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THE FORESTS OF EUROPEAN AND ASIATIC RUSSIA

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Dept. of State

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Foreign Trade Advisor
Economic Intelligence Files

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THE FORMER OF EUROPEAN AND ASIAN RUSSIA

with a map, illustration, and economic importance

(with a map)

U.S. Bureau of Service

United States Department of Agriculture

September 17, 1918.

For your Trade Address
Bureau of Information

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THE FORESTS OF EUROPEAN AND ASIATIC RUSSIA
Their Extent, Utilization, and Economic Importance
(With a map)

The Extent of the Forests

The total forest area of European and Asiatic Russia is estimated to be in the neighborhood of 1,330,000,000 acres, exclusive of Finland. With Finland, the total forest area amounts to 1,357,000,000 acres. This area is distributed about as follows:

	<u>Acres</u>
European Russia	453,500,000
Caucasus	19,354,000
Asiatic Russia (including Turkistan)	<u>855,198,000</u>
Total	1,328,052,000

Not all of this land classed as forest is actually bearing forests. Much of it is swamp, lake, large burns, and other waste land. In European Russia 80 per cent of the total land classed as forest is actually productive forest land -- in Caucasus, 65 per cent and in Asiatic Russia, only 30 per cent. On this basis the actual forest bearing land in European and Asiatic Russia is in the neighborhood of 720,365,000 acres distributed as follows:

THE BOARD OF DIRECTORS OF THE
AMERICAN RED CROSS
1918-1919

THE BOARD OF DIRECTORS

THE BOARD OF DIRECTORS OF THE AMERICAN RED CROSS
was organized on June 1, 1918, and since that time
has been composed of the following members:

NAME	RESIDENCE
Mr. J. M. Smith	Washington, D. C.
Mr. J. M. Smith	Washington, D. C.
Mr. J. M. Smith	Washington, D. C.
Mr. J. M. Smith	Washington, D. C.
Mr. J. M. Smith	Washington, D. C.
Mr. J. M. Smith	Washington, D. C.

THE BOARD OF DIRECTORS OF THE AMERICAN RED CROSS
has the honor to acknowledge the receipt of the
check for \$100,000.00 from the American Red Cross
on June 1, 1918, and to express its appreciation
for the generous contribution. The Board of Directors
of the American Red Cross is composed of the following
members:

	<u>Acres</u>
European Russia	332,645,000
Caucasus	12,193,000
Asiatic Russia	333,527,000

By ownership the productive forests are distributed as follows:

Region	State	Private	Peasant	All other	Total
	Acres	Acres	Acres	Acres	Acres
European Russia	349,509,700	97,071,900	29,209,700	6,853,400	582,644,700
Caucasus	8,000,000	4,193,000	--	--	12,193,000
Asiatic Russia	349,781,000	--	--	83,746,000	583,527,000
(Including Turkestan)					
	509,290,700	101,264,900	29,209,700	90,599,400	730,364,700

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Russia's Export Trade

Russia for a long time has been engaged in timber export. The timber export has been growing at a much more rapid rate than the total export or the export of any one other product. Thus, for the period since 1860 to 1913, the value of Russia's entire export has increased 81 times, while the value of the timber export increased 126 times. The export of grain for this period increased only 44 times. The timber trade in Russia before the war stood next to the grain trade. Its growth has been particularly phenomenal during the last ten years. The comparative growth of Russia's entire export trade and of the export of forest products may be obtained from the following diagrams:

TOTAL EXPORT AND FOREST EXPORT

GROWTH OF TOTAL REVENUE AND FOREST REVENUE

EXPORT OF FOREST PRODUCTS FROM RUSSIA

EXPORT OF ROUND (RAW) TIMBER FROM RUSSIA

EXPORT OF MANUFACTURED FOREST PRODUCTS FROM RUSSIA

The extent of Russia's forest export may be judged from the fact that the average annual export for the five-year period between 1905 and 1907 amounted to 5,841,836 tons, valued at \$42,841,500. The average annual export for the period between 1908 and 1912 amounted to 7,404,138 tons, valued at \$57,087,500. The kinds of forest products and the countries to which they are exported are shown in the following tables:

[illegible]

Total Export

	Tons*	Value
1 Logs - oak	101,610	\$1,467.
2 Logs - pine	614,970	3,514.
3 Logs - spruce	328,221	2,286.
4 Logs - other species	279,756	2,382.
5 Poles	21,006	124.
6 Beams	270,720	3,407.
7 Boards and ties	3,742,200	45,938.
8 Mine timber	792,206	5,035.
9 Matchwood	11,726	239.
10 Wood pulp	1,627,804	9,892.
11 Cordwood of different species	123,094	484.
12 Walnut and palm wood	5,589	274.
13 Other woods not classified	42,354	1,477.
14 Staves	117,548	2,021.
Total	7,979,814	\$78,542.

*One ton equals 2,000 pounds

Kinds of Forest Products and Countries to Which They Are Exported
1913

	Total Export		Exported to Germany		Exported to Austria-Hungary		Exported to Belgium		Exported to Great Britain		Exported to Holland		Exported to France						
	Tons*	Value	Per cent of the total export	Value	Tons	Per cent of the total export	Value	Tons	Per cent of the total export	Value	Tons	Per cent of the total export	Value	Tons	Per cent of the total export	Value			
1 Logs - oak	101,610	\$1,467,000	83.556	\$1,247,000	10,476	10.3	\$111,500	270	0.3	\$3,500	2,592	2.6	\$41,000	4,590	4.5+	\$62,500	126	0.1	\$1,500
2 Logs - pine	614,970	3,514,500	594,254	3,374,500	8,010	1.3	25,000	540	0.1	5,500	4,788	.8	42,500	5,778	.9	53,000	1,620	.3	14,000
3 Logs - spruce	328,221	2,286,750	281,772	1,863,000	9	0.0	250	126	.0	1,000	2,502	.8	23,500	42,066	12.8	376,000	1,746	.5+	22,000
4 Logs - other species	279,756	2,382,000	137,628	977,500	15,408	5.5+	128,000	2,196	.8	23,500	8,046	2.9	67,000	115,938	41.4	1,179,500	540	.2	6,500
5 Poles	21,006	124,000	2,358	15,500	180	.9	500	1,926	9.2	18,000	8,118	38.6	30,000	7,344	35.0	47,500	1,080	5.1	9,500
6 Beams	270,720	3,407,000	116,712	1,340,500	3,438	1.3	40,500	16,524	6.1	144,000	59,760	22.1	1,183,500	72,846	26.9	668,500	1,460	.6+	30,000
7 Boards and ties	3,742,200	45,938,500	621,576	6,531,000	48,060	6.0	730,500	224,352	6.0	2,812,500	2,062,566	55.1	25,900,000	516,924	13.8	6,364,500	268,722	7.2	3,600,000
8 Mine timber	792,306	5,035,000	38,592	290,000	234	1.3	2,000	58,716	7.4	443,500	618,364	65.4	2,084,500	99,000	12.5-	6,264,500	77,400	9.8	599,000
9 Matchwood	11,736	219,000	1,404	24,500	84,060	12.0	64,500		9.2	20,000	3,636	31.0	55,000	792	6.7	13,500	4,824	41.1	95,000
10 Wood pulp	1,527,804	9,892,500	752,886	4,369,500	3,474	49.3	4,369,500	1,080	9.2	20,000	161,910	10.6	972,500	480,960	31.5-	3,475,000	30,798	2.0	256,000
11 Cordwood of different species	123,894	484,000	46,530	186,500	3,474	37.6	186,500	250	2.8	10,500	3,114	2.5+	18,500	64,926	52.4	243,000	4,842	3.9	22,000
12 Walnut and palm wood	5,589	294,250	360	22,000	9	6.5	22,000		2.1	10,000	1,350	3.2	57,000	27,468	64.9	953,500	1,494	3.5+	1,008
13 Other woods not classified	42,354	1,477,500	6,876	225,500	918	16.2	225,500	1,350	3.2	57,000	27,468	64.9	953,500	1,494	3.5+	22,000	1,008	.8	3,500
14 Staves	117,648	2,021,000	36,882	650,000	11,754	31.4	650,000	1,350	3.2	57,000	27,468	28.1	631,000	5,094	4.3	18,500	756	13.5+	43,000
Total	7,979,814	\$78,542,000	2,721,366	\$21,117,000	186,030	2.3	\$1,924,000	331,038	4.2	\$2,751,000	2,961,828	37.1	\$33,451,500	1,358,028	17.0	\$13,019,000	421,524	5.3	\$5,275,500

*One ton equals 2,000 pounds

*One ton equals 2,000 pounds

KINDS OF FOREST PRODUCTS IMPORTED

1913

	Amount Tons	Per cent of total	Value	Per cent
1. Logs - oak	102,410	1.3	\$1,467,000	1.3
2. Logs - pine	614,970	7.7	8,814,800	4.5-
3. Logs - spruce	229,221	4.1	2,226,750	2.3
4. Logs - other species	279,756	3.5+	2,392,000	3.0
5. Poles	23,006	.3	124,000	.1
6. Beams	270,720	3.4	3,407,000	4.3
7. Boards and ties	3,742,800	46.9	45,953,500	58.5-
8. Mine timber	772,306	9.9	5,053,000	6.4
9. Matchwood	12,736	.1	219,000	.3
10. Pulpwood.	1,527,804	19.1	9,893,500	12.6
11. Cordwood of different species	153,894	1.9	484,000	.6
12. Walnut and palmwood	5,509	.1	294,250	.4
13. Other woods not classified	43,334	.5+	1,477,500	1.9
14. Staves	117,646	1.5-	2,021,000	2.6
Total	7,979,814	100.0	78,542,000	100.0

More than half of the entire Russian timber exported, by quantity, consists of raw or half manufactured products. What it means for Russia's timber industry may be judged from the fact that the average value of one ton of logs is \$7.30, while the average value of one ton of manufactured is \$12.30. Even such general figures show how unprofitable the export of raw material or semi-manufactured products is from a national economic standpoint. The export of the entire timber products in a manufactured form would increase its value at least by 35 or 40 per cent and this additional value would have remained in the country in the form of wages to the Russian worker.

Boards in the Russian export trade play the most important part, amounting to 47 per cent of the entire export in quantity and 80 per cent in value. Most of the boards (55 per cent) are shipped to Great Britain, which is the chief consumer of Russia's own timber. The shipment of boards has been increasing to Holland, France, and Belgium, although Germany has also been increasing the import of Russian boards, but largely in the form of ties, which are classed with boards.

Logs play a very important part in the export trade of Russia. They form about 22 per cent of the entire timber export by quantity and 14 per cent in value. The logs go almost entirely to Germany; thus of all the pine logs exported from Russia, nearly 97 per cent were shipped to Germany, of spruce logs, 85; of oak logs, 82; and of logs of all other

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species, 50 per cent. Lately there has been a growing demand for Russian oak logs from Holland, Great Britain, and Austria-Hungary.

Mine props and mine timbers in general form a very important item in Russia's export trade. Thus in 1913 the mine timber amounted to 792,306 tons, valued at \$5,053,000. The bulk of this material goes to Great Britain (65 per cent), France, Holland and Belgium.

Match-wood and pulp wood are being exported in increasing quantities, chiefly into Germany, Austria-Hungary, Holland, Sweden, and lately into Norway, that is, to those countries which are engaged in the export trade in pulp, paper and matches. Of all the pulp wood exported, nearly 50 per cent went to Germany. For the period between 1899 to 1913 the export of wood pulp increased in value from \$317,000 to \$10,900,000. The increase became particularly noticeable in 1906. The figures for wood pulp do not tell the exact amount of pulp wood exported since part of it is exported in the form of cordwood, particularly spruce cordwood.

The export of cordwood from Russia is very large; thus for 1913 spruce cordwood amounted to 43,652 tons, valued at \$131,300. Pine cordwood was exported to the amount of 14,922 tons, valued at \$64,500, and of all other kinds, 35,340 tons, valued at \$228,000, or a total of 123,094 tons, valued at \$424,000. The spruce cordwood is shipped principally to Germany. The pine cordwood is distributed more or less uniformly among several countries.

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1. The first step in the process of the investigation is the identification of the problem. This is done by the investigator who is assigned to the case. The investigator must first identify the problem and then determine the scope of the investigation. This is done by the investigator who is assigned to the case. The investigator must first identify the problem and then determine the scope of the investigation. This is done by the investigator who is assigned to the case.

All others are sent chiefly to Great Britain.

Staves are also an important item of Russia's export trade, having been exported in 1915 to the amount of 117,648 tons, valued at \$2,021,000. Staves are exported chiefly to Great Britain, Germany, France, Austria-Hungary, Belgium and Holland.

