INI F1/88

DATE 7 April, 1988

COPY 49

DEPARTMENT OF
EXTERNAL AFFAIRS
OTTAWA,
CANADA

EXTRACTS FROM THE SOVIET PRESS ON USSR FORESTRY AND FOREST-BASED INDUSTRIES

JANUARY - 1988

Comments or queries regarding this publication should be directed to:

Department of External Affairs, INI,
A-2 Lester B. Pearson Building,
125 Sussex Drive,
Ottawa, Ontario
K1A 0G2

TABLE OF CONTENTS

TIMBER AND WOODWORKING

Need to Develop Above-Ground and Airborne Felling Techniques

by A. Zaikin, Engineer

As has been noted in this publication before, the forests in certain areas of the country, which previously were considered richly forested, such as the European North and the Ural region, are thinning. We believe there are two main causes behind this phenomenon. The first is the fact that logging volumes are not set in accordance with any scientific study or data. Secondly, there is no set of advanced, environmentally non-damaging logging equipment which would make it possible to harvest the mature tree without harming the undergrowth and the soil.

While comparing the two types of forest utilization proposed by the foresters, we should note that the first type, which comprises clear felling with subsequent reforestation by planting, leads to a massive ecological jump from complete annihilation of the forest to a slow rebirth and restoration of all its functions. The second method, consisting of types of felling operations that spare the forest environment, is preferable because the forest will continue to exist without any massive changes in its state.

The first route is more attractive to the timber industry since it simplifies the process of developing felling technology. Following this path, timber industry engineers have created a set of logging equipment that does away with manual labour at the felling site. While accomplishing this, however, they have taken a step backwards in the attempt to preserve the forest environment. At one time this might have been considered justifiable. But now that fifteen years have passed since the creation of feller-bunchers and feller-skidders, our scientists should be working on models of a new generation of felling equipment.

As this newspaper has commented before, the system developed now more than 15 years ago, based on the utilization of the LP-19, LP-18 and LP-33 units, is now reaching its apogee both in terms of productivity and in the extent to which it can be further put to use throughout the industry.

In other words, the factors which contributed to improved economic indicators are now being exhausted and this is why a further increase in the technical and economic indicators of such systems of machines is severely limited. These units are far from ideal as far as their ability to preserve the forest environment is concerned, as well as to the extent to which they are able to meet ergonomic requirements.

The conservative thinking processes of the experts who are charged with mechanizing the industry, is seen clearly in the fact that they envisage no other solution to the problem other than the creation of an "ideal" tractor (chassis), upon which certain improved versions of existing logging systems could be mounted.

Relying on the utilization of caterpillar and wheeled vehicles for bundling and transporting the logs from the felling area to the more solid logging trails and spur roads, simply cannot lead to success because these engines are at the limits of their capacities, as determined by the bearing capacity of the soils and the terrain of the felling site. Therefore, developing a new generation of felling unit based on these types of engines would not eradicate the problem of roadability and would also do nothing to dispel the negative effects these units have on the forest environment.

Thirty years ago I proposed a possible logging mechanization system based on a portable skyline unit (PSU). Up to this time, unfortunately, this solution has not been seriously considered by leading experts in the timber industry. If we look back in history we can well remember the time when cable skidding apparatuses successfully competed with the tractor skidders at the felling site, particularly when working in unfavourable terrain and soil conditions. Later, however, the tractors prevailed. This was mainly because of the advent of the bulldozer and faster improved tractors. The units were obviously more promising in that they could be equipped with mechanical devices that would eliminate the need for manual labour at the felling site.

At present we have a significant number of Soviet devices and theoretical research projects which would make it possible to develop an automated cable felling unit. The problem is, however, that not a single institute involved in logging mechanization is carrying out experimental tests and trials on these devices. The units have been set aside as dead capital. Several variants of PSUs applying mechanized felling in flat areas and manual felling in mountainous conditions, are well known. The operative principle in such a unit is based on the utilization of two portable masts, one of which moves along the logging trail while the other moves along the spur road. A cable is strung between the masts and an automatic clamp shuttles along the cable. The trees are carried one by one at a height of from four to five metres. As the trees get to the main mast they are bundled together and then loaded onto logging trucks. Using this type of unit at the felling site would make it possible to harvest the trees comprising the upper story only, while the

trees measuring up to ten metres in height would remain untouched and the soil would not be damaged. When the well-known multi-operational units, such as the Bush combine, for example, are used, the various logging operations are carried out consecutively. When one working part is in operation all the others are idle. With the PSU, on the other hand, all the working parts are in operation at the same time, thus creating an operational flow. This is a new quality in multi-operational logging units. Given the fact that the PSU is a united, mechanically-connected system of machines, full automation (robotization) is a possibility for work on the main mast, where, if necessary, it would be possible to carry out delimbing work and to sort the trees according to species and dimensions. We must also bear in mind that it would be simpler and cheaper to electrify timber transport and timber felling operations based on this type of system.

The creation of this type of unit would make it possible to raise working and production conditions to a new level in felling operations and to help preserve the forest environment.

This solution can be termed the "above-ground" approach but there is yet another variation-"airborne", involving aviation. The first variation was investigated bit by bit by amateur enthusiasts but the second has been systematically tested by experts from the Caucasian branch of the All-Union Scientific Research Institute for Forestry and Forestry Mechanization (VNIILM) since 1979.

I have been acting Chief of the Helicopter Timber Transport Laboratory of this Institute since July of 1979. The laboratory, which had a staff of six young experts, began to develop two different

technological variants at the same time: clear felling on a restricted area of felling site with timber shipped in assortments, and selective felling of uprooted trees.

During the first two years of its existence, the laboratory was occupied with a great deal of experimental research used to draw up temporary instructions for the first variation. The research was also used to develop prototypes which were tested with positive results. I was forced to leave the Caucasian branch of the Institute because of the low morale and severe psychological problems experienced by the workers in the group. All my co-workers, who had worked on the project with me, left as well. The saddest thing of all, however, was the fact that neither the scientific council of the branch nor the Party bureau chose to defend these promising technical and technological developments on the use of helicopters in felling work.

