

Canada. Parl. Senate.
Special Committee on
land Use in Canada,
1962/63.
Proceedings.

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*Canada. Parl. Senate. Special Committee,
on Land Use in Canada, 1962/63.*

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SENATE
Special Committee on
Land Use in Canada

1st Session, 25th Parliament
1962-3

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First Session—Twenty-fifth Parliament
1962

THE SENATE OF CANADA
PROCEEDINGS OF
THE SPECIAL COMMITTEE OF THE SENATE
ON
LAND USE IN CANADA

No. 1

THURSDAY, NOVEMBER 22, 1962

The Honourable Arthur M. Pearson, Chairman
The Honourable Cyrille Vaillancourt, Deputy Chairman

WITNESSES

CANADIAN TREE FARMER'S ASSOCIATION

Mr. Bert Herridge, M.P., Vice President, Mr. C. B. Kevin Clarke, President, Mr. J. A. MacDonald, Secretary-Treasurer and Mr. Edmund Asselin, M.P., Director.

APPENDIX "A"

Brief submitted by the Canadian Tree Farmers' Association.

ROGER DUHAMEL, F.R.S.C.
QUEEN'S PRINTER AND CONTROLLER OF STATIONERY
OTTAWA, 1962

THE SPECIAL COMMITTEE ON LAND USE IN CANADA

1962-1963 Session

The Honourable Arthur M. Pearson, *Chairman*

The Honourable Senators

Basha	McGrand
Boucher	Methot
Buchanan	Molson
Cameron	Pearson
Crerar	Power
Emerson	Smith (<i>Kamloops</i>)
Fournier (<i>Madawaska-Restigouche</i>)	Smith (<i>Queens-Shelburne</i>)
Gershaw	Stambaugh
Gladstone	Taylor (<i>Norfolk</i>)
Higgins	Taylor (<i>Westmorland</i>)
Hollett	Turgeon
Horner	Vaillancourt
Inman	Veniot
Leonard	Welch (29)
MacDonald (<i>Queens</i>)	

Quorum—5.

ORDER OF REFERENCE

Extract from the Minutes of the Proceedings of the Senate, Thursday, October 18, 1962:

The Honourable Senator Brooks, P.C., moved, seconded by the Honourable Senator Macdonald, P.C.:

That a Special Committee of the Senate be appointed to consider and report on land use in Canada and what should be done to ensure that our land resources are most effectively utilized for the benefit of the Canadian economy and the Canadian people and, in particular, to increase both agricultural production and the incomes of those engaged in it;

That the Committee be composed of the Honourable Senators Basha, Boucher, Buchanan, Cameron, Crerar, Emerson, Fournier (*Madawaska-Restigouche*), Gershaw, Gladstone, Higgins, Hollett, Horner, Inman, Leonard, MacDonald (*Queens*), McGrand, Methot, Molson, Pearson, Power, Smith (*Kamloops*), Smith (*Queen-Shelburne*), Stambaugh, Taylor (*Norfolk*), Taylor (*Westmorland*), Turgeon, Vaillancourt, Veniot, and Welch;

That the Committee have power to engage the services of such counsel and technical and clerical personnel as may be necessary for the purpose of the inquiry;

That the Committee have power to send for persons, papers and records, to sit during sittings and adjournments of the Senate, and to report from time to time;

That the evidence taken on the subject during the seven preceding sessions be referred to the Committee.

After debate, and—

The question being put on the motion, it was—

Resolved in the affirmative.

J. F. MacNeill,
Clerk of the Senate.

MINUTES OF PROCEEDINGS

THURSDAY, November 22, 1962.

Pursuant to adjournment and notice the Special Committee of the Senate on Land Use in Canada met this day at 11.00 a.m.

Present: The Honourable Senators: Pearson, *Chairman*; Vaillancourt, *Deputy Chairman*; Basha, Boucher, Cameron, Fournier (*Madawaska-Restigouche*), Gershaw, Gladstone, Hollett, Horner, Inman, MacDonald (*Queens*), McGrand, Smith (*Kamloops*), Smith (*Queens-Shelburne*), Taylor (*Norfolk*), Taylor (*Westmorland*), Turgeon and Welch.

In attendance: Mr. Ralph A. Stutt, Special Consultant to the Committee and the Official Reporters of the Senate.

The following witnesses representing the Canadian Tree Farmers' Association were heard:

Mr. Bert Herridge, M.P., Vice President of the Association.

Mr. C. B. Kevin Clarke, President of the Association.

Mr. J. A. MacDonald, Secretary-Treasurer of the Association.

At 12.15 p.m. the Committee adjourned.

At 1.30 p.m. the Committee resumed.

Present: The Honourable Senators: Pearson, *Chairman*; Vaillancourt, *Deputy Chairman*; Basha, Gershaw, Inman, MacDonald (*Queens*), McGrand, Smith (*Kamloops*), Taylor (*Norfolk*), Taylor (*Westmorland*) and Welch.

Mr. Clarke introduced Mr. Edmund Asselin, M.P., one of the Directors of the Canadian Tree Farmers' Association.

Messrs. Herridge, Clarke, MacDonald and Asselin were heard and questioned.

It was ordered that the brief submitted by the Canadian Tree Farmers' Association be printed as an appendix to today's proceedings. (See appendix "A").

At 2.45 p.m. the Committee adjourned to the call of the Chairman.

Attest.

James MacDonald,
Clerk of the Committee.

THE SENATE
SPECIAL COMMITTEE ON LAND USE IN CANADA
EVIDENCE

OTTAWA, Thursday, November 22, 1962.

The Special Committee on Land Use in Canada met this day at 11 a.m.
Senator ARTHUR M. PEARSON in the chair.

The CHAIRMAN: Honourable senators, we have a quorum, and as it is now 11 o'clock we will get down to work. We have representatives of the Canadian Tree Farmers' Association here. They have a brief, which is a rather extensive one. As I understand it, they are going to give us a resume as we go along from page to page, and at the end of each section they will invite questions from honourable senators.

Senator CAMERON: Mr. Chairman, I would move that the brief be attached as an appendix to today's proceedings.

Hon. SENATORS: Agreed.

(For full text of brief, see Appendix to proceedings).

The CHAIRMAN: Mr. Bert Herridge, member of Parliament, is here to introduce the two witnesses from the Canadian Tree Farmers' Association. Mr. Herridge is a Vice-President of this Association.

Mr. BERT HERRIDGE, M.P.: Mr. Chairman and honourable senators, first of all I must say that the officers of our association are very pleased to have the opportunity to present this brief before you gentlemen this morning for your consideration. It is quite lengthy, but Mr. MacDonald, who intends to present the brief on behalf of the association, will deal with particular pages and paragraphs and ask for your questions and suggestions.

I take much pleasure in introducing Mr. C. B. Kevin Clarke, of Montreal, who is our President. He operates a tree farm of his own in the province of Quebec. I also take pleasure in introducing Mr. J. A. MacDonald, our Secretary-Treasurer, who is a graduate forester and a chartered accountant, presently employed with the Post Office Department. Mr. MacDonald has done a great deal of work in connection with our organization.

Before Mr. MacDonald commences to deal with the brief, Mr. Clarke has a few words to say in connection with the organization and what Mr. MacDonald has done. I wish to emphasize the fact that all the work in connection with this organization has been on a strictly voluntary basis. The organization has been formed and maintained and its membership is growing in the provinces throughout Canada as a result of the voluntary effort of its officers and many of its members. We are very fortunate in having persons acquainted with tax law and finance, and others acquainted with forestry, as Mr. MacDonald is, being a graduate forester, and also in having the active support of a good many practising tree farmers. With these few words, Mr. Chairman, I should like to introduce Mr. C. B. Kevin Clarke, who will introduce Mr. MacDonald who will be presenting our brief.

Mr. C. B. Kevin Clarke, President, Canadian Tree Farmers' Association: Mr. Chairman and honourable senators, Mr. MacDonald, who is our secretary-treasurer and has been since the inception of this association, has worked hard and diligently. He is a dedicated man and, I may say, without him there probably would be no Canadian Tree Farmers' Association. With those few words I would call upon Mr. MacDonald to deal with the brief.

Mr. J. A. MacDonald, Secretary-Treasurer, Canadian Tree Farmers' Association: Mr. Chairman and honourable senators, I should like to read selected paragraphs from the brief, and if at the end of each of the sections—there are 7 or 8 sections—there are any questions, I would be glad to attempt to answer them. I shall commence reading from the "History, Purposes and Organization" which appears at the front of the brief:

We in this Association of private woodland owners have come today to present the Case For Expansion of Private Forestry in Canada. We come not as experts but to see whether experts can give good reason to disagree with what we say as practical, private woodland operators.

I think our immediate objective in preparing this Brief has been to demonstrate the situations which would benefit from projects under the Land Use phase of ARDA. It is our long-term objective to demonstrate the feasibility of government policy to foster more private forestry. Also we want to emphasize some of those things in the nature of laws and regulations and such governing bodies as are required to create a suitable economic climate for this type of ARDA programme. And last but not least we believe sincerely that private land forestry must be permitted to blossom if our tremendous wood using industries and forest exports are to maintain and attain the place in Canada's economy of which they are capable.

We also want to emphasize that wood is a farm crop. Grain and wood are Canada's two most important crops. The work of the C.T.F.A. is devoted to the interests of those producing this farm crop on private land. In European countries wood is regarded as an agricultural crop. Thinking in Canada since the last World War is developing in this direction. The Resources for Tomorrow Conference helped and speeded up this national thought process.

The private woodlots are most accessible to markets of all wood-producing lands in Canada. Moreover, the private forest lands are more fertile than the government forest lands. These circumstances can contribute to lower cost and better quality wood from private forest land. We in the C.T.F.A. appreciate the growing threat in the world's market places to Canada's largest export and we want to help meet this threat. We private woodland owners do not want to be spurned and rejected as in the past. We would like the opportunity of proving that we are capable of playing our part in the national family. However, several conditions have to be established and this Brief will outline some of them.

These remarks have been by way of justifying the forming of the Canadian Tree Farmers' Association. It was against this background that a group of woodlot owners first met in 1958 to plan an Association.

A nation-wide organization was decided upon with provision for a Branch in each Province. Full voting membership is provided for any woodland owner anywhere in Canada. Associate Membership is available to anyone at \$3.00 a year.

A national charter was granted as a non-profit organization in May 1959 and in it the purposes were stated to be—and I will read the first one: 1. To encourage and assist members to apply good forestry prac-

tices to the growing, harvesting and marketing of wood products and to encourage the practice of fish and game management.

I shall not read the rest of those purposes but shall turn to page 3, also dealing with the history of the organization. In the middle of the page there is this paragraph:

One of our first activities apart from holding field days at members' woodlots was to publish a folder, Programmes For Local Groups of Tree Farmers. This was a list of activities which could be carried out in local communities depending on the local needs. These programmes were classified into Growing, Harvesting, Marketing and Community and General Activities.