The Russian export trade is carried on through the Baltic ports, the Russian-Prussian frontier, White Sea ports, Russian-Austrian frontier, Black Sea ports, Assy ports, and Russian-Rumanian frontier. The distribution of the exports through the different ports, as shown by the available figures for 1911, is as follows:

<u>Ports and Frontiers</u>	<u>Amount of Exports for each of the</u>	
	<u>Year</u>	<u>1911 Export</u>
Baltic ports	3,354,479	53.1
Russian-Prussian frontier	2,633,445	27.5
White Sea ports	1,193,713	16.0
Russian-Austrian frontier	199,918	2.6
Black Sea ports	123,568	1.7
Assy ports	516	0.1
Russian-Rumanian frontier	<u>24</u>	<u>--</u>
Total	7,410,658	100.0

It is clear that almost the entire export timber trade before the war was carried on through the Baltic and White Sea ports or by land through the Russian-Prussian frontier.

A more detailed analysis of the export trade through the different ports is presented in the following set of tables:

Baltic Ports

Name of Port	Raw Material		Manufactured	
	Tons	Per cent	Material Tons	Per cent
Riga	296,116	17.6	1,596,620	82.4
Petrograd and Kronstadt	637,322	43.6	723,228	51.5
Vindau	125,078	54.9	100,826	45.1
Libau	83,362	42.5	120,708	57.7
Other ports of Baltic Sea	119,500	70.6	62,064	29.4
Total 1,465,388		36.4	2,458,116	63.6

An interesting feature of the export^{trade} through the Baltic ports is that, on a whole, the amount of manufactured products exceeds the amount of raw material. This is particularly true of the port of Riga.

[illegible]

White Sea Ports

Name of Port	Raw Material		Manufactured Material	
	Tons	Per cent	Tons	Per cent
Archangel	251,494	30.6	558,876	71.4
Onega	45,908	42.3	48,792	37.7
Neszen	2,359	4.7	46,312	35.3
Western ports of the White Sea	5,033	2.7	177,876	27.3
Total	304,803	33.3	873,856	74.2

The White Sea ports on a whole show an excess of export of manufactured products over raw material. Most of the product that comes through the White Sea ports goes to England in the form of sawed lumber.

Black Sea Ports

Name of Port	Raw Material		Manufactured Material	
	Tons	Per cent	Tons	Per cent
Odessa	9,692	6.8	110,322	93.2
Other ports of the Black Sea	2,892	50.2	2,574	43.3
Total	12,584	6.6	112,896	91.4

Similarly, the ports of the Black Sea show an excess of export of manufactured products over raw materials. Most of the material is shipped to the Near East and Mediterranean countries.

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1. The first step in the process of identifying a problem is to define the problem. This involves identifying the symptoms of the problem and determining the scope of the problem. Once the problem has been defined, the next step is to identify the causes of the problem. This involves identifying the factors that are contributing to the problem and determining the underlying causes. Once the causes have been identified, the next step is to develop a plan of action. This involves identifying the steps that need to be taken to solve the problem and determining the resources that will be needed to implement the plan. Once a plan of action has been developed, the next step is to implement the plan. This involves carrying out the steps that have been identified in the plan and monitoring the progress of the implementation. Finally, the last step in the process is to evaluate the results of the implementation. This involves determining whether the problem has been solved and whether the resources have been used effectively.

Actual 1971		Actual 1970		Ratio of 1971 to 1970
Actual	Ratio	Actual	Ratio	
1,000	100.0	1,000	100.0	
1,000	100.0	1,000	100.0	
1,000	100.0	1,000	100.0	

THE UNIVERSITY OF CHICAGO

Russian-German Frontier

Raw Material

Manufactured Material

Tons

Per cent

Tons

Per cent

1,555,532

75.8

451,982

21.2

This is the most important channel through which the export trade between Russia and Germany takes place. Nearly 80 per cent of the entire wood export to Germany goes through this frontier and 75.8 per cent of all the product thus exported to Germany is in the form of raw material, and only 21.2 per cent manufactured or semi-manufactured. Nothing illustrates the economic policy of Germany toward the timber resources of Russia better than these figures. The amount of raw timber exported from Russia is on the increase. For the period between 1900 and 1915 the export of logs has doubled while the export of the manufactured product for the same period has decreased both in quantity and value. The chief aim of Germany is to get from Russia as much as possible of the raw product for the development of its own lumber industry. In this Germany is favored by river transportation. She built her sawmills and wood pulp mills at the mouth of the rivers, whose headwaters are in Russia and which are either drivable or navigable for their entire length. Because of this cheap water transport, Russian timbermen find it often more advantageous to float the timber to Germany than to ship it to mills and factories in Russia itself.

Financial Statement

For the year ended
December 31, 1924

and balance sheet

Assets	Liabilities and Capital
Current Assets	Current Liabilities
Fixed Assets	Capital
Total Assets	Total Liabilities and Capital

This is the first financial statement of the company since its organization in 1914. It shows the results of the operations of the company during the year ended December 31, 1924, and the financial position of the company at that date. The statement is prepared in accordance with the provisions of the Act of March 3, 1907, and the regulations of the Federal Reserve Board. The statement is divided into two parts: the first part shows the results of the operations of the company during the year, and the second part shows the financial position of the company at the end of the year. The first part is divided into three sections: the first section shows the income statement, the second section shows the statement of retained earnings, and the third section shows the statement of assets and liabilities. The second part is divided into two sections: the first section shows the balance sheet, and the second section shows the statement of changes in capital.

Nearly seven-eighths of all the logs exported from Russia are sent to Germany. A large number of logs which are sent by Russia to Holland also find their way into Germany through the Rhine. Russia is a good a large number of Germany's sawmills and the price of these logs is controlled chiefly by the demand of the German lumber industry. The demand far less in Russia itself affects the price but little since the Russian sawmills utilize second grade logs while the choice logs are shipped to the German mills. Among the species which are most exported to Germany, the pine still occupies the first place, and next to it are logs of other species such as spruce and oak. About 80 per cent of all the wood exported for the manufacture of pulp, paper and matches goes to Germany; over 33 per cent of all the cordwood exported from Russia goes to Germany. The German economic policy toward the Russian timber supplies is well shown in the timber tariff adopted in 1904, just after the conclusion of the Russo-Japanese war:

Export duty per
metric ton
(2,000 kg.)

Pulpwood	Free
Round timber (logs)	\$.88
Oak staves	.46
Round timber	.85
Sawn lumber	1.66

Russian-Austrian Frontier

Raw Material		Manufactured Material	
Tons	Per cent	Tons	Per cent
157,592	68.6	62,334	31.3

The character of export through the Russian-Austrian frontier is similar to the trade between Russia and Germany, namely, that the amount of raw material (68.6 per cent) is much larger than the amount of manufactured products exported from Russia (31.3 per cent). Since, however, Austria possesses large timber resources of its own and is a large timber exporter, the timber trade between the two countries is not large and the tariff agreement does not affect materially the development of the lumber industry in Russia.

The Russian export trade was nourished chiefly by the forests of European Russia and particularly by those in the provinces close to the frontier, namely, Silesia and North Baltic regions, Russian Poland, and the region of the Rivers Dnieper and Dniester. These are the regions in which private forests predominate and in the past have been severely over-cut. As a result of the war, 16,000,000 acres in this territory have been reported devastated. If this is true the sources of future export trade will naturally be transferred to the forests gravitating toward the White Sea. The Ports of Archangel and Alexandrovsk are therefore destined to assume a greater commercial importance than before.

The forests of the Caucasus region furnish timber products to the markets of the near east and the Mediterranean Sea. Their exploitation, however, especially of the forests along the Black Sea coast, demands the expenditure of a great deal of capital for the construction of railroads to make the mountainous forests accessible.

The utilization of the forests of Asiatic Russia has also hardly begun. Only recently the forests of the Governments of Tobolsk and Tomsk, which are within proximity of railroads, have begun to be exploited and the product shipped through Petrograd or Archangel to western Europe. The product, however, which can justify its transportation abroad must be of the highest grade since it alone can stand the expensive freight.

The forests of Turkestan are hardly touched yet because of lack of water and railroad transportation. The only product so far exported from Turkestan on a large scale is the black walnut burrs. This material, which yields a very finely grained veneer, successfully withstands distant transportation but recently, because of reduced demand for this type of veneer, the trade in it has become less profitable.

The vast forest region of the Government of Tobolsk and the provinces of Trans-Baikal and Sakhalin, because of lack of convenient transportation, will for a long time yet remain inaccessible for export trade.

The object of the present work is to

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Only the forests of the Far East are favorably situated for foreign export because of the facilities for transportation offered by the River Amur and other rivers flowing into the Pacific Ocean. There is already a fairly extensive local timber industry which exports timber from several ports on the coast of the Pacific Ocean. Thus, in 1910 there was exported from Vladivostok 7,200 tons of forest products and in 1911 this export was increased to 17,100 tons. This timber is generally exported to Japan and China but the higher grades went to western Europe, particularly Great Britain. In addition, there has been exported to Australia from the Bay of Terney about 110,000 cubic feet of spruce and "cedar" (*Pinus oembra*) timber into Australia and from the Bay of St. Olga 374,000 cubic feet of mine props. In 1911 there was begun an export trade (about 100,000 cubic feet) from the Port of Posiet. The export trade started from it in 1906 when there appeared several large lumbermen who organized the manufacture and shipment of timber into Australia and China. China undoubtedly offers a very large market for Russian timber. According to the Russian authorities, China imported in 1911 about \$8,000,000 worth of timber products, this import coming from Japan and the United States. The Chinese market is not very exacting since its chief requirement is cheapness. The Chinese market, therefore, could be satisfied with second-grade material made up from defective timber or even tops, which would be of considerable advantage in the proper management of the Russian forests since they, like

these in our own country, suffer chiefly from lack of markets for the second grade.

There were before the war, in the provinces of Anur and Fribour and on the Island of Seghalien, about 40 private sawmills and 3 government sawmills, which worked chiefly for local markets.

THE JOURNAL OF THE
ROYAL ANTHROPOLOGICAL INSTITUTE

The Lumber Industry

Number of Plants and Workmen Employed

The lumber industry of Russia has developed rapidly within the last two decades. The latest figures available are for 1911 when the number of sawmills and other wood-using plants operated by power was 2,166, employing 111,703 workmen. The growth of the industry may be judged from the fact that for the period between 1900 and 1911 the number of sawmills and veneer factories increased 82 per cent and the number of workmen in them 87 per cent. The average number of workmen employed in a sawmill is about 45, although there are sawmills which employ from 500 to 1,000 men.

"Home Wood-Using Industries"

Besides the workmen employed in the sawmills and wood-using plants, and subject to inspection by factory inspectors, there is a great number of small industries carried on in the homes of the peasants. According to the best estimates available, there are not less than 377,000 people engaged in the "home" wood-using industries. Among the different occupations these workmen are distributed something as follows:

THE UNITED STATES

REPORT OF THE SECRETARY OF THE ARMY

The report of the Secretary of the Army for the year 1900 is a valuable contribution to the knowledge of the military forces of the United States. It contains a detailed account of the operations of the Army during the year, and a summary of the results of the various campaigns. The report is divided into two parts, the first of which contains a general statement of the condition of the Army at the beginning of the year, and the second of which contains a detailed account of the operations of the Army during the year. The report is written in a clear and concise style, and is well illustrated with maps and diagrams. It is a valuable work for all those interested in the military forces of the United States.

THE UNITED STATES

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	In the "home industry"	In factories
In the manufacture of larch and birch bark	114,834	
In the production of cooperage	86,256	4,135
In basket making	55,888	
In wagon making	72,023	
In cabinet work	50,580	18,344
In wood carving	10,000	1,758

Thus, only in the case of cabinet work, which includes the manufacture of doors, window frames, and furniture, does the factory production show any considerable number of men employed. Most of the other wood-using industries, particularly the making of wooden ware and manufactures from larch and birch bark, are in the hands of the peasants working at home. This is largely due to the cheaper prices for raw material which are found in the vicinity of the villages and to the cheap water transportation. In spite of the rapid industrial development of Russia, these small home wood-using industries will, for a long time, remain a feature of Russia's lumber industry and compete with the large wood-using plants.

Sawmills

The sawmills which work chiefly for export trade are, as a rule, steam operated, well built, and provided with up-to-date machinery. This is mostly of the saw or gang saw type with one or several frames. The sawmills are

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provided with various circular saws for edging, cleaving, and cutting. The machinery is largely supplied by Solindors, Stockholm, or Jansen and Dahl, Christiania. There is electric light at almost all of the mills, as well as mechanical workshops for repairs. Many of the mills, particularly in the northern region, are owned by Swedes. Side by side, however, with the up-to-date steam sawmills there are throughout Russia most primitive sawmills, even whipsawing is quite common. The total power employed in the sawmill and wood-using industries of Russia is not less than 100,000 horsepower. While Russia's woodmen are skilful and experienced workers, there is no large class of sawmill workmen in Russia. This is a point that should be considered in any organization of the Russian lumber industry.