In an attempt to prevent the curtailment of research on this technology, I wrote a letter to the USSR State Commitee for Science and Technology in 1984. In response, I received a letter indicating that further work on this technology would be continued in 1985. But 1985, 1986 and 1987 have all gone by without any further work on this technology.

The timber industry desperately needs equipment which would make it possible to harvest the timber without harming the forest environment. Such technical means are possible and they already exist. Unfortunately, however, they exist only on paper. In order to realize this dream we have to begin a wide programme of experimentation which would make it possible to create a new generation of felling equipment based on an entirely new concept.

Lesnaya promyshlennost
16 January 1988
Page 2 (Slightly abridged)

Kirov Oblast: Financing and Production Problems at the Moloma Wood Chemicals Plant

By V. Tsybin, Director

Approximately once every six months representatives from the sanitary and epidemiological station come to the Moloma Wood Chemicals Plant and threaten to close us down. They have every right to do this - we have contributed quite enough to harming the environment.

Construction of the plant began in 1956. No-one worked very hard on the project and at times little progress was made at all. This is why the first phase, consisting of two retorts for manufacturing charcoal and a boiler for the production works, was finally ready for use fifteen years later. Immediately after that we were given the order to set the plant into operation. Our attempts to demonstrate that operating without purification facilities could cause unwarranted damage to the environment resulted in nothing. The higher authorities were adamant: "It took you long enough to build the plant and the country is in great need of charcoal. You had better get down to making up for this loss of production." The fact that it was not the plant that was responsible for the extended construction phase, but rather the higher authorities themselves, did not, of course, enter into it.

Thus, we began operations without any protective facilities. We attempted to burn the waste products but, given that they consisted of more than 80% water, this entire operation was of little use. We poisoned the Kichug river that runs

alongside the plant and we spread so much "dung" over the land that we can't even estimate the extent of the damage.

Finally, five years later, purification facilities and a chemical plant were put into operation. It appeared that we were now to run a "normal" operation but then we were hit hard by other problems. The number of personnel at the plant increased but there was no concomitant expansion of social amenities. According to the plan, the workers' settlement was to have been built at the same time as the plant itself, but the first apartment block was built only in 1975. There was no highway connecting the plant to the regional centre. It took days to get to the clinic. The workers began to abandon the plant and it would have been ridiculous to expect the plant to run at full capacity under these conditions.

Nevertheless, we were asked to produce at planned capacity right from the start - 14,000 tonnes of charcoal annually. This was a completely unrealistic target. It was unrealistic mainly because of discrepancies in the design. It became clear after the chemical plant was put into operation for example, that the boiler would have to be completely reconstructed. It ran on coal which made the steam pressure "jump" yet the production process in the plant required a steady supply at constant pressure. It took several years to goad them into changing the design and it took another five years to actually transform the boiler into an oil-burning unit. Work on this project is still not completed.

As a result of all these mishaps the directors of the plant have become constant supplicants. They had to beg the designers to review

the technical specifications, urge on the builders, and try to convince the higher-ups to set less demanding targets. We needed a break both to complete the reconstruction of the timber yard and the cross-cutting shop and to replace the equipment that had outlived its service life.

Three years ago the "Soyuzleskhimprom" Association decided to compromise: it cut the charcoal production plan target down to 8,800 tonnes. The plant was charged with reaching design capacity only by the end of the current five-year plan. The workers got down to work and, having taken a good look at our reserves, we decided to bring production up to 9,500 tonnes last year and to 11,000 tonnes this year.

7.5 million roubles were allotted for technical retooling. After the reconstruction of the main production facilities we would be in the position to produce 32,000 tonnes of charcoal annually. We wanted to build a finished products warehouse and we dreamed of acquiring track scales and of bringing the auxiliary shops up to optimum production. Most importantly, three million roubles were to be invested in environmental protection measures.

Recently, however, the plant was transferred to the jurisdiction of the "Kirovlesprom" Association, and the situation changed radically. The "Kirovlesprom" executives took our plan to be too undemanding and they increased it by 1,700 tonnes, that is by more than 16%. Pressed in this way, we had no time for the reconstruction project. It would appear that the "Kirovlesprom" has come to a "iron" conclusion about our operation: "you've already accrued losses of approximately 40 million roubles of state funds, - don't ask for more".

Yet the plant could become profitable. All that is needed is to organize operations rationally. Alas, however, no one is paying any attention to our "ambitions": "Your enterprise has been planned to operate at a loss. All you have to do is to limit your losses to 1.6 million roubles annually. The problem is that such a suggestion is degrading in today's economic climate.

The planned design envisaged a shop for packaging edible acetic acid. The shop was built but we were not given any equipment for it. As a result, the building stands empty and we are suffering more losses. Meanwhile, the Dmitrievskiy plant, where our acetic acid is being shipped for packaging, receives approximately 60% of any profits from sales.

In order to cover our losses incurred by the unprofitable production of charcoal and acetic acid, we had originally planned additional production of 8,000 tonnes of ethyl acetate and 15,000 tonnes of butyl acetate. The ethyl acetate shop is running at just 60% capacity and the butyl acetate shop is not operating at all since there are no customers.

We have asked the Central Scientific Research and Planning Institute of the Wood Chemistry Industry (TsNIILKhI) and the Ministry of the Timber, Pulp and Paper and Woodworking Industry of the USSR for help. This was the answer we received: "While you were in the process of building, the new capacities were distributed to the existing enterprises". But it was not our fault that it took such a long time to build. If they really wanted, they could find a way out by either redistributing the production capacities or giving the plant another production specialization.

