarus.

The main technical process in logging work is felling and removal of the bole timber. Cross-cutting into categories is carried out at the industrial log terminals. Improvement in the technical level of logging is attained mainly by making wide use of complex machines such as the Harvester and Forwarder and the wider development of technology for cutting timber for specific purposes and its supply direct to the consumers. The annual yield per worker is about 600 m^3. The profitability of logging enterprises is 20-25%. On average 1.8 m^3 of timber is cut from one hectare of forested area managed by the Ministry of Forestry. In the long run, the volume of logging will increase, particularly as the forests are thinned.

Sawmill production is represented in the republic by a multitude of enterprises, separate departments and firms. Altogether, about 2,600 enterprises are occupied in longitudinal sawing of timber. The biggest of these enterprises form part of the Bellesbumprom combine. Of the 11 enterprises in the combine that saw timber, 4 have an annual volume of sawnwood production exceeding 100,000 m^3 and 5 are exceeding 50,000 m^3 each. These enterprises have quite a high level of mechanization and automation of the productive processes and achieve better technical and economic indicators for the utilization of the timber.

In the forestry undertakings (leskhozy), sawmilling operations are organized in 159 departments. Small sawmilling operations are to be found in practically all agricultural enterprises and also in many enterprises in other branches of industry.

The inadequate concentration of sawmilling production in Belarus and the fact that it is scattered among various branches of the administration lead to unproductive losses and expenses, while the absence in many sawmills of specialized technological flows and planning for the disposal of sawmill raw material and its necessary sorting by diameter and quality lead to a reduction in the useful output of sawn materials.

The scattered nature of sawmill production also creates certain difficulties in making fuller use of residues.

The most common equipment in Belarus is a frame-saw of local manufacture (RD-75-6 and RD-75-7). There is an inadequate amount of band-sawing equipment and rotary sawing and rotary slabbing machines allowing of a more efficient processing of small-batch and small-diameter raw material into sawn products and industrial chip. The timber sawn is not barked beforehand.

The total annual production of sawmill products is 2.8-3.2 million m^3. The specialized enterprises of the Bellesbumprom combine are responsible for over a quarter of all sawmill production. Roughly the same proportion is produced by enterprises of the Ministry of Agriculture; enterprises of the Ministry of Forestry account for 8% and of the Ministry of Building Materials for 10% of total output. The process that has begun of denationalizing and privatizing small enterprises has not yet led to any substantial changes in the efficiency of sawnwood production.

Glued plywood and sliced veneer are made only in enterprises of the Bellesbumprom combine, in which there are six veneer producers. The main

raw material for manufacturing veneer is birch and alder veneer logs. In the last few years there has been a technical re-equipment of veneer production. Highly productive slicing machines with centring devices for loading have been introduced. Dryer rollers have been redesigned and mechanized ponds for hydrothermal processing of raw material have been built, etc. Plywood production amounts to 37,000 m^3 per annum and sliced veneer production to 4.2 million m^2 per annum.

The leading producers of plywood are the "Bobruiskdrev", "Mostodrev" and "Pinskdrev" and of sliced veneer "Rechitsadrev" and "Bobruiskdrev" concerns.

In Belarus there is a well-developed manufacture of boxes in enterprises belonging to the combine. About 100,000 m^3 of box sets are produced per annum. A considerable amount of box material is produced by the forest undertakings of the republic (about 60,000 m^3). The bulk of box sets are produced in small workshops in the enterprises; various types of technical equipment are used to produce them.

The initial raw material for box production is unedged low-grade sawn wood of coniferous and broad leaved species and also small-diameter sawn wood. Meanwhile in the last few years the proportion of special-purpose timber among the raw material to be processed has been increasing. On the whole, box production needs restructuring: specialized flows with a high level of mechanization based on multiple-use processing of raw material into box sets and technological timbers are required.

All match production is concentrated in the enterprises of the Bellesbumprom combine, and in particular in the "Borisovdrev", "Gomeldrev" and "Pinskdrev" concerns. The leading producer is the Borisovdrev firm. The raw material available would make it possible to increase the production of matches but during the last year output has tended to fall. The needs of the population of Belarus for matches are fully satisfied. Matches are exported mainly to the CIS countries.

The production of furniture is carried out by 11 firms in the Bellesbumprom combine and small enterprises in the private sector. In the last decade there has been a concentration and specialization in the furniture trade and it has been technically re-equipped. In addition to traditional materials (sawn products, plywood), wide use has been made of wood-based panel materials, latex foam articles, polyester lacquers, polyurethane foam, glued-bentwood parts, etc. The mechanization and automation of furniture production mainly consists of providing the enterprises with integrated equipment. The largest suppliers of furniture are the production associations "Bobruiskdrev", "Minskmebel" and "Gomeldrev", which account for 50% of all the furniture made.

Wood-based panels industry

Belarus produces fibreboard, particle board and fibrolite panels. The industry's manufacturing capacity is concentrated in enterprises of the Bellesbumprom combine. The principal raw material for panel manufacture is the residue from sawmills and timber-processing plants and in part specially

made chip provided by the "leskhoz" forestry undertakings. About 70% of the board is used on the domestic market, the rest being exported. The output of wood-based panels and changes in it are shown in table 13.

The pulp and paper industry of Belarus is represented by the Svetlogorsk pulp and cardboard plant and 11 small paper manufacturers. This branch is the weakest link in the forest industry. To obtain chemical and mechanical pulp only 300-400 m^3 of raw timber is used per annum, or about 3% of total consumption. It is therefore intended to speed up the development of the pulp and paper industry. The most significant projects are the construction of yet another chemical pulp plant, with a capacity of 100,000 tonnes, a department for the production of old paper stock with a capacity of 24,000-30,000 tonnes per annum, and a new wallpaper factory in Minsk together with the bringing into operation of a pulp production line at the Svetlogorsk pulp and cardboard factory that will use broad-leaved timber. There is ample local raw material to develop the pulp and paper industry. For these purposes use may be made of timber from thinnings together with woodworking and logging residues, which at the moment are not completely utilized. At the present time the industry is experiencing great difficulties.

The hydrolysis industry is represented in Belarus by two enterprises - the Bobruisk hydrolysis plant and the Rechitsa industrial hydrolysis pilot plant. The main forms of hydrolytic product produced by these plants are fodder yeast and hydrolytic ethyl alcohol together with furfurol, tanning extract, etc. Every year the plants produce about 30,000 tonnes of fodder yeast, 650,000 dl of ethyl alcohol, 1,350 tonnes of furfurol and 2,500 tonnes of carbonic acid.

The main equipment of the plants is hydrolyser vessels with a capacity of 18 m^3, which are being replaced by higher-capacity equipment (50 m^3). The raw material for hydrolysis products is special chip and sawdust obtained from forest industries.

Wood chemistry in the Republic of Belarus consists in the obtaining and processing of resin and resinous stumpwood. Wood chemical production is carried out at only one enterprise in Belarus - the Borisovsk paper and wood chemical plant. It produces turpentine, rosin and resin glue. The main types of product are rosin, isomerized and resin turpentine, polyturpentines, hydroxypolymers of terpenes, various glues, etc. The production of rosin amounts to 11.5 tonnes per annum and of turpentine to 2.7 tonnes. Any increase in the production of wood rosin, which is in short supply, is held up by a shortage of the raw material - resin. However, in the near future, as the age structure of the forest gradually improves, the raw material base for tapping resin will expand.

The structure of the forest industry complex is gradually being reorganized and adapted to the conditions of a market economy. On the basis of the former Ministry of Timber, Woodworking and Pulp and Paper Industries the "Bellesbumprom" combine has been created, which has been joined on a voluntary basis by almost all of the enterprises of the former Ministry. In July 1993 a decree of the Supreme Council of the Republic of Belarus approved the State privatization programme, which specifies ways and means of putting into effect the act adopted previously on "Denationalization and privatization of State property".

By denationalization is meant the partial or complete transfer of the function of managing economic assets from the State to persons and legal entities. Privatization means the obtaining by persons and legal entities of the right to ownership of assets belonging to the State. The characteristic feature of the privatization programme is its anti-monopoly tendency. With that in view the privatization of combines, corporations, etc. as single items of property is not allowed. For that reason the State enterprises that make up the Bellesbumprom combine are being privatized separately.

The main form of privatization is the issue of shares, i.e. the setting-up of public joint-stock companies and holding companies. A second option is the leasing of enterprises that are subsequently purchased. At the present time all the enterprises in the combine (except "Minskmebel", "Minskproektmebel" and the "Hero of Labour" Paper Factory) have issued shares. The functions of the combine itself have changed. It no longer directly manages the enterprises but merely provides them with services for the coordination of their activities, help with methods of price formation, forecasting, external trade links, etc.

It is not proposed at the present stage to privatize the forest undertakings known as "leskhozy". A new Forest Code is being prepared which is to define the legal basis for improving the organizational structure of forestry under conditions of a market economy.

5. Trade

Up till the beginning of the 1990s wholesale trade in timber on the domestic market was monopolized by the "Bellesbumsnabsbyt" combine. Through it, within the limits of the funds laid down by the State Planning Commission (GOSPLAN) timber and timber products were delivered to ministries, branches of the administration and the local population. As regards foreign trade in forestry products all operations for supplying them to the foreign market were carried out through "Exportles". The Republic did not have its own organization for foreign trade relations. For that reason, the State statistics of Belarus up till 1990 contained no data on foreign trade turnover in timber products.