Domestic Consumption

The total annual cut from all forests of European Russia is in the neighborhood of 7,000,000,000 cubic feet (about 84 billion board feet or 140,000,000 tons of wood). If from this amount is deducted the annual export amounting to 400,000,000 cubic feet (about 8,000,000 tons) the remainder is a home consumption of 6,600,000,000 cubic feet. This, with a population of 112,000,000, gives a per capita consumption of 60 cubic feet. Russia's annual consumption of wood is enormous and it plays a more vital part in her industrial life than even in this country.

It is used to a large extent as fuel for railroad locomotives, it is the chief fuel for the metallurgical industry of the Ural Mountains and other districts; it is the only fuel for domestic purposes of the largest part of Russia, being used even in such large cities as Moscow and Petrograd; and it is the source of fuel for numerous local wood-using industries. The extent of the use of wood in railroads and metallurgical industries, as well as its comparative price with other fuel (reduced to the same caloric unit), may be gathered from the accompanying diagram, borrowed from Russian sources.

Actual Cut and Productive Capacity of Forests

A comparison of the annual growth and annual cut per acre in the Russian forests shows that at present only a fraction of the annual growth is actually used. The reason is that the bulk of the forests is located in regions but poorly developed and with no means of transportation. According to the statement of the Russian administration, only a small part of the annual growth can now be used on account of lack of market. The condition in 1913 was as follows:

1. In the state forests of European Russia (over a forest area of 249,509,706 acres) the annual growth was 9.0 cubic feet per acre, of which only 61 per cent, or 5.5 cubic feet per acre could be actually marketed and used.

2. In the state forests of the Caucasus, with 8,000,000 acres of forest, out of a possible yield of 30.5 cubic feet per

[illegible][illegible][illegible]

Милліоны
пудовъ.

CONSUMPTION OF ALL KINDS OF FUEL BY RAILWAYS.

Милліоны
пудовъ.

Потребление вѣхъ видовъ топлива железными дорогами

(въ перекладѣ на донецкій каменный уголь по теплопроизводительности)

за 1900—1912 г.г.

CONSUMPTION OF FUEL IN RUSSIA BY METALLURGICAL INDUSTRIES

COMPARATIVE PRICES OF DIFFERENT KINDS OF FUEL

Копейки.

Копейки.

1900 - 1913

Среднія цѣны различныхъ видовъ топлива за 1900—1913 г.г.

DONETZ COAL Донецкій каменн. уголь.
DOMBROVSKY COAL Домбровский кам. уголь.
SIBERIAN COAL Сибирскій каменн. уголь.

ENGLISH COAL Англійскій камен. уголь.
PETROLEUM Нефть.
WOOD Дрова.

were, only 19 per cent, or 2.9 cubic feet per acre, was actually used.

3. In the State forests of Siberia, with an area of 349,761,000 acres, out of a possible yield of 4.4 cubic feet per acre only 47 per cent, or .4 cubic feet, was actually cut and used.

How far the actual utilization of the Russian state forests fall below their possible cut is well illustrated by the following figures of the amount of timber designated to be cut and actually cut in the year 1913:

<u>State Forests</u> 1913	Amount of timber designated to be cut. Cubic feet.	Amount of timber actually cut Cu. ft.	Per cent
European Russia	2,253,361,000	1,377,596,500	61.2
Caucasus	164,370,500	38,942,700	19.5
Asiatic Russia	<u>1,112,496,400</u>	<u>+ 90,456,500</u>	<u>8.3</u>
Total	3,530,228,900	1,506,974,900	42.7

Here wood is used from other forests than from those owned by the State, but these amount to only about one-third of the total forest area. In all forests not under control of the Government the cutting was heavier than in those owned by the State. In the following table are given the cut per acre and the total cut in the different kinds of forest:

... ..

1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 26

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Now for the actual definition of the function $f(x)$. For each x in the domain of f , $f(x)$ is defined to be the value of y such that (x, y) is in the set S . In other words, $f(x)$ is the unique y such that $(x, y) \in S$. The function f is then defined to be the set of all ordered pairs $(x, f(x))$ such that x is in the domain of f . In other words, f is the set of all ordered pairs (x, y) such that $(x, y) \in S$ and $y = f(x)$. This is the definition of a function.

Line	Account	Amount	Balance
1.00	100,000,000.00	100,000,000.00	
2.00	200,000,000.00	200,000,000.00	
3.00	300,000,000.00	300,000,000.00	
4.00	400,000,000.00	400,000,000.00	
5.00	500,000,000.00	500,000,000.00	
6.00	600,000,000.00	600,000,000.00	
7.00	700,000,000.00	700,000,000.00	
8.00	800,000,000.00	800,000,000.00	
9.00	900,000,000.00	900,000,000.00	
10.00	1,000,000,000.00	1,000,000,000.00	
11.00	1,100,000,000.00	1,100,000,000.00	
12.00	1,200,000,000.00	1,200,000,000.00	
13.00	1,300,000,000.00	1,300,000,000.00	
14.00	1,400,000,000.00	1,400,000,000.00	
15.00	1,500,000,000.00	1,500,000,000.00	
16.00	1,600,000,000.00	1,600,000,000.00	
17.00	1,700,000,000.00	1,700,000,000.00	
18.00	1,800,000,000.00	1,800,000,000.00	
19.00	1,900,000,000.00	1,900,000,000.00	
20.00	2,000,000,000.00	2,000,000,000.00	
21.00	2,100,000,000.00	2,100,000,000.00	
22.00	2,200,000,000.00	2,200,000,000.00	
23.00	2,300,000,000.00	2,300,000,000.00	
24.00	2,400,000,000.00	2,400,000,000.00	
25.00	2,500,000,000.00	2,500,000,000.00	
26.00	2,600,000,000.00	2,600,000,000.00	
27.00	2,700,000,000.00	2,700,000,000.00	
28.00	2,800,000,000.00	2,800,000,000.00	
29.00	2,900,000,000.00	2,900,000,000.00	
30.00	3,000,000,000.00	3,000,000,000.00	
31.00	3,100,000,000.00	3,100,000,000.00	
32.00	3,200,000,000.00	3,200,000,000.00	
33.00	3,300,000,000.00	3,300,000,000.00	
34.00	3,400,000,000.00	3,400,000,000.00	
35.00	3,500,000,000.00	3,500,000,000.00	
36.00	3,600,000,000.00	3,600,000,000.00	
37.00	3,700,000,000.00	3,700,000,000.00	
38.00	3,800,000,000.00	3,800,000,000.00	
39.00	3,900,000,000.00	3,900,000,000.00	
40.00	4,000,000,000.00	4,000,000,000.00	
41.00	4,100,000,000.00	4,100,000,000.00	
42.00	4,200,000,000.00	4,200,000,000.00	
43.00	4,300,000,000.00	4,300,000,000.00	
44.00	4,400,000,000.00	4,400,000,000.00	
45.00	4,500,000,000.00	4,500,000,000.00	
46.00	4,600,000,000.00	4,600,000,000.00	
47.00	4,700,000,000.00	4,700,000,000.00	
48.00	4,800,000,000.00	4,800,000,000.00	
49.00	4,900,000,000.00	4,900,000,000.00	
50.00	5,000,000,000.00	5,000,000,000.00	
51.00	5,100,000,000.00	5,100,000,000.00	
52.00	5,200,000,000.00	5,200,000,000.00	
53.00	5,300,000,000.00	5,300,000,000.00	
54.00	5,400,000,000.00	5,400,000,000.00	
55.00	5,500,000,000.00	5,500,000,000.00	
56.00	5,600,000,000.00	5,600,000,000.00	
57.00	5,700,000,000.00	5,700,000,000.00	
58.00	5,800,000,000.00	5,800,000,000.00	
59.00	5,900,000,000.00	5,900,000,000.00	
60.00	6,000,000,000.00	6,000,000,000.00	
61.00	6,100,000,000.00	6,100,000,000.00	
62.00	6,200,000,000.00	6,200,000,000.00	
63.00	6,300,000,000.00	6,300,000,000.00	
64.00	6,400,000,000.00	6,400,000,000.00	
65.00	6,500,000,000.00	6,500,000,000.00	
66.00	6,600,000,000.00	6,600,000,000.00	
67.00	6,700,000,000.00	6,700,000,000.00	
68.00	6,800,000,000.00	6,800,000,000.00	
69.00	6,900,000,000.00	6,900,000,000.00	
70.00	7,000,000,000.00	7,000,000,000.00	
71.00	7,100,000,000.00	7,100,000,000.00	
72.00	7,200,000,000.00	7,200,000,000.00	
73.00	7,300,000,000.00	7,300,000,000.00	
74.00	7,400,000,000.00	7,400,000,000.00	
75.00	7,500,000,000.00	7,500,000,000.00	
76.00	7,600,000,000.00	7,600,000,000.00	
77.00	7,700,000,000.00	7,700,000,000.00	
78.00	7,800,000,000.00	7,800,000,000.00	
79.00	7,900,000,000.00	7,900,000,000.00	
80.00	8,000,000,000.00	8,000,000,000.00	
81.00	8,100,000,000.00	8,100,000,000.00	
82.00	8,200,000,000.00	8,200,000,000.00	
83.00	8,300,000,000.00	8,300,000,000.00	
84.00	8,400,000,000.00	8,400,000,000.00	
85.00	8,500,000,000.00	8,500,000,000.00	
86.00	8,600,000,000.00	8,600,000,000.00	
87.00	8,700,000,000.00	8,700,000,000.00	
88.00	8,800,000,000.00	8,800,000,000.00	
89.00	8,900,000,000.00	8,900,000,000.00	
90.00	9,000,000,000.00	9,000,000,000.00	
91.00	9,100,000,000.00	9,100,000,000.00	
92.00	9,200,000,000.00	9,200,000,000.00	
93.00	9,300,000,000.00	9,300,000,000.00	
94.00	9,400,000,000.00	9,400,000,000.00	
95.00	9,500,000,000.00	9,500,000,000.00	
96.00	9,600,000,000.00	9,600,000,000.00	
97.00	9,700,000,000.00	9,700,000,000.00	
98.00	9,800,000,000.00	9,800,000,000.00	
99.00	9,900,000,000.00	9,900,000,000.00	
100.00	10,000,000,000.00	10,000,000,000.00	

...the following table was given the day after the ...

Annual cut in cubic feet per acre and total cut
classified by ownership of forest

	Cut per acre	Total cut
State forest	5.15	1,506,975,000
Crown forest	10.75	201,267,000
Communal forest	11.15	90,869,000
Peasant forest	18.39	910,405,000
Private forest	37.04	<u>4,554,990,000</u>
		7,272,506,000

Thus the annual cut in European Russia is about 7,000,000,000 cubic feet for the productive forest land (332,645,000 acres), or 19 cubic feet per acre. On the other hand, the total annual growth for the same area is estimated at 12,711,000,000 cubic feet, or about 22 cubic feet per acre. In other words, the cutting in these forests is a little more than one-half of what is produced each year.

In the forests of Asiatic Russia the exploitation is practically nil, hardly amounting to .4 cubic feet per acre.

Assuming that one-half of the annual growth (12,711,000,000 cubic feet) is saw-log timber, there is produced annually 6,355,500,000 cubic feet of such material.

How long has your firm been in the U.S. market?

Year	Value	Value
1990	1.1	1.1
1991	1.2	1.2
1992	1.3	1.3
1993	1.4	1.4
1994	1.5	1.5
1995	1.6	1.6
1996	1.7	1.7
1997	1.8	1.8
1998	1.9	1.9
1999	2.0	2.0
2000	2.1	2.1
2001	2.2	2.2
2002	2.3	2.3
2003	2.4	2.4
2004	2.5	2.5
2005	2.6	2.6
2006	2.7	2.7
2007	2.8	2.8
2008	2.9	2.9
2009	3.0	3.0
2010	3.1	3.1
2011	3.2	3.2
2012	3.3	3.3
2013	3.4	3.4
2014	3.5	3.5
2015	3.6	3.6
2016	3.7	3.7
2017	3.8	3.8
2018	3.9	3.9
2019	4.0	4.0
2020	4.1	4.1
2021	4.2	4.2
2022	4.3	4.3
2023	4.4	4.4
2024	4.5	4.5
2025	4.6	4.6
2026	4.7	4.7
2027	4.8	4.8
2028	4.9	4.9
2029	5.0	5.0
2030	5.1	5.1
2031	5.2	5.2
2032	5.3	5.3
2033	5.4	5.4
2034	5.5	5.5
2035	5.6	5.6
2036	5.7	5.7
2037	5.8	5.8
2038	5.9	5.9
2039	6.0	6.0
2040	6.1	6.1
2041	6.2	6.2
2042	6.3	6.3
2043	6.4	6.4
2044	6.5	6.5
2045	6.6	6.6
2046	6.7	6.7
2047	6.8	6.8
2048	6.9	6.9
2049	7.0	7.0
2050	7.1	7.1
2051	7.2	7.2
2052	7.3	7.3
2053	7.4	7.4
2054	7.5	7.5
2055	7.6	7.6
2056	7.7	7.7
2057	7.8	7.8
2058	7.9	7.9
2059	8.0	8.0
2060	8.1	8.1
2061	8.2	8.2
2062	8.3	8.3
2063	8.4	8.4
2064	8.5	8.5
2065	8.6	8.6
2066	8.7	8.7
2067	8.8	8.8
2068	8.9	8.9
2069	9.0	9.0
2070	9.1	9.1
2071	9.2	9.2
2072	9.3	9.3
2073	9.4	9.4
2074	9.5	9.5
2075	9.6	9.6
2076	9.7	9.7
2077	9.8	9.8
2078	9.9	9.9
2079	10.0	10.0
2080	10.1	10.1
2081	10.2	10.2
2082	10.3	10.3
2083	10.4	10.4
2084	10.5	10.5
2085	10.6	10.6
2086	10.7	10.7
2087	10.8	10.8
2088	10.9	10.9
2089	11.0	11.0
2090	11.1	11.1
2091	11.2	11.2
2092	11.3	11.3
2093	11.4	11.4
2094	11.5	11.5
2095	11.6	11.6
2096	11.7	11.7
2097	11.8	11.8
2098	11.9	11.9
2099	12.0	12.0
2100	12.1	12.1
2101	12.2	12.2
2102	12.3	12.3
2103	12.4	12.4
2104	12.5	12.5

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and individuals who are given. Various large age, large size

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With a bare consumption of about 25 cubic feet of saw logs per capita, the total would be 2,300,000,000 cubic feet, which would still leave 3,755,500,000 cubic feet available for export. Before the war the wood deficit in all European countries together amounted in logs to about 1,412,000,000 cubic feet per annum. Even though this deficit should become three times as large, still European Russia could apparently furnish enough timber for the countries which depend on importations for their supply.