Not so long ago, this paper published an article about the shortage of charcoal.* We are willing to take on the production of an extra 18,000 tonnes of high-quality charcoal. This is quite a paradox. We cannot get permission to do this. Does this mean that it is cheaper to buy charcoal substitutes abroad than to invest in installing additional retorts in our plant?

Now, when all the enterprises are converting to a self-financing and self-reimbursement system, we essentially find ourselves beyond the pale of perestroyka. The "Kirovlesprom" Association blames the administration of the pulp and paper and wood chemistry industry, under whose jurisdiction we would appear to fall, and the administration in turn blames the "Kirovlesprom" Association, which also runs our operations ...

I sit in my office and dread the next phone call from the sanitary and epidemiological station. Previously I could at least answer them with a clear conscience, but now?

Lesnaya promyshlennost
19 January 1988
Page 2 (Full text)

---

* See "Charcoal Production: Low Volumes and Inferior Quality," -- Extracts from the Soviet Press on USSR Forestry and Forestry-Related Industries, June 1987, pp. 2-7.

New Facilities at the El'ninskiy Logging Enterprise (Smolensk Oblast)

The new lower landing at the El'ninskiy logging enterprise will be able to handle up to 60,000 cubic metres of timber annually, or one third more than the existing landing. The All-Union State Institute for the Planning of Forestry Enterprises (Soyuzgiproleskhoz) is now drawing up the construction plans for this project. But the increased volume is not the most important feature of the plan. At the present time, the enterprise for the most part ships unfinished logs to its consumers. However, with the setting into operation of the modern landing, the enterprise will also build a highly- productive processing shop which will produce clapboard, crates, and other finished goods. The semi-automatic line will be equipped with pocket accumulators and automatic log kickers.

Lesnaya promyshlennost
30 January 1988
Page 2 (Full text)

Wastage of Raw Materials in the Mogilev Oblast

The logging enterprises of the Mogilev Oblast remove only long logs from the forest, leaving behind the tops, branches, lesser trunks and stumps. N. Novikov, the Director of the Osipovichi forestry enterprise, showed us one of the most recent cutover areas where roundwood measuring up to 24 centimeters in diameter was left behind.

"There are at least 15 to 20 cubic metres of timber left here," he noted. "Do you know why it was abandoned here? The shorter long logs fall out of the trailer. The workers take only the longer ones since they have no other form of transport at the moment."

There are quite a few of these littered felling sites in each of the forestry enterprises. In 1987 alone, the timber industry based in the Mogilev Oblast had to pay 43,000 roubles in fines for undercuts, inadequate cleaning of the felling sites, and for damaging plantings.

Why are the loggers continuing to treat the forests in such an offhand manner? They act like this because the methodology currently accepted in the industry allows it. When a forestry enterprise gives a logging enterprise a prospective felling site, the logging enterprise is allowed to either add or subtract 10% of the calculated standing timber - depending on the quality of the stand. Furthermore, the evaluation is quite arbitrary. This is why the logging enterprises never run a loss even when conducting the most negligent of felling operations.

A Lakhtanov, Chief of the Production and Technical Logging Division of the "Bobruyskdrev" Association, one of the largest enterprises in the industry, frankly admits: "We have neither the energy nor the resources to process the tops of the trees, the branches, twigs and stumps. We need to be given more specialized equipment, better transport and more people. Furthermore, our wood fibreboard plants already have a large enough supply of the usual raw materials, consisting of waste wood from the furniture-making shops."

Each year the Bobruysk hydrolysis plant processes more than 100,000 cubic metres of good-quality timber into chip. Up until quite recently railcars full of excellent logs raced from the Urals to the Osipovichi paperboard and roofing paper mill carrying 30,000 cubic metres of timber annually. Even though both of these enterprises would be willing to work with waste wood alone, no one is prepared to supply them. The loggers, who are preoccupied with their production targets, are obviously not interested in dealing with these scraps. How much of this good raw material in being wasted and how much of it is being dumped right beside processing plants that could make use of it?

A. Ponomarev, Chief of the Forestry Administration of the Mogilev Oblast Executive Committee, is immediately ready with an answer: "We can tell you exactly. Each year loggers in our Oblast alone harvest up to 950,000-970,000 cubic metres of timber. This means a total of approximately 100,000 cubic metres of tops, branches, twigs and stumps. This is the amount recorded in our documentation. In actual fact, a lot more is left behind - there would be more than enough to supply the hydrolysis plant for a year."

There are only 42,000 hectares of mature forests left in the Mogilev Oblast, or 4% of the total forest area. Each year, 4,400 hectares are slated for felling. It is not hard to calculate that just under ten years of logging operations remain.

Lesnaya promyshlennost
14 January 1988
Page 2 (Slightly abridged)

Restructuring of Logging Operations Near Lake Baykal

Silence reigns in the dense coniferous forests of the coastal zone of Lake Baykal in the Buryat ASSR. The routes taken by the powerful logging trucks and the usual paths followed by the felling crews from the four large logging enterprises administered by the "Zabaykalles" Production Association in Buryatiya, have all been changed.

Felling operations have been prohibited on an area of more than three million hectares where logging used to be carried out annually. The Itantsinskiy and Baykal'skiy logging enterprises will start to harvest timber in forests located beyond the water protective zone in the eastern regions of the autonomous republic. The Klyuevskiy logging enterprise, which is located very close to the lake itself, will be given a new production specialty. Foresters have begun reforestation projects in the snow-covered Baykal taiga. This year eight comprehensive forestry enterprises will be established here.

Lesnaya promyshlennost
12 January 1988
Page 2 (Full text)

PULP AND PAPER

Results of 1987 High-Speed Newsprint Machine Production Competition

Newsprint mills administered by the "Soyuzbumaga" All-Union Production Association fulfilled their 1987 production plan by 100.3%. The enterprises manufactured 70.61 million square metres of above-plan production.

