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CENTRAL INTELLIGENCE AGENCY

WASHINGTON 25, D. C.

OFFICE OF DEPUTY DIRECTOR OF CENTRAL INTELLIGENCE

Mr. Walt W. Rostow
Counselor and Chairman
Policy Planning Council
Department of State
Washington, D. C.

Dear Walt:

We appreciate your referring to us Dean Bowles' request for financial assistance to attend the Sixth World Forestry Congress. After examining all aspects of his participation which might permit our funding his trip on intelligence grounds, we have concluded that such support would not be justified.

While the Soviet economy in general, and Soviet agriculture in particular, remain high on our research list, forestry does not share this priority. We are aware of Dr. Bowles' competence in this field and consider his research paper to be a useful one.

Sincerely,

Dick

Richard Helms
Deputy Director

State Dept. review completed.

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CONFIDENTIAL

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However, after examining all aspects of his participation which might permit our funding his trip on intelligence grounds, we have concluded that such support would not be justified.

While the Soviet economy in general, and Soviet agriculture in particular, remain high on our research objectives list, forestry does not share this priority. We are aware of Dr. Bowles' competence in this field and consider his research paper to be a useful one.

Unfortunately, we cannot generate enough Agency interest to warrant the funding.

Sincerely,

Richard Helms
Deputy Director

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Counselor and Chairman
Policy Planning Council
Washington
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Memorandum For Mr. Richard Helms

Central Intelligence Agency

Subject: Sixth World Forestry Congress

Some days ago, Mrs. Rostow received a letter from Dean Bowles at American University inquiring whether the government would defray the cost of his travel to the Sixth World Forestry Congress to be held in Madrid in June 1966. Professor Bowles' paper, Economics of Forest Utilization in the Soviet Union, was presented in absentia at the Fifth Congress; and his latest paper, Economic Calculation and Problems of the Soviet Forest Industry, has been accepted for presentation to the Madrid meeting. (Professor Bowles' letter is attached.)

Upon checking here in the Department of State, I discovered that at most only three or four representatives of the Federal Government will attend the Sixth Congress, and that the Department of Agriculture actually determines the composition of the U.S. Delegation. From the Forest Service of the Department of Agriculture, I then learned that the Rockefeller Foundation had allotted funds to the Society of American Foresters so that eight additional persons -- non-federal employees -- might attend the Congress to represent our country. The eight persons selected were, I am told, chosen for their technical qualifications.

Given the nature of Dean Bowles' paper, I wondered whether your Agency would have any interest in underwriting his travel.

W. W. Rostow

Attachment:

Photocopy of letter dated Dec. 18, 1965
from W. D. Bowles to Mrs. Rostow

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[Redacted]
Bethesda, Maryland 20014
December 18, 1965

Dear Mrs. Rostow:

Here is the material describing the Sixth World Forestry Congress to be held in Madrid in June, together with the paper which has been accepted and the paper presented at the Fifth Congress (in absentia in Seattle, 1960).

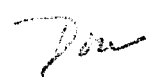
My paper is a critique of Soviet use of Marxian labor theory in economic calculation. As you know, Soviet economists were "unleashed" in 1957 and told to reexamine their pricing system, an examination going on today. The paper makes the point that certain fundamental aspects of Western, "orthodox," "bourgeois" economic theory must be incorporated in Soviet thinking if the Soviet system is to avoid the economic irrationalities which have characterized it to date. I do not argue that our own system is perfect, merely that we have an analytical framework which helps us to ask the proper questions (at least some of them) which apply to a modern, highly complex industrial society. The paper calls this to the attention of the Congress delegates.

I think the Congress is a useful forum for presenting our point of view regarding the greater use of rationality in the management of the Soviet economy. I know that this has long been held to be in our own national interest. There is, for example, the question of whether such rationality would weaken the position of the Communist Party in Soviet life. This paper will stimulate an already great interest among Soviet economists in Western thought, helping to break down barriers to communication between Soviet educated and American.

There is another aspect in which the paper could be even more useful to our national interests. There will be hundreds of representatives at the Congress from the developing areas. ~~As you know,~~ I am continuing to work on my study of the Soviet Union as an economic model for developing areas. My three-month trip through Africa last fall reaffirmed my conviction that the Soviet Union would be a terrible model, for the most part, for these people to follow. The paper I will present to the Congress demonstrates this in a useful, nonpolemical way. My presence at the Congress would, of course, reinforce my position for the Soviet economists most certainly will reply specifically to my comments as they did at the Fifth Congress. As a point of interest, the Soviets did bother to acknowledge my paper of 1960 by attacking it in their press as well.

In sum, my expenses to the Congress would be modest (around \$1,000 I would suppose), while the role I might play could make a contribution both to presenting our case abroad and evaluating the Soviet system for world opinion. I hope that some government agency is able to defray my expenses, for without such aid I shall be unable to attend.

My sincere thanks for any help you may be able to give in steering me toward the proper offices.



W. Donald Bowles

PUBLICATIONS
W. Donald Bowles

EDITOR OF THE FOLLOWING:

- G. Kasekov, The Soviet Peat Industry, New York, Praeger, Inc., 1956
P. Nikitin, Organization and Utilization of Forests in the Ukrainian S.S.R.: New York, Research Program on the U.S.S.R., 1955.
G. Stec, The Local Budget System of the U.S.S.R., New York Research Program on the U.S.S.R., 1955.

SCHOLARLY AND ACADEMIC PUBLICATIONS

- "A Note on Recent Soviet Timber Industry Statistics," Journal of Forestry, May, 1957.
"The Logging Industry--A Backward Branch of the Soviet Economy," American Slavic and East European Review, December 1958.
"Zur Lage der Arbeitsproduktivitat in der sowjetischen Holzgewinnung," Forstarchiv, November, 1959 (Hamburg)
"New Data on the Soviet Timber Industry," Journal of Forestry, November 1959.
"Economics of Forest Utilization in the Soviet Union," in Proceedings of the Fifth World Forestry Congress sponsored by FAO and State Department, August 29-September 10, 1960, Seattle, Washington, published 1962.
"Pricing in Soviet Timber Sales," Soviet Studies, July, 1961.
"Soviet Russia as a Model for Underdeveloped Areas," World Politics, April, 1962, reprinted by U.S.I.A. for distribution abroad. Reprinted as pamphlet in Bobbs-Merrill reprint series in the Social Sciences, 1964.
"Soviet Timber--Two Steps Forward, One Step Back," Soviet Studies, April 1962.
"Cost-Price Factors and the location of Soviet Industry," International Economic Review, Forthcoming 1966.

TRADE AND COMMERCIAL PUBLICATIONS

- "Soviet Loggers Face Several Problems," The Timberman, September 20, 1957.
"Understanding the Soviet Logging Industry (Critique of a Canadian Statement)," Timber of Canada, November, 1958.
"Future Plans of the Soviet Timber Industry," Forest Products Journal, December, 1958 (tr).
"Soviet Timber Exports from the Far East," Timber of Canada, June, 1959.
"Soviet Comments on Canadian Labor Strife," Timber of Canada, August, 1959.
"Pulp and Paper Production in Soviet Sakhalin," Pulp and Paper Magazine of Canada, November, 1959.
"The Seven-Year Plan for Soviet Pulp and Paper, 1959-1965," Pulp and Paper Magazine of Canada, November, 1959. Reprinted in major part as "Russia's Plans for the Future," Board, May, 1960 (London).
"The Seven-Year Plan for Soviet Timber, 1959-1965: Part I--Logging and Sawmilling; Part II--Plywood, Particle and Fiber Board, and Foreign Trade," Timber of Canada, December, 1959 and January, 1960.
"Size of the Soviet Logging Enterprise," Timber of Canada, May, 1960
"Soviet Foreign Trade in Pulp and Paper," Paper Trade Journal, September 19, 1960.
"The Bratsk Timber Complex," Pulp and Paper International (Geneva), January, 1961.
"Soviet Stumpage Policy," Pulp and Paper Magazine of Canada, April, 1962.
"Soviet Timber and Paper Exports--A Hint of Things to Come, ibid., January, 1965.