Source:

The total cubic feet of timber are divided into 12 timber regions:

1. Northern Region (Lapland and Finland)
2. Upper Baltic Region (Gulf of Bothnia, and adjacent parts of Sweden, Finland, and Estonia)
3. Lower Baltic Region (Gulf of Bothnia, and adjacent parts of Sweden, Finland, and Estonia)
4. Eastern Region (Russia, Poland, and Rumania)
5. Western Region (Germany, France, Belgium, and Holland)
6. Region of the Upper Volga (Russia, Poland, and Rumania)
7. Region of the Lower Volga (Russia, Poland, and Rumania)
8. Region of the Upper Volga (Russia, Poland, and Rumania)
9. Region of the Lower Volga (Russia, Poland, and Rumania)
10. Region of the Upper Volga (Russia, Poland, and Rumania)
11. Region of the Lower Volga (Russia, Poland, and Rumania)
12. Region of the Upper Volga (Russia, Poland, and Rumania)

THESE ARE THE RESULTS OF THE INVESTIGATION OF THE
CASE OF THE DEATH OF THE LATE MR. JAMES
J. HARRIS, JR., WHOSE DEATH OCCURRED ON
JANUARY 1, 1900, AT THE AGE OF 35 YEARS.
THE RESULTS OF THE INVESTIGATION ARE AS FOLLOWS:
1. THE DEATH OF MR. HARRIS WAS CAUSED BY
A HEART DISEASE, WHICH HAD BEEN
DEVELOPING FOR SOME TIME.
2. THE DEATH WAS NOT CAUSED BY
ANY OTHER DISEASE OR INJURY.
3. THE DEATH WAS NOT CAUSED BY
ANY OTHER CAUSE.
4. THE DEATH WAS NOT CAUSED BY
ANY OTHER CAUSE.

Timber Regions

From the utilization standpoint the forests of Russia lend themselves to a division into timber regions tributary to sea ports or railroad centers. Thus, the White Sea, with its ports, forms a natural outlet for the timber of the northern Russian provinces; the ports on the Baltic Sea form an outlet for the forests located in the Baltic provinces. Similarly, the ports on the Black Sea, the Azov Sea, and the Caspian Sea provide a center toward which the adjoining forests naturally gravitate.

On this basis the forests of Russia are divided into 14 timber regions:

1. Northern Region (Archangel and Vologda);
2. North Baltic Region (Olonez, Novgorod, and Petrograd)
3. South Baltic Region (Esthonia, Livonia, Courland, Rakov, Smolensk, and Vitabsk).
4. Nieman Region (Kovno, Vilna, and Grodno)
5. Vistula Region - Russian Poland (Sivalki, Piotrkow, Lomsha, Warsaw, Plock, Kalisz, Kielce, Radom, Lublin, and Seidico).
6. Region of the Rivers Dnieper and Dniester (Moghilev, Minsk, Volhynia, Kiev, Chernigov, Podolia, Bessarabia, Poltava, Khaterinoslav, Kherson, and Taurida.
7. Ural Region (Perm, Ufa, and Orenburg).
8. Region of the Upper Volga (Iver, Yaroslavl, Kostroma, and Vyatka).
9. Region of Central Volga (Wladimir, Nizhny, Novgorod, and Kazan).
10. Region of Lower Volga (Simbirsk, Samara, Saratov, Don, and Astrakhan).

11. The Interior Region (Moscow, Kaluga, Ryazan, Penza, Tambov, Orel, Tula, Kursk, Voronezh, and Kharkov.)

12. The Caucasus Region.

13. The Turkestan Region.

14. Siberian Region.

The lumber industry may be best described separately for each timber region, and since the northern region is now the most important both from the standpoint of the United States and our Allies and its economic value to Russia, it will be taken up in considerable detail.

1. Northern Region - Governments of Archangel and Vologda.

Character of the timber.

European coniferous forest. Scotch pine and spruce predominate. In the eastern portion also larch, fir, and "cedar" (Pinus cembra); in places birch, aspen, and alder.

Area and ownership

The extent of the forest within this region and the character of ownership are shown in the following table:

<u>Northern Region</u>							Per Cent
Forest Area							of
Province	State	Private	Peasant	Other	Total	Total	Total
A c r e s							
Archangel	86,365,800	8	210,600	671	86,647,500	44.6	
Vologda	74,689,500	25,772	3,246,900	1,690	80,682,600	81.8	
Total	161,055,300	25,780	3,457,500	2,361	167,329,900	57.2	

11. The Eastern Region (Moscow, Leningrad, Minsk, Kiev, Odessa, and Kharkov).
12. The Southern Region.
13. The Western Region.
14. The Northern Region.

The Soviet Union may be divided into four main regions, and since the northern region is now the most important both from the standpoint of the United States and our allies and its economic value to Russia, it will be taken up in considerable detail.

1. Northern Region - Government of Leningrad and Moscow.

The water of the river

The water of the river is used for irrigation, and also for the purpose of generating electricity. The water of the river is also used for the purpose of generating electricity.

Area and ownership

The extent of the forest within this region and the amount of land which is used for the purpose of generating electricity.

Population

Year	Population	Area	Ownership
1929	1,000,000	10,000	10,000
1939	1,500,000	15,000	15,000
1949	2,000,000	20,000	20,000

Year	Population	Area	Ownership
1929	1,000,000	10,000	10,000
1939	1,500,000	15,000	15,000
1949	2,000,000	20,000	20,000

The Lumber Industry

The lumber industry is most developed in the Government of Archangel. The annual production of the sawmills alone has been valued at from \$13,000,000 to \$15,000,000. Here are located the largest sawmills, employing from 500 to 1,000 men. In the Government of Vologda there are fewer sawmills, but the pulp industry has shown a perceptible growth. There are not less than 50 sawmills in the region working with a total of about 200 frames. Since the region is only sparsely settled there is practically no local market, consequently the sawmills are working chiefly for export trade. The principal outlet for export is the port of Archangel, the activity of which increases year by year.

Future of the Export Trade in the Region

There can be no doubt that the timber business will, in the North, be considerably augmented when the virgin forests of the Governments of Archangel and Vologda become better known and exploited. Everything points to the presumption that this extension will be particularly remarkable in the vast virgin forests which abound in the basin of the river Petschora. This immense zone, which embraces upwards of 5,500,000 acres of wood fit for sawing has remained intact until a few years ago, when an enterprising Swede, Mr. Lidbeck, acquired in the Petschore basin 1,500,000 trunks of various woods, with the exception of the Pinus cembra. The concession given to Mr. Lidbeck has a duration of 13 years. In addition to this, the firm of Olsen, Stampe and Company acquired by contract in 1899 a stock of 1,560,000 logs in the same watershed.

1848-1849

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...the air of the forest is so pure

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The greater part of the export (more than 75 per cent) was sent to England, France, Belgium, and Holland; the transport is effected by steamers and sailing ships, which reach western Europe by the White Sea, the Arctic, and Atlantic Oceans, going around the Scandinavian Peninsula.

Dimensions Sawn

The dimensions of the wood sawn at the local sawmills vary; the thickness varies from $\frac{1}{2}$ " to 3", and the width from 7" to 11", with a minimum length of 3 feet (Omega). The planks, according to their dimensions, bear different names; the most common in the current sorting at Archangel are those of 3" thick by 7" wide, and from 10 ft. to 30 ft. long, known as battens, the shorter planks from 3 ft. to 12 ft. long also coming from Archangel, and of the same thickness as the preceding, but from 9" to 10" wide, bear the name of dilen; the planks 11" and upwards wide, and 3" thick and 10 ft. to 20 ft. long are called deals or sortovka; finally, under the name of boards, are included all these pieces of the same length 11" wide and $\frac{3}{4}$ " thick.

Sizes of Logs Cut

It is but a short time ago that the sawmills only cut up trees measuring at the top at least 10", and having a length of 22 ft., but at the present time many sawmills do not disdain to saw up smaller trees, measuring 7" or 8" at the top. In spite of the various improvements in machinery which have been introduced in the mills, only about 50 per cent of the sawn wood is utilized, the remainder being considered as refuse, and sold locally for fuel.

Labor

The work is generally confided to native workmen, although in the northern part of the Government of Archangel, where the population is exceedingly sparse, it has been found necessary to bring in laborers from outside, for the most part inhabitants of the Governments of Olonetz and Vologda, and even of Finland.

Workmen's Cooperatives

One of the most ordinary ways of subletting the work in the northern region is the following: The workmen sign collectively in gangs a contract in the form of a letter, according to the terms of which they render themselves responsible as a body, not only for the execution of the work contracted for, but for all violations of the conditions stipulated by the State. Each wood-cutter receives a workman's book, in which are inscribed the conditions imposed. The recruiting of these men takes place at Archangel and at Vologda, either during the summer season or during the autumn in the month of September, after the auction sales. The organization of the workmen in crews is fairly customary in this region. Each crew chooses from amongst its members a leader, to whom is confided the making of all the arrangements between the crew and the contractor he receives as compensation an additional share of the profits.

The great scarcity of traction animals in the country obliges the contractors, almost everywhere, to provide themselves with horses from outside, which adds very considerably to the expenses of exploitation.

The work is generally confined to native women, although in the northern part of the Government of Bengal, where the population is exceedingly sparse, it has been found necessary to bring in Indian laborers. For the most part, assistance of the Government of Bengal and Voluntary, and even of British, is required.

Voluntary Organizations

One of the most effective ways of extending the work in the northern region is the following: The women sign voluntarily in groups a contract in the form of a letter, pledging to the terms of which they render themselves responsible as a body, not only for the execution of the work themselves, but for all violations of the conditions stipulated by the letter. Each week either receives a woman's book, in which are recorded the conditions imposed. The receiving of these and the place of execution and of Voluntary, which during the same week is during the system in the central Government, after the same rules. The organization of the women in groups is fairly common in this region. Each group elects its own leader, who is elected, so when is needed the letter of all the members. Voluntary also may be organized in groups of women, or in divisions of the work. The great success of Voluntary is in the work of the women, which is not only a great help, but also a very valuable one in the work of the organization.

Manner of Paying Labor

The work is most frequently paid by the piece, and based on the number of logs gotten out; the number of these varies according to the conditions of the work and the nature of the country, from 70 to 300 logs per man for the winter campaign. The wages are paid in cash, but it frequently happens that the workmen take a part of their wages in food and other goods, furnished to them at the stores organized by the contractors. The wages are generally paid in three instalments - one-third as a deposit when the men are engaged, and the rest before and after the floating, in those cases where the same workmen undertake this additional operation. Wages paid by the month, week, or day are comparatively rare. As an indication of the average prices paid for getting out logs in the Governments of Archangel and Vologda, (including the driving out of the logs within a distance of about 7½ miles) may serve the following table:

Size of Logs

Length in feet	Greatest diameter inches	Gov. of Archangel	Gov. of Vologda
(	nearly 12	\$.20	\$.22
(	13	.26	.23
(	" 14	.32	.27
(	" 15	.34	.29
19 to 22	" 16	.40	.34
(	" 17	.42	.35
(	" 18	.44	.39
(	" 19	.44	.40
(	" 20	--	.45

Lumber Camp

The life of the wood-cutters in the northern regions is not unlike that in our lumber camps of the northeast. In the absence of any habitable center, they generally live in temporary camps hastily constructed. They have to lay in provisions for a more or less long period. In certain regions, the Kola District, for example, the nearest village is from 112 to 150 miles away. The horses are sheltered in small covered enclosures, the forage is collected in advance during the summer in the neighboring fields, or is brought up during the winter in sleighs.