The position began to change after the Republic acceded to independence and as a result of the establishment of market relationships. To develop exports and imports, a State Committee on External Economic Relations was established and enterprises obtained the right to carry on foreign trade activities in accordance with the Act on Enterprises that had been adopted. Certain changes also took place in the organization of wholesale trade on the domestic market. A Ministry of Resources was set up, under which a number of wholesale-brokerage firms were formed, including "Bellesbum", which conducted wholesale trade in forest products. Enterprises obtained the right to go independently to the market and sell part of their products at contract prices.

In 1994, as a result of the reforms, a liberalization of trade began. A foreign trade undertaking, "Lesimpeks", was set up. It is proposed to transform the Ministry of Resources into a joint stock company "Belkontrakt". The volume of State orders for the enterprises is shrinking, but at the same time their right to sell their goods on both the domestic and the foreign

market is being extended. All this will undoubtedly have a positive effect on the development of exports of forest products and a fuller satisfaction of domestic demand.

Nevertheless, the transformations in the timber sector are so far proceeding only slowly. The timber resources available in Belarus are still not being fully utilized owing to the imbalance between the structure of forest industry production and the size and quality characteristics of the available raw timber. To solve this problem the Republic's options on the domestic and on the foreign market are being extended.

6. Prices

Over a long period domestic prices for standing timber and forest products were fixed. Their level was considerably below world prices. Thus, for example, in 1970 the average statutory price for 1 m^3 of standing timber was 2.8 roubles, in 1980 it was 3.15 roubles and in 1982, after the introduction of a new price tariff 5.3 roubles. The stumpage price of roundwood amounted to only 21.4% of production costs, whereas in Finland the proportion was 64%, in Sweden 53% and in the United States of America 31%. Revenue from the sale of standing timber did not cover forestry costs. It is characteristic that in both 1982 and 1990, after an increase in the level of statutory timber prices, they failed to cover expenditure on tree growing and forest protection, and amounted to only a fifth or a sixth of world prices. The stumpage price element in the price of roundwood was 10-15%.

Beginning in 1991, in line with the general trends in the sphere of price liberalization, State control over prices for many types of forest products was reduced. The proportion of forest products which were sold at contract prices increased and this led to a sharp rise in prices.

In view of the restricted possibilities of financing forestry from the budget, it was decided to raise the level of statutory prices. From the beginning of 1994 statutory prices for timber of the main forest-forming species - pine, spruce, oak and birch - increased 163 times compared with 1992, 60 times for aspen and grey alder and 30 times for fuel wood. This led to a rise in prices for roundwood and for products of the woodworking industry. The inflationary increase of prices led to a reduction in domestic demand for forest products and this inevitably had an effect in its turn on the volume of production. As a result a number of logging and woodworking enterprises have fallen into economic difficulties.

7. Production, trade, consumption

The high rates of inflation (up to 50% per month), a certain instability in the socio-economic situation and the sluggishness of the reform process have been considered in the sections devoted to the economic situation as a whole and also in the sections devoted to trade and prices. It emerges from what had been said that the liberalization of foreign and domestic trade is proceeding slowly. There are difficulties in establishing a market infrastructure. However, the new conditions of economic life are gradually marking out the road forward. The process of privatization is proceeding in trade, a more effective market-oriented system of supply is being introduced and price formation for forest products is being restructured in accordance with market requirements.

As for consumption, the main consumers of timber materials are housing construction and furniture manufacture. For that reason the production of sawmill products, building supplies, joinery requisites and wood-based panels (particle-board and fibreboard panels) has an obvious priority over other forms of wood utilization. Pulp, paper and cardboard production is in a worst plight. In 1993, there were no changes for the better in that regard. On the contrary all enterprises in the pulp and paper industry were working at under capacity. A beginning has been made in issuing shares for these enterprises and adapting them to market conditions.

8. Institutions

At the present time the State body for managing forestry is the Ministry of Forestry of Belarus. It administers 82% of the forests directly, as well as 6 timber production combines comprising 86 timber enterprises of the leskhoz type, 2 machine and land-improvement stations, the Telekhanskoe State Game Management Enterprise, an inter-oblast station for the control of forest pests and diseases, a planning and practical application centre for labour organization and production (Belorgproektles), the State Forest Management Combine "Belgosnes", a State Planning and Research Institute "Belgiproles", a base for aerial protection of forests from fire, a national Forest Seed Station, a national station for forest protection and monitoring, the Mozyr Repair and Construction Enterprise, and "Belleskhoztekhnika", a trade and production combine. Under the existing Forest Code the Ministry acts as State manager and controller of the condition, utilization, maintenance, protection and reproduction of forests in the possession and use of various ministries and branches of the administration and their enterprises, organizations and institutions.

State Forestry undertakings fully control forestry production and partly the conversion of timber for its main uses. They include sawmill and woodworking enterprises to process largely low-grade timber. Timber conversion for its main uses is carried out by specialized undertakings known as "lespromkhozy" which form part of the "Bellesbumprom" concern, which also includes sawmills, woodworking enterprises, pulp and paper plants and wood-chemistry undertakings.

Scientific research work connected with the utilization and reproduction of forest resources is carried out by the Forest Institute, the Institute of Experimental Botany and the Central Botanical Garden of the Academy of Sciences of Belarus.

Engineering and technical staff are trained at the Polotsk Forestry Technical School and the Belarus State Technological University. The Technical School trains forestry technicians, while the University is concerned with forestry engineers, engineers for timber conversion, pulp and paper, woodworking and hydrolysis industries and also engineer economists.

Denationalization and privatization will lead to some changes in the management of the branches of the forest complex. It is expected that in 1994 a new Forest Code will be adopted, which is to define the structure of forestry and the system of forest relationships in a market economy. Laws are being drafted on the protection of plants and the protection of animals.

9. Outlook

All the above gives grounds for the conclusion that as a result of radical economic reform substantial changes will occur in the production and consumption of forest products. This applies above all to property relationships and the formation of new organizational and management structures characteristic of a market economy. However, to judge by the present rate of change, restructuring will take another three to five years. For that reason it is difficult to forecast at the moment what the situation will be in the foreseeable future. Nevertheless, a number of general inferences can be drawn.

9.1 It is expected that the detailed forest stocktaking to be carried out in 1994 will show a more favourable age structure in forest resources. The proportion of mature stands is to increase roughly twofold, thus making it possible to increase the amount of timber for main uses by 15-20%. An increase in the amount of timber used will also be promoted by differentiation of the felling cycle of stands according to their site class, the extension of timber extraction in forests fulfilling special functions and the restoration to economic use of some of the forests contaminated with radionuclides.

9.2 Improvement felling, particularly thinning, is also to be further developed. However, this process will be closely linked with the development of pulpwood exports to the European market and an increase in the size of the internal market through the development of production capacities in the pulp-and-paper and the wood-based panel industries of Belarus.

9.3 The principle of multipurpose forest use and intensification of environmental protection functions of forests will be observed. It is expected that by the year 2000 the percentage of protective, recreational and other forests with special functions will rise to 40%. Forest use therein will involve special technologies.

9.4 Economic factors in the transitional period may lead to some reduction in the amount of felling and timber removals. For that reason, in the next three to five years more complete utilization of the annual timber increment is hardly to be expected. However, from the year 2000 onwards the rises in output will be quite appreciable and total growing stock will further increase at the same time.

9.5 The health of the forests so far is not causing any great anxiety. It is proposed to improve the age structure of the forests, to reduce the extent of single-species stands and to extend the area of mixed plantings.

9.6 The structure of timber consumption in Belarus will not undergo substantial changes in the near future. The leading assortment for conversion will remain sawnwood and veneer wood. The consumption of wood for fuel will increase as a result of the rise in prices for energy carriers. The consumption of wood pulp will increase slightly. The only change could result from completion of the construction of the Svetlogorsk pulp and cardboard plant and of a further pulp and paper plant. This will permit fuller use of the residues from sawmills and woodworking industries and improve the comprehensive utilization of raw timber.

II. TABLES

Republic of Belarus

Table 1. Key economic indicators

	Unit of measurement	1970	1975	1980	1985	1990	1991	1992	1993
Population at mid-year	1 000	9 038	9 367	9 658	9 999	10 260	10 271	10 313	10 357
Mean annual number of persons employed in the national economy	1 000	4 077	4 777	5 000	5 100	5 100	5 000	4 900	4 700
Gross national product (in real prices)	bln. r.	12.3	17.8	23.8	30.0	40.4	80.0	955	13 100
National income produced	bln. r.	9.9	13.7	18.4	23.2	29.5	62.6	780	8 860
Fixed assets (at end of year)	bln. r.	24.2	36.3	54.5	76.9	105.7	116.4	151.1	-
Industrial production (in 1992 prices)	1980 = 100	173.8	264.2	397.6	516.1	669.5	662.8	600.5	540.5
Capital investments (in comparable prices)	bln. r.	5.2	6.9	8.3	10.2	15.4	16.0	11.8	10.3
Retail trade turnover (in actual prices)	bln. r.	5.2	7.4	9.9	11.8	18.5	33.4	285.6	1 307
Completed housing construction	1 000 m^2	4 323	4 346	4 291	5 106	5 282	5 392	4 318	4 000
Foreign trade turnover 1/	mln. US$	-	-	-	-	-	3 618.1	1 811.8	1 506.7
Goods exported	mln. US$	-	-	-	-	1 770.2	2 160.3	944.3	710.0
of which: timber and forest products	mln. US$	-	-	-	-	43.6	53.2	32.2	15.9
Goods imported	mln. US$	-	-	-	-	4 924.9	3 978.5	750.0	744.0
of which: timber and forest products	mln. US$	-	-	-	-	73.6	42.6	3.7	4.4

1/ Up to 1990 there are no data in Belarus statistics.