Of the 11 newsprint machines participating in the ongoing competition among high-speed units, ten fulfilled their plans. Nevertheless, this was the second time that an overall winner was not declared for the machines in the first group. The competition in the second and third groups was fierce.

The operators of the No. 4 machine in the Kondopoga Pulp and Paper Combine won the competition in the second group. This Combine is part of the "Karellesprom" Association. The No. 4 team managed to reduce the mass per square metre of the paper sheet by a further 0.8%

The No. 7 Balakhna machine kept its position as leader of the third group. It led the way in lowering the mass per square metre of the paper sheet, reducing it by 2.3% This machine also produces a high proportion of paper stamped with the State Mark of Quality.

The No. 6 Balakhna machine, which previously enjoyed good results, had an embarrassing performance in 1987. It alone of the eleven machines failed to meet its production targets.

This year the production competition will be fought under the new management conditions prevailing in the economy. This means that the teams will have to try harder to save raw materials and energy.

Lesnaya promyshlennost
30 January 1988
Page 1 (Abridged)

Kotlas Paper Shipped to Cuba

Czechoslovakia, Mongolia, Cuba and other countries gladly purchase the paper-bag paper manufactured at the Kotlas Pulp and Paper Combine. They have only the most flattering comments to make about this product.

The following is one of the telegrammes sent to the Combine from the directors of the Cuban Committee for Material and Technical Supply and from the "Maprinter" Company: "We received the contracted shipment of paper-bag paper well before schedule and found the quality to be good. This paper was used to make packaging for construction materials as well as for foodstuffs and other goods vital to the Cuban economy. We would like to congratulate you and to express our appreciation for your services."

Last year the Combine sent 8,800 tonnes of paper-bag paper before schedule to Cuba. A similar contract has been agreed on for 1988.

Lesnaya promyshlennost
16 January 1988
Page 1 (Full text)

High Quality KhB-1 Pulp Produced in Ust'-Ilimsk

The pulp mill in the "Ust'-Ilimsk Timber Industry Complex" is now producing KhB-1 chemical pulp which meets the highest world standards for purity and whiteness. The mill has produced 370 tonnes of this high-quality product, generating profits of 4,070 roubles.

The mill workers began to work persistently on this project in April: they developed an oxidizing alkalization technology and rebuilt the bleached pulp screening facility.

Lesnaya promyshlennost
14 January 1988
Page 2 (Excerpt)

Rubble-filled Shipments of Chip Disrupt Pulp Production at the Bratsk Timber Industry Complex

Old production mistakes which managers can't seem to rid themselves of, are today, under the new working conditions, beginning to be felt with unusual force and sometimes in the most unexpected way.

At first glance, it looks like we are discussing an entirely technical problem. We refer to the so-called mineral additives (sometimes simply sand and stones), which, together with the wood chip, are fed to the pulp digesters, and which break down the pumps and high pressure feeders, rip the pulp screens, pollute the chemical pulp and, as a result of all of this, sharply reduce the quality of the finished product.

Last year state inspectors rejected 5,000 tonnes of production from the No. 2 mill of the Bratsk Timber Industry Complex. More than 30,000 tonnes were reregistered as lower grades. For each of these tonnes, the mill, and this means the Association, lost from 100 to 300 roubles. It failed to receive more than 300 roubles because of the downgrading of such indicators as dirt content. This is the legacy that the Bratsk workers brought with them as they changed to the profit and loss accounting system. To hope for a rapid increase in profits under such conditions is, of course, unthinkable.

The situation should be clear to everyone: most of the raw material is shipped in to the combine from suppliers and the reason why it is dirty is that it travels in dirty railcars. This means that there has to be a rigorous initial inspection process to prevent stones and other foreign material from getting in, and, at the same time, to determine who the unconscientious suppliers are, and to fine them.

One can't really accuse the state inspection officials at the Bratsk Timber Industry Complex of doing nothing. Last year they visited the supplier enterprises several times, determined who the main transgressors were and set up an entrance check. They met with some measure of success. Over the year more than 70,000 tonnes of the supplied chip was downgraded to a lesser category, to be used just in hydrolysis or board production. Part of this amount was simply dumped. The "Irkutsklesprom" and "Krasnoyarsklesprom" suppliers paid out approximately 300,000 roubles in fines. The flow of poor quality and dirty raw materials let up for a while. In January 1987 more than 20% of the supplied material was dumped whereas by the end of the year less than 10% was rejected. So what is the problem?

Judging from the statistics, things seem to have resolved themselves. However, a brief visit to the shops in the mill is enough to convince you that these measures are clearly insufficient. Beside the stone-catching screens are mountains of cobblestones and pebbles, almost six feet high. Workers in one of the digesting and washing shops have even invented a kind of swing: using this the diffusor workers can throw the stones to the installation opening and from there the entire load of stones can be carried off by truck.

The mill, by the way, is armed to the teeth with stone-catchers. They have four units made on the premises designed for recovering large objects. These are installed in the bleached pulp line. Two imported units are in operation in the viscose pulp mill. Hundreds of thousands of roubles were spent on these mechanisms at a cost not foreseen in the original project. Then think of how much money has been spent repairing the main production facilities which are always breaking down.

What a disaster! Fine sanctions, entrance controls, imported stone catchers, and yet we get no results. It all seems like wasted effort.

"We can't possibly reject every railcar load of chip, not by a long shot," Yu. Ogay, director of the state inspection committee, notes. According to the All-Union State Standard #15815-83 for industrial chip, the chip can officially contain up to 0.3% additives. This translates into approximately 70 kilogrammes of stones in each railcar. This innocent looking 0.3% adds up to more than 200 tonnes of stones per month for the plant as a whole. Several carloads of gravel are fed into the digesters, the

washing units, the pumps and the pipelines. Bark, sawdust and other rubbish gets into the chemical pulp through the rips torn in the screens by the stones.