The few roads which exist are mostly in a bad state, and can only be used during a portion of the year. A considerable part of the Government of Archangel-Laponia and the region of Petschora, for example, possess no other means of transport than the rivers.

Log Driving and Rafting

The most important rivers for floating in the region are: The Northern Dwina (with the Voukhona, the Yaga, the Vytehegda, and Pinega), the Onega, and Vyg, the Mezon, the Nea, the Korst, the Kovda, the Touloma, and the Petschora (with the Imja, the Teilma and the Kolva).

Floating the northern zone commences generally at the end of April, but in certain regions, the Kola Peninsula, for instance, where the break-up of the ice takes place later, the campaign does not open till the middle of May and sometimes the beginning of June. The time during which it lasts varies con-

siderably, and depends on the distance which the logs have to travel, as well as on the floating conditions of the rivers. On the Northern Dwina, over a distance of nearly 1,000 miles, the season lasts from one to two and a half months. In the Kola district floating by the Rivers Neta, Lota, and the lakes Notozer and Touloma (over a distance of 75 to 150 miles only) is spread over from two and a half to three months in consequence of the numerous falls which are met with in the rivers of Laponia, and is not completed till the beginning of August or the middle of September. The climatic conditions at the beginning of the bad weather are very unfavorable to floating in the districts of Soroka and Kem in the Government of Archangel. It sometimes becomes necessary to haul out the logs and to leave them on the banks until the following spring.

On the small rivers the floating is carried out either by single logs or by small rafts, containing from 50 to 150 logs each; 10 or 20 of these rafts are coupled up together to make the trains. At the points where the various tributaries join the main river the logs are collected into trains of considerable sizes. For the floating by single logs on the small rivers a bar is erected at the junction of the rivers to prevent the water remounting at the time of the following freshet. There the logs are gathered together in trains from 200 to 1,500, and even up to 3,000 pieces each, which are dispatched towards the sawmills. On the big rivers the trains of logs are generally towed by tugs. The logs are occasionally towed in the form of

alternately, and depends on the distance which the logs have to travel, as well as on the floating conditions of the river. On the northern bank, over a distance of nearly 1,000 miles, the season lasts from one to two and a half months in the main district flowing by the river bank, and the latter Moscow and Volga (over a distance of 18 to 20 miles only) is spread over five and a half to three months in consequence of the numerous falls which are met with in the river of Moscow and is not completed till the beginning of August or the middle of September. The climatic conditions at the beginning of the season are very unfavorable to floating in the districts of Moscow and Nov in the Government of Archangel. It sometimes becomes necessary to haul out the logs and to leave them on the banks until the following spring.

On the small rivers the floating is carried out either by small logs or by small rafts, sometimes from 10 to 150 logs, 10 or 20 of which are used as a single raft. At the points where the various tributaries join the main river the logs are collected into trains of considerable extent. For the floating of single logs on the small rivers a bar is erected at the junction of the rivers to prevent the water remaining at the time of the following freshet. These the logs are gathered together in trains from 200 to 1,000, and even up to 3,000 pieces each, which are dispatched towards the mouth. On the big rivers the series of logs are generally towed by men. The logs are occasionally towed in the form of

yards (or "kuchels"), consisting of a number of logs attached to each other, which form a sort of frame for the floated wood. This method of gathering the logs together is often adopted for crossing the lakes of the White Sea. On the sea the logs, of which this kind of raft is built, are bound together by an iron chain passed through holes bored in the ends of the trunks. Tug boats are generally in use on the Northern Dvina, but they have also been employed for some time past on the Petschora, and even on the Touloma, and in the Kola Gulf. The trains of smaller logs are hauled by hand by means of a capstan placed on a separate raft anchored in front, and which is advanced as the floating proceeds. As regards the loss of logs suffered in the operation of floating, it does not as a rule exceed one per cent; it may, however, in certain cases become more serious, for example, on the White Sea floatings, and particularly on the Solotitsa, on the Kouis, and on the Kada. This is due to the fact that the northern shore of the White Sea contains neither islands nor bays to serve as a shelter against storms. The trains towed include ordinarily 500 to 2,000 logs, and sometimes 3,000 in the Kovda district.

The price paid for the work of floating varies considerably. In the districts where monthly pay is the custom the workmen earns from \$2 to \$13, but in the Government of Archangel the average is \$8.50 per month, with food furnished by the contractor. The average monthly wages earned for floating to Archangel the logs coming from the Vologda Government

The first bill for the year of 1914 was \$1,000,000. In the district where monthly pay is the custom the women earn from \$1 to \$1.50, and in the government of Michigan the average is \$1.25 per month, with 1000 families by the statistics. The women usually report that they are not interested in the work of the district.

are \$8 and vary from \$5 to \$12; for the floating by the Volga the average reaches \$8.15. The work is also often paid for by the piece, at so much per log floated.

The average cost for the transport of a log into the sawmill yard in the Archangel Government may be estimated at 13 cents and the expenses vary between .03 and 30 cents per log, according to the length of the journey, which is sometimes as much as 560 miles. The floating by the White Sea of the logs got out from the neighboring forests is very costly; it amounts to 18 cents per log from the Government of Vologda to the town or Archangel, for a distance varying between 300 and 1,000 miles.

The best logsmen are those on the Onega, who excel in getting down single logs on the small water courses. This very dangerous occupation demands, particularly in the north, exceptional skill.

and very from 18 to 212; for the floating of the Veiga
the average reaches 18.18. The well is also often said for by
the wind, at so much per day floating.

The average cost for the transport of a bag into the
small part in the municipal government may be estimated at
12 cents and the highest cost between 12 and 15 cents per
bag, according to the length of the journey, which is some-
times as much as 800 miles. The floating of the white bag of
the bag for and from the neighborhood forests is very costly,
it amounts to 12 cents per bag from the government at 12 miles
to the town or Archangel, for a distance varying between 200
and 1,000 miles.

The best logmen are those on the bag, who usually
in winter time sleep in the small white tent. This
very primitive occupation demands, particularly in the north,
exceptional skill.

2. North Baltic Region (Olonets, Novgorod, and Petrograd)

Character of Forest

Scotch pine and spruce predominate. In the governments of Petrograd and Olonets pine and spruce are about in equal amounts; birch and aspen in mixture. Olonets has less birch and aspen but more pine than Petrograd.

Area and Ownership

The extent of the forest within this region and the character of ownership are shown in the following table:

Forest Area						Per Cent of total land area
Province	State	Private	Peasant	All Other	Total	
Acres						
Olonets	12,062,400	1,062,200	2,187,300	145,400	15,477,300	47.6
Novgorod	4,041,800	8,258,500	1,722,700	645,000	14,869,000	53.9
Petrograd	<u>956,500</u>	<u>4,003,700</u>	<u>130,100</u>	<u>41,200</u>	<u>5,131,500</u>	<u>50.2</u>
	17,080,700	13,324,400	4,041,100	831,600	35,277,800	50.4

The Lumber Industry

The lumber industry is very important in the region. At some places almost the entire population is engaged in it. The industry is centered principally in Petrograd and Novgorod. The sawmills of this region are smaller than those in the Northern Region. They work both to meet the needs of the city of Petrograd and the increasing demand for manufactured lumber from abroad. Besides sawmills and veneer plants, the principal wood-using

industries are box making, manufacture of excelsior, ties, mine props, and cordwood. There are not less than 22,000 woodworkers engaged in the home industry. Woodenware, furniture, agricultural implements, and wagons are the chief articles produced. With the construction of the railroad from Petrograd to Vologda, the lumber industry has received a new impetus. There are some importations to Petrograd from the Vistula region and Finland. What hampers the development of the lumber industry in this region is the poor condition of the arivable streams and roads, and lack of credit to the small operator.

3. South Baltic Region (Estonia, Livonia, Courland, Pskov, Smolensky, and Vitebsk)

Character of Forest

Scotch pine and spruce predominate. In Estonia, Livonia, and Pskov there is as much pine as there is spruce. In Smolensk spruce predominates, in Vitebsk, pine.

Area and Ownership

The extent of the forest within this region and the character of ownership are shown in the following table:

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SECRET

in the same way as the other two, but the results are not so good. The results are not so good as the other two, but the results are not so good as the other two.

THE SECRET OF THE TOWER

Forest Area

Forest Area						Per cent of total land area
Province	State	Private	Peasant	Other	Total	
A c r e s						
Estonia	5,300	832,700	...	18,500	856,500	19.2
Livonia	325,800	1,810,100	1,700	79,300	2,216,900	21.2
Courland	752,800	1,172,300	100	5,900	1,931,100	29.5
Vitebsk	473,600	2,178,300	21,900	7,200	2,681,000	25.9
Smolensk	231,500	2,506,800	401,900	54,500	3,194,700	24.5
Pskev	182,600	2,586,600	67,000	61,500	2,287,700	29.0
Total	1,971,600	11,086,800	492,600	226,900	13,777,900	25.1

The Lumber Industry

This region is chiefly important not so much because of production of lumber as on account of the trade in lumber. Most of the lumber shipped from various points in Russia used to go through Riga, which was the largest lumber port not only in Europe but probably in the entire world. The industry is centered near Riga and its suburbs, where thousands of men were engaged in the delivery, reshaping, and shipping it abroad. Furniture making and the manufacture of cork are also developed, especially the latter. Within the last 12 years the sawmills have nearly doubled.

Livonia is an important center of the lumber industry. Estonia and Courland have not developed any important wood-using industry. Smolensk has 71 sawmills employing over 2000 men; other wood-using industries of the factory type are only poorly developed. On the other hand the home industry in timber is well advanced

wagons and cooeporage are the most important. In this region the private forests predominate; they have been greatly devastated; the timber is expensive; the means of communication very poor. During droughts the navigation and floating of rafts on the Western Dvina and its tributaries as well as on the rivers of the Dnieper basin become difficult on account of sand bars.

4. Niemen Region (Kovno, Vilna, and Grodno)

Character of Forest

Conifers predominate. In Grodno and Vilna there is more pine than spruce. In Kovno spruce exceeds pine. The conifers have an admixture of aspen, birch, and also oak.

Area and Ownership

The extent of the forest within this region and the character of ownership are shown in the following table:

Forest Area						Per cent of total land area
Province	State	Private	Peasant	All Other	Total	
A c r e s						
Kovno	447,800	1,181,800		4,700	1,634,300	16.8
Vilna	718,100	1,415,100	48,800	2,100	2,184,100	22.9
Grodno	1,069,800	990,900	18,000	19,200	2,097,900	23.6
Total	2,235,700	3,587,800	66,800	26,000	3,916,300	21.0

regions and especially in the most important. In this region

the private forests predominate; they have been greatly de-
 vastated; the timber is expensive; the means of communication
 very poor. During droughts the navigation and floating of
 rafts on the southern river and the extraction of wax as on
 the river of the higher basin become difficult on account
 of sand bars.

2. Forests of the Lower River and the Delta

General Description

General Description. In the delta and lower river in
 more than 90 per cent. In some regions exceeds 100 per cent.
 and is also the main source of the timber, which is also

Area and Production

The extent of the forest within this region and the
 character of ownership are shown in the following table:

TABLE 1

	Private	State	Religious	Other	Total
Area, in hectares	1,101,000	1,101,000	1,101,000	1,101,000	4,404,000
Production, in cubic meters	1,101,000	1,101,000	1,101,000	1,101,000	4,404,000
Value, in francs	1,101,000	1,101,000	1,101,000	1,101,000	4,404,000
Number of owners	1,101,000	1,101,000	1,101,000	1,101,000	4,404,000
Number of families	1,101,000	1,101,000	1,101,000	1,101,000	4,404,000
Number of villages	1,101,000	1,101,000	1,101,000	1,101,000	4,404,000
Number of towns	1,101,000	1,101,000	1,101,000	1,101,000	4,404,000
Number of provinces	1,101,000	1,101,000	1,101,000	1,101,000	4,404,000
Number of districts	1,101,000	1,101,000	1,101,000	1,101,000	4,404,000
Number of cantons	1,101,000	1,101,000	1,101,000	1,101,000	4,404,000
Number of communes	1,101,000	1,101,000	1,101,000	1,101,000	4,404,000
Number of farms	1,101,000	1,101,000	1,101,000	1,101,000	4,404,000
Number of households	1,101,000	1,101,000	1,101,000	1,101,000	4,404,000
Number of individuals	1,101,000	1,101,000	1,101,000	1,101,000	4,404,000

The Lumber Industry

The industry is important in many places. A great deal of raw and some manufactured material is shipped abroad; the poorer grades remain at home for local needs. Especially developed is log driving and floating of pulpwood on the rivers Nieman and Wilva to the wood-using establishments and pulp mills in Germany. A great many ties are made in the region. The local sawmills work only for local markets. On the whole the sawmill industry is not well developed, nor are large wood-using establishments. There are more men engaged in the home industry than in factories. The great drawback is that on the rivers Vistula and Wilna within the Russian border there are no lumber yards. Russian lumbermen must therefore ship their products direct into German territory, where there are splendid wood yards and other conveniences, but this places the Russian lumbermen entirely at the mercy of the German trader in lumber.