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SR. D. MANUEL PRATS ESPERAN
SECRETARIO GENERAL DEL
SEXTO CONGRESO FORESTAL MUNDIAL
MINISTERIO DE AGRICULTURA
Parco Infanta Isabel, 1
MADRID-7



ESPAÑA

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SIXTH WORLD FORESTRY CONGRESS

Madrid, Spain, from 6 to 13 June 1955

APPLICATION FOR MEMBERSHIP

Date

I wish to attend the Congress as:

Member

Associate Member (students, families of members)

Name (please print)

Title

Representing

Address

Accompanied by: Wife () Husband () Children (number) (.....)

Registration Fee:

Attached To be paid in Madrid upon registration
Including Proceedings Not including Proceedings

Congress documents are requested in the following languages:

English French Spanish

Please, reserve the following hotel accommodation: Do Luxe Class 1-A Class 1-B Second
(.....) single room(s) (.....) double room(s)

To be filled out only if it is sent before April 1st. Preference will be given to requests accompanied by payment of registration fee. After April 1st, the Organizing Committee will not be responsible for reservations.

Approximate date of arrival in Madrid Departure date

Probable participation in Study Tours:

Pre-Congress Post-Congress No

I am primarily interested in Technical Committee N.º Plenary Session N.º

(Signature)

Please mail completed form by 1st April 1955

Sr. D. Manuel Prats Zapirain
Secretario General
VI Congreso Forestal Mundial
DIRECCION GENERAL DE MONTES
Ministerio de Agricultura
Pasco Infanta Isabel, 1

MADRID-7 (Spain)

Copy for Mr. Bowles

ORGANISATION DES NATIONS UNIES POUR
L'ALIMENTATION ET L'AGRICULTURE



ORGANIZACION DE LAS NACIONES UNIDAS
PARA LA AGRICULTURA Y LA ALIMENTACION

FOOD AND AGRICULTURE ORGANIZATION
OF THE UNITED NATIONS

Via delle Terme di Caracalla ROME

Cables FOODAGRI ROME

Telex 31181 FOODAGRI

Telephone 51577

Ref.

7 Sep. 1965

Dear Mr. Winters,

I must apologise for the delay in writing to acknowledge receipt of your letter of 26 July with which you sent me the Special Paper prepared by Professor W. Donald Bowles for submission to Technical Committee X of the World Forestry Congress.

On behalf of the Organizing Committee I should like to express our appreciation of your interest in the Congress and to ask you to convey our thanks to Professor Bowles for having prepared what will be a most valuable contribution to the discussions.

Yours sincerely,

L. Gimenez-Quintana
Associate Secretary-General
Sixth World Forestry Congress

Mr. Robert K. Winters
Secretary, US National Committee
Sixth World Forestry Congress
US Department of Agriculture
Forest Service
Washington D.C. 20250

SIXTH WORLD FORESTRY CONGRESS

GENERAL INFORMATION

Objective

The Sixth World Forestry Congress has a dual aim: to review the progress achieved in the field of forestry techniques and its repercussions on present social and economic conditions throughout the world; and conversely to analyse the impact of social and economic trends on the future of forestry. For this Sixth World Forestry Congress, the Conference of the Food and Agriculture Organization of the United Nations (FAO) suggested as the central theme of the discussions "The Role of Forestry in the Changing World Economy". In accordance with this suggestion, a specific objective of the Congress will be to define a modern philosophy for forest policy, abreast of present world trends in the consumption of wood and wood products and in line with the legitimate economic expectations of the developing countries.

Date

From 6 to 13 June 1966, in accordance with a Provisional Program of Work already distributed.

Location

Building of the "Delegación Nacional de Sindicatos", Paseo del Prado, N.º 18-20, Madrid, Spain. This building has ample capacity for the Plenary Sessions and the Technical Committees, as well as auxiliary services such as information, bank, post and telegraph offices, restaurant and cafeteria, etc.

The site is centrally located and served by numerous transport lines.

Participation

Provision has been made for the following classes of participants:

Members:

Duly accredited representatives of governments.
Representatives of international organizations.
Representatives of scientific, technical or educational entities.
Representatives of industry and finance, of public or private forestry organizations; and
Individuals associated with fields of forestry and forest conservation and utilization of forest products.

Associate Members:

Members of families accompanying Congress members; students.

Nominations Committee

The Nominations Committee, which will meet prior to the Opening Plenary Session, will prepare a list of officials of the Congress and of its Committees for the consideration and approval of the Opening Plenary Session. The Nominations Committee will consist of the Chairman of the Organizing Committee or his designated representative, a representative of the Food and Agriculture Organization of the United Nations, a representative of the International Union of Forestry Research Organizations and the official head of each accredited national delegation.

Opening Plenary Session

The Opening Plenary Session will be held on the morning of June 6, 1966. A representative of the Government of Spain will serve as Interim President of the Congress, pending the election of permanent officials.

Registration

Advance. National Committees and National Liaison Officers or Heads of Forest Services in participating countries are requested to notify the Secretary-General of the Congress (Dirección General de Montes, Ministerio de Agricultura, Paseo Infanta Isabel, 1, Madrid-7) by 1 April 1966, of the number of prospective Members and Associate Members who expect to attend the Congress. Names will not be required by the Organizing Committee as of that date, but any names available at that time will be appreciated. The information is for preliminary planning

purposes. The forms enclosed in this Bulletin may be used at any time to signify a bona fide intent to participate in the Congress. Alternatively, any written communication containing the same information may be submitted. Remittance of the required fee(s) may accompany the registration form or the fee(s) may be presented when registering attendance at Madrid.

However, the payment in advance of the registration fee(s) before April 1966 will give the participant the right to have preference from the Organizing Committee in the reservation of rooms.

The required fee(s) may be sent to the following banks in Madrid where the Sixth World Forestry Congress has opened accounts in the name of "Secretaría General del Sexto Congreso Forestal Mundial".

— Banco Central — Agencia Urbana N.º 25 — Paseo de las Delicias, N.º 47 — Madrid (7).

— Banco Ibérico — Agencia Urbana N.º 5 — C/. Atocha, N.º 30, Madrid (12).

— Banco Español de Crédito — Sucursal Urbana de la Plaza del Emperador Carlos V, N.º 8 — Madrid (12).

At the Congress. Registration will begin at 9 A. M., Sunday, 5 June at the Headquarters of the Congress (Paseo del Prado, N.º 18-20, Madrid). Registered participants will be provided with a badge which will admit them to all sessions of the Congress, an official Program and Handbook, and a Provisional Directory of all persons who have registered or sent their credentials before the opening date of the Congress.

Registration Fees. The registration fee for each Member of the Congress will be 900 pesetas (15 dollars). The fee entitles each Member to participation in all official events of the Congress, excluding Excursions and Study Tours for which there will be a separate fee. Upon payment of an additional 900 pesetas, participants will be entitled to one set of the Proceedings of the Sixth World Forestry Congress when issued.

The fee for each Associate Member of the Congress will be 300 pesetas (5 dollars). The fee entitles each Associate Member to participation in the official functions of the Congress as well as in Congress Excursions and Study Tours for which a separate fee will be charged, due preference, being granted to Members of the Congress in the event of space being limited. Copies of the Proceedings of the Sixth World Forestry Congress, when issued, may be obtained at an additional charge, to be determined later. Associate Members are requested to indicate at the time of registration whether they wish to have a set of the Proceedings.

Program

Under the general theme "The Role of Forestry in the Changing World Economy", the Congress will fully embrace the world forestry problems, in accordance with a program consisting of four Plenary Sessions and 10 Technical Committee Sessions.

The Plenary Sessions will be as follows:

1. **World Trends in Wood Resources and Requirements.** Its objectives are:

a) to discuss the findings reached in the FAO study of world trends in, and prospects for, wood and wood products, i.e. (i) to appraise the position of wood and its products in the world economy, (ii) to analyse the changes in the need for, and uses of, wood as that economy grows and changes, and (iii) to examine the implications of these changes for the world's forest resources;

b) to examine the part played by wood and wood products in the process of economic development, and the ways and means whereby this participation could be expanded and accelerated.

2. **Planning the Use of Forest Potentials.** Its objectives would be simply to analyse the main issues upon which efficient planning of the use of forest resources depend. This would involve:

a) examining the impact of technical and economic developments in the use of forest potentials;

b) clarifying how this affects the elaboration of forest management plans;

c) by highlighting the areas of conflict between forestry, agriculture and animal husbandry, to study how best to harmonize forest development plans and national economic development plans.