Table 2. Main land-use categories (at beginning of year)

	Unit of measurement	1961	1966	1973	1978	1983	1988	1990	1992
Total area	1 000 ha	20 759.5	20 759.5	20 759.5	20 759.5	20 759.5	20 759.5	20 759.5	20 759.5
of which:									
- gross total forest area 1/	1 000 ha	8 006	8 023	8 225	8 239	8 265	8 055	8 055	8 239
of which: covered with forest	1 000 ha	6 672	6 750	7 063	7 165	7 192	7 028	7 028	6 988
- agricultural land	1 000 ha	9 033.5	9 623	9 767	9 871.3	9 713.5	9 426	9 403	9 391
- other non-forested land, including inland waters 2/	1 000 ha	3 720	3 113.5	2 767.5	2 649.2	2 991.0	3 278.5	3 301.5	3 129.5
Percentage of total area:									
- total forestry area	%	38.6	38.6	39.6	39.7	39.7	38.8	38.8	39.7
of which: forest proper	%	32.1	32.5	34.0	34.5	34.6	33.9	33.9	33.7
- agricultural lands	%	43.5	46.4	47.1	47.5	46.8	45.4	45.3	45.2
- other unforested land	%	17.9	15.0	13.3	12.8	13.5	15.8	15.9	15.1
TOTAL	100	100	100	100	100	100	100	100	100

Source: Statistical yearbooks of the State Committee for Statistics of the Republic of Belarus.

N.B. 1/ The total forestry area comprises land that is covered with forest and unforested land destined for the needs of forestry.

2/ In view of the absence of data on inland waters they are included in "other unforested land".

Table 3. Forest areas by ownership and management status

Category of ownership	Unit of measurement	Year		
		1983	1988	1992
Forests managed by enterprises of the State forestry authorities	1 000 ha %	6 667.7 80.7	6 578.9 83.9	6 739.1 81.8
Forests managed by other branches of the State administration 1/	"	932.0 11.3	867.1 10.8	1 029.7 12.5
Collective farm forests	"	659.6 8.0	429.0 5.3	471.0 5.7
TOTAL	"	8 259.3 100	8 055 100	8 239.8 100
Type of forestry management:				
- based on a forestry management plan	%	92.0	94.7	94.3
- based on other control procedures	%	8.0	5.3	5.7

N.B. The numerator shows the total area in thousand hectares and the denominator the percentage of the total.

1/ These include forests in reserves, experimental forestry sectors, forests belonging to State agricultural enterprises, etc.

Table 4. Distribution of forests by importance to the national economy

	Unit of measurement	Total			1992		
		1983	1988	1992	coniferous	hard-wooded broad-leaved forest	soft-wooded broad-leaved forest
Covered with forest	1 000 ha	7 192	7 028	6 989	4 712	261	2 016
of which:							
Forests in use 1/	"	5 023.4	4 428	4 319	2 789	138	1 392
Protective forests 2/	"	2 168.6	2 600	2 670	1 923	123	624
Growing stock	mln. m^3	843.4	921.3	1 047.4	740	42	265.4
Forests in use	"	569.9	554.9	616.9	418.4	21.3	177.2
Protected forests	"	273.5	366.4	430.5	321.6	20.7	88.2
Mean annual increment	"	25.9	25.4	25.5	16.8	0.8	7.9
Total cut	"	12.3	12.8	10.9	5.4	0.2	5.2
Felling losses	"	1.3	1.3	1.1	0.5	-	0.5
Timber removed (timber + fuel wood)	"	11.0	11.5	9.8	4.9	0.2	4.7
of which: timber	"	6.6	7.8	6.6	3.6	0.1	2.9
Amount cut as percentage of mean annual increment	%	47.5	50.4	42.7	32.1	25.0	65.8
Amount removed as percentage of growing stock	%	1.3	1.2	1.0	0.7	0.5	1.8

Data taken from the inventory of forestry resources.

1/ Forests in use - forests intended for the production of timber and other forest products.

2/ Protective forests have special functions (forests in reserves, prohibited strips along rivers, shelter belts along roads, etc.).

Table 5. Distribution of forests by age class

Age class	1983		1988		1992	
	1 000 ha	%	1 000 ha	%	1 000 ha	%
Young forest:						
Age class I	1 179.5	16.4	1 265.0	18.0	1 048.2	15.0
Age class II	2 035.3	28.3	2 031.1	28.9	1 537.4	22.0
Medium-aged forest	2 790.6	38.8	2 684.7	38.2	2 983.9	42.7
Forest approaching maturity	855.8	11.9	737.9	10.5	1 097.1	15.7
Mature and over-mature forest	330.8	4.6	309.3	4.4	321.4	4.6
	7 192	100	7 028	100	6 988	100

N.B. Young forest in age-class I: for conifers and hard-wooded broad-leaved species - 1-20 years, soft-wooded, broad-leaved species - 1-10 years; in age class II the corresponding figures are 21-40 and 11-20 years.

Mature forest:	In forests in use	In protective forests
Coniferous	Over 80 years	Over 100 years
Hard-wooded broad-leaved forest	Over 100 years	Over 120 years
Soft-wooded broad-leaved forest:		
Aspen	Over 40 years	Over 40 years
Birch	Over 60 years	Over 60 years
Black alder	Over 50 years	Over 60 years

Forest approaching maturity - one age class before maturity.

The rest, between young forest and forest approaching maturity, is medium-aged forest.

Table 6. Distribution of forest-covered area by tree species

1,000 ha
%

	1988		1992	
	Total	Of which: Ministry of Forestry	Total	Of which: Ministry of Forestry
Total	7 028 100	6 014.7 100	6 988 100	5 884.3 100
Coniferous species	4 743.9 67.5	4 130.5 68.7	4 712.1 67.4	4 048.4 68.8
of which:				
common pine	3 970.8 56.5	3 464.8 57.6	3 949.6 56.5	3 377.6 57.4
spruce	773.1 11.0	665.7 11.1	762.5 10.9	670.8 11.4
Hard-wooded broad-leaved species	281.1 4.0	254.4 4.2	261.1 3.8	235.4 4.0
of which:				
oak	253.0 3.6	226.0 3.8	233.1 3.3	211.8 3.6
Soft-wooded broad-leaved species	2 003.0 28.5	1 629.8 27.1	2 015.7 28.8	1 600.5 27.2
of which:				
birch	1 187.7 16.9	1 002.6 16.7	1 229.8 17.6	1 006.2 17.1
aspen	161.6 2.3	117.4 2.0	162.4 2.3	111.8 1.9
black alder	569.3 8.1	448.1 7.5	559.0 8.0	435.4 7.4

1/ Ministry of Forestry forests are those managed by State forestry authorities.

Table 7. Ratio of felling area to area of forest regeneration (1,000 ha)

Year	Felling area		Forest regeneration					
	Total	Average per year	Artificial			Natural		
			Total	Per year	Percentage of area cut	Total	Per year	Percentage of area cut
1945-1955	563.4	51.2	416.0	37.8	73.8	130.0	13.0	25.4
1956-1965	414.0	41.4	446.0	44.6	107.7	102.0	10.2	24.6
1966-1970	172.0	34.4	216.0	43.2	125.6	27.5	5.5	15.8
1971-1975	155.9	31.2	203.4	40.7	130.4	24.5	4.9	15.6
1976-1980	146.6	29.3	168.0	33.6	114.6	22.5	4.5	15.4
1981-1985	150.3	30.1	137.7	27.5	91.4	24.5	4.9	16.4
1986-1990	149.4	29.9	144.5	28.9	96.7	22.7	4.5	15.2
1991-1992	51.5	25.7	42.8	21.4	83.3	7.4	3.7	14.4
TOTAL	1 803.1	38.4	1 774.7	37.8	98.4	361.1	7.7	20.1

Note: In 1956-1980 in every year the area of artificial forest regeneration exceeded the felling area owing to the transfer of unproductive agricultural land to State forestry enterprises.

Table 8. Changes in the mean indicators of forest resources in the area belonging to the Ministry of Forestry of Belarus

Date of inventory	Total forestry area (1 000 ha)		Growing stock mln. m^3	Average age, years	Growing stock per ha in m^3		Mean increment		Felled area per ha of forested area, m^3
	Covered by forest	Not covered by forest			Forested area	Mature forests	Total mln. m^3	Per ha of forest-covered area, m^3	
1945	4 037.7	525.8	278.6	34	69	163	8.5	2.1	1.86
1965	4 832.7	170.9	426.3	31	98	169	13.4	2.8	2.19
1970	5 209.0	141.0	526.3	32	101	179	15.6	3.0	2.04
1975	5 352.2	128.9	531.2	32	99	183	15.6	2.9	1.94
1980	5 727.5	97.7	633.1	32	111	208	20.4	3.6	1.95
1985	5 914.3	99.5	732.9	36	124	203	21.6	3.7	1.98
1990	6 016.0	108.6	811.2	39	134	202	21.7	3.6	1.84
1992	5 884.3	129.2	905.6	41	154	212	21.8	3.7	1.74

Table 9. Comparative data: land use, forest resources and their reproduction

Indicator	Unit of measurement	Republic of Belarus	Europe
Total land area per head of population	ha/inhabitant	2.01	1.0
Area of forest per head of population	"	0.68	0.3
Proportion of forest in the total land area	%	33.7	35.4
Type of forest ownership:			
Public forests 1/	%	94.7	49.0
Collective-farm forests 2/	%	5.3	-
Privately-owned forests	%	-	51.0
Type of forestry management			
- In accordance with forest management plans	%	94.3	46.3
- In accordance with other procedures	%	5.7	53.7
Growing stock in the forests - total	m^3 (bk)/ha	149.9	128.0
Of which:			
Coniferous species	%	70.6	64.8
Hardwooded broad-leaved species	%	4.0)	35.2
Softwooded broad-leaved species	%	25.4)	
Net annual increment 3/			
Per ha of closed forest	m^3 (bk)/ha	3.7	4.3
As percentage of growing stock	%	2.5	3.4

1/ Public forests - in Belarus this means State forests.