I shall not take the time to read these. They are listed on pages 3, 4, 5 and the top of page 6. Incidentally, they could form the basis of ARDA programs.

The CHAIRMAN: How many community organizations have you got now? Can you tell us that?

Mr. MACDONALD: We have not formed community activities of our own because we did not want to form another separate group from the agricultural associations. We are working with the provincial agricultural associations to affiliate with them in farm forums. We are doing that at the present time,

Then, reading from page 6:

Our next major undertaking was our own monthly publication, "The Tree Farmers' Guide" and there is a copy of it in your brief. This provided a medium devoted solely to voicing the needs of the wood farmer and it is distributed to each member.

This publication has been greeted very enthusiastically and there is now a growing demand for its distribution to county and district agricultural associations and farm forums throughout Canada.

An ambitious programme of publication on this scale is beyond the means of the C.T.F.A. However, some means must be found of meeting this demand for a voice for those practicing wood farming. All our work is done gratis by members and friends and our only revenue is members' dues. An annual grant to cover the costs of printing and distribution would make it possible to meet this demand.

Then I should like to turn over to page 7, which sets out the executive officers and directors of our association. I shall not take your time to read the list. Continuing with the brief at page 8:

The C.T.F.A. now is an ardent supporter of the ARDA programme. We believe that there are some very essential rules which must be established before ARDA undertakes projects in the private forestry field and we will outline them in this Brief.

There is one significant thing we would like to emphasize in closing this section of our Brief. Membership in the C.T.F.A. demonstrates that there is a considerable reserve of private capital which the owners are willing to invest in private forestry. It is the duty of the Federal and Provincial governments to appraise private forestry in light of the Agricultural Revolution now in progress and determine whether this now small stream of capital should be encouraged, by giving it a sound economic climate, or, whether private forestry is not feasible.

If there are any questions I will attempt to answer them now on this section.

Senator CAMERON: Could you say roughly how many acres are under forestry in private developments?

Mr. MACDONALD: In private forestry at this time?

Senator CAMERON: Yes.

Mr. MACDONALD: I do not have that figure with me, but I know one fact I carry in my mind is that private forestry land, if brought to full activity, could supply all the pulpwood needs in Canada.

Senator CAMERON: In order to make that statement you must have some idea of how many acres are under private development.

Mr. MACDONALD: As I have said, if private-owned land were brought to full activity it could supply all the pulpwood needs in Canada. This is based on yields of one cord per acre per year. We do have an estimate of acreage but I did not bring the figure with me. I know that it is several million acres in Ontario and Quebec and the Maritimes.

Senator CAMERON: Privately owned?

Mr. MACDONALD: Starting from Sault Ste. Marie and going round Georgian Bay and the Bruce Peninsula and round the southern end of Algonquin Park, through the Ottawa valley into Quebec and along the south edge of the Laurentian Shield and down into New Brunswick and Nova Scotia, the marginal and submarginal land is better suited to growing trees, and there are many millions of acres of it that are accessible to market. This area is more fertile than the Government lands farther north in these provinces.

Senator HOLLETT: Would the idea be to plant trees on these marginal and submarginal lands?

Mr. MACDONALD: The parts that have been farmed and have failed should be planted, but there is a tremendous amount of it already forested.

Senator HOLLETT: Are these small lots?

Mr. MACDONALD: Yes, small lots.

Senator HOLLETT: Not huge ones?

Mr. MACDONALD: No, not huge ones, small lots, private ownership in the real sense.

Senator MCGRAND: When you speak of private ownership do you mean lots such as are owned by the Fraser Brothers? Do you call that private land?

Mr. MACDONALD: That is private land, but that is the exception rather than the rule. Usually on these marginal farms the activity varies all the way from woodlots on a private farm up to a few thousand acres. I own 400 acres on the farms that I bought in a group. Some of our members own as many as six to eight hundred acres. One of our members has under lease and ownership something over 100,000 acres, but this again is exceptional. The usual range is from 200 to 400 acres.

Senator HORNER: And their production would be for profit?

Mr. MACDONALD: For private profit, yes.

Senator HORNER: It is not like in our province where it is not for profit but for use. It is a crime to run this type of business for profit in the province that I come from. The timber is controlled by the government. It is all production for use and not for profit, but your association members believe in a profit?

Mr. MACDONALD: Yes, we believe in a profit.

Senator SMITH (*Queens-Shelburne*): I'm wondering whether this organization has a certifying aspect to their work, such as we have in Nova Scotia where, for instance, a certain woodlot is certified as being a qualified area, a certified tree farm. Is there a national scheme of that kind?

Mr. MACDONALD: When we started there were a number of our founding directors who were members of the Canadian Forestry Association, which certifies tree farms, and we did not want to start duplicating what they were

doing. We regard the Canadian Forestry Association as a public publicity feature to make the public conscious of the conservation of forestry resources, and we consider that we complement that organization by giving a means for continuity. We believe that when the Canadian Forestry Association, or any of the provincial forestry associations, which are members of the Canadian Forestry Association, certify a farmer's woodlot, they do not have continuity for maintaining this interest, and we believe they should join our association too. There is a bit of confusion between the Canadian Forestry Association and the Canadian Tree Farmers' Association.

Senator HOLLETT: Your idea would be to make it a co-operative effort?

Mr. MACDONALD: We believe in certain places they would be co-operative developments. Incidentally, I would consider a co-operative as a private enterprise.

Senator HOLLETT: Some people do not. I think in your case it would be.

Mr. MACDONALD: It would be in our case, yes, in the same sense as farmers' co-operatives.

Senator TAYLOR (*Westmorland*): There is one statement I should like clarification on. You refer to grain and wood as Canada's two most important crops. Do you imply in that that the crops grown out of the soil—I am thinking in terms of livestock, the sale of livestock and livestock products—are beyond this?

Mr. MACDONALD: We are thinking of crops that grow out of the soil as a vegetative crop rather than a meat crop.

Senator CAMERON: In other words, you are including all the pulp and paper products that come off private land?

Mr. MACDONALD: Government land as well as private land. Our concepts in this country in regard to private forestry and public forestry have developed as a result of the fact we have managed most of our forest lands as publicly-owned lands. You will find in reading sections of our brief about the situation in Sweden where it is partly public and partly private, that they have developed a control even over private lands.

Senator HOLLETT: Did you have in mind that a number of people with private lots could get together as a group and build such a thing as a pulp and paper mill?

Mr. MACDONALD: Yes, I believe it would be feasible. In Sweden private land owners have their own pulp mills, and there are private corporations which operate in Sweden the same as they do in this country. But this would be quite a way in the future. This is an advanced development, even in Sweden.

Senator HOLLETT: The reason I ask that question is that I come from a fish producing area, and I like the idea. I like ARDA, and I like your idea too. It is my opinion that this principle has to be applied in Newfoundland if we are going to achieve any success in the future.

Mr. MACDONALD: The farmers in Sweden have their own pulp mills that they operate as co-operatives.

Senator SMITH (*Kamloops*): Does your association include members who are Christmas tree growers?

Mr. MACDONALD: One of our directors is a director of the Christmas Tree Growers' Association.

Senator SMITH (*Kamloops*): That is an operation that works on a shorter time cycle for a productive crop?

Mr. MACDONALD: Yes, sir.

Senator SMITH (*Kamloops*): Can you tell us something about that? What I have in mind is that I think many people are disinterested and do not show any enthusiasm about tree farming because they think it entails a long-term return.

Mr. MACDONALD: A long time to wait for any return?

Senator SMITH (*Kamloops*): That is right.

Mr. MACDONALD: As to the growing of Christmas trees, you can get a crop of Christmas trees from Scotch Pine plantation in eight years, but it entails a great deal more work than people realize. The demand now is for a very carefully pruned tree. The time to wait for a crop is probably not as long as people think, for there is a great deal of land in Canada where you have trees that have regenerated naturally to the size of your arm or leg, and it has taken 25 years to reach that size. When I bought my farm in Quebec near Mont Tremblant some 25 years ago the farmer told me that there was not a stick of pulpwood on the property and that is why he was going to sell it. But I knew that if I waited 15 to 20 years there would be a good crop, and that in 25 years there would be sawlogs. I have put a road into my property on which trucks can go in and haul out the lumber, and I have to start cutting the balsam which is now 12-inch timber. If I let it go beyond that stage it will start to decay, so I have to start cutting it. People could invest in this sort of thing and from 10 to 25 years, depending on the condition of regeneration you would start to get a financial return. There would be some areas on the farm that you would have to plant where it would take 25 years before you could sell it for pulpwood.

Appendix "B" gives an illustration of yield of pulpwood and sawlogs from a Red Pine plantation on a 60-year life cycle. At 25 years you remove about 75% of the trees for pulpwood; the balance of the remaining trees would be thinned again at 45 years, by cutting out so many trees and leaving the balance to grow the full cycle of 60 years of age. The information is contained in this appendix to the brief. This is why there needs to be done some of the things we are recommending to make it feasible for people to look far ahead. Under present conditions it is not encouraging for an individual to take this long-term view.

Senator HOLLETT: What do you mean by saying in your brief that it has to be given a sound economic climate?

Mr. MACDONALD: We will cover these things in the brief. We deal with property tax and succession duty tax and a vocational training programme, and so on.

Senator HORNER: You have said there is greater production on privately-owned land because it is located south of the great northern areas. Do you not find that this greater production is partially because of planned cutting, which invigorates the bush and it grows better than a bush that is not touched at all? In other words, it makes greater progress when you are cutting it.

Mr. MACDONALD: That is true. There is an optimum point where you can cut too much or too little. That is true, sir.

Senator HORNER: Cutting seems to encourage growth to come along faster.

Mr. MACDONALD: That is right. I think there is a tendency, even on a woodlot owned by a man who is trying to manage it, to leave the trees standing too dense.

Senator HORNER: We were told that dead trees ought to be removed. Do you agree with this?

Mr. MACDONALD: Oh, yes, sir.

Senator HORNER: And old spikes, and that sort of thing?

Mr. MACDONALD: Yes, and get what you can out of it for pulpwood. You can get quite a bit of pulpwood out of the old hardwood trees, if you happen to be located near a mill that will buy it from you. The markets should be co-ordinated so that all farmers have an opportunity to sell, and not just those who live within, say, 100 miles of a pulpwood mill. This would involve an overall plan with the pulpwood industry, one that would utilize private land to their advantage as well as to the advantage of the private land owner.

The next section is called the "Introduction".

It is an objective of the Canadian Tree Farmers' Association to secure acceptance as part of the public policy of Canada of the following thesis, along with its necessary implications for Canadian conditions:—

- (1) Forest land with growing forest thereon should, by suitable use of the timber producing capacity of the soil, be managed so that a satisfactory economic result is achieved and, so far as possible, an even yield is obtained.
- (2) By forest land is meant land suitable for forest growth and not used mainly for other purposes. Land that is lying wholly or mainly idle should not be considered as Forest land, if it is more suited to be used otherwise than for forest growth or on account of special circumstances ought not to be claimed for forest growth.