3. **The Institutional Framework for Forestry Development.** With the following objectives:

a) to examine the suitability of present forestry institutions in the field of administration, education and research to satisfy the new demands that the changing world economy is placing upon them;

b) to outline the main readjustments which forestry institutions are bound to undergo in a near future.

In the framework of this discussion it seems desirable to have:

i) an evaluation of the professional personnel and the funds required to attain, in the field of education, some short term well defined objectives.

ii) some proposals to cope with the problems of forestry research in the underdeveloped areas.

A. The Financing of Forestry and Forest Industries Development. Its objectives are:

a) to review the distinctive features of capital formation in forestry;
b) to identify the major obstacles standing in the way of the three main sources of forestry finance; bankers credit, state investments and self-financing;

c) to estimate the forestry investments needed in the main geographical regions of the world to attain production targets set out in the FAO studies on timber trends and prospects;

d) to propose policies to increase the availability of funds for integrated forestry and forest industries and to propose new approaches intended to lessen the effects of fund scarcity through international cooperation, trade development agreements, etc.

The 10 Technical Committee sessions are grouped as follows:

- I) Afforestation Techniques and Tree Improvement
- II) Forest Protection
- III) Forest Management Methods and Silviculture
- IV) Wood Harvesting, Logging and Transport
- V) The Human Factor in Forestry
- VI) Forest Questions Specific to Tropical Regions
- VII) Forest Industries
- VIII) National Parks, Forest Recreation and Wildlife
- IX) Forest Influences
- X) Forest Economics and Statistics

The Technical Committees might be defined as follows: to provide a forum for specialists:

a) to become acquainted with activities and developments in their respective fields, exchange opinions and broaden their views;

b) to analyse technical progress and its economic and special impact within the realm of forestry; and

c) to discuss trends and formulate recommendations on specific forestry subjects.

It is proposed that the "scenario" for the Plenary Sessions shall entail the nomination of a Panel composed of 6-9 experts under a Moderator who will also be the Chairman of the particular Plenary Session. An FAO representative will also participate in the Panel. In the first part of the Plenary Session, the Panel will have its discussions around a table

in the presence of the whole Congress membership. With the exception of the Officers of the Congress, no Congress participants would be allowed to take part in the Panel discussions. After a maximum of three hours, the Moderator would close the Panel's discussions summarizing the points analysed. In his new capacity as President of the Plenary Session he would then invite the members of the Congress to express their opinion on the discussions held by the Panel, to ask for clarifications, to put specific questions to the members of the Panel and, if there is time, to bring up new issues. This would mark the beginning of the second part of the Plenary, during which the Panel and the Congress would enlarge on the subjects conveniently sorted out in the first part of the Plenary.

Just as the first part of the meeting should very much resemble a TV round-table discussion, so the second part should resemble a Press Conference where the Congress members would play the rôle of inquisitive journalists. Obviously, some final conclusions or recommendations should be approved as the specific outcome of the discussions. It is expected that they would emerge from the Panel discussions and be put forward by the Chairman to the Plenary at the most opportune moment in the course of the session.

The background documentation for each Plenary Session would consist of 5 or 6 General Papers presented by members of the Panel.

The "scenario" for discussions in the Technical Committees will be substantially simpler. The discussion will be open from the beginning to all the participants and centred around a Secretariat Note prepared by the respective Technical Advisor. This Secretariat Note will:

a) summarize the General and Special Papers received;
b) highlight the most relevant issues and elaborate on their significance;

c) draw the conclusions emerging from the documentation presented; and

d) select a number of well-defined points for special consideration by the Technical Committee.

Papers

There will be two categories of papers: General and Special.

General Papers

These are papers submitted to the Congress at the express invitation of the Organizing Committee and are intended to provide an authoritative

ii) some proposals to cope with the problems of forestry research in the underdeveloped areas.

4. The Financing of Forestry and Forest Industries Development. Its objectives are:

- a) to review the distinctive features of capital formation in forestry;
- b) to identify the major obstacles standing in the way of the three main sources of forestry finance; bankers credit, state investments and self-financing;
- c) to estimate the forestry investments needed in the main geographical regions of the world to attain production targets set out in the FAO studies on timber trends and prospects;
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Sixth World Forestry Congress

Abstract

ECONOMIC CALCULATION AND PROBLEMS OF THE SOVIET FOREST INDUSTRY

W. Donald Bowles

The Soviet forest industry suffers from the lack of adequate tools of economic analysis. This may be seen in three ways.

Rate of Forest Utilization. As Soviet economists are now discovering, there is a real cost to society of planting trees and caring for forests which transcends merely the ruble costs of such operations. Although economists insist that stumpage charges cover such expenditures, there is no clear rationale of why this should be so. Moreover, although foresters decry the exhaustion of many Soviet forests, they present no comprehensive analytical framework explaining why forests should not be exhausted at this time.

Alternate Logging Technology. An interest rate is central to the problem of choosing between two different investment projects designed to achieve a given end. Although Soviet economists stress the use of a recoupment period as the basis for choice, the period of recoupment appears to be largely arbitrary. Even assuming the existence of a recoupment rate of 16 - 17 percent annually as suggested by a Soviet writer, the further question remains of what this means -- is it too high, too low, just right?

Comparative Advantage and Soviet Timber Trade. Soviet leaders continue to stress the use of "green gold" (forests) as desirable export products. There is no clear explanation, however, of why timber products are necessarily a suitable export of the Soviet economy. Mere abundance of forest resources does not establish a prima facie case for such emphasis. Moreover, given the arbitrary nature of the internal pricing system and the external rate of ruble exchange, it is difficult to prove that the Soviet Union should rely on timber exports as a source of foreign exchange.

ECONOMIC CALCULATION AND PROBLEMS OF THE
SOVIET FOREST INDUSTRY¹

W. Donald Bowles

The Soviet forest products industry has recently passed through one of its two steps forward, one step back stages of progress.² To some extent its problems trace to broad questions on investment policy throughout the Soviet economy and to the present system of industrial management and administration. Since 1957 economists in the Soviet Union have been discussing many of these problems openly.³ In the present paper three questions of economic calculation as they relate to the timber industry are discussed. The jargon associated with the purely competitive model of an economy and the Marxist model are avoided in the hope of greater mutual understanding between Western and Soviet economists.

Rate of Forest Utilization. The sizable body of literature in the West relating to the economics (capital theory) of an exhaustible resource such as a virgin forest has little relevance to the problems of forest management in the Soviet Union. There has been no investment in these forests, and there is no capital tied up in the production process, so there is no economic sacrifice for society in leaving the forests untouched. Conventional western theory is much more useful for analyzing Soviet decisions regarding afforestation of logged-over areas.

As Soviet economists are now discovering, there is a real cost to society in planting trees and caring for forests but the cost is not the apparent ruble cost of the labor, equipment and materials so employed. Rather, the real cost is production foregone in other lines in which these same resources could be used.⁴ It is a Soviet preconception, based on the current interpretation of the labor theory of value, that expenditures on forestry should be

¹The writer is Professor of Economics and Dean, College of Arts and Sciences, The American University, Washington, D.C. See also his related articles: "Economics of Forest Utilization in the Soviet Union," Proceedings of the Fifth World Forestry Congress, Washington, 1961; "Pricing in Soviet Timber Sales," Soviet Studies, July, 1961.

²See W. D. Bowles, "Soviet Timber -- Two Steps Forward, One Step Back," Soviet Studies, April, 1965.

³The discussions of prices and the "law of value" began in 1956 at a meeting held at the Institute of Economics of the USSR Academy of Sciences, much of which was published in Torgovy ekonomiki, No. 2, 1957. The meeting followed the 20th Party Congress in which Stalin's economic ideas were attacked, and in which Soviet economists were told to revise them.

⁴In the West this is thought of as the "opportunity cost" of any economic activity. Soviet economists can acquaint themselves with this concept in the Russian translation of the sixth edition of the classic introductory economics text by Professor Paul Samuelson which is now available in the Soviet Union.

-2-

covered by the sale of the stumpage to logging organizations.⁵ But when one asks why these expenses should be covered in this way, the difficulties facing Soviet economists are revealed in a rather harsh light.