2/ Cooperative farm forests - forests in Belarus belonging to collective farms.

3/ The figure given for Belarus is the mean annual increment (the net increment is not determined).

Table 10. Damage to and destruction of forests as a result of exposure to adverse factors (1000 ha)

Indicator	1985	1990	1991	1992
Total destroyed	1.92	1.13	0.45	13.03
Of which:				
by damage by wild animals	0.02	0.01	0.16	0.04
by diseases and pests	0.20	0.09	0.09	0.12
by exposure to industrial pollution	0.01	-	0.02	-
by exposure to unfavourable weather conditions	1.69	0.14	0.05	0.39
by fire	-	0.89	0.13	12.48
Number of fires	1 343	2 398	1 477	7 444
Area of forest affected by fires	0.34	0.99	0.30	16.9
Damage, mln. roubles	0.05	0.13	0.10	221.8

Table 11. Defoliation of forests

(percentages: medium + severe damage + dead trees)

	1991		1992	
	Coniferous	Broad-leaved	Coniferous	Broad-leaved
Belarus	42.9	20.3	33.7	14.8
Czechoslovakia	46.0	23.7	-	-
Poland	46.9	34.8		
Lithuania	27.8	14.9		

Table 12. Total removals of roundwood by species and assortment (1000 m^3 of roundwood)

	1965	1970	1975	1980	1985	1986	1987	1988	1989	1990	1991	1992
Total amount of roundwood removed (timber)*	7 183	6 262	6 190	6 368	7 119	7 481	7 667	7 845	7 671	6 958	6 657	6 638
Of which:												
Coniferous	3 305	2 887	2 893	2 902	3 204	3 441	3 604	3 766	3 759	3 442	3 295	3 285
Broad-leaved	3 878	3 375	3 297	3 466	3 915	4 040	4 063	4 079	3 912	3 516	3 362	3 353
Sawnwood and veneer logs	4 263	4 067	4 238	4 222	4 647	4 889	5 092	4 873	4 853	4 682	4 220	3 990
Coniferous species	2 600	2 480	2 585	2 533	2 741	2 860	2 953	2 826	2 814	2 680	2 456	2 294
Broad-leaved species	1 663	1 587	1 653	1 689	1 906	2 029	2 139	2 047	2 039	2 002	1 764	1 696
Pulp, fuelwood, other commercial timber	2 920	2 195	1 952	2 146	2 474	2 592	2 575	2 972	2 818	2 276	2 437	2 648
Coniferous species	705	407	308	369	463	581	651	940	945	762	839	991
Broad-leaved species	1 215	1 788	1 649	1 777	2 009	2 011	1 924	2 032	1 873	1 514	1 598	1 657

* Commercial timber excluding fuelwood.

Table 13. Annual output of wood-based products (1000 m^3) except for pulp and paper: 1000 metric tons

	1965	1970	1975	1980	1985	1986	1987	1988	1989	1990	1991	1992
Sawnwood	2 762	3 070	3 171	2 861	3 074	3 221	3 293	3 320	3 325	3 195	2 842	2 627
Coniferous species	1 990	2 210	2 300	2 080	2 238	2 348	2 400	2 420	2 430	2 247	2 040	1 918
Broad-leaved species	772	860	871	781	836	873	893	900	895	858	772	709
Sleepers 1/	-	-	-	-	-	-	-	-	-	-	-	-
Wood-based panels	278.8	409.9	674.4	757.2	805.3	851.4	896.2	892.2	919.0	875.9	827.0	792.2
Veneer	-	12.0	20.0	21.0	20.3	20.0	20.1	20.2	29.4	18.6	13.6	13.4
Plywood	198.5	212.7	229.2	212.2	221.0	230.0	229.0	223.0	215.0	192.0	164.0	157.0
Particle board	68.6	102.6	256.4	377.0	387.0	398.0	431.0	422.0	459.0	459.0	445.0	417.0
Fibreboard	11.7	82.6	141.8	142.7	177.0	203.4	216.1	222.0	215.6	206.3	204.4	204.8
Groundwood pulp 1/	-	-	-	-	-	-	-	-	-	-	-	-
Mechanical pulp	-	-	-	11.3	33.1	32.2	31.4	34.5	38.4	36.8	39.3	34.0
Paper and cardboard 2/	132.2	156.8	336.0	381.0	411.0	416.0	431.0	441.0	434.0	417.0	373.0	267.0

1/ There are no data on sleepers and groundwood in the State statistics.

2/ Indicators for paper and cardboard are not differentiated in the statistics.

Table 14. Structure of the wood-based panels industry

	Unit of measurement	1965	1970	1975	1980	1985	1986	1987	1988	1989	1990	1991	1992
Plywood													
Factories in operation	Number	6	6	6	6	6	6	6	6	6	6	6	6
Capacity	1000 m^3	220	224	230	230	230	230	230	230	230	230	230	230
Particle board													
Factories in operation	Number	3	3	6	6	6	6	6	6	6	6	6	6
Capacity	1000 m^3	70	130	260	400	400	400	480	480	480	480	480	480
Fibreboard													
Factories in operation	Number	3	3	4	4	3	3	3	3	3	3	3	3
Capacity	1000 m^3	15	98	147	147	196	220	220	220	220	220	220	220
All wood-based panel materials													
Factories in operation	Number	12	12	16	16	15	15	15	16	15	15	15	15
Capacity	1000 m^3	305	452	637	777	826	850	930	930	930	930	930	930

Table 15. Utilization of sawtimber, veneer logs and pulpwood (1000 m^3)

	1980	1985	1986	1987	1988	1989	1990	1991	1992
Sawmill industry									
Total	4 291	4 611	4 831	4 939	4 980	4 988	4 657	4 218	3 940
Of which:									
- Coniferous species	2 888	3 108	3 256	3 329	3 362	3 365	3 143	2 868	2 640
- Broad-leaved species	1 403	1 503	1 575	1 610	1 618	1 623	1 514	1 350	1 300
Production of plywood and veneer	591	613.6	635.3	633.4	631.2	596.0	535.5	451.7	430.6
- Plywood	540.6	563.6	586.5	584.0	581.4	548.3	489.6	418.2	400.3
- Veneer	50.4	50.0	48.8	49.4	49.8	47.7	45.9	33.5	30.3
Match production (broad-leaved species)	93.1	104.5	128	120	115	110	89	90	85
Pulpwood, total	1 065.8	1 237.4	1 306.8	1 392.0	1 399.7	1 475.2	1 452.0	1 430.0	1 354.1
Of which:									
- For the production of particle board	727.6	746.9	768.1	831.8	814.5	885.9	885.9	858.9	804.8
- For the production of fibreboard	289.6	348.2	400.2	425.2	436.8	424.2	407.9	402.1	403.1
- For the production of chemical and mechanical pulp	48.6	142.3	138.5	135.0	148.4	165.1	158.2	169.0	146.2

Table 16. Recycling of waste paper and industrial wood waste

	Unit of measurement	1980	1985	1986	1987	1988	1989	1990	1991	1992
Waste paper:										
- Recycled	1000 t	260	275	281	291	285	270	261	200	134
- Exports	"	-	-	-	-	-	-	-	-	-
- Imports	"	125	130	150	237	234	227	214	160	94
Apparent consumption of paper and cardboard	"	490	507	511	540	582	603	672	520	320
Production of paper and cardboard	"	381	411	416	431	441	434	417	373	268
Coefficient of utilization	%	53.1	54.2	55.0	53.9	49.0	44.8	45.6	38.4	41.9
Coefficient of consumption	%	68.2	66.9	67.5	67.5	64.6	62.2	62.6	53.6	50.2
Industrial wood waste	1000 m^3	1 356	1 336	1 342	1 297	1 284	1 290	1 273	1 270	1 258
- Recycled	"	1 274	1 268	1 274	1 236	1 241	1 250	1 227	1 219	1 208
- Exported	"	-	-	-	-	-	-	-	-	-
- Imported	"	-	-	-	-	-	-	-	-	-

Table 17. Annual volume of exports by type of product*

Type of product	Unit of measurement	1980	1985	1986	1987	1988	1989	1990	1991	1992
Fuelwood	1000 m^3	-	-	-	-	-	-	-	-	-
Timber	"	207	203	191	197	144	243	127	183	297
Sawmill products	"	47	24	19	20	18	38	9	9	45
- Coniferous species	"	47	24	19	20	18	38	9	9	45
- Broad-leaved species	"	=	=	=	=	=	=	=	=	=
Sleepers	"	-	-	-	-	-	-	-	-	-
Wood-based panel materials	"	236.9	244.3	256.4	280.4	288.8	275.4	270.0	130.4	177.9
- Sliced veneer	"	2.3	1.7	2.0	1.4	1.4	1.3	1.1	0.7	1.5
- Plywood	"	120	115	118	120	123	134	99	30	54
Particle board	"	51.0	64.0	68.0	71.0	74.0	85.6	89.7	39.6	36.4
Fibreboard	"	63.6	63.6	68.4	88.0	90.4	104.6	80.2	60.1	86.0
Mechanical pulp	1000 t	=	=	=	=	=	4.1	3.0	2.5	=
Paper and cardboard	"	163	177	180	167	142	176	164	104	52

* The State statistics do not contain any more detailed data.