Land should also be considered as forest land, even if it does not come within the definition in the first part of this section, when forest should grow there as a protection . . .

This quotation is a translation of the first two sections of the Swedish Forestry Law of May 21, 1948: there, this is not merely a thesis—it is part of the substantive law, evolved out of an Act first passed in 1903. The implications, accepted in Swedish government policy have been stated generally as follows:—

Sweden's forest policy is based on her concept that, because of the great importance of forests in her economy, and the peculiarities of forest production—especially the long time that elapses between seeding and harvesting—owners of forests and forest land cannot be given complete freedom in the management of their property. The Swedish view is that forests must be managed with reasonable regard for the interests of society. An underlying objective of her forest policy is to maintain and, wherever possible, to increase forest yield. Present day measures in which the policy is reflected are the result of a long evolutionary process.

It is well established national policy to require that the 75 per cent of Sweden's productive forest land that is private be managed in general conformity with the timber-producing capacity of the land so as to give a satisfactory economic return to the owner and a steady output of timber.*

I will not read page 2, but I will read page 3, commencing at the top.

We should say, however, that we consider it ought to be made a consideration of provincial participation in ARDA that the province establish a Private Forestry Board charged with implementing, by direct or indirect means, within the provincial government and at subsidiary levels, the concept of public policy set out above and *that it should be responsible for maximizing thereby the contribution which investment from the private sector of the economy could be expected to make toward the purposes of ARDA.*

(*Marsh, R. E.: Public Policy toward Private Forest Land in Sweden, Norway and Finland: Charles Lathrop Pack Forestry Foundation report: 1954).

Then I would like to turn to the bottom of page 4, item 7:

Our Association is all too well aware that in this advocacy it is endeavouring to check a trend and to dispute assumptions that have too long gone unresisted and almost unquestioned and, in our view, have been a preponderant and a regrettable influence in North American forestry. The assumptions and the trend were stated by B. E. Fernow, called the "Father of American Forestry" in his "Economics of Forestry", page 273, that "eventually the community shall own or control and devote to forest crops all the poorest soils and sites, leaving only the agricultural soils and pastures to private enterprise." It is not difficult to detect the influences which, in his day, might have led Fernow to this conclusion, but they are now irrelevant: in the 60 years since his book was published his conclusion has been effectively controverted in each of the four Scandinavian countries and in Britain as well, to name only the most conspicuous examples. In that 60 years Forest Economics on this continent has been inhibited from advancing even so far as to recognize and while as W. E. Hiley states ("Woodland Management": Faber & Faber, 1954: page 20) the participation of the state must be active and pervasive:—

It is desirable, however, that as large a proportion of the woodlands as possible should be cultivated by private owners. At its best private forestry is more enterprising, more productive and cheaper than State Forestry: The most efficient forest management may sometimes be found on a private estate, where an enthusiastic owner can make every variation in soil type and every local market serve his ends. But an enthusiastic owner may be followed by one who is less interested in forestry, one who finds in the store of timber built up by his predecessor a useful reservoir of capital on which he can draw to meet the claims of tax collectors and other creditors. Good forests take generations to create, but they may be destroyed in a few years. So in every country the average condition of private forests is unsatisfactory unless some form of State control ensures continuity of policy.

It is against this background that what we have to say here should be interpreted.

The CHAIRMAN: In Sweden is there a progressive growth in the number of acres under development?

Mr. MACDONALD: I do not know, Mr. Chairman, if the number of acres under forest development is increasing in Sweden or not. It may be increasing in northern Sweden where most of the government land is located. I would not know for sure.

Senator CAMERON: Have you any idea of the percentage of forest land in Sweden that is under private ownership and control?

Mr. MACDONALD: Seventy-five per cent is private; about the same as in the United States.

Senator TAYLOR (*Westmorland*): But the production and the merchandizing of that crop is regulated strictly by the state?

Mr. MACDONALD: Yes, they control the cutting but the farmers themselves, through their own associations, control their own marketing and harvesting.

Senator TAYLOR (*Westmorland*): They cannot cut a tree unless it is marked by the inspector.

Mr. MACDONALD: Well, their own foresters and their own associations may do it, but they have approved foresters in their association. As a private land owner, and from discussing this matter with farmers, I should like to

say that farmers in Canada are much nearer to accepting some form of cutting control on their land than most of us give them credit for. I think this is feared too much. The province of Ontario has a law whereby a county can impose a diameter limit on the cutting of trees, and quite a few counties have done this. I do not know how well enforced it is. From talking to farmers I have found that it would be accepted.

Senator SMITH (*Queens-Shelburne*): You have stated that the percentage of privately owned forest land in the United States is 75%?

Mr. MACDONALD: Yes.

Senator SMITH (*Queens-Shelburne*): What is the situation in Canada?

Mr. MACDONALD: It is about 90% publicly-owned and 10% privately-owned. That is in the whole of Canada. In Nova Scotia and New Brunswick it runs about 32% to 35% privately owned. It is different in that region from the rest of Canada.

The CHAIRMAN: So, the private owners would have to build up the woodlots of which they become the owners; 90% is controlled now by the Government?

Mr. MACDONALD: Yes. It is Government Crown land.

Senator SMITH (*Kamloops*): I am interested in this figure of 90% Crown owned.

Mr. MACDONALD: Government owned or Crown owned; I distinguish between Government and Crown because in some countries it is Crown owned by the Crown head as opposed to Government land.

Senator SMITH (*Kamloops*): There is a tremendous amount of timber on that 90% that we have lost control of from the standpoint of the state or the government. The crop on a lot of that land has passed into the hands of private owners who have a pretty free hand to what they will do.

Mr. MACDONALD: This is land which is under lease to private operators, pulp and paper companies, lumber companies, and so on. Most provinces require these operators on government land to prepare what they call sustained yield programmes. I think here is where the problem comes in: just what do you mean by a sustained yield. It is a sustained yield at what level? Are you satisfied with, say, one cord per acre per year or do you want up to two cords per acre per year? With regard to these sustained yield programmes, the estimate I have heard made by the officers of the Canadian Pulp and Paper Association is that the rate of growth on government owned land is 1/10th of a cord per acre per year. I would not be satisfied unless I got two cords per acre per year.

Senator CAMERON: Is that 10% privately owned? Does that include the acreage under lease to logging companies, for instance?

Mr. MACDONALD: No, the acreage under lease to logging companies would be in the 90% calculation, if it is undeeded land. There is a lot of government land scattered among the private lots in the counties in Quebec and Ontario. There are 100 acre lots scattered amongst the farmers' lands. These are government lands.

Senator CAMERON: These are in the nature of demonstration lots?

Mr. MACDONALD: No, unfortunately they are not. They are leased out for cutting to local operators and they are under the jurisdiction of the district foresters in Ontario and Quebec. There is very little of this property that can be classified as demonstration lots. A lot of government lots were never deeded because the government did not consider them, even when deeding them 100 years ago, that they were suitable for food farming.

Senator TAYLOR (*Norfolk*): In the older sections of Ontario we have forestry committees, and a private individual cannot cut trees down without permission of these forestry committees. You are speaking of Ontario and Quebec generally, but in the older sections of Ontario—for instance, in Norfolk County—there are forestry committees and trees cannot be cut without their authority.

Mr. MACDONALD: Probably Norfolk County has this diameter limit regulation that the county has passed. Is that so?

Senator TAYLOR (*Norfolk*): Even the small trees cannot be destroyed unless the forestry committee feels that it is all right that they do not have to be left standing.

Mr. MACDONALD: I know that Ontario has moved in this direction. As I say, this substantiates my view that farmers are ready to accept control over the cutting on their lots. How do they accept it in Norfolk County?

Senator TAYLOR (*Norfolk*): Well, once in a while there is a court case.

Senator HORNER: Does your association take any part in searching for enlarged markets for Canadian wood products?

Mr. MACDONALD: Sir, we are all voluntary workers and it is a sort of part-time occupation with us. We have not been able to develop to that stage, but I can see that if the Ontario Agricultural Association or the Quebec Agricultural Association were to develop a strong forestry wing, then they would take a part in developing markets the same as they do in the case of beef cattle and dairy products.

Senator HORNER: In view of what they said about private land being capable of supplying our present pulpwood needs, it would seem that what requires particular attention is the possibility of enlarging our markets for the products of the forest.

Mr. MACDONALD: I do not like to overemphasize my own views in this brief, but my personal views are that that is where we should start. We cover that in part VI of our brief, the marketing phase.

The next section with which I should like to deal has to do with property tax. In making these proposals we only wish to suggest a general tax philosophy and we are not saying that our statements or recommendations are definitive at all. We make suggestions as to how to correct present difficulties, and we give the basis for future study.

Then I should like to deal with property tax, as set out in our brief:

The argument that trees in a woodlot are like money in the bank has had a regrettable effect on the behaviour both of taxing authorities and of woodlot owners. It is true only of mature trees: the immature tree is a locked-up investment of a peculiar kind. That investment consists chiefly of the accumulated amounts of property tax paid during the years it has been growing and the implications of this fact for silvicultural measures, achievement or maintenance of sustained yield, achievement or maintenance of the optimum productivity of the land, are rarely fully realized by the owners and have been persistently disregarded by the responsible governments. We should not like to think that any bank could be so carelessly indifferent to the safeguarding of the values entrusted to its care.

Rather than present our own argument in support of these assertions we have decided to adopt and endorse the analysis and, as modified below, the recommendations of an impartial and expert body, the Canadian Tax Foundation, as expressed in Part IV of "Forestry Tenures and Taxes in Canada" by A. Milton Moore, published by the Foundation in July, 1957: we are obliged to the Foundation for the permission given us to quote from this publication.

We have, however, two general reservations:

- (a) The study assumes throughout that regeneration is natural: it does not deal with the cases where submarginal cultivated, pasture or idle land is being planted to trees, now one of the major objectives of ARDA. It is made clear that where silvicultural expense is undertaken during the rotation period the burden of the property tax increases sharply, verges upon and in many situations actually becomes, confiscatory. Where the relatively substantial costs of planting must be incurred in the first year of the rotation, this effect is greatly magnified. Unless or until markets or better markets are available for thinnings and the produce of improvement cuts, the intensive selective management of existing stands necessary to bring them to optimum stocking and a sustained yield basis also entails substantial net outlays in the early years.
- (b) The Woodlands Tax proposed is intended to vary with stumpage prices. This may have been reasonable within the context in which the study was prepared but we submit that, having regard to ARDA and the desirability of maximizing the contribution which could be drawn as investment from the private sector of the economy for the purposes of ARDA, the long-range planning required in private forestry ought not to be fettered or circumscribed by short-term variations in stumpage prices.