Forests in many regions of the Soviet Union are being exhausted by over-cutting, according to Soviet statements.⁶ The obvious question is why this should be so considering the long tradition of forestry science in the Soviet Union. But the more interesting question is why should forests be conserved

⁵The average tax price by forest zone is said to be determined by the following kind of formulation:

$$t_{sr} = \frac{A + N}{M} + (d_{mak} - d_f)$$

Where t_{sr} is the average tax price per cubic meter,

A is expenditures on forestry

N is "net income" created by the labor of forest workers

M is cubic meter volume of felling area

d_{mak} is the cost of hauling one cubic meter of wood over the maximum distance of haul

d_f is the cost of hauling one cubic meter of wood over the actual distance in any given case.

Obviously, this is only a schematic presentation. Moreover, the N factor remains somewhat mysterious in meaning, although it apparently relates to value creating activities carried out by forestry organizations, such value to be recouped in the sale of the standing timber. I.V. Voronin et al., Ekonomika, organizatsiia i planirovanie lesokhoziaistvennogo proizvodstva v leskhozakh i lespromkhozakh (Economics, organization and planning of forestry production in leskhozos and lespromkhozos), 2nd ed., Moscow, 1963, pp. 136-137.

⁶Each year 2,500 hectares are logged, of which only one-third is restored naturally. Unrestored forest areas in the European part of the Union constitute more than 109,000,000 hectares, and almost 50,000,000 hectares have become swampy. Even in Moscow Province, 235,000 hectares of cut-over land have turned into swamp and wasteland covered with rotting aspen and underbrush. Valuable coniferous species are gradually being replaced by deciduous species of little worth -- aspen and birch -- and thickets are forming. Vast forest tracts are being destroyed by pests and fire. In recent years forest fires have become twice as frequent in Tyumen and Irkutsk Provinces and ten times as frequent in Yakutia; almost one-third of the forest area in Buryatia has been burned over. No more than .6 hectare of forest land is renewed for each hectare logged As a result of inadequate management in forestry, the timber increment amounts to only 1.25 cubic meters per hectare per year, on the average, as against a possible five to ten cubic meters." Kommunist (Community), November 1963, p. 85, translated in Current Digest of the Soviet Press, February 26, 1964 (XVI:5).

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unless there is some rational basis on which to recommend that they be conserved. There is some danger that foresters love forests and forests, while what obviously is required is some economic rationale for the postponement of cutting. Forests in the southern and western parts of the country are clearly renewable forests, while it is unlikely that some of the forests presently being felled in Siberia and the North ever will be renewed as the demand for wood products levels off in the future. Let us take the simplest case of a Soviet forest economist being required to make a decision on whether to restock an area, and, if so, on what kind of stock to establish.

At the highest planning level, productive resources, including capital, can be directed to reforestation or, say, to the building of a new railroad into a remote virgin forest of Siberia. It is our contention that the planner has no way of making a rational choice because he lacks knowledge of precisely the real alternative costs attaching to each scheme because of the arbitrary nature of the price system. The prices at which logs are sold by the logging organization bear little relationship to the relative scarcity of wood products in the Soviet Union. Moreover, the "costs" of the alternative projects are not fully reflective of real costs, chiefly because there is virtually no charge for capital. A minor amortization charge is too small to affect economic calculations and infinitesimal when related to the capital shortage still existing in the Soviet Union despite a postwar period of impressive economic growth.⁷

Viewed in a broader light, capital invested in growing a forest yields a return only in the long run. The question might therefore be raised: once a Soviet planner plants a forest, how does he decide when to log it, assuming for simplicity that he is interested in a sustained yield forest? It would appear again that he has no rational answer. The link between present worth and a flow of income receipts over time is, as Western economists know, the interest rate. Not since the early 1930's, however, has interest been discussed in published Soviet sources. Nevertheless, since 1957 it has been openly recognized that any investment can be related to a yield, and that it perhaps might not be wise to invest in projects with low yields when there are projects with high yields left untouched. For a private owner in the United States "the best stocking of a selection forest is that which equates the marginal value growth percent of timber with the firm's alternative rate of return. This is so because (1) at any lower stocking, extra investments in stock will pay more than alternatives, and so the firm had better build up its stock, whereas (2) at any higher stocking, the alternatives pay more than some of the stock is paying, and the firm had better liquidate this surplus stock."⁸ In short, the marginal discounted value of the growing forest is equated with a rate of interest attaching to projects of similar risk and longevity. In the Soviet context it is

⁷A useful summary of the deficiencies in the Soviet pricing system, and of the debate over suggested correction, is Morris Bornstein, "The Soviet Price Reform Discussion," Quarterly Journal of Economics, February, 1964.

⁸William A. Duerr, Fundamentals of Forestry Economics, McGraw-Hill Book Company, New York, 1960, p. 125.

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not possible to calculate with any certainty the "value" of a growing forest or to discern a "rate of interest" which reflects alternatives for ~~one~~. Until both can be calculated, however, the conceptual kit of tools of Soviet forest economists would appear to be severely limited.

Alternate Logging Technology. An interest rate is central also to the problem of choosing between two different investment projects designed to achieve a given end. In a recent issue of the Soviet timber industry journal it was stated that a maximal recoupment period for capital investment in forest exploitation can be taken as five or six years, and hence the minimal coefficient of capital effectiveness (variations on this term now dominate discussions of investment policy in the Soviet Union) approximate 16-17 per cent. The acceptable formula is presented as

$$E = \frac{TP - C}{K}$$

where TP is yearly sales at wholesale price, C is the full cost of annual production, and K is the cost of the planned investment. The recoupment period, of course, is the reciprocal of this coefficient, i.e., 1/E.

The Soviet writer criticized this formulation on the following grounds. First, wholesale price does not cover the full socially necessary expenses for normal production, especially in the establishment of new techniques and technology. Second, sharp zonal differences in wholesale prices in logging can lead to strong distortions and uneven profits. Third, in several remote timber surplus areas of the North, Siberia and the Far East, there are large reserves of overmature timber where profitability (quite correctly the Soviet writer adds, presumably because of low wholesale prices in these areas for logs) is very low by comparison with average profits for the entire logging industry. The Soviet writer's main complaint is that comparison of the planned variant of the enterprise with the accepted standard "technico-economic index" (the coefficient of effectiveness noted above) provides inadequate incentive for the introduction of the most advanced enterprises. Thus, the writer suggests that the economic effectiveness of capital investment in a logging enterprise must be established by means of comparison of a given project with indices of leading enterprises which achieve the best "production-economic" results.

The more appropriate formula for the Soviet logging industry is that suggested as

$$E = \frac{K_1 - K_2}{C_2 - C_1}$$

9N. P. Moshonkin, "Peredovoi opyt--kriterii ekonomicheskoi otsenki" (Progressive Experience Is the Criterion of Economic Evaluation of a Project), Lesnaia promyshlennost' (Timber Industry), No.2, 1965, pp.27-29.

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where K represents the initial capital cost and C is the annual operating cost. Thus, a given planned project would be compared with the least possible project. The coefficient E would show the sum amount of current operating cost saved per ruble of investment cost. The Soviet writer's point is that the efficiency of a given project should be compared with the best possible project, not the average efficiency for the branch as a whole.

Western economists, and a growing number of Soviet economists, would question, however, whether even this general proposition is adequate. A coefficient of effectiveness of 16-17 percent is interesting, but what does it mean? Capitalist economies have often been criticized for undervaluing investment (the faulty telescopic faculty of Pirou). That is, a true social rate of interest might be less than the market rate of interest, leading to a greater rate of investment than would prevail at the higher market rate of interest. Is 16 percent high or low? Is it higher or lower than would prevail under market conditions? Whose time preference system does it reflect -- planners, consumers, project makers, logging enterprises? To this entire range of questions, Soviet logging economists present no conceptual or applied answer.

Comparative Advantage and Soviet Timber Trade. There is no reason for a planned economy to export, in the Marxist view, unless the labor embodied in exports is less than that required to produce the imported item domestically. This proposition is recognized the world around as the theory of comparative advantage, and more recently has been broadened to a theory of mutual interdependence where relative factor endowments, taken in relation to demand, result in price differences which give rise to international trade.