Table 18. Annual volume of imports by type of product*

Type of product	Unit of measurement	1980	1985	1986	1987	1988	1989	1990	1991	1992
Timber	1000 m^3	880	700	595	502	830	766	556	630	358
Sawnwood	"	520	315	340	379	473	268	210	285	170
- Coniferous species	"	520	315	340	379	473	268	210	285	170
- Broad-leaved species	"	=	=	=	=	=	=	=	=	=
Sleepers	"	-	-	-	-	-	-	-	-	-
Wood-based panel materials	"	21.9	13.5	6.9	5.8	11.4	19.6	44.8	95.5	36.2
- Sliced veneer	"	0.4	1.7	1.5	1.4	1.8	2.2	1.5	1.0	1.2
- Plywood	"	1.5	2.0	1.9	1.7	3.3	3.3	2.5	1.5	2.9
Particle board	"	15.1	6.4	2.0	1.7	2.4	8.2	32.6	32.0	30.6
Fibreboard	"	4.9	3.4	1.5	1.0	3.9	5.9	8.3	1.0	1.5
Mechanical pulp	1000 t	160	167	170	181	190	200	170	194	127
Paper and cardboard	"	267	263	271	282	284	331	321	245	104

* The State statistics do not contain any more detailed data.

Table 19. Annual data on the balance of trade in forest products

Type of product	Unit of measurement	1980	1985	1986	1987	1988	1989	1990	1991	1992
Fuelwood	1000 m^3	-	-	-	-	-	-	-	-	-
Timber	"	-673	-497	-404	-305	-686	-523	-429	-447	-61
Sawmill products	"	-473	-291	-321	-359	-455	-230	-201	-276	-125
Sleepers	"	-	-	-	-	-	-	-	-	-
Wood-based panel materials										
- Peeled veneer	"	+2.3	+1.7	+2.0	+1.4	+1.4	+1.3	+1.1	+0.7	+1.5
- Sliced veneer	mln. m^2	-0.4	-1.7	-1.5	-1.4	-1.8	-2.2	-1.5	-1.0	-1.2
- Plywood	1000 m^3	+118	+113	+116	+118	+120	+131	+97	+28	+51
- Particle board	"	+36	+58	+66	+69	+72	+78	+57	+54	+6
- Fibreboard	mln. m^2	+12	+12	+14	+18	+18	+20	+14	+12	+17
Groundwood pulp										
Mechanical pulp	1000 t	-160	-167	-170	-181	-190	-196	-167	-192	-193
Paper and cardboard	"	-104	-86	-91	-115	-142	-155	-157	-141	-52

Table 20. Imports by country of origin and exports by country of destination, 1000 m^3

Imports from	1975	1980	1985	1990	1991	1992	Exports to	1975	1980	1985	1990	1991	1992
Sawnwood and veneer logs	1 550	880	700	556	630	358	Sawnwood and pulpwood*	245	207	203	127	183	297
Countries of the former USSR	1 550	880	700	552	628.8	358	Countries of the former USSR	245	207	203	4	7	=
European countries	=	=	=	4	2	=	European countries	-	-	-	123	176	319
Sawmill products	564	520	315	210	285	170	Sawmill products	98	47	24	9	9	45
Countries of the former USSR	564	520	315	210	285	170	Countries of the former USSR	98	47	24	7	9	45
European countries	=	=	=	=	=	=	European countries	=	=	=	2	=	=
Wood pulp	148	160	167	170	194	127	Pulp	=	=	=	3	2.5	=
Countries of the former USSR	148	160	167	170	194	127	Countries of the former USSR	=	=	=	3	2.5	=
Paper and cardboard	202	267	263	321	245	104	Paper and cardboard	163	163	177	164	104	52
Countries of the former USSR	202	267	263	321	245	104	Countries of the former USSR	163	163	177	164	104	52

* 95-97% is composed of pulpwood.

Table 21. Changes in timber prices (stumpage price), roubles per m^3

	1975	1980	1985	1986	1987	1988	1989	1990	1991	1992	1993
Coniferous species											
Large	4.0	4.0	6.8	6.8	6.9	7.2	7.3	18.6	22.0	121.8	6 091
Medium	3.4	3.4	5.7	6.0	6.1	6.1	6.2	15.9	18.7	105.0	5 251
Small	2.6	2.6	4.5	4.5	4.5	4.6	4.7	12.0	14.0	80.4	4 019
Firewood	0.4	0.6	0.8	0.8	0.8	0.8	0.8	1.9	1.5	7.9	158
Hardwood broad-leaved species											
Large	7.6	7.7	13.1	13.1	13.1	13.1	13.1	41.0	37.4	203.4	10 171
Medium	6.5	6.5	11.1	11.1	11.1	11.1	11.2	35.0	32.0	174.8	8 739
Small	5.0	5.0	8.3	8.3	8.3	8.3	8.3	26.4	24.0	132.9	6 634
Firewood	0.6	0.6	1.2	1.2	1.2	1.3	1.3	3.0	2.4	13.5	269
Softwood broad-leaved species											
Large	2.3	2.3	2.4	2.4	2.4	2.5	2.5	6.6	5.5	35.7	1 783
Medium	1.9	1.9	2.1	2.1	2.1	2.2	2.2	5.6	4.7	31.2	1 559
Small	1.4	1.4	1.5	1.5	1.6	1.6	1.6	4.2	3.5	24.7	1 236
Firewood	0.6	0.6	1.1	1.1	1.1	1.1	1.1	2.5	2.0	10.4	209

N.B.: Large timber in the case of all tree species refers to bole sections with a top-surface diameter without bark of 25 cm and over, medium refers to diameters of 13-24 cm and small to diameters of 3-12 cm.

Table 22. Changes in roundwood prices, roubles/m^3

	1975	1980	1985	1986	1987	1988	1989	1990	1991	1992	1993
Coniferous species											
Sawnwood	21	21	32	32	32	33	34	33	44	2 000	100 000
Pulpwood	19	19	32	32	32	32	33	50	48	2 500	50 000
Fuelwood	3	4	6	6	6	6	6	16	20	620	13 000
Broad-leaved species											
Sawnwood	12	13	21	21	21	21	21	22	38	1 300	60 000
Veneer logs	26	26	42	48	52	60	63	65	94	2 100	110 000
Matchwood	24	25	40	41	48	52	53	54	67	1 600	80 000
Pulpwood	14	13	21	22	22	24	24	25	31	1 200	40 000
Fuelwood	4	5	7	7	8	8	8	17	22	750	15 000
Chip from coniferous and broad-leaved species	14	14	18	18	18	18	19	22	42	580	10 400

Table 23. Changes in prices for finished products

Type of product	Unit of measurement	1975	1980	1985	1986	1987	1988	1989	1990	1991	1992	1993
Sawmill products	Roubles/m^3	36	38	46	47	47	48	48	48	111	2 037	190 200
Glued plywood	Roubles/m^3	153	161	210	216	218	221	244	249	521	8 898	773 883
Particle board	Roubles/m^3	87	91	105	109	112	115	119	125	245	5 348	524 224
Fibreboard	Roubles/m^2	0.4	0.4	0.7	0.7	0.7	0.7	0.7	0.7	1.3	31	2 840
Paper	Roubles/t	-	-	-	447	454	473	490	581	2 732	35 646	32 600
Cardboard	Roubles/t	-	-	-	344	343	356	374	398	1 111	23 430	170 000
Pulp	Roubles/t								332	831	30 800	187 000

Table 24. Apparent annual consumption by type of product

Type of product	Unit of measurement	1975	1980	1985	1986	1987	1988	1989	1990	1991	1992
Sawmill products - total	1 000 m^3	3 603	3 324	3 335	3 502	3 632	3 765	3 541	3 300	3 072	2 740
- Coniferous species	"	2 756	2 550	2 508	2 649	2 749	2 869	2 652	2 444	2 306	2 033
- Broad-leaved species	"	847	774	827	853	883	896	889	856	766	707
Wood-based panel materials	"	429	566	599	610	630	621	614	664	725	669
- Veneer	"	20	21	22	22	21	22	22	20	14	15
- Plywood	"	93	94	104	107	115	113	86	90	110	120
- Particle board	"	201	330	350	351	358	350	370	478	461	411
- Fibreboard	"	115	121	123	130	136	136	136	136	140	123
Paper and cardboard	1 000 t	375	490	507	511	540	582	603	572	520	320
Pulp for producing paper and cardboard	"	145	170	200	205	210	220	240	206	201	162
Timber used in the round - total	1 000 m^3	2 019	1 722	2 006	1 919	1 964	2 045	2 151	1 865	1 921	2 033
- Fuelwood	"	1 014	816	901	916	1 014	947	960	975	950	943
- Other forms of timber	"	1 005	906	1 105	1 003	950	1 098	1 191	890	971	1 090

Note: This table shows statistically real (actual) consumption. It is up to 1% lower than consumption calculated as the volume of production plus the volume of imports minus the volume of exports. This difference represents the carry-over to the following year.