Meanwhile, according to the All-Union State Standard #9571-84 for bleached sulphate pulp, against which the actual production from the mill is judged, there is no allowance made for this 0.3%. Which All-Union State Standard should be followed?

The directors of the state inspection committee of the paper and timber industry complex drew the attention of the ministry's standards and quality administration to this absurdity in the State standards in the middle of 1987. They received an answer from the All-Union Scientific Production Association of the Pulp and Paper Industry. This is briefly the essence of their position: maybe it isn't exactly 0.3% but some additives are unavoidable; we are preparing some proposals in this regard; the USSR State Standards Bureau will resolve the problem. When this will happen is not known.

This out-of-date standard is not the only problem. The directors of the Bratsk Timber Industry Complex have been unsuccessfully trying for many long years to arrange for the assigning of specialized railcars which would carry only industrial chip. This would obviously result in a reduction in the dirt content of the raw material. But nothing has changed. Apparently, this is a "trivial" request.

The combine itself, of course, could do more. The inspection committee, for example, has noted that various grades of chip are mixed up together in the storage facilities. Low-grade dirty chip, destined for the hydrolysis and chip-board shops, is often used to made chemical pulp.

We simply cannot allow ourselves to continue as if nothing were the matter. The situation at the plant has deteriorated to the extent that last year they had to install a special production line to process the chemical pulp that had been rejected by the state inspection committee. It was then transferred to the No. 1 mill to be made into paperboard. They were able to sell most of this pulp as a result of direct contracts with consumer industries. However, the situation has changed since the beginning of the new year: all production not appearing in the supply plan will no longer be paid for. Consequently, there will be a sharp increase in losses.

The workers at the mill are not confident that the flow of rocks will dry up or that there will be an improvement in the quality of the raw material. This is why they are not planning this year to produce any high-grade KhB-1 chemical pulp. More than 30% of production will constitute poorer quality KhB-7 pulp. This pulp is much cheaper. Almost 100 roubles will be lost per tonne. This means, of course, that there won't be any bonuses for the workers in the near future. The mill could lose its people. It will become more difficult to attract the necessary experts to the mill: shift foremen and technical engineers.

The pulp mill at the Bratsk Timber Industry Complex is the headquarters enterprise. Two-thirds of the mill's commodity production is manufactured here. Any kind of breakdown in the pulp production lines has an immediate effect on the economy of the complex and, thus, on the life of the many thousands of workers it employs. Strange as it may seem, people already appear to have become accustomed to these disruptions.

Lesnaya promyshlennost
26 January 1988
Page 2 (Full text)

Pulp and Paper Mills Still Endanger Lake Baykal

Today everybody knows that building massive industrial enterprises on Lake Baykal was a big mistake. It has only resulted in disaster.

Where has the famous crystal-clear water of the lake disappeared to? In the region around Baykal'sk, amidst the purification facilities, a patch of settled pollution (in twenty years it has spread out over almost 20 square kilometres) can clearly be seen by the naked eye.

There are decidedly fewer fish in the lake. Hydro-biologists from the Limnological Institute of the Siberian Department of the USSR Academy of Sciences and from Irkutsk University have determined that over recent years there has been a three- to four-fold reduction in the numbers of omul (Salmo omul). The females have become 1.5 to 2 times less fertile and the fish take two to three years longer to reach sexual maturity. The omul itself has become scrawny and tasteless and much less rich in oil than its ancestors.

The numbers of endemic algae in the lake have been reduced by almost a half. These algae include the Baykal Melozira, which is the main link in the food resource chain for the fish. To make matters worse, towards the end of the 1960s so-called green algae appeared in the lake and now has reproduced massively and is polluting the reservoir.

Recent research has established that the omul roe is perishing on a mass scale in the egg-laying areas along the Selenga river. The embryos, larvae and fry of this fish, which is very sensitive to toxins, have a very low survival rate.

Even before this, experts had described the appearance of a hideous growth found in the local endemic molluscs and crustaceans, a sure sign of the presence of negative process in the lake.

In general, the damage can be traced to the Baykal'sk and Selenga pulp and paper enterprises. Experts predict that, given current rates of pollution, mineralization of the water will increase to 1.5-2 milligrammes per litre by the year 2000. Nitrogen and phosphorus content will increase by 12 and 15 percent respectively.

This gravely threatens the ecosystem of Lake Baykal, and especially its unique species of flora and fauna, which cannot be found anywhere else in the world.

Therefore, everyone who truly values this "glorious sea" approves of the measures for protecting Baykal that were issued in May of last year in the decree from the Central Committee of the CPSU and the USSR Council of Ministers entitled "Measures for the Preservation and Rational Utilization of Natural Resources in the Lake Baykal Basin over the Years 1987-1995". This document calls for the respecialization of the Baykal'sk Pulp and Paper Combine, transferring it to a form of ecologically pure production. But this will all be done in 1993, where compensatory capacities will be built at the Ust'-Ilimsk Timber Industry Complex. The plan is to put the Selenga Pulp and Paperboard Combine on a closed-water cycle. This will cost a great deal but there is no 100% guarantee that it will work.

This means that the Baykal'sk Pulp and Paper Combine will continue to pollute the lake with its

harmful effluent for a minimum of still five more years. The Selenga Combine is also not insured against possible accidental discharges. The approved engineering project to build a pipeline for discharging the effluent from the Baykal'sk Pulp and Paper Combine into the Irkut river would, according to scientists and the public, amount to a purposeless waste of tens of millions of roubles. It would have to be built in the difficult geological conditions of the Khamar-Daban range, and would only serve to further pollute nature.

And isn't it obvious that the Irkut river, which has remained unsullied up to now, and along which is located the most important recreational zone in the oblast centre comprising beaches, guest-houses and pioneer camps, will become polluted as well? We will no longer be able to collect drinking water from the river and the fish, especially the shoals of omul and whitefish which come up river from the Bratsk reservoir to spawn, will perish. Secondly, a large amount of timber will have to be felled in order to lay down the line. This timber is growing in the water-protective forest belt. The landscape in the most beautiful regions in Transbaykalia will be scarred and the structure of the soil will be destroyed in the nature reserves and protected zones.