5. Vistula Region (Suwalki, Piotrkow, Lomza, Warsaw, Plock, Russian Poland Kalisz, Kielce, Radom, Lublin, and Seidlee)

Character of the Forest

Because of the poverty of the soil, pine predominates in almost all these governments. Larch, spruce, and fir (in the southern portion of the region) occur only in the governments at Piotrkow, Kalisz, and Suwalki. Oak occupies 2 per cent of the productive forest land. Among other broadleaf species are beech, ash, maple, and sycamore.

Area and Ownership

The extent of the forest within this region and the character of ownership are shown in the following table:

F o r e s t A r e a						Per cent of total land area
Province	State	Private	Peasant	All Other	Total	
	A c r e s					
Gumulki	493,700	114,700	28,400	11,300	648,100	21.6
Lomha	279,700	264,200	26,000	100	560,000	23.0
Warsaw	158,000	318,300	33,500	100	509,900	12.3
Plock	54,800	163,400	19,900	2,600	240,700	10.5
Kalisz	79,400	247,700	59,200	111,800	498,100	17.4
Piotrkow	174,800	294,100	57,100	3,800	529,800	17.7
Radom	307,900	428,600	74,500	11,400	822,400	27.5
Kielce	216,500	244,600	38,900	9,500	509,500	21.2
Lubin	97,000	558,600	129,300	14,800	800,200	19.9
Seidlee	89,200	406,100	124,500	160,000	779,800	22.8
Total	1,950,800	3,030,300	571,800	325,400	5,878,300	19.3

The Lumber Industry

The lumber industry and wood-using plants are well developed; the product is mostly consumed locally. There are large furniture factories employing from 500 to 1,000 workmen; the specialty is high-grade bent furniture and parquet. There also is one of the largest factories of wooden nails and wooden lasts. In Poland alone there are 7,000 peasants engaged in the villages in the manufacture of woven and splint baskets and other containers. The region is in need of an early construction of the projected

canal which would connect the river Nieman with the ports on the Baltic Sea, thus enabling the shipment of lumber direct to England instead of sending it through the Prussian middleman. The industry suffers because of the fact that the best timber is sent to Germany; on the other hand there is a lack of hardwoods, especially of beech, which is demanded in large quantities at the factories of bent furniture.

6. Region of the Rivers Dniiper and Dniester (Moghilev, Minsk, Volhynia, Kiev, Chernigov, Podolia, Bessarabia, Poltava, Khaterinoslav, Kherson, and Taurida)

Character of Forest

In the northern part spruce predominates, forming 80 per cent of all the forest; not much pine. There are still large quantities of oak, the export of which is growing.

Area and Ownership

The extent of the forest within this region and the character of ownership are shown in the following table:

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Forest Area						Per cent of total land area
Province	State	Private	Peasant	All Other	Total	
A c r e s						
Moghilev	292,400	2,317,700	570,000	21,100	3,201,200	28.3
Minsk	1,230,000	7,110,800	67,500	15,400	8,423,700	40.7
Kiev	516,000	1,419,000	6,800	52,500	1,994,300	16.3
Chernigov	272,500	1,249,800	271,600	32,700	1,826,600	15.3
Podolia	253,200	775,900		13,700	1,042,800	10.4
Volhynia	1,103,100	3,573,400	3,900	23,700	4,704,100	28.3
Poltava	35,100	434,500	92,900	13,300	575,800	5.0
Ekaterinoslav	36,400	369,100	172,400	10,300	588,200	3.8
Kherson	111,100	148,500	23,200	9,200	292,000	1.6
Bessarabia	26,400	127,900	68,400	429,800	652,500	6.2
Taurida	<u>173,400</u>	<u>343,000</u>	<u>266,900</u>	<u>342,500</u>	<u>1,125,700</u>	<u>7.7</u>
Total	4,099,600	17,869,600	1,543,500	964,200	24,476,900	16.1

The Lumber Industry

This at present is one of the most important centers of the lumber industry and the timber trade. The material is used for both home consumption and more distant markets. Some round timber is sent abroad, but the bulk is sawed up into boards, box material, excelsior, and matchwood; especially developed is the manufacture of veneer. There is also a great deal of wood distillation, the largest wood distillation plant being located in this region. There are not less than 30,500 peasants engaged at home in the manufacture of wooden products--tubs, woven and splint baskets, agricul-

00000000000000000000000000000000

Year	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100
1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	

1910-1911

This is a very important document in the history of the American people. It is a document that has been passed down from generation to generation. It is a document that has been read and studied by millions of people. It is a document that has been the source of much inspiration and guidance. It is a document that has been the foundation of our nation's identity. It is a document that has been the source of our strength and our pride. It is a document that has been the source of our hope and our faith. It is a document that has been the source of our love and our compassion. It is a document that has been the source of our wisdom and our understanding. It is a document that has been the source of our courage and our determination. It is a document that has been the source of our honor and our glory. It is a document that has been the source of our peace and our harmony. It is a document that has been the source of our unity and our solidarity. It is a document that has been the source of our freedom and our justice. It is a document that has been the source of our progress and our achievement. It is a document that has been the source of our success and our triumph. It is a document that has been the source of our happiness and our well-being. It is a document that has been the source of our life and our hope. It is a document that has been the source of our love and our faith. It is a document that has been the source of our wisdom and our understanding. It is a document that has been the source of our courage and our determination. It is a document that has been the source of our honor and our glory. It is a document that has been the source of our peace and our harmony. It is a document that has been the source of our unity and our solidarity. It is a document that has been the source of our freedom and our justice. It is a document that has been the source of our progress and our achievement. It is a document that has been the source of our success and our triumph. It is a document that has been the source of our happiness and our well-being. It is a document that has been the source of our life and our hope.

tural implements, and wagons. There are about 11,000 cabinet-makers alone among the workers engaged in this home industry.

7. Ural Region (Perm, Ufa and Orenburg)

Character of the Forest

Principally pine and spruce forests. In places also fir in mixture with spruce and cedar (Pinus cembra). Oak is abundant in Ufa and Orenburg.

Area and Ownership

The extent of the forest within this region and the character of ownership are shown in the following table:

<u>Ural Region</u>						
Forest Area						Percent of total land area
Province	State	Private	Peasant	All Other	Total	
A c r e s						
Perm	26,266,800	13,258,600	3,605,600	2,971,100	46,102,100	57.3
Ufa	2,532,600	3,691,800	987,300	43,100	7,254,800	25.0
Orenburg	637,100	1,937,800	4,255,100	8,700	6,838,700	15.1
Total	29,436,500	18,888,200	8,848,000	3,022,900	60,195,600	38.9

The Lumber Industry

Although the lumber industry is not the largest industry in the region, it is of considerable importance, because of the metallurgical industry which depends on the timber resources of the region. There is a number of sawmills the output of which are boards, staves, boxes, excelsior and parquet are the other products of the region. The manufacture of

1. The first step is to identify the problem or question that needs to be answered. This involves understanding the context and the specific information required.

14-00000-2 Sub. #277, 1997-11-01, 1997-11-01, 1997-11-01, 1997-11-01

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RECEIVED
JAN 10 1964
U.S. DEPARTMENT OF JUSTICE
FEDERAL BUREAU OF INVESTIGATION
WASHINGTON, D.C. 20535

The subject of this report is the results of the study of the effect of the amount of water on the growth of the plants.

1997-1998

Account	Debit	Credit	Balance
1000		1000.00	1000.00
1010	1000.00		
1020		1000.00	1000.00
1030	1000.00		
1040		1000.00	1000.00
1050	1000.00		
1060		1000.00	1000.00
1070	1000.00		
1080		1000.00	1000.00
1090	1000.00		
1100		1000.00	1000.00
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1120		1000.00	1000.00
1130	1000.00		
1140		1000.00	1000.00
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1160		1000.00	1000.00
1170	1000.00		
1180		1000.00	1000.00
1190	1000.00		
1200		1000.00	1000.00

continued on page 22

...the other products of the region. The concentration of
...of which are metals, alloys, bones, electrical and optical
products of the region. There is a number of smaller industries
at the metallurgical industry which depend on the timber re-
sources in the region. It is of considerable importance, because
throughout the entire country it will be largely in-

trunks and the wood pulp industry are also developed to a considerable extent. The wood distillation industry is very extensive-- charcoal, wood alcohol and tar, being the main products. The peasant workers, of whom there is a large number, are engaged in wagon making and cabinet work. The products of this region are partly consumed locally and partly sent by water to cities along the Rivers Volga and Kama. Some of the product is even sent to the Siberian markets. Recently some material has been sent to Archangel and Petrograd for export abroad. The forests most exploited are those belonging to private owners and to the Mining Department. The Government forests proper could be developed to a large extent if there were good roads.

8. Region of the Upper Volga (Tver, Yaroslavl, Kostrom, and Vyatka)

Character of forests

Pine and spruce forests in abundance. Mixed with them are birch, aspen, alder; also oak in the southern part.

Area and Ownership

The extent of the forest within this region and the character of ownership are shown in the following table:

Upper Volga Region

Forest Area

Province	State	Private	Peasant	All other	Total	Per cent of total land area
A c r e s						
Yver	1,018,300	2,348,000	202,000	684	3,668,984	84.1
Iaroslavl	539,100	1,819,100	119,000	659	2,543,000	30.7
Kostroma	4,726,700	4,181,000	480,600	914	9,419,700	46.6
Vyatska	10,425,300	1,961,600	3,184,200	208	15,601,300	41.1
Total	16,709,400	10,309,700	3,286,800	2,665	31,120,700	38.2

The Lumber Industry

The lumber industry is not developed uniformly throughout the region. In some places it is the main occupation of the entire population. Sawmills are being developed rapidly; machine labor is crowding out manual labor, and within the last few years there has been a considerable increase in the number of factories, both large and small. In the Government of Kostroma there are several wood-using plants employing over 100 men. Most of all are developed the wood-using industries of the peasant workers. The chief product is wooden ware, cups, spoons, footwear made of bark, and bark ropes. The reason for the variety of the industries is due to the variety of the available timber. Much of the timber is also used for shipbuilding and furniture. The wood-using industries are capable of great development if there were good roads, more railroads, and if the drivable and navigable rivers were in a better condition.

SECRET

Item	Quantity	Value	Notes
1. 100,000,000	100,000,000	100,000,000	
2. 100,000,000	100,000,000	100,000,000	
3. 100,000,000	100,000,000	100,000,000	
4. 100,000,000	100,000,000	100,000,000	
5. 100,000,000	100,000,000	100,000,000	

CONFIDENTIAL

The present situation in the United States is a result of the economic conditions which have prevailed since the war. The economy has been in a state of depression since the war, and the government has been unable to do anything to relieve the situation. The result has been a general decline in the standard of living, and a corresponding increase in the unemployment rate. The government has been unable to do anything to relieve the situation, and the result has been a general decline in the standard of living, and a corresponding increase in the unemployment rate.

9. Region of Central Volga (Vladimir, Nizhny-Novgorod, and Kazan).

Character of the Forests

Oak predominates, particularly in Nizhny-Novgorod and Kazan.

Area and Ownership

The extent of the forest within this region and the character of ownership are shown in the following table:

Central Volga Region

Forest Area

Province	State	Private	Peasant	All Other	Total	Per cent of total land area
a r e a						
Vladimir	688,800	1,833,100	332,800	98,800	3,162,400	27.8
Nizhny-Novgorod	1,867,700	2,323,900	483,000	62,400	4,697,000	39.2
Kazan	3,615,800	459,300	333,400	32,200	4,446,700	30.2
Total	6,341,800	4,786,800	1,198,200	199,100	12,806,100	35.0

The Lumber Industry

Although the timber resources are much smaller in this region than farther north, the industries dependent upon wood are very essential as subsidiary occupation to the population.

It is the policy of the Government to encourage the development of the country and to provide for the welfare of the people.

Department of the Interior

The following is a list of the lands owned by the Government in the State of California.

State of California

The following is a list of the lands owned by the Government in the State of California.

Department of the Interior

State of California

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Department of the Interior

The following is a list of the lands owned by the Government in the State of California.

In several places the wood-using industry is the main source of revenue. The cutting of cordwood and poles and driving them to points of consumption within Russia engage a large portion of the population. The burning of wood in pits to obtain the products of distillation is very common.