Since the Revolution Soviet economists have pointed with pride to their "green gold," their forests which are as good as gold in the world market in paying for imports. In a speech in February 1964 Premier Khrushchev again called attention to this resource, and stated flatly that if the investment supplied the wood-processing industry could be brought to full production, forest product exports of the USSR could reach more than \$500 million annually. Although the statement is subject to interpretation, it is a reaffirmation of continuing reliance on forests as a source of foreign exchange. The question may be raised: is this reliance rational, either in terms of Soviet trade with the West or with other Bloc countries?

All Soviet foreign trade is conducted nominally in prices prevailing on world markets, i.e., at prices determined by world supply and demand. At the same time, several Western studies have shown that Soviet internal prices bear varying relationships over time to these external prices, i.e. the buying

¹⁰Pravda, March 7, 1964. See the writer's "Soviet Timber and Paper Exports -- A Hint of Things to Come," Pulp and Paper Magazine of Canada, January, 1965.

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power of the ruble varies from product to product as compared with world market prices. For years the ruble has been considered to be overvalued, generally speaking, although the recent devaluation further established a closer relationship between the existing exchange rate and a purchasing power parity rate of exchange.¹¹ To extent that the rate is overvalued Soviet import enterprises make a "windfall" profit while export enterprises suffer "losses." Too, because of the arbitrary degree to which Soviet prices differ from world prices by varying degrees (ignoring transfer prices), each export operation is conducted at a unique rate of exchange so that in effect it is difficult to say what the average effective rate of exchange of the Soviet ruble is.

Under the circumstances Soviet economists may be challenged to prove that wood exports pay on an economic basis. The mere fact of abundant timber resources does not establish a prima facie case that the Soviet Union has a comparative advantage in wood products. The question becomes even more complex when Soviet trade with other Bloc countries is evaluated, for these other countries also have arbitrary prices, compounding the difficulty of calculating the "economic effectiveness" of trade.¹²

* * * * *

It is hardly necessary to add that the meaning of much Western trade is obscure for any given nation although the profitability of a given transaction for a specific firm can be calculated with certainty. Similarly, much pricing of standing timber of the U.S. Forest Service must appear arbitrary (there is, after all, only one seller, and relatively few buyers, so that the market in its purely competitive form does not exist).¹³ Likewise, investment decisions in logging can vary depending on Federally approved rates

¹¹Prior to the revaluation the ruble was equal to .222168 grams of pure gold, whereas the new "heavy" ruble introduced in January of 1962 is equal to .987412 grams. The official rate of exchange initially was four rubles to the dollar whereas now it is one ruble equal to \$1.11, or 90 kopeks equal to \$1.00. That is, Soviet spokesmen give the impression that a ruble was worth \$0.25 before revaluation, and now is worth \$1.11. If the 4:1 ruble-dollar ratio had been retained, the ratio between the heavy ruble and the dollar would be 40 kopeks equal to one dollar. Instead, the new decree more than doubles the value of the dollar in relation to the heavy ruble, and the new ratio will be 90 kopeks equal to a dollar. Put another way, if the old rate of exchange had been maintained, the heavy ruble would be equal to 2.22168 grams of gold, whereas its nominal content is less than half that (.987412).

¹²Frederic L. Pryor, "Foreign Trade Theory in the Communist Bloc," Soviet Studies, July, 1962. Vol. XIV. #1.

¹³Sidney Weintraub, "Price-Making in Forest Service Timber Sales," American Economic Review, September, 1959.

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of depreciation on equipment, tax policy, and the like. In a word, it is not argued here that Western economies in practice can be proved to be more "rational."

The important point, however, is quite different. The concept of alternative cost and the idea of an interest rate are central to rational economic choice. Soviet economists are now quite obviously aware of this, although for reasons we cannot speculate on here, there is disagreement among Soviet economists on what these concepts would actually mean in practice to the Soviet economy. Until these "bourgeois" tools of analysis are incorporated in Soviet economic methodology, however, Soviet forest economists would seem to be little better equipped than ~~any~~ legal or administration experts, to decide questions on rotation periods, logging technology or timber exports.

Fifth World Forestry Congress Proceedings 1960

Economics of Forest Utilization in the Soviet Union

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Our purpose in this paper is to examine briefly some questions which are traditionally asked in the West regarding forest utilization but which are treated only superficially, if at all, in the Soviet Union at the present time. It is hoped that this focus will provide a little friendly persuasion for Soviet writers, with the purpose of stimulating public discussion of matters of this type. Three related questions concerning Soviet forests will be examined, namely, the rate of utilization, stumpage pricing policy, and labor productivity in logging.

Rate of Forest Utilization

Soviet forest conservation formally dates back to Peter the Great, who hired German foresters to establish advanced forestry techniques in Russia. Descendants of this training were given little attention following the revolution, however, and forests came to be openly exploited without practical limitation. Traditional forestry principles were labeled "reactionary" and "bourgeois." The practice of mining forests rather than their harvesting was rationalized by Soviet authorities on the basis of the pressing wood requirements of the time (chiefly fuelwood).¹ With the onset of national economic planning in 1928 and because of heightened timber requirements, all pretense of

a separate forestry authority over exploitable timber resources was dropped, and logging organizations, facing sharply increased production targets, became solely responsible for the observance of forestry regulations.²

The Soviet timber resource is vast, but this fact has not prevented serious criticism of this official forest policy. In 1948, it was stated by recognized Soviet forestry authorities that "until very recently" fifty percent of logging operations were concentrated in European watershed areas, which comprised only eight percent of total forest reserves.³ This, then, is the central problem of Soviet forest management. Total growth increment in Soviet forests is adequate to support present levels of total forest exploitation without depletion of productive forest area.⁴ However, growth is not sufficient in many of the timber-deficit regions to support the exploitation level now existing in those particular areas.⁵

Despite three major conservation laws (1931, 1938, and 1943), the move away from depleted southern and western areas to the timber-surplus areas of the North, Urals, Siberia, and the Far East began only in the 1950's. Even so, it is apparently possible, even today, to secure a felling permit to log in certain southern areas in excess of the legally specified limit.⁶ This may reflect, in part, the fact that the richest reserves of timber are located at great distances from the principal timber-consuming cen-

¹ See footnotes at the end of this paper.

ters, and utilization of such reserves requires investment in transport facilities. The question of conservation and the geographical location of logging activity thus resolves itself into one of priorities assigned to conserving depleted forests, increasing timber output, and advancing other branches of the economy. An appraisal of the economic soundness of emphasis in any of these directions is difficult, inasmuch as what we might call the "economic rationality" of the planners in this regard cannot be established objectively. For example, steel can be used to run rail lines to timber-surplus areas or to build new steel mills. The conflict between these two goals—conservation and industrialization—is one which must be judged within the context of the Soviet system.

To this Western economist, the following conclusion seems in order. The rate of Soviet forest utilization and associated conservation measures have always been subordinate to the general plan of industrialization. Thus, Soviet foresters who have argued for a reduction of cutting in the timber-deficit areas have apparently reasoned from premises outside the economic context in which Soviet economic planners have rendered their decisions. Priority has gone to accelerated industrialization.

Stumpage Policy

An article in *Izvestia* (September 17, 1958), indicated that "the forests are dwindling at an incredible rate and are not being restored on a very large scale. . . . At present, timber felling is based on the principle: 'We do not care whether even a blade of grass remains after we are through.' What do foresters do? Mainly they sell timber to the procurement agencies—allocate stands for cutting and figure payment for logs."