The most important objection is that the pipeline will not provide a 100% guarantee that the harmful effluent will be neutralized. In the case of an accident, which, incidentally are very frequent at the Baykal'sk Pulp and Paper Combine, the effluent would flow directly into Lake Baykal.

The introduction of this pipeline might give rise to the illusion in management circles that the problem of protecting the lake from the pulp and

paper combine is solved and that the respecialization of production at the combine can proceed at an unhurried pace.

This is not the case. We need to hurry. What we need isn't this expensive and ineffectual pipe but rather a rapid closing down of ecologically threatening types of production facilities in the Baykal protection zone.

Lesnaya promyshlennost'
28 January 1988
Page 2 (Slightly abridged)

FORESTRY

Forestry and Timber Industry Sectors to Work Together in the Future

by V. Antonov, Chief of the Forest Resources and Timber Industry Sector of the USSR State Planning Committee's Council for the Study of Production Forces

Forest utilization practices in the Soviet Union have become extremely complex. These difficulties are completely understandable and are to be expected. Our data on timber reserves show our potential capacities, yet they again confirm that we do not have enough economic know-how to manage our own rich natural resources.

We have more than our share of forest resources. However, each year we become encumbered with more setbacks and unresolved problems. Furthermore, the reasons for our lagging behind in the manufacturing of effective types of finished products are far more serious than those cited in the articles written by N. Medvedev, Chief of the Forestry and Forest Limits Administration of the USSR Ministry of the Timber, Pulp and Paper and Woodworking Industry, and by the Academician, A. Isaev.*

The first major problem is that the Soviet Union does not have a scientifically-based state policy on the utilization of forest resources. Instead of such a policy we have a flowering of "initiative" on the part of many dozens of ministries and departments. These initiatives are almost

*See, "Extractes from the Soviet Press on Forestry and Forest-Based Industries," December, 1987.

uncontrolledly destroying the forests. Anyone who isn't too lazy can take his axe into the forest and start chopping.

Secondly, the degree of development of the Soviet forest machinery engineering sector is very low and this is delaying the expansion of chemical and chemical-mechanical wood processing facilities. This, in turn, prevents us from achieving even an elementary level of comprehensive wood processing. In other words, state policy in the forestry machinery engineering sector does not facilitate an economical and rational utilization of our forest resources. It is no accident that, for example, the papermachines, paperboard machines and digesters in our mills are for the most port imported. In capitalist countries with developed timber industries, investments for equipment acquisition increase an average of 20-30% annually. This indicator is much lower in the USSR. Furthermore, there is a great difference between the levels of mechanization in forestry operations and in the timber industry. Also, not enough funds are allocated for industrial reforestation. The forestry sector is given less than one rouble per hectare of its forested area annually.

Thirdly, we have become chronically unable to build up our chemical processing facilities. Thus, the absolute growth of chemical pulp production in the USSR over the years 1971-1985 amounted to 3.3 million tonnes whereas in the USA it reached 10.7 million tonnes. We should also bear in mind that total US production of chemical pulp in 1985 was 45 million tonnes whereas the Soviet Union produced just 8.4 million tonnes.

Should we increase industrial felling in the European part of the country?

There is no simple answer to this question. Forest utilization in the European part of the country is one of our most complicated problems, and not just as far as the economics of the forestry sector is concerned. The problem centres on the need for a scientifically based evaluation of the state of the forest resources in various groups of forests in this zone and on the development and realization of advanced methods of forest cultivation and of forest exploitation, which would allow for the preservation of the environment and of the many various natural functions of the forest.

Judging by the average annual increase, which amounts to more than 300 million cubic metres, there are definite possibilities for increasing the volumes of main-use and intermediate felling in this zone. However, this important problems requires more than just a formal solution, if the ecological connections with the surrounding environment are to remain undisturbed. It is appropriate to note here that at present almost one third of the stands of the main forest-forming species in the European zone have been designated first-group forests with all the protective forest utilization rules and regulations this entails. Nevertheless, we cannot fully support the proposal to do away with any increases in logging volumes in first-group forests. I believe that it might be possible to find a partial solution to the problem of increasing logging in the European part of the country. But in order to do this it would be necessary to provide for additional capital investment in the development of our forest resources. It would be equally necessary to ensure that the plans for forest exploitation and

reforestation are not only carefully balanced but also carried out exactly. The investments would necessarily have to be concentrated in regions where they would have the greatest economic impact.

It is important to bear in mind that an expanded scale of logging operations in the European part of the country would be accompanied by increased expenditure on the development of a network of highways and railroads of general use and, more importantly, of year-round logging roads. The fact that the timber limits in this zone, where two-thirds of all the wood harvested in the Soviet Union is taken, have become depleted and that many enterprises have had to shut down, will also give rise to an increase in expenditure. This means that in the future we will have to make a great effort to ensure that existing timber extraction capacities will be maintained at current levels.

What exactly does a scientific approach to solving problems in the forestry sector entail?

This primarily means the integration of the forestry and timber industry activities into a single system based on three levels of comprehensiveness.

The first of these is the comprehensiveness of the territorial forestry and timber, pulp and paper and woodworking industry organizations on the enterprise, regional (rayon), oblast, kray, and union republic level.

The second is the comprehensiveness of utilization of timber resources and the maximum use of wood wastes.

The third is the comprehensiveness of territorial and industry planning and the administration of specialized branches and production facilities on a nation-wide scale.

Given the radical economic reform now underway, a great deal of attention should be concentrated on increasing the scientific foundation of the industry and, I repeat, on balancing the plans of development of the forestry sector and of the timber industry....We have to specify the functions of all the component parts of the forest complex, to perfect the system of planned indicators and of methods of determining them. In other words we have to achieve a radical improvement in management operations.