Table 25. Apparent annual consumption per head of population by type of product
(m^3 per 1,000 persons except for paper and cardboard and pulp for producing them (metric tons per 1,000 persons))

Type of product	1975	1980	1985	1986	1987	1988	1989	1990	1991	1992
Sawnwood	385	344	334	348	359	370	346	322	300	266
- Coniferous species	294	264	251	263	272	282	259	238	224	197
- Broad-leaved species	91	80	83	85	87	88	87	84	76	69
Wood-based	45.5	58.6	59.5	61.0	61.6	60.5	59.4	65.3	71.0	65.3
- Veneer	2.2	2.1	2.2	2.1	2.1	2.1	2.1	2.0	1.4	1.4
- Plywood	10	10	10	11	11	11	8	9	11	12
- Particle board	21	34	35	35	35	34	36	41	45	40
- Fibreboard	12.3	12.5	12.3	12.9	13.5	13.4	13.3	13.3	13.6	11.9
Paper and cardboard	40	51	51	51	53	57	59	56	51	31
Pulp for producing paper and cardboard	15	18	20	20	21	22	23	20	20	16
Timber used in the round	216	178	201	191	194	201	210	182	187	197
- Fuel wood	108	84	90	91	100	93	94	95	92	91
- Other timber	108	94	111	100	94	108	116	87	95	105

Table 26. Comparative data on consumption per head of population by product

Type of product	1965		1970		1975		1980		1985		1989	
	Belarus	Europe	Belarus	Europe	Belarus	Europe	Belarus	Europe	Belarus	Europe	Belarus	Europe
Sawnwood	338	179	398	188	385	182	344	193	334	180	346	189
Coniferous species	252	139	304	145	294	139	264	148	251	138	259	148
Broad-leaved species	86	35	94	39	91	39	80	42	83	40	87	39
Wood-based panels	-	32	25	47	45	62	58	67	59	66	59	79
Veneer	-	4	1	4	2	4	2	4	2	4	2	5
Plywood	9	8	9	10	10	10	10	10	10	9	8	12
Particle board	7	13	13	25	21	39	34	45	35	45	36	54
Fibreboard	1	8	2	8	12	9	12	8	12	8	13	9
Paper and cardboard	11	61	16	77	40	83	51	92	51	99	59	116
Newsprint	-	10	-	12	-	11	-	12	-	13	-	15
Printing and writing paper	-	13	-	19	-	21	-	26	-	30	-	36
Chemical pulp	-	4	-	4	-	4	-	3	-	2	-	2
Timber used in roundwood form	414	254	290	216	216	177	178	163	201	170	210	158
Fuel wood	147	187	112	154	108	123	84	118	90	118	94	112
Other types of commercial timber	267	68	178	62	108	53	94	45	111	52	116	46

Table 27. Relationship between production of, trade in and consumption of individual forest products

Type of product	Ratio of exports to production					Ratio of imports to apparent consumption					Ratio of production to apparent consumption				
	1965	1975	1985	1989	1992	1965	1975	1985	1989	1992	1965	1975	1985	1989	1992
Sawmill products	-	3.0	0.8	1.1	1.7	7.2	15.7	9.4	7.6	6.2	95.0	88.0	92.2	93.9	95.9
Coniferous species	-	3.0	0.8	1.1	1.7	9.6	20.5	12.6	10.1	8.4	91.2	83.5	89.2	91.6	94.3
Broad-leaved species	-	-	-	-	-	-	-	-	-	-	104.3	102.8	101.1	100.7	100.3
Sleepers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wood-based panel materials	-	28.0	30.3	30.0	22.5	-	7.7	2.3	3.2	5.4	-	157.2	134.4	148.7	118.4
Veneer	-	15.0	8.4	4.4	11.2	-	2.5	7.7	10.0	8.0	-	100	92.3	133.6	89.3
Plywood	54.4	59.8	52.0	62.3	34.4	-	1.3	1.9	3.8	2.4	248.1	246.6	212.5	250.0	130.8
Particle board	14.6	19.1	16.5	18.6	8.7	17.1	12.0	1.8	2.2	7.4	116.3	127.6	110.6	124.1	101.5
Fibreboard	-	-	35.9	48.5	42.0	-	6.3	2.8	4.3	1.2	97.5	123.3	143.9	158.5	166.5
- Hard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
- Insulation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Groundwood pulp															
Pulp, total	-	-	-	10.7		100	102	83.5	83.3	78.4	-	-	16.6	16.0	21.0
Pulp for producing paper	-	-	-	-	-	-	-	-	-	-	-	-	16.6	16.0	21.0
Chemical pulp	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Paper and cardboard	-	48.5	43.1	40.6	19.5	-	53.9	51.9	54.9	32.5	143.6	89.6	81.0	72.0	83.4