10. Region of Lower Volga (Simbirsk, Samara, Saratov, Don, and Astrakhan)

Character of the Forests

Broadleaf forests predominate. In the northern portion of the region there is some pine and spruce. Oak is the most important species. It predominates in Simbirsk and makes up 14 per cent of the forests in Samara and Saratov. Among other broadleaf species are elm, maple, ash, and birch. In Astrakhan there are no forests, but shrubs.

Area and Ownership

The extent of the forest within this region and the character of ownership are shown in the following table:

<u>Lower Volga Region</u>						
<u>F o r e s t A r e a</u>						
Province	State	Private	Imperial	All Other	Total	Per cent of total land area
<u>A c r e s</u>						
Simbirsk	2,175,400	1,031,500	57,100	80,800	2,342,600	88.7
Samara	1,469,900	724,600	854,100	44,000	2,852,600	7.6
Saratov	508,200	1,042,000	773,700	75,300	2,404,200	12.7
Astrakhan	331,000	38,200	139,900	4,400	510,500	3.4
Don	2,800	230,800	220,200	89,000	542,800	2.1
Total	4,485,300	2,124,000	2,079,000	234,500	9,922,800	5.1

in several places the well-known tendency to the more common
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CONCLUSION

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APPENDIX

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Year	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910
1900	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1901	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1902	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1903	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1904	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1905	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1906	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1907	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1908	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1909	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1910	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000

The Lumber Industry

This region is chiefly a consumer of wood. There is not much timber and what there is of it are hardwoods. The sawmills and the wood-using industries are fed mostly by the timber that is floated along the River Volga from the Northern Region. The trade in lumber is very large, reaching from 13 to 15 million dollars a year. Much of the product is exported to the ports of the Caspian Sea and from there sent to northern Caucasus and Siberia. Here, as in every other region, the industry is capable of tremendous expansion if the means of transportation could be improved.

11. The Interior Region (Moscow, Kaluga, Ryazan, Tula, Tambov, Orel, Kursk, Voronezh, and Kharkov)

Character of the Forests

Pine predominates only in Ryazan and Orel. In Moscow and Kaluga half of the forests are pine and the other half broadleaf, while in the Governments of Tambov, Tula, Voronezh, Kursk, and Kharkov, the broadleaf forests predominate. The oak is the principal species. It occupies 60 per cent in Kursk, 50 per cent in Voronezh, 45 per cent in Tula, 35 per cent in Tula, 15 per cent in Kaluga, 12 per cent in Orel, 11 per cent in Tambov, and only 5 per cent in Ryazan.

Area and Ownership

The extent of the forest within this region and the character of ownership are shown in the following table:

Interior Region

Forest Area

Province	State	Private	Peasant	All Other	Total	Per cent of total land area
A c r e s						
Moscow	227,000	1,259,500	282,500	101,200	2,110,200	27.7
Taluga	221,200	1,385,300	220,300	71,400	2,100,100	26.0
Lysian	232,700	1,178,700	502,600	17,600	2,023,600	20.1
Renza	529,000	747,900	238,300	29,400	1,574,600	18.1
Kumov	1,132,100	965,500	305,700	190,400	2,596,700	16.2
Orel	730,500	1,195,500	107,400	59,000	2,092,300	18.7
Tula	103,200	445,500	55,200	9,600	614,600	8.3
Kursk	126,500	282,900	190,200	12,000	617,700	8.5
Voronezh	228,500	304,400	228,400	12.1	1,179,800	7.4
Kharkov	176,200	559,500	391,900	8,200	1,124,100	6.6
Total	4,140,000	8,006,500	2,274,700	229,200	16,643,400	14.3

The Lumber Industry

The region is not very rich in timber. Most of the timber product is used locally. A great deal of lumber is imported from other regions, principally from the Volga Region. The greatest consumer of forest products, especially of cordwood, is Moscow. The home wood-using industry is the most characteristic industry of the region; nearly 104,000 peasant workers are employed in it. The chief products are wagons, cooperage, and furniture.

The region is not only rich in timber, but also in minerals. It is a great field for the development of the iron and steel industry, and the region is rich in coal, iron, and other minerals. The region is also rich in timber, and the timber industry is one of the main industries of the region. The region is also rich in minerals, and the mineral industry is one of the main industries of the region. The region is also rich in timber, and the timber industry is one of the main industries of the region. The region is also rich in minerals, and the mineral industry is one of the main industries of the region.

12. The Caucasus Region

Character of the Forest

Hardwood forests predominate. The species in the order of their importance are: beech, 25 per cent of the forest area; oak, 18 per cent; blue beech, 13 per cent; pine, 8 per cent; spruce, 7 per cent; and fir, 6 per cent.

Area and Ownership

The extent of the forest within this region and the character of ownership are shown in the following table:

Caucasus Region

Total Forest Area

<u>Province</u>	<u>State</u>	<u>Private</u>	<u>Total</u>	<u>Per cent of total land area</u>
Stavropol	25,122	22,274	47,396	0.3
Kerak	260,173	156,627	416,800	6
Kuban	1,682,594	2,942,576	4,625,100	19
Chernomors- kaya	1,203,927	...	1,203,927	92
Totals	5,776,337	294,913	6,071,250	45
Tiflis	1,690,629	1,668,171	3,358,800	35
Elizabethpol	2,084,198	254,302	2,338,500	21
Yars	570,302	...	570,302	8
Daghestan	122,296	622,304	744,600	10
Baku	1,080,662	80,339	1,161,001	12
Irivan	413,089	...	413,089	6
Total	13,463,813	3,942,103	17,405,916	
Productive forest area	3,000,000	4,193,000	7,193,000	

[illegible]

15. Turkestan Region

Character of the Forest

Broadleaf species predominate --birch, aspen, alder, black and white poplar, elm, oak, and maple. Spruce and pine are found only in isolated places in the mountains. At the foot of the mountains of Turkestan walnut is quite common.

Area and Ownership

The extent of the forest within this region is shown in the following table:

TURKESTAN

<u>Turkestan</u>	Total Area of State Forests <u>Acres</u>	Productive Forest Area <u>Acres</u>
Semirechensk	3,445,727	3,445,727
Sir-Daria	23,050,664	17,996,331
Samarland	10,567,454	7,572,001
Ferghana	2,425,772	1,503,380
Total for Turkestan	39,489,617	30,723,958

1. The first of the conditions of the contract is that the contractor shall be responsible for the design and construction of the works.

[illegible]

14. Siberian Region

a. Western Siberia

Dense coniferous forests with extensive swamps. Siberian larch (Larix siberica), white pine (Pinus sibirica), and Scotch pine predominate. Broadleaf species are aspen, basswood, poplar, alder, and birch; farther east as the more mountainous region is approached, extensive coniferous forests in solid bodies with white pine (Pinus sibirica), spruce, Scotch pine, and larch (Larix dahurica).

b. Eastern Siberia

In addition to spruce, Scotch pine, and Dahurica larch, large quantities of birch (Betula dahurica) and poplar (Populus balsamifera) are found.

c. Amur Region

Broadleaf species predominate. Mongolian oak (Quercus mongolica), several species of maple, basswood (Tilia manschurica), elm (Ulmus montana), corkwood (Phloedendron amurense), Mongolian black walnut. The extent of the forest within this region and the character of ownership are shown in the following table:

Scientific Name of Tree Ownership

1. General Remarks

General remarks concern the general character of the material, its scope, and its organization. The general character of the material is determined by the nature of the problem, the scope of the problem, and the organization of the material. The scope of the problem is determined by the nature of the problem, the scope of the problem, and the organization of the material. The organization of the material is determined by the nature of the problem, the scope of the problem, and the organization of the material.

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SIBERIA

<u>Western Siberian Region</u>	<u>Total Area</u> <u>of State</u> <u>Forests</u> <u>Acres</u>	<u>Productive Forest</u> <u>Area of State</u> <u>Forests</u> <u>Acres</u>
--------------------------------	--	--

Uralsk	73,844	48,876
Turgai	1,434,677	983,678
Tobolsk	170,808,918	46,563,153
Tomsk	92,857,876	23,047,425
Yeniseisk	55,031,572	20,344,064
Irkutsk	21,735,031	17,191,373
Total Western Siberia	311,933,026	106,327,189

Eastern Siberian Region

Trans-Baikai	79,393,000	7,339,300
Amur	94,070,700	31,030,730
Primor	93,023,800	50,313,303
Saghalien	10,530,000	6,750,000
Total Eastern Siberia	277,017,500	105,433,433

Siberian Prairie Region

Obi-palatinat	6,336,255	5,619,676
Aksolinsk	6,130,333	1,119,344
Total Siberian Prairie	12,466,588	6,739,020

Asiatic Russia Total	604,903,026	217,066,624
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Summary

Particulars	1934-35	1935-36
Grants	1,00,00,000	1,00,00,000
Revenue	1,00,00,000	1,00,00,000
Capital	1,00,00,000	1,00,00,000
Income	1,00,00,000	1,00,00,000
Expenses	1,00,00,000	1,00,00,000
Profit	1,00,00,000	1,00,00,000
Loss	1,00,00,000	1,00,00,000
Assets	1,00,00,000	1,00,00,000
Liabilities	1,00,00,000	1,00,00,000
Total	1,00,00,000	1,00,00,000

Particulars

Revenue	1,00,00,000
Capital	1,00,00,000
Income	1,00,00,000
Expenses	1,00,00,000
Profit	1,00,00,000
Loss	1,00,00,000
Assets	1,00,00,000
Liabilities	1,00,00,000
Total	1,00,00,000

Particulars

Revenue	1,00,00,000
Capital	1,00,00,000
Income	1,00,00,000
Expenses	1,00,00,000
Profit	1,00,00,000
Loss	1,00,00,000
Assets	1,00,00,000
Liabilities	1,00,00,000
Total	1,00,00,000

The Lumber Industry of Caucasus, Turkestan, and Siberia

The lumber industry of the Caucasus, Turkestan, and Siberian regions has already been discussed in connection with the export timber trade of Russia.

FOREST REGIONS

The forests of Russia may be divided into six broad regions:

1. The northern coniferous forest (Taiga)
2. The mixed coniferous and hardwood forest.
3. The hardwood forest of the prairie region.
4. The vertical forest belts of Caucasus.
5. The vertical forest belts of Turkestan.
6. The hardwood forests of the Amur region.

1. The Northern Coniferous Forest (Taiga)

The northern coniferous forest stretches from the Pacific Coast to the Baltic Sea and in Siberia it extends south to China. It abounds in swamps, particularly in the western part of Siberia and the extreme northern part of European Russia.

Particularly on the south slope, abounding their vegetation

European Coniferous Forests

In the central portion of northern Russia coniferous forests of pine (Pinus sylvestris) and spruce (Picea excelsa) form the predominant type. In the eastern part of the

THE POLITICAL HISTORY OF THE UNITED STATES

The history of the United States is a story of the growth of a new nation, from a small colony of English settlers to a great republic. It is a story of the struggle for freedom and independence, and of the development of a new form of government.

THE EARLY YEARS

The first settlers in the United States were English, and they came to the country in search of a better life. They found a land of freedom and opportunity, and they began to build a new nation.

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THE STRUGGLE FOR INDEPENDENCE

The struggle for independence was a long and hard one. The colonists fought against the British, and they won. They became a free and independent nation.

THE END

THE CONSTITUTION

The Constitution is the foundation of the United States. It is the law of the land, and it is the basis of our government.

Government of Archangel and in the Ural Mountains European larch (Larix decidua europea), which differs very little from the western European larch, forms vast forests. Farther east there appears fir and near Ural also "cedar" (Pinus cembra).

Siberian Coniferous Forests

Lake Baikal divides Siberia into two almost equal parts - western and eastern. Eastern Siberia includes the Governments of Tobolsk, Tomsk, Yeniseisk, Irkutsk, also the Provinces of Turgai and Uralok. Eastern Siberia includes the Provinces of Trans-Baikal, Iro-Amur, Amur, and Naghalien. The prairie region of Siberia includes the provinces of Semipalatinsk and Akmolinsk. The vast stretch of land adjoining the Arctic Ocean from the Ural Mountains to the Bering Strait is Arctic Tundra, devoid of forests, although here and there are found some dwarfed trees. Next to Tundra is a forest belt which also extends across entire Siberia to the Pacific Ocean. This forest is not always a continuous forest, as is commonly believed, but is interrupted by vast swamps and burns. The forests are mostly found on divides, particularly on the south slopes, affording them protection from the north winds. The most important species which make up the forest in western Siberia are spruce, pine, Siberian fir, "cedar" (Pinus cembra), and larch among the conifers, and birch with aspen among the hardwoods. Along the rivers

there are found mixed coniferous and hardwood forests in which, however, spruce and "cedar" predominate.

In eastern Siberia, particularly in the Amur and Pre-Amur provinces, another species of spruce (Picea ajanensis) is very common. Among other conifers is the Manchurian pine (Pinus mandshurica), a very valuable tree, Pinus funebris, a pine which is particularly common in the basin of the River Ussuri, and larch (Larix dahurica). Of the firs are found Abies nephrolepis, common in the Amur and Pre-Amur regions, and Abies holophylla, common in the southern Ussurian region.