One master in the forest

I believe that this idea has to be embodied in the practice of socialist economic management. It reflects the objective laws of the complex economic and social development of all the interdependent branches of forest-related industries. Traditional forestry practice has always been based on the unity of felling and reforestation. This is an organizationally, technically and economically united interdependent system of industries, functionning under the dominant role of forestry. There is a deep interdependence between forestry and the timber industry. Any attempt to separate them arbitrarily can lead to serious and at times extremely difficult repercussions and mistakes.

The establishment of a single organization (a master in the forest) for both local and central

planning and administration, would be an extremely important development. Unfortunately, both the USSR State Forestry Committee and the USSR Ministry of the Timber, Pulp and Paper and Woodworking Industry have turned out to be rather indifferent "masters". They have clearly been unable to deal with the problems of reforestation and the rational utilization of timber. They are not bringing any kind of purposeful, scientifically-based concept of the rational and economical utilization of the forest to life since they have no understanding of such a concept at all. Furthermore, the two organizations are waging an insurmountable interdepartmental war, and wasting a tremendous amount of time and energy in doing so. This internecine strife has no small role to play in the fact that up to now there are no effective limitations, standing in the way of a reduction in the timber resources potential of the country, particularly with regard to its quality. This, in spite of the fact that we have masses of all possible types of official regulatory documents and instructions.

Thus, a single forestry complex requires a single owner. But it would be a mistake to create one along the lines of the agro-industrial complex. The forest is an exceptionally complex part of human activity, in which a complex of biological, forestry-related, engineering and technical sciences and knowledge is united in a whole. The forest is not simply a type of plant-growing operation confined to an annual crop cultivation cycle. Workers in the forest need decades in order to obtain end results - the labour of not just one generation. Other rules are in play in the forest and forgetting them at the present time has led to lack of control and to irresponsible practices in the utilization of forest resources. It is understandably impossible to

specify in detail what the single master of the forest should be like. But one can say with every certainty that the main element of a single forest complex must be a type of forestry operation that is indivisibly tied to the timber industry.

Lesnaya promyshlennost'
9 January 1988
Page 2 (Slightly abridged)

Central Forestry and Timber Industry Authority Required to Preserve Our Forests

by A. Smolenkov, Candidate of Agricultural Sciences

I often travel to Siberia, the Urals and to the Archangel, Kirov and other regions of the USSR in connection with my work. This year I travelled along logging roads from Bratsk to Krasnoyarsk. The trip gave me the unsettling impression that the taiga no longer existed per se. Instead, there are just bald hills (as in the Krasnoyarsk Kray, for example). Reforestation is not doing very well here because of the stony soils. There is a great deal of good-quality abandoned logs here as well. There are Angara pines with thirty-metre-long trunks. One could tentatively estimate that there are about thirty cubic metres of scrap lumber for every kilometre of road. A lot of commercially low-grade timber (coniferous wood at that) is simply piled up and burnt, after cross-cutting. This is done practically everywhere.

You can't help but ask yourself: why, given the numerous radio and television broadcasts and informative articles in the papers, hasn't any

progress been made? It seems to be that we have lost ourselves in a maze of bureaucratic corridors. The USSR State Forestry Committee isn't up in arms about the timber left behind along the roads because the USSR Ministry of the Timber, Pulp and Paper and Woodworking Industry is responsible for it. The Ministry, for its part, doesn't care about the tortured felling sites since the State Forestry Committee is responsible for replanting. This is why I support the idea of establishing a central organization in charge of both forestry and timber industry operations.

The fear that all our forests would fall prey to the axe after the formation of the USSR State Forestry and Timber Industry Committee is self-deceptive. Everything will be regulated by the Law of Socialist Enterprises. Control over operations must be of the strictest type and must, most importantly, be non-partisan. The forest must be run by one master - only then will it be possible to speak of uninterrupted and nondepletionary forest utilization. If the situation is allowed to continue uncharged, or with only a few changes here and there, no progress will be made at all.

There are great scientific resources concentrated in the two organizations. Yet they do not work together. Setting up a State Forestry and Timber Industry Committee is, therefore, a major priority.

Lesnaya promyshlennost'
7 January 1988
Page 2 (Slightly abridged)

Chemical Spraying Volumes Reduced in RSFSR Forests

"The application of chemical preparations is the sole effective method of countering the undesirable tendency of coniferous forests to be transformed into deciduous stands of little commercial value. Over the course of the Twelfth Five-Year Plan the industry intends to carry out an even greater volume of chemical spraying. Nevertheless, various local government organizations continue to shower the Ministry with protests against the use of chemical preparations in the forests..... The RSFSR Ministry of Forestry hereby requests the USSR State Planning Committee to issue a decree instructing the regional and oblast executive committees not to meddle in chemical treatment programmes in the forests."

This document with its request to "pressure" the local Soviets of People's Duputies, which, as is well known, are endowed in accordance with the Soviet constitution with full power, was not born during the infamous period of stagnation and total submission to bureaucratic ambitions. It actually appeared in the spring of 1987 when perestroyka was gaining ground and proclaiming its aims aloud. Getting a bit ahead of our story, we note that the request fell on deaf ears: no-one "instructed" the Soviets to cease and desist. The facts behind this case are as follows.

The public has long been expressing its concern over the use of the toxic chemical 2.4-D (butyl ether) in our forests. There were good grounds for this concern. Even someone with strong nerves would be shocked upon entering a forest that had been treated by this chemical. Imagine the following scene. Wherever you look there are naked, dried up birches and aspen. There is a disgusting

smell and an unnatural frightening silence reigns over everything. There are no mosquitoes, no small birds. Just a dead forest....