Then follows a long quotation from "Forestry Tenures and Taxes". I will not read all of it, but I would like to turn to page 3, the second paragraph.

To summarize, a tax of one per cent levied on the value of the standing timber in each year of the life of the crop amounts to between one-third and one-half the value of the crop . . . This is a heavy weight of tax. Where there are expenses additional to taxes, the weight of the tax is much higher when measured as a percentage of the present worth, at the beginning of the rotation, of the income accruing to the ownership of the land.

I turn now to page 4, and will read items (a), (b), (c) and (d):

By a priori reasoning we may conclude that a heavy property tax on the value of land and trees tends to:

- (a) make it unprofitable to retain possession of the most heavily taxed lands when they are cut-over;
- (b) shorten the financial rotation period, which decreases the volume of timber produced per acre per year;
- (c) decrease the amount of expenditure undertaken to increase yields because the tax increases with the yield;
- (d) greatly decrease the value of cut-over lands.

Then I will read the sentence at the bottom of that page:

Even though the rate of cut on large private holdings is usually lower than on smaller holdings, particularly woodlots, and sometimes no greater than on Crown lands, it is difficult to resist the conclusion that the relatively high carrying charges in the form of property tax on private lands compared with the often nominal ground rents for Crown lands is one of the influences accounting for the greater rate of cut of private forests.

That is a quotation from "Forestry Tenures and Taxes".

I now go to page 5, just below the middle of the page:

That the tax pays for services which are not used and gives no return in reform of those services that are needed and can best be rendered on a communal basis, e.g. area protection against fire, disease

and insects, was pointed out by B. E. Fernow no less than 60 years ago.

I would like to turn now to page 6, to the first paragraph near the top of the page:

We have been forced to the conclusion that the only way to impose a tax on all timberlands which does not vary with the growth of the trees—and this is almost universally advocated—is by some variation of the so-called barelands tax.

Of all the desirable qualities of a tax on timberlands the one which appears to us to be of the greatest long-run importance is that the amount payable per year on immature stands and on forests which have been selectively cut should be kept very low. This consideration has determined the nature of our major proposal.

It also seems clear that administration must be entirely in the hands of the province if there is to be any hope of tax uniformity among municipalities. Rural municipalities are neither equipped to do the job nor sufficiently free from pressure for revenue to attempt it. To avoid the complications which invariably crop up when a provincial government collects a tax for distribution to municipalities, there would appear to be no reason why the tax, assessed and billed by the province, should not be payable directly to the rural municipality.

It is of course a necessary condition that any proposal be administratively feasible. There is no point in proposing a scheme which would cost so much to establish that the tax revenue would be absorbed for a dozen years or more. And it would be a mistake to strive for the accuracy in evaluation, for purposes of setting a tax, which is appropriate where Crown timber is being sold, for example. While accuracy is admittedly necessary for tax equity sight cannot be lost of the additional cost relative to the increase in equity achieved. If a new scheme were adopted by a province, say Nova Scotia, with administration taken over entirely by the provincial government, it would seem entirely reasonable that as few as four or five rough timber property classifications be set up initially. Once the new scheme was in operation, more and greater accuracy of site classifications could be gradually developed.

The long-term programme for the replacement of the property tax on forest lands in all the provinces which has won our preference is as follows. First, attention would be given to logged-over lands, immature stands and limits which have been selectively cut. If these were granted exemptions from the property tax and made subject to a provincial Woodlands Tax, all forest areas would gradually come within the new scheme as mature stands were cut. A primary requisite of the scheme is that the tax be capable of being computed with little difficulty each year as an amount per acre. No annual inspection of the property should be required—this is prohibitively expensive—and in our view no inspections whatever are necessary except for purposes of setting the initial rough classifications and for the later revision and improvement of that classification.

Then I would like to turn to page 9 and read the proposals as modified by the Canadian Tree Farmers' Association. We would like these proposals to be studied:

1. On application of the owner any cut-over lands, immature stands, or stands that have been selectively cut, or tree plantations, shall be entered on a Woodlands Register maintained initially by the provincial government, and eventually by the provincial Private Forestry Board, (See Part VII) and shall thereafter not be liable to payment of any property tax or to any levy of similar kind based on value, assessed by the municipality.

2. On application of the owner any combination of such lands, together with bare land which he intends to reforest or hold for purposes integral with the tree-farming enterprise, and mature stands, shall be entered on the Register as Registered and Dedicated Woodlands if he has registered against the title thereof a Deed of Covenant in terms set by agreement between the Federal and Provincial governments, constituting an engagement that the lands will be managed in accordance with approved silvicultural purposes.

3. The Director of Woodlands Register shall classify all lands registered into not more than five categories, according to the roughly estimated natural productivity of the land under the minimum management. He shall compute the Woodlands Tax applicable in each category at no more than will absorb 50% of the estimated yield—we just took 50% as the maximum figure; maybe it is not exact—when computed at 8% compound interest over the estimated rotation period appropriate to the site. The Tax on Registered Woodlands shall be adjusted from time to time in proportion with the changes in an index of stumpage prices.

4. The Woodlands Tax on Registered and Dedicated Woodlands shall be not more than one-half the tax on Registered Woodlands of the same category—that is, not over 25% of the yield—shall not be subject to variation with stumpage prices and shall not be subject to change for an initial period of 50 years from the date of dedication. (It is assumed that the Dominion Private Forestry Board will accumulate information on which to base any revision of this initial tax base that experience may show to be desirable.)

5. Provided, however, that buildings on Registered and on Registered and Dedicated Woodlands, to the extent that they are deemed by the Director to fulfil no purposes essential to the management of the lands as woodlands or to the operation of the tree farming enterprise, shall be assessed by him to tax in the same amount as they would be if they stood on unregistered land.

6. The Woodlands Tax as assessed and billed by the Director annually shall be paid by the owner to the municipality.

7. The owners of Registered and Dedicated Woodlands may obtain their release from dedication, and the annulment of the Deed of Covenant, by paying to the Director the difference, cumulated at 6% compound interest, between the tax on Registered Woodlands and the tax actually paid from the date of dedication.

If the lands are sold to a purchaser who does not register against the title his assumption of the Deed of Covenant, he shall pay to the Director a sum similarly calculated and if he fails to do so the lands shall be subject to expropriation if the Director and/or the provincial Private Forestry Board so decides, and, if not shall be discharged from the Register and returned to municipal assessment.

8. The Director may order an inspection, by a qualified forester, of Registered and Dedicated Woodlands and if it is found that there has not been adequate observance of the terms of the Deed of Covenant, may discharge the dedication and transfer the lands to Registered Woodlands, upon payment by the owner of the penalty suggested in (7) above, and proceed similarly on default of payment.

If the owner disputes the report of the forester and the decision of the Director, the matter shall be submitted to arbitration by three qualified foresters, one selected by the owner, one by the Director and the third by the Department of Forestry, Ottawa (later, by the Dominion Private

Forestry Board): provided that the owner may select, in lieu of a forester professionally qualified, a practicing tree farmer who is the owner of Registered and Dedicated Woodlands.

That is the basis for our proposal for land taxes, and it carries over into our recommendations with respect to income tax which are based upon the recommendations of the Canadian Tax Foundation, together with modifications we have made based on the laws they have in England and Sweden which we have adopted to fit Canadian conditions.

The CHAIRMAN: Why pay the tax to the municipality rather than to the province?

Mr. MACDONALD: It would be cheaper to handle, I think.

The CHAIRMAN: In Saskatchewan we have a mineral tax which we pay directly to the province.

Mr. MACDONALD: And then they distribute it?

The CHAIRMAN: I do not know what they do with it. It goes into the general fund, I suppose. Apparently they are quite successful in collecting it.

Mr. MACDONALD: It might be a matter of economics—to study the cheapest way of collecting the tax. We thought it might be cheaper to handle it through the municipal office. You will need the municipal office anyway, and we thought it might be better to pay it directly. The people would be happier about it because they would know that they would be paying taxes on their own properties.

Senator HORNER: This sounds like a practical and sensible proposition, because certainly tree farming is quite different from any other kind of business or production. It would be reasonable to think that they would want some different form of taxes.

The CHAIRMAN: What would happen in a municipality where there is a great deal of sub-marginal land? What would happen to the finances of that municipality if all these were taken in and registered as tree farms and taxed as you suggest here?

Mr. MACDONALD: One thing you will find in an area like that is that as your revenues go down so do your municipal costs because there are less schools and less roads to be maintained. Roads do not have to be maintained in as good a condition. The costs of fire protection and that type of thing decrease. They should be able to establish the type of municipal services that are appropriate to the forest economics of the area. I visualize in these marginal areas something like what is happening in the west where the farmers have tended to move into the towns to live rather than live on their farms.

Senator SMITH (*Queens-Shelburne*): I thought they went down to Florida or California.

Mr. MACDONALD: That would be a good idea, but you have to do your logging in the winter time. That proposal is something you may want to think about, but it forms the basis of our recommendations with respect to income tax which are contained in the next part of this submission. I would like to go ahead now with our income tax recommendations.

1. That the income tax as at present applied militates against sound forestry management, against conservation objectives and against the purposes of ARDA is so cogently demonstrated in Part VI of "Forestry Tenures and Taxes in Canada" that we should do injustice to the situation if we did not quote it in full. Instead, we shall amplify and illustrate the Foundation's criticisms of "historic cost" depletion—and our main battle is against this historic method of depletion—and endeavour to

make clearer how seriously and how unwisely it hampers efforts to bring woodlands to the stage of sustained yield and, hence, of maximum productivity—this being the aspect that is of special concern to our Association.

2. It is pertinent to quote here what is said at page 229 of "Forestry Tenures and Taxes in Canada":

There are two income tax matters about which conservation groups, such as the Conservation Council of Ontario, are very concerned. One is that just discussed—the operation of the lure of making capital gain as an obstacle to the creation, preservation and good management of farm woodlots, plantations and tree farms. The other is the bar to deduction of losses incurred in the early years of a plantation from income from another source. Our recommendations would cover both those objections.

I turn now to page 2 and start reading from about an inch from the top of the page.

"Advocated is an unequivocal right:

- (1) to treat all costs of establishing and maintaining a new plantation as current costs of operation;
- (2) to aggregate losses so calculated in the early years of establishing the plantation with income from other sources; and
- (3) to include in the expenses so treated maintenance costs, annual property taxes, all planting costs, costs of protection from fire, disease and insects and of installations for improvement of the limit such as tile drainage and road."

Then I will read this sentence at the bottom of the page that is underlined:

Our whole case is that we want an impartial Board to do continuing down-to-earth research on this matter so a program to sponsor private investment in forestry lands may be undertaken as a Government policy with a good conscience and sound arguments, or to reject it from the standpoint of the non-resident farmer.