III. FIGURES

Figure 1. Changes in the forest cover of Belarus

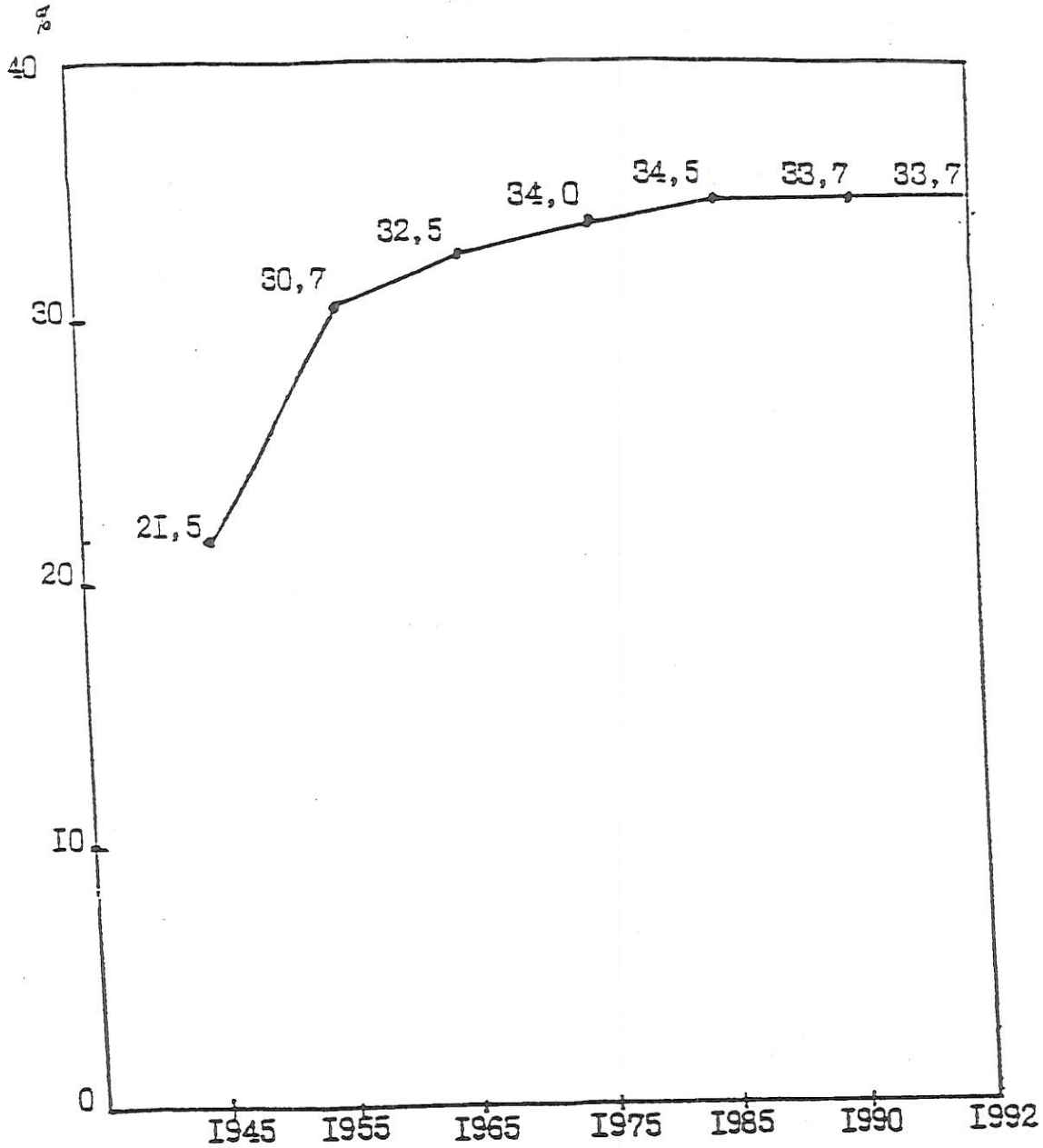


Figure 2. Mean increment and amount of timber logged

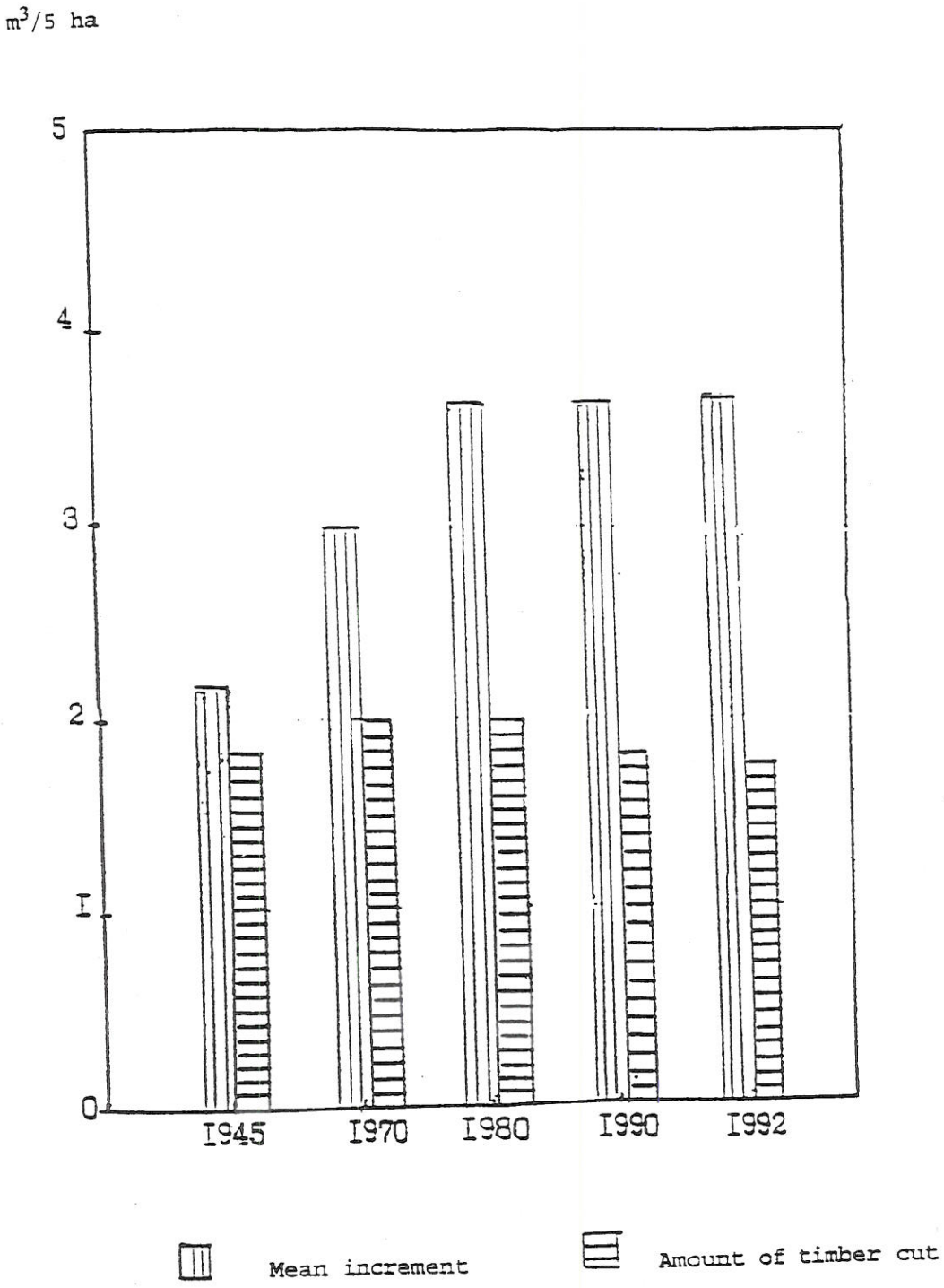


Figure 3. Volume of timber removals

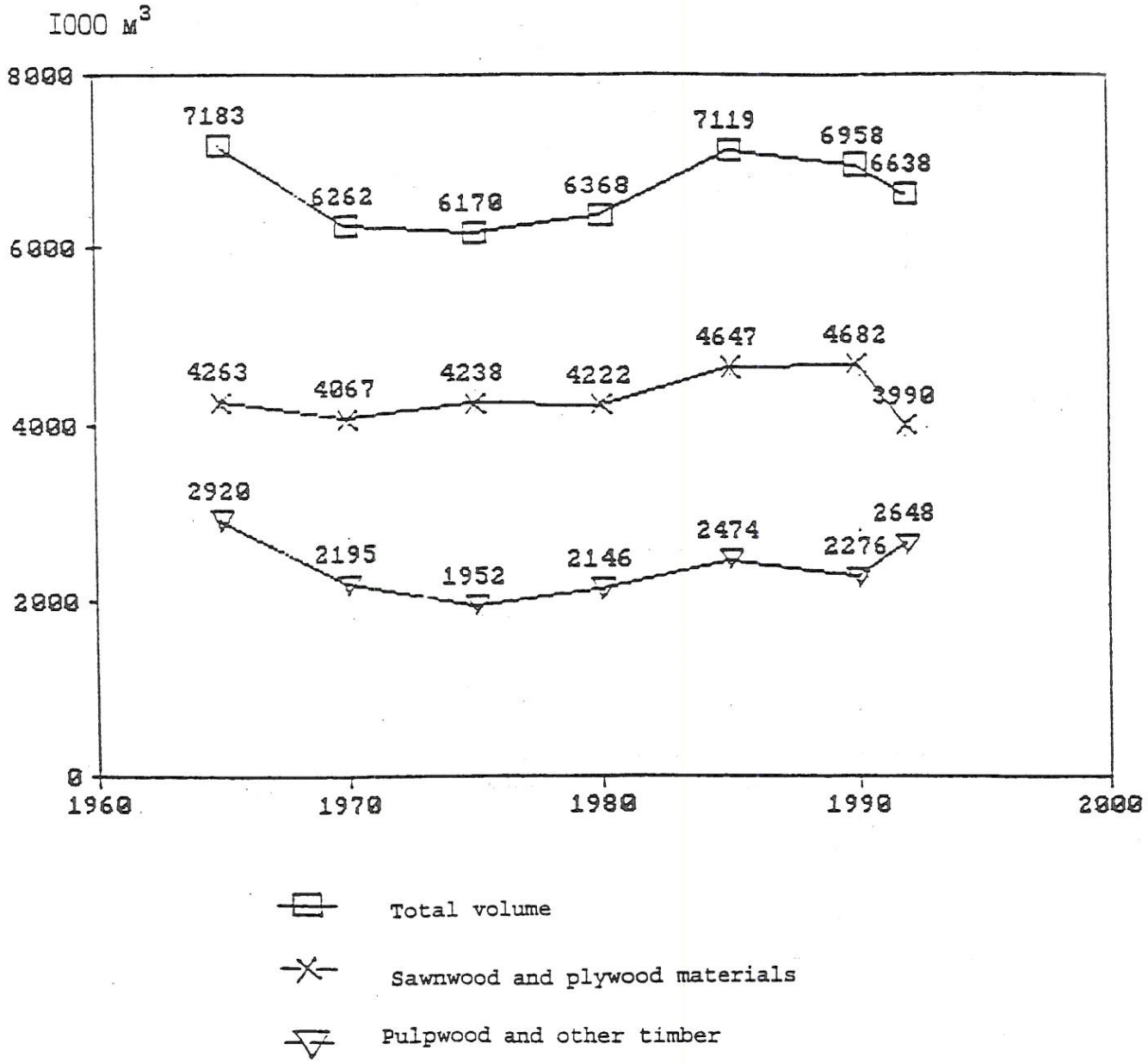


Figure 4. Consumption and production of sawnwood

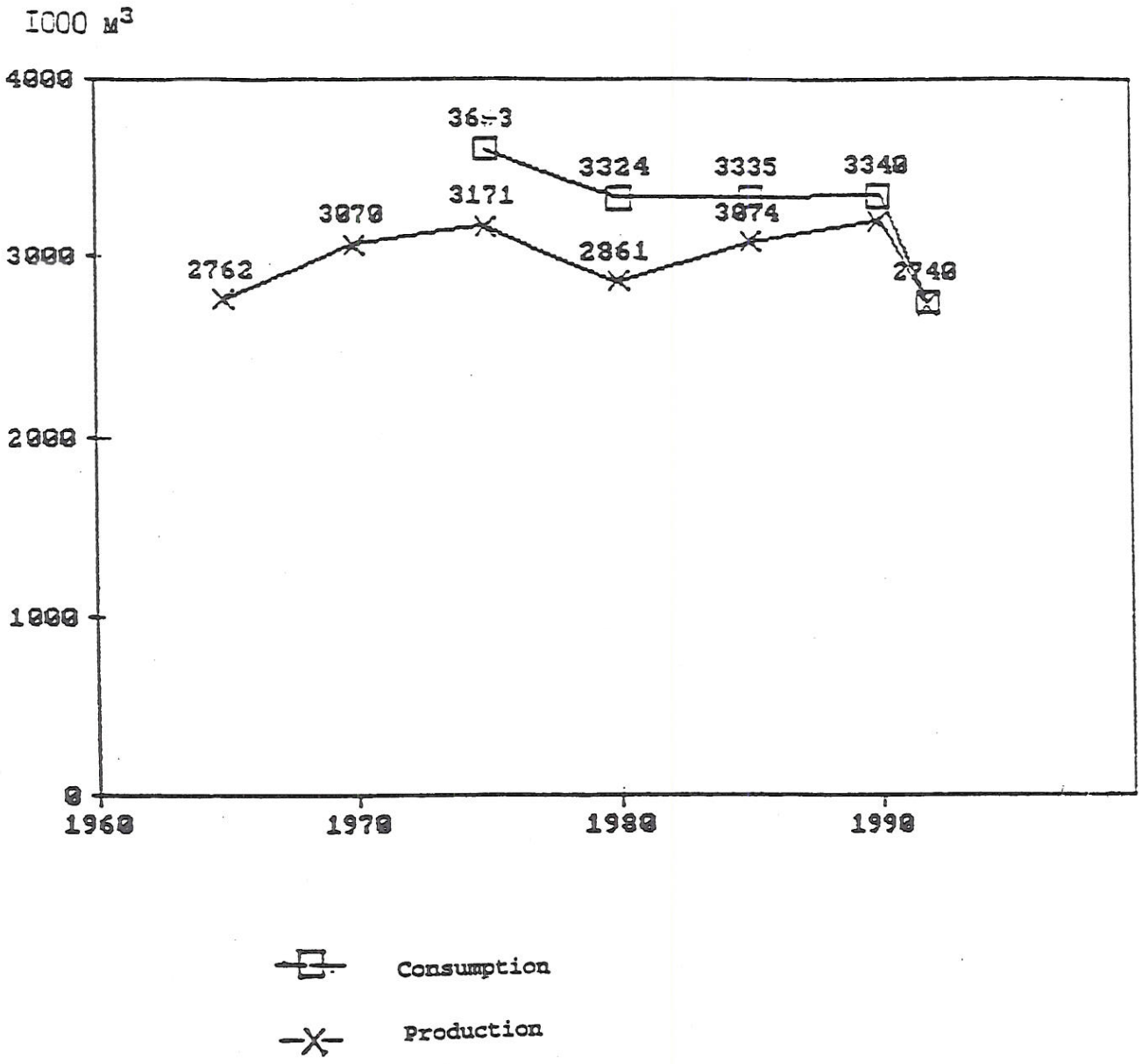
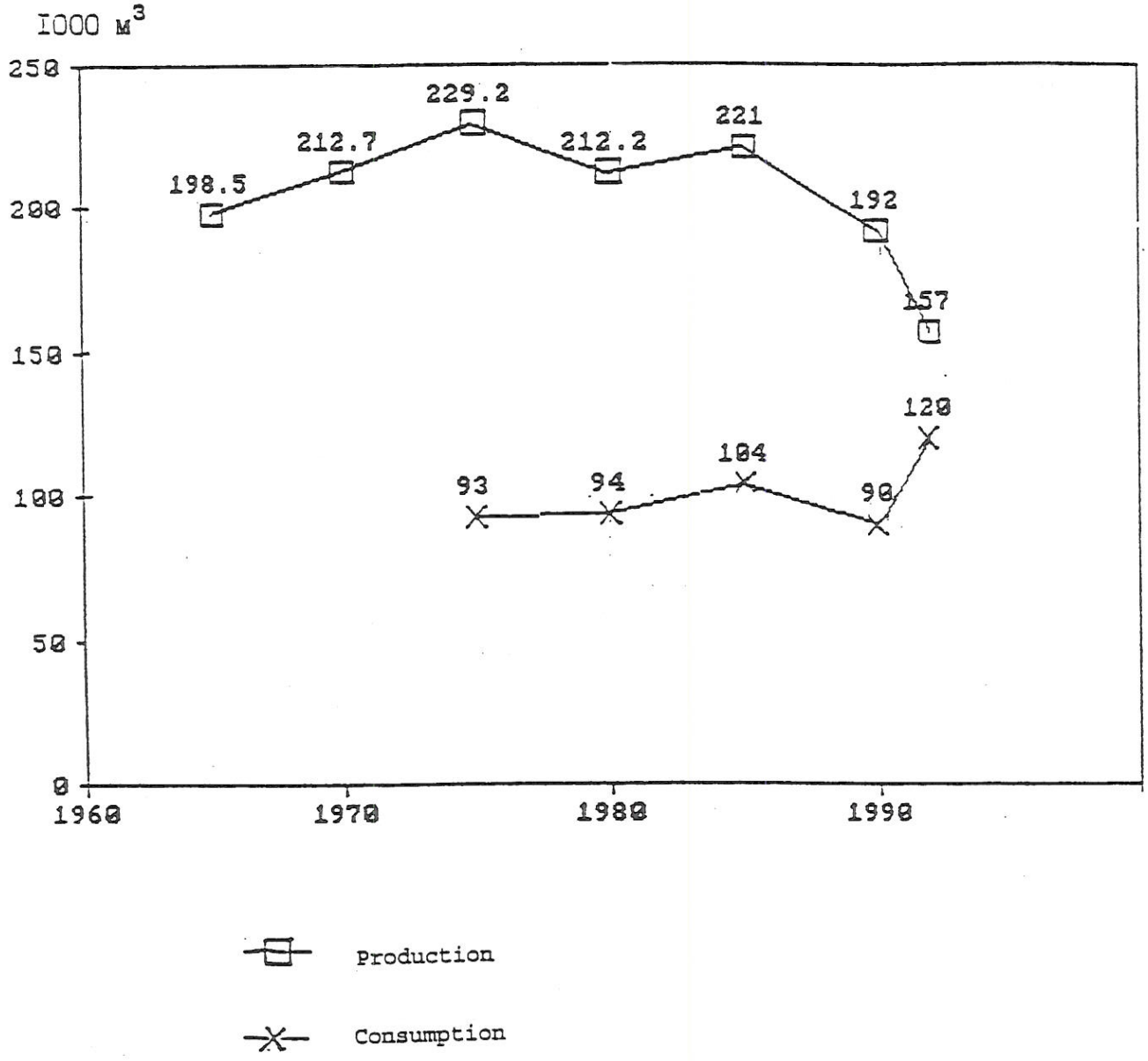


Figure 5. Production and consumption of plywood



IV. SUPPLEMENTARY INFORMATION ON FORESTRY AND THE FOREST INDUSTRY IN BELARUS

A. Government bodies dealing with the development of forestry and the forest industry

Ministry of Forestry of the Republic of Belarus, Minsk, Ul. Chkalova 6, tel. 24-47-02.

State Committee on Ecology of the Republic of Belarus, Minsk. Ul. Kollektornaya, 10, tel. 20-66-91.

Belarus State Production and Trade Combine for the Timber, Woodworking and Pulp Industries, Minsk, Ul. K. Marksa, 16, tel. 27-33-56.

B. Individual industry and trade organizations

"Bellesbum" Wholesaling and Brokerage Firm, Minsk, Ul. K. Marksa, 16, tel. 27-24-27.

"Lesimpex" Foreign Trade Undertaking, Minsk, Ul. Karl Marksa 16, tel. 27-35-18

Republican Autonomous Foreign Trade Combine "Belorusintorg". Minsk, Ul. Kollektornaya 10, tel. 20-82-59.

C. Universities and institutions of higher technical education

Belarus State Technological University, Minsk, Ul. Sverdlova 13 a, tel. 26-02-75.

Faculty for the retraining and further training of leading workers and specialists in forestry, Ministry of Forestry, Republic of Belarus. Gomel, Ul. Proletarskaya 71, tel. 53-08-45.

D. Scientific research and planning institutes

Forest Institute of the Academy of Sciences of Belarus, Gomel, Ul. Proletarskaya, 71, tel. 53-14-23.

Institute of Experimental Botany of the Academy of Sciences of Belarus, Minsk, Ul. F. Skoriny, 27, tel. 39-48-50.

Republican Planning and Practical Application Centre for the Organization of Labour and Production (Belorgproektles) Minsk, Ul. Chkalova 6, tel. 24-59-09.

Belarus State Forestry Management and Production Combine "Belgosles" Minsk, Ul. Zheleznodorozhnaya 27, tel. 26-31-15.

Belarus State Planning and Research Institute "Belgiproles" Minsk, Ul. V. Khoruzhey, 41, tel. 34-54-41.

Belarus Republican Forest Seed Centre, Minsk, p/o Shemyslitsa
Ul. Zhukovskogo 17, tel. 25-49-04

Republican Station for Forest Protection and Monitoring, Minsk Oblast, Novosele Village, tel. 92-62-23.

E. Periodicals

Being organized.

Some facts about the Timber Committee