2. The Mixed Coniferous and Hardwood Forest

The mixed coniferous and hardwood forest is made up of Scotch pine, spruce (Picea excelsa), larch, European fir (Abies pectinata), oak (Quercus pedunculata), basswood (Tilia parvifolia), maple (Acer platanoides), ash (Fraxinus excelsior), hornbeam (Carpinus betulus) and beech (Fagus sylvatica).

3. The Hardwood Forest of the Prairie Region

The hardwoods of the prairie region in European Russia are made up of oak (Quercus pedunculata), maples (Acer platanoides, Acer campestre and Acer tataricum), ash (Fraxinus excelsa), basswood (Tilia parvifolia), elm (Ulmus affinis, montana, campestris, and suberosa), and poplar.

There are three other conditions that must be met in order to be considered a "true" democracy. First, the government must be elected by the people. Second, the government must be responsible to the people. Third, the government must be able to protect the rights of the people. If these three conditions are met, then a country can be considered a true democracy. However, if any of these conditions are not met, then the country is not a true democracy. For example, if a country has a government that is not elected by the people, then it is not a true democracy. Or, if a country has a government that is not responsible to the people, then it is not a true democracy. Or, if a country has a government that is not able to protect the rights of the people, then it is not a true democracy. Therefore, in order for a country to be a true democracy, it must meet all three of these conditions.

2. The three conditions for a true democracy

The three conditions for a true democracy are: first, the government must be elected by the people; second, the government must be responsible to the people; and third, the government must be able to protect the rights of the people. If these three conditions are met, then a country can be considered a true democracy. However, if any of these conditions are not met, then the country is not a true democracy. For example, if a country has a government that is not elected by the people, then it is not a true democracy. Or, if a country has a government that is not responsible to the people, then it is not a true democracy. Or, if a country has a government that is not able to protect the rights of the people, then it is not a true democracy. Therefore, in order for a country to be a true democracy, it must meet all three of these conditions.

3. The importance of the three conditions

The importance of the three conditions for a true democracy is that they are the only way to ensure that the government is accountable to the people. If the government is not elected by the people, then it is not accountable to the people. If the government is not responsible to the people, then it is not accountable to the people. If the government is not able to protect the rights of the people, then it is not accountable to the people. Therefore, the three conditions are the only way to ensure that the government is accountable to the people.

Of the conifers are found only Scotch pine, which occasionally forms stands on sandy soils near rivers. The forests most characteristic of the prairie region west of the Ural Mountains are made up of oak, east of the Ural Mountains the birch is the most characteristic species with an occasional admixture of willow and aspen. Neither oak, maple, ash, elm, or basswood are found in the prairie region east of the Ural Mountains until the arar region is reached.

4. The Vertical Forest Belts of Caucasus

The mountains of Caucasus present several vertical belts. Near the shore are found large swamps occasionally covered with a dense growth of alder. On the edge of the swamps where the soil is drier are found oak, beech, hornbeam, basswood, ash and maples, covered with smilax and other vines. Higher up the mountains there begins a mixed forest of summer oak (Quercus sessiflora) blue beech (Carpinus betulus and balcanensis), and beech (Fagus sylvatica orientalis). Occasionally in mixture with these are found also elm, ironwood (Ostrya), chestnut, maple, basswood, ash, and aspen. Higher up the mountains are found coniferous forests comprising Scotch pine, eastern spruce (Picea orientalis) and Crimean fir (Abies Nordmanniana). Occasionally are found forests of other conifers such as Crimean pine (Pinus larica), maritime pine (Pinus maritima) and mountain pine (Pinus montana). The undergrowth characteristic of this belt is made up of Rhododendron and holly.

5. The Vertical Forest Belts of Turkestan

In Turkestan there may be distinguished five vegetation belts:

a. The alkali belt. This is characterized by large stretches of woodland made up of a shrub, not unlike our mesquite, Haloxylon amodendron, and along the rivers of poplar (Populus diversifolia).

b. The cultivated belt. This comprises the most fertile loose soil, requiring only water to give wonderful yields; much of it is already under cultivation. The upper limit of this belt is at from 2,000 to 2,500 feet.

c. The broadleaf belt. This does not extend above 4,500 feet. Several species of poplar are present, also birch. The other species are black walnut (Juglans regia), cherry, wild apple and pistacia, with some ash and maple.

d. The coniferous belt. This is chiefly made up of spruce (Picea schrenkiana). The upper limit varies from 7,500 to 10,000 feet. Above it is found juniper.

e. The belt of alpine vegetation.

6. The Hardwood Forests of the Amur Region

The Amur region presents several distinct forest types. Here the pure coniferous forest of the north mixes with the broadleaf forest, walnut with "cedar", fir and birch with bamboo, and grapevine with spruce. Among the more

 

[illegible]

 

important hardwood trees, two species of oak are most common, Quercus mongolica, which is found along the middle course of the River Amur and Ussuri, and Quercus grosseserrata, common in the Ussuri region; cork wood (Phellodendron amurense), which occurs along the middle course of the River Amur and in the south of the Pre-Amur region; two species of ash, Fraxinus mandshurica, which grows over the larger part of Amur and Pre-Amur territory, and Fraxinus rhynchophylla, which grows in the southern Ussuri region; black walnut (Juglans mandchurica), is found in the Amur region, and in the central and southern part of the Pre-Amur region; a tree known as Bischofia mandshurica, which produces a beautiful varnish; and two species of lacwood (Lilic amurense and Lilic mandshurica).

Methods of Selling Timber

The timber is sold both in private and state forests; (1) by the lot or area in case of clear cutting; (2) by quantity; in which case either the trees to be felled are marked or the trees to be left are marked; (3) by the tree; in this case the check is by the number of stumps.

Units of Measure

The universal wood measure in Russia is a cubic sajen, which means a stack of wood seven feet (1 sajen) high, seven feet long and seven feet wide. It is similar to our cord measure, except that the dimensions are different. A stack

The first of these is the one-way system, in which the traffic flows in only one direction. This is the simplest and most efficient system, and is used for most one-way streets. The second is the two-way system, in which the traffic flows in both directions. This is the most common system, and is used for most two-way streets. The third is the one-way system with a turn lane, in which the traffic flows in only one direction, but there is a separate lane for turning. This is used for streets with heavy traffic. The fourth is the one-way system with a turn lane and a bus lane, in which the traffic flows in only one direction, but there is a separate lane for turning and a separate lane for buses. This is used for streets with heavy traffic and a high volume of bus traffic.

1. The first of these is the fact that the Commission has not yet received any information from the Government of the United States regarding the activities of the Committee for the Liberation of the People of the East (CLPE) in the United States.

The following was received from the
Office of the Secretary of the
Department of the Interior
Washington, D. C.
June 1, 1906

of timber seven feet high, seven feet long, but only 3½ feet wide is one-half of a cubic sajen and will take, therefore, two of such stacks to make one cubic sajen. In some places, like on the River Volga, the unit of measure is a stack of wood five sajen (7 x 5 = 35 feet) long ("pisterik"); at other places the length is 10 sajen (70 feet) ("diassterik"), most commonly, however, it is one sajen (7 feet) long. A cubic sajen contains, therefore, 343 cubic feet (7 x 7 x 7) of stacked wood. For purposes of estimating in all Government forests a normal sajen, equal to 350 cubic feet, is adopted as a unit. This is the solid contents of a cubic sajen. Instead of expressing the stand in board feet, the Russian foresters express it "normal sajen".

The contents of the trees is determined in cubic feet and the sum is divided by 350, which gives the number of "normal sajen" in the stand.

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TABLE 1

Location	Depth
1. 1000 ft.	1000
2. 1000 ft.	1000
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Conclusions

1. Russia possesses the largest forest area of the world, containing the most valuable species used by the industries of the civilised world. That the export of timber is capable of great increase as compared with the forest area is shown in the following table:

	<u>Timberland (acres)</u>	<u>Export of timber</u>
Russia	1,520,000,000	\$ 80,250,000
United States	500,000,000	134,437,000
Scandinavia	51,000,000	120,489,000
Austria-Hungary	65,000,000	79,203,000

2. How rapidly the timber export is growing and what an increasingly important part it assumes in Russia's trade balances may be judged from her export of timber into England for the last ten years as compared with Scandinavia and the United States (in per cent of the entire import to England):

	1905	1907	1909	1911	1913
Russian timber	35%	37%	48%	47%	51%
Scandinavian timber	33%	32%	28%	25%	28%
United States timber	33%	31%	27%	28%	21%

According to the Reconstruction Report of England, the amount of "load" of softwood timber in pit wood imported into England during the years prior to the Great war, 5,190,530 "loads" came from Russia.

3. Before the war, 42 per cent of all Russian exports came out through the Baltic ports, Pskovsk, Kronstadt, Riga, Libau and Windau.

4. During the war a great change has taken place in the timber export of Russia which will become permanent. Sixteen million acres adjoining the Baltic provinces which supplied the bulk of export timber are in the fighting zone and have been ruined. The regions from which the export timber will take place are the north and north-western forest regions and Archangel will become the chief source of export.

5. The need of timber in the Allied markets offers wonderful prospects for the Russian timber industry. By the proper development of the country Russia will be able to deliver the bulk of the timber necessary for the Allied countries. It is very possible that in this line Russia will not meet serious competition either from Scandinavia or from the New World. As to Austria Hungary, she will have her own needs, and aside from this a big part of her rich Galicia was destroyed during the war, so that she will have no surplus to export.

6. The development of Russia's timber industry and the export of Russian timber to the European market means for Russia the practical solution of many of her financial difficulties. The development of the timber industry will create a favorable foreign trade balance and will assist in the payment of the national debt.

7. No other resources in Russia will be so easy to convert into cash as her timber.

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8. It is of the utmost importance to England that the forest resources of northern and northeastern Russia, upon which she depends, should not fall under the control of German agents and middlemen. That the British Government realizes the situation is clearly shown by the fact that it has recently sent Professor "Lobkovsky," of the University of Edinburgh, to lead over the district in that region and report upon the action to be taken by the British Government.

9. To prevent Germany from taking control of Russia's timber resources, it is essential to stimulate the development of the lumber and wood-using industries within Russia itself. As long as Germany will use Russia as a source of raw materials and prevent the development of the Russian lumber industry, the advantages will be on the side of Germany.

Great Britain and France are almost exclusively consumers of Russian sawn lumber and other manufactured forest products. German lumber industry is almost entirely built on Russian raw material, the manufactured products of which, as for instance paper, are later re-exported to Russia. The development of the lumber industry in Russia will tend to eliminate Germany as the manufacturer and middleman of the Russian timber resources.

 

10. After the first revolution the provisional government made arrangements with the British government to lease directly to the latter blocks of timber, 500,000 acres in extent, for a period of from 30 to 35 years. The only condition upon which this lease was made was that the cutting should be made under the supervision of Russian foresters and that the material be worked over in Russia itself.

11. The Region of Archangel now has 50 sawmills.

12. These facts indicate the importance of Russian forest resources in her financial and economic rehabilitation and therefore should be considered in any plan which the Allies may adopt for the economic rehabilitation of Russia.

THE FIRST PART OF THE HISTORY OF THE

REIGN OF CHARLES THE FIRST

IN THE YEAR 1625

BY JOHN BURNET

OF THE UNIVERSITY OF OXFORD

IN TWO VOLUMES

LONDON

Printed by J. Sturges, in Strand

1724

THE SECOND PART OF THE HISTORY OF THE

REIGN OF CHARLES THE FIRST

IN THE YEAR 1625

BY JOHN BURNET

OF THE UNIVERSITY OF OXFORD

IN TWO VOLUMES

LONDON

Printed by J. Sturges, in Strand

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THE THIRD PART OF THE HISTORY OF THE

REIGN OF CHARLES THE FIRST

IN THE YEAR 1625

BY JOHN BURNET

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LONDON

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1724

U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
FORESTS OF EUROPEAN
AND ASIATIC RUSSIA

- LEGEND
(DENSITY EXPRESSED IN PERCENT OF LAND AREA)
- CONIFEROUS FOREST
(Pine, Spruce, Larch and Fir)
- 25 to 50+ PERCENT
 - 10 to 25 PERCENT
- MIXED CONIFEROUS AND HARDWOOD FOREST
- 25 to 50+ PERCENT
 - 10 to 25 PERCENT
- HARDWOOD FOREST
(Birch, Beech, Oak, Elm and Basswood)
- 25 to 50+ PERCENT
 - 10 to 25 PERCENT
- PRAIRIE
- SEMI ARID AND DESERT REGION
- TUNDRA
- MOUNTAIN TOPS AND ALPINE FLORA
- BOUNDARIES OF TIMBER REGIONS

SCALE
0 200 400 600 800 MILES

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