From 1930 until 1949 the same criticisms were made, except that timber was transferred free to most loggers.⁷ On one hand, the policy of free stumpage might seem consistent with the Marxist doctrine that labor alone creates value, and, since trees are created by nature, they are costless. Yet the policy of free stumpage was reversed in 1949, for two stated reasons. First, stumpage fees provide the revenues to carry out forestry measures. Second, they absorb the "differential rent" attaching to a given felling area. The first reason is breached in practice frequently,⁸ but the second continues to be emphasized by Soviet writers.⁹

Present stumpage prices¹⁰ are differentiated in several ways. Charges in the depleted forest areas are generally much higher than those in the surplus areas. For example, in 1949, industrial pine stumpage in Stalingrad, Orlov, and other southern areas was almost fifty times greater than that in eastern Siberia. In all zones, other differentiation exists. Timber suitable for industrial use is more expensive than that used for fuel. Species which are especially valuable in their end use are priced higher than the less valuable. Larger trees, yielding more expensive end products, are more expensive per unit of volume than small ones. Stumpage prices are set in a given timber tract in inverse ratio to the yarding distance.¹¹

It might appear to a Western lumberman that the Soviet Union is simulating market conditions in establishing stumpage prices. No doubt such a contention would be denied vigorously, while several interesting questions would remain unanswered. For example, what is the pre-

cise relationship between regional variations in stumpage fees, wholesale prices, and freight rates?¹² The shift of logging activity to the North and East in the 1950's occurred when the reimposition of stumpage fees resulted in a particularly unfavorable cost-price relationship for loggers in the central and southern regions. Similarly, changes in wholesale prices in 1949 and in freight rates in 1949 and 1955 made timber purchases in the timber-surplus regions relatively less costly than in the deficit regions.¹³ Until 1957, when the wholesale prices of timber were increased by about one-third, logging enterprises as a whole did not cover planned production costs out of planned receipts. Nevertheless, logging operations continued by receipt of direct "subsidies" which made up the loss.¹⁴

At present, stumpage policy is again under debate in the Soviet technical press. The contention is that stumpage charges are so small that they do not serve to force the logging enterprise to economize on timber.¹⁵ Countless incidents could be cited of large quantities of wood left standing after "conditional clear cutting"¹⁶ of the felling area, of wood cut and then left in forests and along river banks, and of expensive timber being used for inexpensive end products.

To stimulate better use of wood, both in the primary phase of procurement and also, by implication, in utilization, a suggestion has been made by a Soviet writer that the price of stumpage be increased "four or five times."¹⁷ If subsidies are not to be reinstated, such an increase would necessarily require that wholesale prices of timber products be raised all along the line.¹⁸ But this step probably would be taken by Soviet authorities only with the greatest reluctance. Not only would it run counter to their present policy of relative price stability, but, in addition, a price increase would necessitate a revision of all cost plans stated in the former prices.

In all of this Soviet discussion relating to stumpage charges, a host of interesting theoretical questions remain unmentioned. To what extent do central authorities mean to influence decision-making in the logging enterprise or its superior agency in the matter of location? Has a new complication arisen with the initiation of regional management to replace the management of the former Ministry of the Timber Industry? Are stumpage fees treated as price determining, as some Soviet discussion would indicate, or as price-determined, as Western "orthodox" theory and official Soviet statements would indicate?

To an outside observer it would appear that stumpage fees are intended to transfer standing timber at some cost, primarily to cause the logging organization to work efficiently and retain intact its accounting system which provides "control by the ruble" (*khozraschët*). Yet, when a cubic meter of standing timber costs a few kopeks, while the wholesale price of the same cubic meter¹⁹ sold by the logging organization might be seventy or eighty rubles,²⁰ the real meaning of Soviet stumpage charges must be seriously questioned.

Labor Productivity

Labor productivity is closely related to the necessity of subsidies noted above. The price change of 1958 succeeded in raising receipts over costs in industry generally, but subsidies continued in logging. A writer in a financial

journal noted in 1955 (when subsidies to centralized logging organizations totalled almost a billion rubles annually) that the losses could be attributed to cost increases which resulted from under-fulfillment of production plans and plans for the growth of labor productivity. He added, interestingly, that some logging leaders disagreed with this interpretation and blamed the losses on low prices of logging products.²¹ In 1955, daily labor productivity had increased just a few percent over the 1940 level, despite the large amounts of power and equipment supplied the industry in the postwar period.²²

One important cause of continuing low average daily productivity is the large number of workers engaged in cleaning the felling area as required by a law of 1950.²³ Apparently, Soviet authorities have been determined to utilize the seasonal labor available to logging but not in such a way as to significantly increase production which, in turn, would require additional investment, particularly in transportation facilities. This would be consistent with the relatively low annual rate of production growth experienced in the logging industry and planned for 1959-1965 (about two percent annually for the future).²⁴

The Soviet Union is now experiencing growing difficulty in recruiting additional labor annually.²⁵ This fact may be reflected in the planned reduction of the logging labor force. Simultaneously with a reduced labor force, however, average labor productivity over the period 1959-1965 is to approximately double, thus permitting continued small increases in total output. Use of new techniques and equipment undoubtedly will contribute to achievement of this goal, but the largest single source of rapid productivity increase appears to be the vast number of workers engaged in so-called auxiliary work, including cleaning of the felling area after logging. Does the new plan mean that this operation, which reduces the fire and insect menace and aids natural regeneration of the area, will be deemphasized? If new production is not to come from the transfer of these workers away from slash disposal, where precisely will it originate? If it is to originate in new equipment and rationalized techniques, why has this late date been selected for their introduction?

Conclusion

Clarification of the questions raised above, and many more related to this field,²⁶ would undoubtedly enhance our understanding of the Soviet economy in general and the timber industry in particular. It seems unfortunate that the one Soviet journal, *Les* (Timber), which consistently dealt with many economic questions of this nature, was discontinued after two years' publication in the early postwar period. Perhaps we can look forward to public discussions of these matters in the future.

Footnotes

¹See *Puti razvitiia lesnoi promyshlennosti SSSR* (Paths of Development of the Timber Industry of the USSR), Moscow, 1933, p. 21; B. A. Chagin and N. A. Alekseichik, "Za vykorchevyvanie burzhuaznykh teorii v lesnom khoziaistve" (Toward Rooting Out Bourgeois Theories in Forestry), *Lesnoe khoziaistvo i lesnoeksploatsatsiia* (Forestry and Timber Exploitation), No. 1-2, 1932, pp. 90-94. M. Orlov fell under severe criticism for stressing the constancy and uniformity of forest utilization which, of course, conflicted with the concepts of Soviet leaders (codified in the decree on forests of 1918, article 17) that forest use should depend on, among other things, the requirements of the economy.

N. Alekseichik and B. Chagin, *Protiv reaktsionnykh teorii na lesnom fronte* (Against Reactionary Theories on the Forest Front), Moscow-Leningrad, 1932. The work of G. P. Murozov was criticized because he stressed "types" of forests basic to a given environment which allegedly led the Administration for Forests to "follow nature" in its silvicultural work. A. P. Buzskii, *Uspekhi russkogo lesovedeniia* (Achievements of Russian Silviculture), Leningrad, 1933, p. 612. This alleged practice was anathema to what later became the accepted Soviet dogma relating to "changing nature." This early period is discussed by V. D. Bowles in "Economics of the Soviet Logging Industry," an unpublished doctoral dissertation, Columbia University, 1957.

²In 1929, an interadministration commission composed of representatives from the timber industry and forestry interests was established in the RSFSR. It set forth a regulation which concentrated logging in the RSFSR in organs of the Supreme Economic Council (VSNKh) and the Commissariats of Agriculture and Ways of Communication. By the terms of this regulation, all timber reserves allotted to VSNKh and the Commissariat of Ways of Communication were assigned for 60 years. In these areas, slash was to be removed, forests protected and meliorated, floating routes developed, and improvement cuts carried out. Significantly, the forestry district offices (*lesnichestvo*) and the logging offices were to be combined into single production units called *lespromkhoz*y (logging enterprises). In the Commissariat of Ways of Communication, such units were called *lestranskhoz*y (transportation logging enterprises). In effect, this meant that the logging industry thereafter would police its own observance of forestry regulations. Forestry leaders received a further setback when all forests except local and protected forests were transferred to VSNKh in 1930. An insignificant part remained under the control of the Commissariat of Ways of Communication. See B. I. Seiber, *Lesnaia promyshlennost' SSSR* (Forests and the Timber Industry of the USSR), 2d ed., Leningrad (?), 1933, pp. 178-179.

³P. Vassiliev and N. Nevzorov, *Lesnoe khoziaistvo i lesnaia promyshlennost' SSSR* (Forestry and the Timber Industry of the USSR), Moscow, 1948, p. 10.