The Timber Committee is a principal subsidiary body of the ECE (United Nations Economic Commission for Europe) based in Geneva. It constitutes a forum for cooperation and consultation between member countries on forestry, forest industry and forest product matters. All countries of Europe; the former USSR; United States of America, Canada and Israel are members of the ECE and participate in its work. The ECE Timber Committee shall, within the context of sustainable development:

Provide member countries with the information and services needed for policy and decision-making regarding their forest and forest industry sector ("the sector"), including trade in and use of forest products and, when appropriate, formulate recommendations addressed to member Governments and interested organizations. To this end, it shall:

1. With the active participation of member countries, undertake short-, medium- and long-term analyses of developments in, and having an impact on, the sector, including those offering possibilities for the facilitation of international trade and for enhancing the protection of the environment;

2. In support of these analyses, collect, store and disseminate statistics relating to the sector, and carry out activities to improve their quality and comparability;

3. Provide the framework for cooperation, e.g. by organizing seminars, workshops and ad hoc meetings and setting up time-limited ad hoc groups, for the exchange of economic, environmental and technical information between governments and other institutions of member countries that is needed for the development and implementation of policies leading to the sustainable development of the sector and to the protection of the environment in their respective countries;

4. Carry out tasks identified by the UN-ECE or the Timber Committee as being of priority, including the facilitation of subregional cooperation and activities in support of the economies in transition of central and eastern Europe and of the countries of the region that are developing from an economic point of view;

5. It should also keep under review its structure and priorities and cooperate with other international and intergovernmental organizations active in the sector, and in particular with the FAO (Food and Agriculture Organization) and its European Forestry Commission and with the ILO (International Labour Organisation), in order to ensure complementarity and to avoid duplication, thereby optimizing the use of resources.

More information about the Committee's work may be obtained from:

Timber Section
UN-ECE/FAO Agriculture and Timber Division
Palais des Nations
CH-1211 Geneva 10, Switzerland

Fax: 41 22 917 0041

Publications of the UN-ECE/FAO Timber Section in 1994

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1.	Forest Products Prices, 1989-1993	ECE/TIM/BULL/47/1
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