Then, carrying on:

4. The following hypothetical example envisages successive plantings of red pine on a 600 acre site capable of giving a 60-year rotation. I do not propose to go into the details of that calculation. It gets into involved computations of compound interest, and we have had investment experts and actuaries review that for us. The point is explained on page 5, and our objections to the results you find in that calculation are shown on page 5.

6. It will be observed that:—

- (a) The "unrealistic" appearance of the "True" Investment total directly measures the inequity of binding the owner to "historic cost" depletion. The yield from alternative forms of investment that he foregoes must then be a cost to him as actual as his cash outlays. There are enterprises in which "historic cost" depletion entails no essential hardship, the profit margin being sufficient to recoup the entrepreneur for the interest loss while he waits for his return but this can never be the case in intensive forestry; here, "historic cost" depletion is logically, economically, morally and socially indefensible.

The brief continues, at the top of page 6:

- (d) Our calculation also demonstrates the magnitude of the investment represented by a property nearing the stage of sustained yield: and, still more, the need to enable the owner to resist the temptation to sell a maturing stand "en bloc" in order to realize a tax-free capital gain, or to enter into what "Forestry Taxes and Tenures in Canada", at page 228, refers to as "suppressed agreements—under which the purchaser of land and timber agreed to sell the land back to the vendor after making the cut." Such agreements, it would seem, may be illegal under Section 137 or liable to Treasury Board action under Section 138 of the Income Tax Act.
- (e) A real tree farm would incorporate as much diversification as possible and, in particular, would include uneven aged stands of trees under selective management, some of which might be brought to sustain yield in 20/30 years or less. Planting and thinning would be done annually and the value of mature trees harvested each year would increase gradually as more and more of the land reached the stage of sustained yield. Once the whole property had been brought to that point, the influence of "historic cost" depletion would become neutral: the depletion account would remain constant, unless the owner expanded his holdings or, in special circumstances, reduced his timber inventory by cutting at a rate in excess of the mean annual increment.

I would like to turn now to the bottom of page 7, where we make our own recommendations. The brief says:

8. Recommendations

Our recommendations in respect of Income Tax differ from, though they are based on, those of the Canadian Tax Foundation, because we consider that reform of the Income Tax in this area would be futile unless preceded by, or firmly tied in with, amendment of the Property Tax. They are also less general in their bearing and of an interim character, because of the importance which we attach to a demonstration by the Government of Canada that it intends to create and foster conditions in which intensive private forestry will be economically justifiable and capable of attracting investment.

It is relevant and timely to point out that, having regard to what has been said above and to the position of private forestry in other countries, it cannot be believed that the present yield from taxes on those woodlands to which these recommendations would apply can be either large, steady or increasing. There is every reason to believe that it is none of these things: and that the changes we seek, besides facilitating the formation and continuing growth of a body of private and social capital represented by woodlands properly managed for sustained yield, would produce a reliable, a growing and, eventually, a substantial body of public revenue in addition to all the other social benefits. We recommend that:—

- (1) The owner of Registered and Dedicated Woodlands shall be entitled to deduct from his taxable income from any source, as current operating expenses of the year in which they are incurred, all costs of establishing, growing, cultivating and maintaining trees upon such lands, save only bare land costs and such items, to be specified, of a capital nature, for which depreciation at agricultural rates shall be allowed.

- (2) The vendor of Registered and Dedicated Woodlands shall, if the purchaser assumes the Deed of Covenant, be free of Income Tax on the whole of the sale proceeds.
- (3) The vendor of Registered Woodlands (and the vendor of Registered and Dedicated Woodlands, if the purchaser does not assume the Deed of Covenant) shall be subject to Income Tax on the sale proceeds, provided that he may claim as a tax-free capital gain, if he is otherwise eligible to do so, such portion of the sale price as may be established to the satisfaction of the Inspector of Income Tax as pertaining to the value of the land only.
- (4) The purchaser of lands which he dedicates (or the purchaser of Registered and Dedicated Woodlands, if he assumes the Deed of Covenant) shall not be entitled to claim any depletion on account of the purchase price: but he may, by cruise or other valuation procedure satisfactory to the Inspector of Income Tax, establish what portion of the purchase price relates to the value of the standing trees which he shall record in his Income Tax Return as a Capital Cost Allowance Claimable. The owner of lands purchased prior to their Dedication may similarly establish a portion of their value at the date of dedication as a Capital Cost Allowance Claimable. Beginning in the tenth year following the purchase the owner may deduct pro rata portions of this Allowance from taxable income derived from the said lands, or, at his option, add ten per cent per annum thereof to the current operating expenses of his Registered and Dedicated Woodlands.

Senator McGRAND: What is the growth of wood throughout the world in comparison with the utilization of wood products? I have read in some sources that the demand for wood products in the next few years is developing faster than our capacity to grow wood. On the other hand, I have been told that we would get overproduction of wood if we were to develop this scheme of producing a cord of wood per acre. What is your opinion on that?

Furthermore, what is the future of the Christmas tree, considering the competition from permanent Christmas trees made of metal or aluminum, which are becoming more and more used at the present time?

Mr. MACDONALD: In reply to the first question, the best information available is probably through the United Nations organizations that report on these questions. As I understand it, you have to take this question in various units of the world and break it down. Taking the European sector, they expect a demand for cellulose which will be greater than the capacity of the industry. This will depend on the economic basis in Europe. Therefore there would be a shortage of cellulose in Europe.

If you look to other areas of the world, I think the situation is very confused. If you look at South Africa, New Zealand and Australia where they are starting to plant exotics and getting fantastic rates of growth, referred to in Part V, their potential is unpredictable.

On the other hand, in those tropical and sub-tropical areas there is the threat of disease and rapid rate at which soil fertility deteriorates, as compared to our climates.

As to the future of Christmas trees, I think this is a very unpredictable business to be in. I would hate to have very much money invested in Christmas tree operations. I think there always will be a market for natural-grown Christmas trees of high quality. It is like everything else we produce, if you have a good steer you can sell it but you cannot sell a poor steer. If you have

good Christmas trees you can sell them. It is not something where you can plant 20 acres of trees and come back in eight years and cut them—you would not get anything for them.

Senator McGRAND: You do not think the metal Christmas tree which can be used year after year is going to be a serious competitor with the natural Christmas tree?

Mr. MACDONALD: I doubt it. That is my own opinion. I believe people like a natural-grown Christmas tree. I think that these metal Christmas trees, like a lot of gadgets you buy, work for a year or two and then, like a lot of other gadgets, they are thrown out.

Mr. CLARKE: I have been in the importing business, importing from many countries, including Japan. They have sent me a Christmas tree not made of metal but of nylon and similar products, which you buy in a tube and which can be kept for years, presumably. The early ones they sent were not particularly good. The last lot were very realistic. I understand that they had somebody over here studying the Canadian Scotch pine. However, the point is that before the austerity program the last offer I had from them was that I could buy those trees in lots of 10,000 at under 25 cents a piece. It would seem that would have its effect on the market in Canada. The natural Christmas tree is becoming expensive, due to the necessity of pruning, fertilizing and spraying. It might come to a point where a person could not afford to pay the price of a natural-grown Christmas tree. It would be regrettable if that were so. Those trees I was offered were from three feet to six feet.

Senator McGRAND: In the case of the natural Christmas tree cut at the beginning of December, by the time it gets to the Southern States the spills are likely to be dry and fall off. The artificial Christmas tree that continues to hold its spills is a more suitable thing to have around the house?

Mr. CLARKE: Yes.

Senator McGRAND: I am not thinking of the Christmas tree which is cut only a few days before it is set up and which has not dried out. I am thinking of those cut in the middle of November and which do not get to the Southern States until a week before Christmas, when they are pretty well dry.

Mr. MACDONALD: Particularly spruce.

Mr. CLARKE: Another limitation is the cost of the natural five foot trees which many people desire to have.

Senator SMITH (*Kamloops*): Is not this nylon likely to be a product of the forest?

Mr. CLARKE: Yes, but not of our forests.

Senator SMITH (*Kamloops*): It is the beginning of a trend, where we may need to face this in the marketing of our forest products.

Mr. CLARKE: That is true. We might be able to develop an industry here to compete with the Japanese.

Senator McGRAND: There is another question. A great deal of the plastics comes from oil rather than from wood, is that not correct?

Mr. CLARKE: Yes.

Senator McGRAND: The research in oil is outstripping research in wood?

Mr. CLARKE: I am not too familiar with that but I know they are using a lot of oil by-products for the production.

Mr. MACDONALD: I do not think anyone in the wood using industry would admit that oil sources have outstripped wood sources. There is a considerable amount of competition between those who are making wood plastics and those who are making oil plastics. The hard wood pulp generally referred to as liquid

pulp is used in making plastics and cellophane which in Canada is a trade name, is used in making tires from wood. The Hawkesbury mill makes tire plastic. There is a struggle there in the industry and it depends on which is the more aggressive. If they develop the wood cellulose, it makes a greater market for all the hardwood grades of pulp.

Senator HOLLETT: What is the present system of taxation with regard to woodlands such as you own yourself?

Mr. MACDONALD: It is not that the tax is so exorbitant on the woodland at the moment, but there is always this threat. Other values increase the value of your property and taxation goes up. Actually, in Quebec, and I think in Ontario, the land annual tax on our woodland is very low. An assessment on my lot would be \$200 per 100 acres, a very low assessment. In Nova Scotia the position is more serious, as can be seen by looking at this book. It gets to the point where every rotation it runs to 600 per cent of the value of the wood crop; so it needs to be equalized so that anyone investing on a long term basis is assured that he is not going to lose all his money in taxation.

Senator HOLLETT: That is the main object of a good part of this brief?

Mr. MACDONALD: Yes.

Senator CAMERON: Mr. Chairman, unfortunately I shall not be able to be present this afternoon when the committee resumes but I should like to take this opportunity to compliment Mr. MacDonald and the Canadian Tree Farmers' Association for the excellence of their substantial brief. It is certainly one of the finest to be presented to the Land Use Committee.

The committee adjourned until 1.30 p.m.

The committee resumed at 1.30 p.m.

The CHAIRMAN: Now that we have a quorum, we can proceed. Will you commence, Mr. MacDonald?

Mr. MACDONALD: Before I commence, Mr. Chairman, I should like Mr. Clarke to introduce another of our directors.

Mr. CLARKE: Mr. Chairman and honourable senators, I would like at this time to introduce one of our directors, who unfortunately was prevented from being here this morning, namely, Mr. Edmund Asselin, the member from Montreal N.D.G. Perhaps Mr. Asselin will rise to identify himself.

Mr. ASSELIN: Thank you, Mr. Chairman.