For a long time anything that was connected with chemical treatment was a "forbidden subject" for us journalists. Departmental scientific experts helped prove that chemical treatment did no harm whatsoever to the environment and certainly presented no danger to human health. There were, of course, some completely contrary scientific studies, but these were not considered. Many organizations gave the "go ahead" for carrying out chemical treatment, including the USSR Ministry of Health. All these "favours" protected the forestry sector like a shield.

Those who attempted to criticize the use of toxic chemicals in our forests were overruled by yet another argument - by reference to objective economic difficulties. Here is a typical example of this type of discussion. First of all, the replacement of conifer forests with soft-wooded broadleaved stands is not in the interests of the national economy. Furthermore, the young stands have to be tended on vast areas but there is no specially adapted technology for this type of operation and there is not enough manpower available. In short, the only solution is to use chemicals...

There were, of course, certain limitations on the use of chemicals. Chemical agents were banned in all forests of the first group, in second- and third-group forests located close to populated areas, heavily travelled roads and reservoirs, and in areas frequented by the public. Toxic chemicals had to be used primarily in underpopulated regions of the taiga.

This looked good on paper. Yet every year the planned volumes of chemical treatment operations increased. This resulted in the appearance of frightening notices in the press in the Kirov Oblast and in other oblasts of the RSFSR. These prohibited the grazing of cattle, cutting of hay and all agricultural work for a period of 45 days after the forests had been treated. Collecting mushrooms and berries was also categorically prohibited. Any bee hives located in close proximity to the treated area had to be screened. This hardly sounded like sparsely inhabited taiga reaches!

It is quite understandable that the public began to protest more vociferously. Several Soviets of People's Deputies prohibited the application of chemical agents within their territories. Lesnaya promyshlennost' was one of the first papers to write about this.

We received an official response to our article of July 15, 1986* from L. Mikhaylov, former Deputy Chairman of the USSR State Forestry Committee. He was extremely complacent: "The spraying of chemicals on young forests is carried out in accordance with current instructions, decrees and recommendations and has been approved by the USSR Ministry of Health"; "the human population and animal kingdom are in no way endangered by the chemicals now in use."

Today, when social democratization has made a significant advance, the situation has changed sharply. The RSFSF Ministry of Forestry sent a

*See Extracts from the Soviet Press on USSR Forestry and Forest-Based Industries, July 1986, pp. 50-56

curious document to the All-Union State Planning Committee. It states that in accordance with a decision made by the Councils of People's Deputies,

How have officials in the USSR State Forestry Committee and the RSFSR forestry departments responded to these new conditions? Their first reaction was to try to apply "pressure" on the Soviets of People's Deputies which were "obstructing" the fulfillment of the five-year plan. As is well known, nothing came of this plan. Then they had to think seriously about the after-effects of a strategy which was based on immediate economic advantages. Obtaining permission from the directing organizations to effect a sharp reduction in the spraying plan was actually not difficult. This year the RSFSR Ministry of Forestry will use toxic chemicals to tend only 50,000 hectares of young forests. This is eight times less than was planned previously. How then, however, are we to "fight against the undesirable replacement of species on vast tracts of land?" We have not been allocated a larger work force.

It must be stated that industry headquarters are completely fazed by this problem. The industry attempted through the USSR State Planning Committee to request that the "Soyuzsel'khozkhimiya" Association of the USSR State Agroindustrial Committee substitute less toxic preparations such as Utal and Fosulin (which are made in Soviet factories out of Hungarian raw materials) for butyl ether. Unfortunately, nothing came of this since the agricultural sector itself is supplied with less than 30% of its own requirements in these preparations. There is no discernable progress being made in our attempts to establish contracts with foreign companies. The USSR State Forestry Committee has not been working on types of chemical spraying

preparations that would not harm the environment: the learned men in this organization prefer to demonstrate in their dissertations that butyl ether is "harmless". This, of course, is much simpler than to think about creating a specialized technology so desperately needed for tending our young forests!

Lesnaya promyshlennost'
21 January 1988
Page 3 (Slightly abridged)

Sterlitamak, Bashkir ASSR: Winter Seeding Work

It's strange to hear the words "We've finished seeding" on a cold winter's day. But this is exactly what you would hear if you were at the Sterlitamak forestry beat where they have really been carrying out seeding operations in the middle of winter.

The local foresters have established plantations of birch in this unusual time of year. They have used their own seeds. They prepared them last spring when the trees were covered with sweet-smelling catkins. Collecting the 300 kilogrammes of seeds needed to grow seedlings on the two-hectare lot set aside for this purpose, was quite an undertaking. The young trees will be kept in this lot for two years and then they will be transplanted to the forest plots.

Sovetskaya Rossiya
24 January 1988
Page 2 (Full text)

Georgia: Vitex agnuscastus Plantations Produce Pepper Substitute

Saplings of the Vitex agnuscastus tree have been planted in the Georgian village of Tamisi on plots belonging to the experimental state farm of the Scientific Research Institute of the Georgian SSR Food Industry.

The fruit and leaves of this tree contain aromatic substances, similar to black pepper in composition. It has been decided to use these substances to replace natural pepper which is always in short supply and is purchased abroad. The method for manufacturing this product has already been patented. The pepper substitute has already been tested in the USSR, Poland and the GDR and has been well received.

This plant is relatively rarely found in nature and this has prevented industrial exploitation up to now. It took years of persistent research before the first plantation could be established. The plantation will eliminate the shortage of black pepper, and will expand the range of use of Soviet-made spices.

Lesnaya promyshlennost'
21 January 1988
Page 2 (Full text)

Leningrad Planners Work on Kamchatka Scheme

Planners at the Leningrad Institute of Town Planning have completed work on a territorial environmental protection plan for Kamchatka. This

region is marked by rapid development in the industrial sector, agriculture and tourism. All of this unavoidably causes conflict with the surrounding environment. The Leningard planners focused on solving these ecological problems. They have set up a model for the utilization of forest and natural resources and of water reservoirs in the peninsula.

Lesnaya promyshlennost'
21 January 1988
Page 1 (Full text)