⁴Soviet writers do not agree on estimates of annual forest increment. One source indicates that "yearly increment" is 700-800 million cubic meters. *Ibid.*, p. 7. Another source indicates that "annual average increment" is about 600 million cubic meters. P. N. Stepanov, "Geografiia lesnoi i lesnoobrabatvayushchei promyshlennosti" (Geography of the Timber and Woodworking Industry), in *Geografiia promyshlennosti SSSR* (Geography of Industry of the USSR), Moscow, 1950, p. 159. The present writer's independent estimate is about 700 million cubic meters. This may be compared with logging volume in 1958 of about 376 million cubic meters, excluding collective farm logging output, which may have approximated 30 or 40 million cubic meters. See *Narodnoe khoziaistvo SSSR v. 1958 godu: Statisticheskii sbornik* (National economy of the USSR in 1958: Statistical handbook), Moscow, 1959, p. 251; *Lesnaia promyshlennost' SSSR: Statisticheskii sbornik* (Timber Industry of the USSR: Statistical Handbook), Moscow-Leningrad, 1957, p. 55.

⁵The Ukrainian, Byelorussian, and Kazakh republics, for example, each may experience an average annual deficit of approximately five million cubic meters.

⁶In 1936, 1938, and 1940, the amounts of timber removed from the so-called watershed protection zone amounted to 712, 73.7, and 75.7 million cubic meters, respectively. G. M. Peterson, *Drevesina v narodnom khoziaistve SSSR* (Wood in the National Economy of the USSR), Moscow-Leningrad, 1947, p. 147. This may be compared with total logging production (excluding collective farms) of around 200 million cubic meters in those years. *Lesnaia promyshlennost' SSSR: Statisticheskii sbornik*, p. 56. "The watershed law naturally clashed with increasing land requirements of the period, and as a result it was impossible to reduce logging in the Byelorussian and Ukrainian SSR's," Peterson, *op. cit.*, p. 147. In 1948, in the total of Group II forests (timber-deficit forest areas), 78.6 million cubic meters of wood were cut, while the legal limit was only 56.6. V. P. Isopov, "Nekotorye itogi perebuzirovaniia lesozagotovok v narodnom khoziaistve" (Some Results of the Shift of Logging to Timber-Deficit Forested Areas), *Lesnoe khoziaistvo* (Forestry), No. 1, 1954, pp. 8-14. By 1954, for the total of Group II forests, the watershed law was allegedly eliminated, although in the Ukrainian, Byelorussian, and Baltic republics an overcut was admitted. *Ibid.*, p. 14.

editorial in *Izvestia*, of September 17, 1958, indicated that "in certain provinces of the Ukraine, timber scheduled for cutting in 1972, and even 1975, is being felled."

⁷ Elimination of stumpage payments was directly related to a general "tax reform" carried out in 1930, in which many individual taxes were replaced by a single "turnover tax." As it applied to the timber industry, the tax was paid by the All-Union Association of the Timber and Woodworking Industries on gross sales or turnover. Its original rate (about 35 percent) may have approximated the stumpage tax eliminated; however, the new tax rate was not differentiated regionally, and it was paid only on timber cut and sold. In effect, the economic effect of stumpage charges was eliminated in 1930.

⁸ In recent years, forest income from stumpage payments has not covered forestry expenditures. In 1957, for example, total forestry expenditures on operations, capital investment, and administration totalled about 2.4 billion rubles, while stumpage payments totalled only about 2.1 billion rubles. D. Androsov, "Davno nazrevshii vopros" (A Long-Standing Question), *Lesnoe khoziaistvo*, No. 2, 1959, p. 50.

⁹ Differential rent is mentioned most frequently by Soviet writers in connection with agriculture. For example, lands of high fertility or favorable location, or especially well-endowed with capital or labor, realize differential rent. Soviet writers phrase the quantity of differential rent in terms of smaller expenditures of labor per unit of output resulting from favorable conditions related to one or more of these factors. *Politicheskaiia ekonomia* (Political Economy), Moscow, 1954, pp. 494-496. In Western or "orthodox" terms, differential rent is said to be that payment to a unit of a factor of production which is in excess of the minimum amount required to keep it in production. For differential rent in logging, see N. P. Anuchin, *Promyshlennaiia taksatsiia lesa* (Industrial Evaluation of the Forest), 5th ed., Moscow-Leningrad, 1951, p. 240.

¹⁰ In July 1950, new stumpage prices were put into effect, and apparently these are still in force. It is stated by a Soviet writer that the stumpage prices in the timber-deficit zones were increased and those in the surplus zones decreased by this change. A. M. Aleksandrov, *Finansy SSSR* (Finances of the USSR), Leningrad, 1952, pp. 311-312. Another writer states that stumpage fees were reduced by as much as 50 percent. L. Maizenberg, "Sistema optovykh tsen i ukreplenie khozrascheta" (The Wholesale Price System and the Strengthening of Economic Accounting), *Planovoe khoziaistvo* (Planned Economy), No. 6, 1950, p. 62. Apparently, the general structure of prices within all groups remained unchanged.

¹¹ Where floating is required, all stumpage payments are reduced by the following percentages for each zone: southern—10, forest-steppe—15, central—25, and remaining four zones—60. N. N. Chikilevskii, *Lesoustroistvo* (Forest Management), Moscow-Leningrad, 1957, p. 98.

¹² Surprisingly, two recently published texts on the economics of timber and forestry do not discuss the relationship or, in fact, most of the topics discussed in the present paper.

¹³ W. D. Bowles, op. cit., pp. 279-299.

¹⁴ In 1955, losses within the timber ministry totalled about a billion rubles. *Lesnaia promyshlennost'*, May 8, 1956.

¹⁵ For example, see Androsov, op. cit., pp. 50-53.

¹⁶ Selection felling with all deciduous wood and coniferous fuelwood left standing. The rationale is usually poor floatability of deciduous and lack of market for fuelwood.

¹⁷ For a discussion of this proposal by three writers see *Lesnoe khoziaistvo*, No. 2, 1959.

¹⁸ An increase of four or five times would raise average stumpage prices to 20 or 25 rubles per cubic meter, according to Soviet writers. The present rate of profit is low. A recent statement implies, by an example, that it may be around five percent. A. I. Kremnev, *Ekonomika lesnoi promyshlennosti SSSR* (Economics of the Timber Industry of the USSR), Moscow-Leningrad, 1958, p. 168. Profit may be defined as income minus production expenses and social insurance charges.

¹⁹ In 1949, the charge on standing industrial pine of medium size and with a yarding distance of 10.1-17 km. was 4 rubles per cubic meter in the main logging regions (zone V), 1.5 rubles in the Far East, and 1 ruble in eastern Siberia. S. G. Stoliarov, "Popennaia plata i zadachi lesozagotovitelei" (The Stumpage

Payment and the Tasks of Loggers), *Lesnaia promyshlennost'*, No. 10, 1949, p. 18. With the subsequent price reduction in the timber-surplus areas, it is apparently less than a ruble per cubic meter in many cases. "A . . . quite important reason [for wasting the felling area] is that timber is delivered to the procurement officials for next to nothing. . . . In the zones where the basic timber procurement is done, a cubic meter of average condition timber located 17 km. from the road costs 20 kopeks. But if the timber is floated down a river, it costs 2 kopeks. Now we ask you, is a timber procurement official going to worry about a tree left in the forest when the cost of the tree is a matter of a few kopeks?" *Izvestia*, Sept. 17, 1958.

²⁰ Independent calculation by present writer. See W. D. Bowles, op. cit., p. 304.

²¹ D. Androsov, "Lesozagotovitel'naiia promyshlennost' dolzhna rabotat' rentabel'no" (Logging Industry Must Operate Profitably), *Finansy SSSR*, No. 12, 1955, p. 31.

²² A recent text indicates that productivity per man-day increased from 0.87 to 0.92 cubic meters over the period 1940-1955. *Lesnaia promyshlennost' SSSR: Statisticheskii sbornik*, p. 139. Several statistical qualifications attach to this range; it should therefore be considered approximate.

²³ The law is described in A. P. Grachev, "Pravila rabot glavnogo pol'zovaniia v ravninnykh lesakh SSSR" (Felling Regulations for the Primary Cut in Forests on Level Ground in the USSR), *Lesnoe khoziaistvo*, No. 5, 1950. The then-minister of the timber industry, G. M. Orlov, after his visit to Canada, cited the high expenditures of labor in slash disposal (specifically, cutting, gathering, and burning of branches) as a significant factor explaining why Soviet logging labor productivity was only one-third or one-fourth the Canadian level. *Lesnaia promyshlennost'*, Jan. 19, 1957.