Mr. MACDONALD: I will start with Part III, "Estate and Succession Duty Taxes":

It would be repetitious after what has gone before to demonstrate that under our Estate Tax and Succession Duty legislation the tax collector, once again, where woodlands are concerned, is required to "take his cut and get out". Praise for the Death Duties of England is, if not unheard of, rare: yet we must commend them for provisions which in comparison with our legislation show an enlightened and prudent regard for the preservation of what are national and social as well as private assets. Woodlands forming part of an estate are not reckoned in the total which determines the rate of tax: the portion of the tax levied that falls on standing timber cannot be exacted as a lump sum, so leading to devastation—felling licences would be refused: it stands as a liability of the property discharged pro rata as felling licences are granted or as timber is harvested pursuant to the approved Plan of Operations, in the case of Dedicated Woodlands.

They have this dedicated land scheme in England.

Though complaints are made that it is a severe burden, it does not appear to have had a deterrent effect on the growth of the area under the Dedication provisions.

We would recommend, as a minimum, that the value of Registered and Dedicated lands included in an estate here should not be included in the total which determines the rate of tax: where it is the succession that is taxed, that they should be subject to a special schedule of minimum rates; that in no case should the tax exigible be collectible over a lesser period than 10 years, without interest, in annual instalments, or otherwise at the option of the person liable for the payment (so long as the land remains Dedicated).

Are there any questions on estate succession duty tax?

The CHAIRMAN: When did they start having dedicated woodlands in England, do you know?

Mr. MACDONALD: I think it started shortly after the last war.

The CHAIRMAN: The second war?

Mr. MACDONALD: Yes, the second war—they developed this. It has gradually been built up, so the amount of land being dedicated has taken a number of years to build up. As you would expect, it takes a number of years for people to become increasingly interested in it. There is quite a rapid increase each year in the amount of land being dedicated.

Senator SMITH (*Kamloops*): Mr. Chairman, I wonder if Mr. MacDonald could tell us if there have been any conversations or discussions with appropriate people, to get their reactions to a similar arrangement here? Have you had any encouragement along that line?

Mr. MACDONALD: No, we have not actually had them with people who might be interested. There is a practice in Canada of buying land and holding it for years in estates, to get the capital gains. This is where there is a succession, and they are investing the capital for a young person who is a beneficiary of an estate. I know of a few notaries who buy woodland and hold it for 20, 30 or 40 years, and then sell it for the benefit of the heirs.

Senator SMITH (*Kamloops*): But it is subject to the fluctuations that may occur during that period of years as to taxation. You do not know what effect the taxation is going to have on the value of it for tree farming purposes?

Mr. MACDONALD: No, so far they have been satisfied to take a chance on the capital gain or the income tax gain. The amount they get out of it would be largely a capital gain through the production of the timber. However, I should not really confuse the issue, because that does not really concern succession duties but more the income tax. No, I cannot say we have actually had a reaction on this proposal. We are making this part of an overall proposal that property taxes, income taxes and succession duty taxes should all be studied as a parcel. This is a first presentation on this subject. We expect a great deal of study and comment to be made on this proposal.

Senator McGRAND: Does what you are discussing now in any way tie up with municipal taxation on farm woodlots, say in Kamouraska county or Megantic county?

Mr. MACDONALD: I think the whole field of taxation is linked together—the municipal taxes, property, income and estate taxes. This is a question where you cannot just take one of them alone and draw up rules and regulations for it; you must study them as a group. There is probably no direct link between property, municipal and estate taxes, as such, other than this overall problem of the forest owner who wants to invest capital on the long-term basis.

Mr. Chairman, the next part may engender some questions on taxation, and I will read a few selections from Part IV.

The CHAIRMAN: All right.

Mr. MACDONALD:

It is appropriate at this stage to enter positive evidence that enlightened taxation provisions can induce owners to make woodlands more productive and elicit a substantial flow of investment into private forestry. We quote from "Woodland Management" by W. E. Hiley (Faber & Faber: 1954: page 405) regarding the situation in England:—

The special concessions which are allowed in the taxation of forest property are intended to be an inducement to owners to make woodlands more productive and there is evidence that they are having an important influence in securing this object. Some wealthy owners are buying woodlands and are planting up bare land as a kind of insurance against estate duty. By transferring a portion of their wealth into woodland property, the value of which is not taken into account when the rate of estate duty is assessed, their estates may fall into a lower bracket and duty may be paid at a lower rate.

I would like to turn over now to page 2 of Part IV, and there is a paragraph about two-thirds of the way down the page which I would like to read.

Acceleration of progress in England has probably had to wait upon:—

- (1) The development by the Commission of yield tables for all important species and all site classes: and the related pioneering work in the economics of private forestry, including studies of management policies and results on estates for which records over a long period are available, done for the Commission by the Commonwealth Forestry Institute.

This is the first reference we have made to yield tables. There should be official yield tables in a country where you are going to develop the forest industry. Some of our forest services have them available, or they could be made available and made official. For example, at Petawawa there are studies which, I think, start in 1911. I know I worked on a survey in 1932, re-measuring them. As I recall it, they were established in 1911, so there is background now for establishing yield tables.

Mr. HERRIDGE: For those who are not too familiar with the industry, Mr. MacDonald, would you mind stressing that it is most important this program should be undertaken by both provincial and federal government agencies to a much greater extent than it has been in the past.

Mr. MACDONALD: Yes. Yield tables are the only official means of estimating and evaluating a stand of timber. It shows you by various site classes and various age cycles of a forest stand what the probable yield per acre will be in terms of cords and board feet. These yield tables can be developed by measuring standing trees. I worked on them in another survey made in 1929 on the Nelson River, and we made them by simply cutting down trees and counting the rings and measuring the diameter growth of the tree at the butt and at various lengths along the tree, and from this study you could develop yield tables. This does not have to wait on any period of growth, and you can take existing trees and measure them and build up yield tables to be used in any scientific approach to this forestry problem.

The CHAIRMAN: I suppose there is quite a difference between the soft coniferous tree and the hardwood tree in yield?

Mr. MACDONALD: There is more known about the softwood yields, but I suspect that some of our hardwoods in Canada produce more. I have studied rates of growth of oak trees in Ontario. The rate of growth, I would suspect, would turn out as high as in all our high yield softwoods—certainly elm does. Maple grows slower, basswood at a much higher rate, but there would be a need for more study of hardwoods than for softwoods.

Senator TAYLOR (*Westmorland*): It would depend again on the species of softwood.

Mr. MACDONALD: They vary; red pine will grow faster than white spruce or black spruce.

Senator TAYLOR (*Westmorland*): We find that white spruce grows faster in the Maritimes.

Mr. MACDONALD: It is found that Norway spruce grows phenomenally fast. And while speaking of this and the question of the protection of trees against insects, and it is well to give attention to this, the private individual maintaining forest, give more attention to this question than is given on government plantations because apparently they are so large they think it is not worth the money spent on it.

The CHAIRMAN: How far have they got with the hybrid development of trees?

Mr. MACDONALD: We make some reference in Part V to that. There is a hybrid willow they developed in Denmark that they can cut into pulpwood—pulpwood sticks in six years. And in Italy they have developed poplars where they can cut pulpwood in ten years. They have also experimented a little with those here. That is one thing we could do in this country, to think about tree improvement.

I would like to turn now to page 3 of Part IV, about two-thirds of the way down the page.

Corresponding evidence can be supplied from the United States. A. E. Wackerman, Professor of Forest Utilization at the Duke University School of Forestry, in "Keeping Faith with Forest Farmers" (*American Forests*: May, 1962) p.12, traces the growth of private forestry in that country:

The factor contributing most to the rapid progress of private forestry unquestionably was the revision of federal income tax policy in 1943. Prior to that time, income from long years of timber growing was classed as ordinary income for the year in which it was received, regardless of how many years had elapsed between the investment and the return, unless the timber was sold outright.

Then I would like to turn to page 4, in the middle of the first paragraph there is a sentence: "By allowing long term capital gains treatment for forest management timber income, the federal government itself adopted what it had long urged the states to do—"

This is the federal government in the United States.—"—i.e. encouragement of private forestry by co-operation and equitable taxation. The capital gains rate for timber income, in effect, holds the tax rate on applicable transactions to one-half the rate on ordinary income with a maximum of 25 per cent." And that is all the part of that section I propose to read.

The CHAIRMAN: How far have we in this country got towards doing that?

Mr. MACDONALD: I don't think there has been ever any effort made in any provincial or federal income tax Act.

Mr. HERRIDGE: With the provincial government of British Columbia the taxation is almost confiscatory. It is the value of the timber standing each year which is treated as if it is land.

Mr. MACDONALD: If anyone is interested in the subject of taxation it is possible to get a copy of this book "Forestry Tenures and Taxes in Canada", published by the Canadian Tax Foundation, and published in 1957. It is a thorough study of property taxes and income tax by provinces.

Senator MACDONALD (*Queens*): Mr. MacDonald, have you got independent setups for each province? I am interested in the setup for Prince Edward Island. Is the book you mention dominion-wide?

Mr. MACDONALD: They have it province by province.

Senator MACDONALD (*Queens*): Where can I get it? All I am interested in is the province of Prince Edward Island. Where can I get a copy?

Mr. MACDONALD: I don't think it is published separately by province, but I can lend you this if you care to read the part on Prince Edward Island.

Senator MACDONALD (*Queens*): Can I get the whole thing?

Mr. MACDONALD: It is in the Parliamentary Library.

The CLERK OF THE COMMITTEE: Would you give the name to Senator MacDonald and the title of the author?

Mr. MACDONALD: "Forestry Tenures and Taxes in Canada".

There is another sentence that we probably should think about: "Forestry is not a 'get-rich-quick' scheme nor a way to make a 'fast buck'. It requires more long range confidence in government co-operation and the economic future than any other form of private enterprise." That was part IV, page 5.

This is a very important subject, the whole field of taxation, and we have deal with property tax, income tax and succession duties, and there are a few more references in here to other countries, this book on "Forestry Tenures and Taxes in Canada." It is the basis for an over-all program which requires the co-operation of the federal and provincial governments.

The CHAIRMAN: The Crown lands are mostly owned by the provinces?

Mr. MacDonald: Almost all of them.

The CHAIRMAN: Especially within the range of civilization.

Mr. MacDonald: All the Crown lands are provincially owned with the exception of the railway belt in British Columbia.

Mr. HERRIDGE: The federal Government also owns certain properties in the provinces.

Mr. MacDonald: There are federal parks in the provinces. It was in 1931 the federal Government turned over the lands to the provinces—the western provinces and British Columbia. They administered them until 1931.

The CHAIRMAN: I think it was in 1932.

Mr. MacDonald: The next section on forestry improvement will be of interest to anyone interested in the science of farming.

1. From time immemorial the importance of good seed has been respected in agriculture: procedures for the certification of seed have been in effect for many years. In the United States, it is said "The cost of breeding and improvement programs on such agricultural crop plants as cotton and corn is now in excess of \$5,000,000 annually." (1)

If there is a loss from seeding of wheat subject to rust, it is one year's loss only. The economic loss resulting from the planting of

(1) Frank H. Kaufert, Director, School of Forestry, University of Minnesota: Second Lake States Forest Tree Improvement Conference: Lake States Forest Experiment Station Paper 40: December, 1955: page 47.

defective seedlings may extend over a rotation period of 50/80 years and even further into the future, if haphazard methods of tree seed collection allow seed from this plantation to be used.

I would like to turn now to about the middle of page 2:

For 60/80 years the need for reforestation has been a foremost preoccupation of the forestry profession on this continent and of all forestry departments under governments having a prudent regard for the future welfare of their citizens. We do not have readily available the figure for Canada but, in the United States, in 1959 "2,151,743 acres were planted with over 2 billion trees. This was 37 per cent larger than the area planted in 1958 and three times that planted in 1953. Most of the planting, 89 per cent, was on private lands of which one fourth was on lands owned by industry. In 1960 the acreage planted again was in excess of 2 million acres."

It is against this background that we present, with the unavoidable minimum of comment—but with some underlining—the quotations which follow.

Our quotations come largely from publications of the Lake States Forest Experiment Station of the United States Forest Service and we are concerned to forestall any impression that we might be holding this Station, the foresters of its Region, or their predecessors, up to criticism. This would be most unfortunate: the publications of that Station are among the best, the most useful and the most informative known to us and have been made available to us and to our members with much generosity.

I would like to quote from one of their publications and this can be found at about the middle of page 3:

Although generally not true, certification of tree seeds from genetically proven material may in some instances be confined as early as for agricultural crops. For example, where the superior material is supposed to be rust-resistant white pine, the buyer of seed may have a check on his purchase within a few years. The same may be true for a few other traits. Many foresters think that the wise forest manager will collect or produce his own seed. This is true and is being done to a large degree in many parts of the country...

In conclusion, we suggest that readers who want to evaluate this report keep in mind three things: (1) Whether we certify identity and purity of genetically improved seed or merely the exact geographic origin of "wild" seed from natural stands our primary objective is to provide for improved planting stock. (2) Although the actual production of genetically improved seed may be quite limited for some time to come, now is the time to establish the best standards we can for its production and use...

Then at just about the middle of page 4:

It was from reports of these Conferences that we learned of the existence of a Canadian Forest Tree Improvement Committee but we have been unable to date to obtain reports of its activities. However, we do know of Canadian foresters engaged in this work, who are enthusiastic, devoted—and overworked.

The idea of using good quality seed as the source of stock for reforestation has long been advocated. European forestry is replete with examples of the desirability of carefully selecting the seed source for

plantation forestry. Sweden has a vast forest industry dependent upon maximum volume production. As such Sweden is utilizing, wherever possible, seed of the highest quality to furnish the stock for reforestation work. These practices are not advocated, they are a must and are strictly enforced. Similar programs exist in Germany, Denmark, Norway, etc.

Then I will read the third paragraph on page 6:

It probably will be at least 40 years until enough seed orchards are available in the Lake States to produce most of the forest tree seed needed. It will be even longer before the best clones have been found and tested adequately for this purpose. In the meantime a valuable intermediate step can be taken by developing seed production areas. For that purpose the best stands of important forest tree species should be located and so treated that abundant seed will be produced on the best trees. Rather small areas will be sufficient to supply the seed needs of the region, and collection should be concentrated in these areas as soon as they are developed...

Then, at the bottom of page 6:

6. (In the British Isles) Extensive trials with exotics over more than a 200-year period have convinced most British foresters that such introduced species as Sitka spruce, Douglas fir, grand fir, European larch, and Pacific coast lodgepole pine are better suited to the site condition of England than the "native" Scotch pine which reaches its best form and development in the continental climate of the Balkan region...

I would also like to read the note that is inserted on that page:

There should be a programme to experiment with tree species from Northern Asia which has more commercial tree species than we have in Canada. Asia did not have a period of glaciation which in Canada has affected our tree distribution.

Then, the second paragraph on page 8:

If, through selection and breeding, we can achieve a 50 per cent increase in both growth rate and specific gravity, kraft pulp yield per acre per year from southern pines would be increased by about 2.3 times and fiber-production costs at the woods level would be substantially reduced. In monetary terms, assuming that a ton of kraft pulp is worth \$90, such elite trees would yield enough fiber to make kraft pulp valued at \$114.30, as compared to \$49.50 worth of pulp per acre per year from run-of-the-woods trees... Lumbermen, too, would be interested in this kind of elite tree from the standpoint of volume increment and because of the higher specific gravity would substantially improve the strength and dimensional stability, and therefore, the value, of lumber, structural timbers and other products cut therefrom.

We sometimes forget that quality control starts in the woods—not in the pulpmill, sawmill, or plywood plant. We are dealing not with a mineral that is mined, but with organic fibers produced in living trees that, like all agricultural crops, can be modified and improved in both yield and quality through culture, selection and breeding.

Then there is one more quotation over on page 9. This refers to the situation in Sweden where they have done a great deal in this matter of forest genetics.

In Sweden the Genetic Department of the Forest Research Institute and the Swedish Forest Tree Breeding Association are working on forest tree breeding. Practically all the forest owners and associations of forest owners in the country are attached to this Association. Besides its experimental activities, the Association provides services by collaborating in the establishment and management of seed orchards. The Collaborating Committee on Forest Tree Breeding and Genetics deals with the control of plus trees, for the planning of all seed-orchards, and the framing of regulations for progeny-tests. Moreover, this committee provides a forum for collaboration between all the bodies in Sweden that are occupied with forest tree breeding in its many different forms.

Then we have some specific recommendations with regard to tree breeding in part VII. Are there any questions with respect to part V, forest tree improvement?

The CHAIRMAN: Do you get a much faster growth with improved seed?

Mr. MACDONALD: Yes. You can improve the rate of growth in two ways; by straight increase in the amount of fibre put on, and you can also increase it by the form of tree. I am having some correspondence now with a group of foresters on red pine. I argue that red pine plantations, when they get up to be the height of this ceiling, should be pruned off half way to take off those lower branches which grow very quickly. I say that this is producing a rapid taper in the tree. Some foresters say it is a genetic quality, and that they have known plantations in which they get the straight form without pruning. You get more wood out of that type of tree. So, there are two ways in which you can increase the rate of growth.

The CHAIRMAN: And it is more free of disease?

Mr. MACDONALD: They would breed for disease-free types as well.

The CHAIRMAN: Just the same as you do with grain?

Mr. MACDONALD: Yes. Sweden, Denmark and Norway have been at this now for 30 years. It is surprising how few trees you need to produce all the seed you need. You can have small areas set aside for these selected trees which will produce all the seed that is needed.

Somebody was talking about Christmas trees this morning. There are Scotch pines that produce a much better Christmas tree form than others, and they seem to be just finding this out. Provincial forest nurseries have been selling Scotch pine for 30 or 40 years not only for Christmas tree planting but for planting on sub-marginal land. At the best, Scotch pine if it grows up into a mature tree, is only good for pulpwood and it is poor grade pulp because of the shape and crookedness of it. They claim that they can develop a wood which can be straight but they have not done it. This is a good example where we could start to improve on one species.

The CHAIRMAN: Have any of the provinces got a forestry department where they experiment with various types of soils in relation to the trees which can be grown on those soils?

Mr. MACDONALD: The experimental station at Petawawa have some laid out for experimentation in relation to soil types and the species which can be grown on them.

The CHAIRMAN: They have not put up a mill?

Mr. MACDONALD: They have not. It would be good if they could, but they have these experimental plots since 1932 at Petawawa and the provincial governments have experimented.

The CHAIRMAN: This one at Petawawa is an experiment.

Mr. MACDONALD: Yes, it is an old forestry station.

These are long term projects which we are recommending. All of them could be started at once. The results are long term benefits. If we are to be competitive in growing wood, we have to start doing something about them.

Mr. ASSELIN: I feel the time is past due to be doing something in this field, as in the taxation field just covered. It is time one considered whether tree growing is an agricultural pursuit or not.

The CHAIRMAN: If you just take the department, it is no longer agriculture, it is forestry.

Mr. ASSELIN: Yes, but it has not yet been accepted as an agricultural pursuit. It is a type of forestry and it is involved in the growing of things. I think that would do a tremendous amount for employment.

Mr. MACDONALD: The federal Minister of Forestry, Mr. Hugh John Fleming, told me, when I asked him whether this private land development should be with the Department of Forestry or the Department of Agriculture, he immediately replied that in New Brunswick they treated it as part of the Agriculture Department when he was Premier of New Brunswick. All the problems related to it are similar to other types of problems in agriculture.

Mr. ASSELIN: Much of the production is in private hands.

Senator TAYLOR (*Norfolk*): Have you any information with regard to pest control in the growing of these trees?

Mr. MACDONALD: Some are more susceptible to this than others. One of the objectives was in regard to white pine, to control white pine blister rust and the white pine weevil. There are means by which one can plant white pine under hardwood species so as to resist the white pine weevil and also help to resist white pine blister rust. If you planted a stand of poplar one year and two or three years later when it started to develop a bit of shade, plant white pine under it,—the poplar will grow very fast and create a shade—and if the white pine is in the shade the white pine weevil will not develop. The white pine blister rust depends on the availability of an alternate host plant, which is wild gooseberry.

Senator TAYLOR (*Norfolk*): In my area we have Dutch elm disease which is wiping out the ordinary elm.

Mr. MACDONALD: And the senator will remember that the chestnut blight wiped out the sweet chestnut in Ontario. I do not think there is a sweet chestnut left in southern Ontario.

Senator TAYLOR (*Norfolk*): They are beginning to come back.

Mr. MACDONALD: Are they? This was 30 years ago. Some trees are susceptible to a virus disease and there is no way of checking it. With the Dutch Elm disease, it is carried by a beetle and if you can destroy the dead branches there is less chance of carrying the disease to another tree.

In the next portion of the brief, Part VI, the second paragraph from the bottom reads:

One of the most essential and fundamental cornerstones that must be laid for private land wood farming is an accepted standard for grading and scaling wood cut on private land. Wood farming cannot develop until these standards are adopted and enforced.

Ironically, the provincial governments, with which the private land owner competes for sale of his wood, have established not only the necessary wood grading and scaling standards for wood cut on government land, but they provide squads of scaling personnel to do the work. This service should be provided immediately for the private wood producer and the provision of this service should be a condition for ARDA projects involving forest development on private land.

Failure to provide these wood grading and scaling standards and the personnel to provide the service is tantamount to abandoning the grading standards for agricultural food products such as eggs, meat, butter, cheese, fruits and vegetables. Wood grading and scaling standards are as essential for wood farming as the food grading laws are for the food farmer. Both producer and consumer benefit.

Establishment of wood grading rules for pulpwood, for example, would overcome one of the arguments used by the pulp and paper companies' representatives for paying the farmer \$15.00 to \$20.00 per cord for their wood delivered to the mill when it is reported that it costs the companies \$40.00 to \$45.00 per cord to deliver to their mills pulpwood cut from government limits. There would be no justification for this discrimination if the grading rules were established.