²⁴ The postwar decisions to supply the industry with tractors powered by gas generators and to utilize electrically powered saws in the felling area, with power generated through the combustion of wood waste in mobile generators in the felling area, are also consistent with this thesis. Since 1956, the tractors have been criticized as under-powered and are being remodelled on the basis of diesel power. *Lesnaia promyshlennost'*, Sept. 13, 1956. Similarly, the electric felling system is now said to consume too much scarce metal in the vast wiring complex required and to place too heavy a drain on scarce electricians. *Lesnaia promyshlennost'*, Jan. 19, 1957.

²⁵ As the war-depleted generation enters the labor force, the number of young people becoming available annually is being sharply reduced.

²⁶ For example, what is the rationale of the existence of so-called "self-supplier" logging organizations which compete actively with logging organizations of the timber industry proper and suffer from high costs? How do wood products become included in the export and import balance? What is the nature of timber supply in agriculture? What were the structural adjustments required in the Soviet economy in the face of accelerated industrialization goals but limited increases in wood output?

RESUMES

Principes économiques de l'utilisation des forêts en Union soviétique

Nous nous proposons au cours de la présente communication d'examiner trois questions qu'il est d'usage de poser dans le monde occidental lorsqu'on parle d'utilisation des forêts, mais qui en Union soviétique sont ignorées ou traitées d'une manière superficielle.

Taux d'utilisation. A la suite de la révolution, les principes traditionnels de la sylviculture ont été taxés de "réactionnaires" et "bourgeois" par les auteurs soviétiques, et les forêts en sont venues à être exploitées sans limites pratiques. Bien que l'Union soviétique possède d'immenses ressources de bois, ce type d'exploitation sans limites a été critiquée en URSS même, et la tâche principale des organismes de gestion forestiers consistant à l'heure actuelle est de transférer l'abattage et le façonnage des régions épuisées à celles du Nord, de l'Oural, de la Sibérie et de l'Extrême-Orient où existe un excédent de bois d'œuvre. Ce mouvement a commencé à prendre des proportions importantes depuis 1950, et témoigne d'une sylviculture saine.

de la conservación ne peut toutefois être envisagée d'un point de vue strictement forestier dans le cadre d'une économie planifiée; elle doit plutôt être envisagée en fonction des objectifs d'industrialisation.

Valeur du bois sur pied. De 1930 à 1949, le bois sur pied a fait dans la plupart des cas l'objet d'allocations gratuites. Les prix actuels de ce bois sont différenciés de plusieurs manières. Les prix ayant cours dans les régions pauvres en bois sont plusieurs fois ceux ayant cours dans les régions excédentaires. Dans toutes les zones, il existe d'autres différences; le bois industriel est plus cher que le bois de chauffage; la valeur du produit fini se reflète dans le prix élevé du bois sur pied; les gros arbres coûtent davantage par unité de volume; et la valeur sur pied est en raison inverse de la distance entre la forêt et le chantier. On a suggéré que ces prix soient multipliés par quatre ou cinq, mais leur moyenne est si faible à l'heure actuelle qu'on peut mettre en doute la signification même de la valeur sur pied en Union soviétique.

Productivité de la main-d'oeuvre. La productivité de la main-d'oeuvre d'exploitation n'a que peu progressé depuis l'avant-guerre. Ceci s'explique en partie par le nombre considérable d'ouvriers "auxiliaires", dont une fraction importante est employée à la destruction des déchets de l'abattage. Dans le nouveau plan 1959-1965, la productivité de la main-d'oeuvre est appelée à doubler, et cette dernière sera réduite. Il se peut que ceci signifie que le nettoyage salubre des régions d'abattage perdra de son importance.

Conceptos Económicos de la Utilización de Bosques en la Unión Soviética

El propósito de este trabajo es examinar tres cuestionarios que tradicionalmente se hacen en los países de Occidente respecto al aprovechamiento de los recursos forestales en la Unión Soviética, las cuales son consideradas superficialmente, si es que se presta atención a ellas.

Grado de aprovechamiento. Después de la revolución, los principios tradicionales de la silvicultura fueron tachados de "reaccionarios" y "burgueses" por los escritores soviéticos y los bosques se explotaron sin límite práctico. Añor cuando los recursos forestales soviéticos son muy vastos, las normas de explotación ilimitada han sido objeto de críticas dentro del propio país. La tarea principal de la actual administración forestal soviética es cambiar las operaciones de corta de las regiones agotadas a las zonas del Norte abundantes en madera, los Urales, a Siberia y al Lejano Oriente. Este procedimiento comenzó en gran escala en el año 1950 y representa un plan razonado de silvicultura. Sin embargo, en una economía planeada, el aumento de la conservación no puede concebirse solamente en términos silvícolas, sino que más bien debe considerarse en la perspectiva de los objetivos de la industria.

Cortas. De 1930 a 1949 las cortas se asignaron gratuitamente en la mayoría de los casos. Los derechos que se cobran actualmente varían de distintas maneras. En las regiones donde hay una escasez de madera suelen ser más altos que en las que abunda. En todas las zonas existen otras diferencias: la madera industrial es más cara que la que se usa como combustible; el valor del uso que se le dé se refleja siempre en los precios, que son más altos; los árboles grandes son más costosos por unidad de volumen; y los derechos oscilan según sea la distancia de la corta al lugar de almacenaje. Se ha sugerido subir los derechos a cinco o seis veces más de los actuales, pero el promedio actual es tan bajo que no se sabe realmente cuál es el objeto del derecho que se cobra.

Productividad obrera. La productividad obrera en los trabajos de corta se halla a un nivel ligeramente superior al de antes de la guerra. Esto se explica, en parte, por el gran número de obreros "auxiliares" dedicados en su mayor parte a remover los recortes de madera. Con el nuevo plan de 1959-1965 se espera que la productividad será dos veces mayor y que se reducirá el número de obreros. Esto bien puede significar que se dará menor importancia a las beneficiosas limpiezas de las zonas de corta.

Unidades Industriales de Explotación Forestal

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Acorde con el desenvolvimiento industrial general del país, la Industria Forestal también señaló una época a partir del año de 1940 a 1945, en la cual la necesidad interna de productos forestales obligaban a ésta a diversificarse, ampliarse y lo que es más significativo, a convertirse en industria de transformación propiamente dicha, para ofrecer en honrosa competencia con productos extranjeros, productos tales como: celulosa, papel en sus diversos usos, chapa y triplay en sus diversas aplicaciones, aguarrás, colofonia, tablas aglutinadas y prensadas de desperdicios de madera y, naturalmente, maderas aserradas de diversas dimensiones.

Para lograr la cimentación de la industria, fue necesario resolver los siguientes problemas:

- A. Seguridad en el abastecimiento de materias primas.
- B. Fuertes inversiones industriales.
- C. Regularización de la política forestal del Gobierno.
- D. Una adecuada administración a través de: ejecutivos, técnicos e ingenieros forestales, que garan-

tizarán un racional aprovechamiento de estos recursos.

La mecánica del problema, fue la siguiente:

A. *Materia prima.* Cuando se presentaron estas incógnitas, la propiedad en México estaba totalmente definida y los bosques quedaron formando parte de diferentes regímenes de propiedad, a saber:

1. Bosques de propiedad Nacional.
2. Bosques de propiedad Municipal.
3. Bosques de propiedad Comunal.
4. Bosques de propiedad Ejidal.
5. Bosques de propiedad Privada.

Los casos 1, 2, 3 y 4, son contratables para su explotación forestal pero son inalienables de acuerdo con nuestras leyes; además, esta contratación está sujeta a reglamentos que en los casos 3 y 4, por ejemplo, en los que actúa el Código Agrario, se establece entre otras cosas que éstas sólo tendrán el carácter de anuales, por lo que deben ser refrendadas periódicamente.

Los bosques que mayor interés despertaron en la industria, fueron los de clima frío y templado que generalmente son de propiedad comunal o ejidal y en una mínima parte,