Mr. HERRIDGE: In British Columbia, the same standards apply on Crown lands and privately held land.

Mr. MACDONALD: This is ideal. It should be applied in all the provinces as in British Columbia. I have seen people buying logs in Ontario and offering so much a log. This is not the way to evaluate the quality or quantity of a log.

This is the average figure for wood cut on Government land, as an average. It may be 35 in some cases and 50 in others.

Senator MACDONALD (*Queens*): What is the average price across Canada for pulpwood?

Mr. MACDONALD: In this part of Ontario they are paying delivered to the mill, \$16 to \$20 a cord; hardwood, \$16; and softwood about \$20 delivered to the mill. It would cost the farmer \$6 to \$9 a cord to deliver to the mill.

Senator MACDONALD (*Queens*): We were getting \$9 delivered to the roadside for trucks to pick it up, the dealer loading it on the steamer for European markets.

Mr. MACDONALD: This would be a case where the farmer would get only \$7 to \$8.50 in this part of Ontario. The difference is the cost of trucking it to the mill. For softwood he will get \$2 or \$3 a cord more.

Mr. HERRIDGE: In Quebec the price starts at \$14 delivered to the mill.

Mr. ASSELIN: It is very difficult for farmers to understand the disparity in price that they receive and the cost to the companies of harvesting the pulp on government-owned or leased land.

Mr. MACDONALD: We feel this difference in price demonstrates that there should be more effort put into the development of private forestry. You can have a mean price over what is paid to the farmers today and below what it costs the companies, and everybody would benefit. There would be cheaper wood at the mills and farmers would be better off.

Mr. ASSELIN: And in the process we might also change the employment picture from seasonable to year-round.

Senator VAILLANCOURT: Why is it that the farmers in Gaspé are not paid more for their pulpwood? You mentioned that the cost there to the company runs to \$45 per cord. In that area there are thousands and thousands of cords of pulpwood.

Mr. MACDONALD: We cannot explain it, really. I do not know. There may be a problem here. It may be in these leasehold properties they are obliged to pay fixed fees; whether they cut or not they are required to pay a certain ground rent. I imagine the provincial governments are making them cut a certain amount of wood off their limits yearly. The chain needs to be broken by some intelligent approach like this, seeing that you are paying more for

your wood off government limits than you are paying to the farmers. After all the Government does not have to have that revenue to keep operating.

Senator TAYLOR (*Westmorland*): Mr. Chairman, that principle also applies in New Brunswick where not only do they pay stumpage and lease rentals but they pay stumpage on the annual growth.

Mr. MACDONALD: They pay a rate of growth charge.

Senator TAYLOR (*Westmorland*): That is right. Instead of paying a stumpage on the amount of lumber they cut they pay stumpage on the annual growth which results that in certain areas of our province there is no market for the farmers' woodlot.

The CHAIRMAN: They avoid paying the dues?

Senator TAYLOR (*Westmorland*): That is right.

Mr. MACDONALD: This is tied up in this whole problem. Ironing this thing out properly would be beneficial to our whole economy.

At the top of page 3 of Part VI of our brief we are speaking about a method of marketing private wood. I will read:

One of these difficulties is the decline in numbers of sawmills capable of sawing good quality lumber. In some parts of Ontario and Quebec during the past year farmers relying largely on woodlots have not been able to sell their sawlogs because of the closing of sawmills in these districts. One possible solution to this problem is the establishment at intervals of one hundred to one hundred and fifty miles of either cooperative sawmills or government sawmills of an efficient capacity to do custom sawing.

At these planned sawmill and planing sites a Wood Mart could be established where buyers could purchase the graded and scaled lumber directly from the farmers or from a farmers' cooperative. Sites could be chosen now in Ontario, Quebec and the Maritimes for experimental projects under ARDA to establish these sawmills and planing mills. The governments provide food processing plants, the equivalent of sawmills to the wood farmer.

With the proposed changes in the Farm Credit which we understand would permit wood farmers to borrow under that Act, the complementary action of establishing experimental sawmill and planing mill projects and instituting wood grading and scaling laws and regulations, would give new hope to the hundreds of rural municipalities where marginal land is the rule. It would tend to check the drift of this population to urban centres.

Establishment of a healthy wood farming type of agriculture, due to the long term crop rotation of up to 75 years requires a government sponsored insurance scheme to cover fire insurance and epidemic attacks by insects and diseases. This type of insurance cannot be provided economically at present by private insurance companies.

That is all I am going to read of Part VI. This question of grading and scaling and availability of sawmills is very important and should be tackled almost at once.

Are there any questions, Mr. Chairman?

The CHAIRMAN: Have honourable senators any more questions on Part VI? If not, we will go on to Part VII.

Mr. MACDONALD: Part VII, Mr. Chairman, deals with our special recommendations. I will not read the first page, but will start at the bottom of it.

Accordingly, the Canadian Tree Farmers' Association specially and urgently recommends:—

- (1) That no grants be made under the Agricultural Rehabilitation and Development Act to any province for encouraging or assisting the reforestation of privately owned lands, or for the acquisition and/or representation of any lands to be publicly owned, until such time as an independent and impartial Commission—shall have reported:
 - (a) That the province has taken such action as the Commission deems appropriate to ensure that the incidence of Property Tax, or of any similar tax based on value, does not and shall not in future operate to penalize, hamper, or render uneconomic the efforts of any private owner of woodlands or forest plantations to manage his property in accordance with approved silvicultural practices, who is prepared to give such assurances as the Commission may define as desirable that such management will be continued.
 - (b) That any facilities which the province operates for producing and supplying tree seedlings for reforestation of public and/or private lands are conducted with due regard for the recommendations regarding seed sources made by the successive Forest Tree Improvement Conferences in the United States, and for the principles and procedures applied in these matters by recognized authorities abroad: and that, as rapidly as may be practicable, Certified Forest tree seed and Verified Forest Tree seed, or seedlings grown therefrom shall be made available to qualified users. The Commission may, to the extent it deems advisable, conduct examinations of representative samples of tree plantations in the province and shall report specially on any instance in which, in its opinion, the provision of stock derived from faulty phenotypes or defective genotypes has had the result of rendering the operation, and the investment, uneconomic.
- (2) That the Commission report what amendments to the Income Tax and Estate Duty Acts, and to the several Succession Duty Acts, are required to protect and encourage investment in private forestry by private landowners: and that the implementation of such recommendations shall not be delayed for any other changes in forest taxation or in the aforesaid Acts.
- (3) That the Commission shall include at least one forest economist, one expert in silviculture, one representative of agriculture, and one private landowner engaged in the management of woodlands and tree plantations: and that it shall have power to co-opt up to three additional members for sections of its inquiries when, in its judgement, their assistance would expedite completion of its reports and add weight to its recommendations.
- (4) That the Commission shall thereafter be constituted a Private Forestry Board: that it shall report annually on the progress and the needs of private forestry in Canada: that it shall be responsible for the preparation of an Operating Manual for the guidance of private woodland owners: and that it may initiate, and shall co-ordinate and report on, any research projects likely to contribute usefully toward these or other aspects of its major purpose, the fostering and development of investment in private forestry.

- (5) That the Federal and Provincial Governments, before any projects under ARDA involving private forestry, establish, by means of laws and regulations, standards for wood grading and scaling applicable to wood cut on private lands, and that facilities for marketing wood from private lands be arranged so that wood sold by the provincial governments from government lands, does not compete with wood harvested from private lands.

That completes the main part of our brief. There are two appendices, "A" and "B", and they give calculations of the growth and yield of wood. Appendix "A" is one with a yield of one cord per acre per year, and appendix "B" two cords per acre per year, with a net investment calculated at the end of a cycle of 60 years. These are, of course, theoretical calculations.

The CHAIRMAN: What is the difference between certified and verified seed?

Mr. MACDONALD: What I think they are referring to is where they verified that the seed is from a definite area. This is quite important.

Mr. HERRIDGE: Verified seed is where they verify the location from which the seed is collected. Certified seed is seed certified as to genetic origin and quality under the rules and regulations of either government or society.

The CHAIRMAN: Any other questions?

Senator TAYLOR (*Westmorland*): I would like to ask this question, Mr. Chairman: How soon do you forecast that all of these things may be done before we can start in on a program such as you suggest?

Mr. MACDONALD: I would be a prophet if I could answer that. I think that is more up to you gentlemen and the other members of Parliament who sit in the House of Commons.

Senator TAYLOR (*Westmorland*): There is a good deal of work to be done in the provincial sphere as well.

Mr. MACDONALD: And there is a lot of study required. You cannot take these suggestions as they are without study. There is a lot of detail to be worked out. These are ideas, you might say, to develop procedures.

Senator TAYLOR (*Westmorland*): In the province of New Brunswick, from which I come, there have been a few forestry clubs organized under the 4-H club scheme, and I believe they have now an agreement with the federal Government under ARDA for two things, one is the establishment of community pastures, and the other the establishment of farm treelots; and as I understand it, they are getting an enormous number of applications for this, more than they can handle, which indicates that the statement you made earlier in this meeting is true, in that the farmers are prepared to go a long way to put their forests into a position to become an important source of revenue for themselves, and are willing to abide by considerable strictness in regulation.

Mr. MACDONALD: That is interesting.

Senator TAYLOR (*Westmorland*): That was what prompted me to ask you the question how soon can these commissions or boards be set up in order to give the farmers the lead that they need. They will not want to do a certain amount of work in this field and find they are not being co-operated with by the authorities, federal and provincial, in relation to the product they are producing and the method of marketing.

Mr. MACDONALD: I think it should be done immediately. There is this demand, in New Brunswick, as you say, and the demand is elsewhere as well. The farmers are waiting for something to be done so that they can stay on this land and make a living there. They know they can make a living on this land if they can sell their wood, and if they know that in five, ten or twenty years from now they can get a fair price; and they know their sons will remain on the land if they are assured of this.

Senator TAYLOR (*Westmorland*): I think that is true. Unless something is going to be done they will not stay there.

Mr. MACDONALD: I think also that unless something is done our whole pulp and paper and lumber industry will not be in a competitive position in the next twenty years. We have got to do something in this country.

Mr. HERRIDGE: This is a very important thing in British Columbia, because there are more and more farmers realizing this, especially in the interior, but the whole thing is held back by the standard of taxation in respect to property taxes, income tax and succession duty.

Senator TAYLOR (*Westmorland*): That is one of the things I had reference to, the matter of income tax in relation to the revenues from this land, and other fields of taxation.

Senator McGRAND: There are few of our farmers in New Brunswick, in the rural areas, who are worried about income tax.

Mr. MACDONALD: This is true. They haven't caught up with them yet!

Mr. ASSELIN: It would be a happy experience for them.

Senator TAYLOR (*Westmorland*): It is surprising the number that are being caught up in it today. Owing to the transfer of men from agricultural production, and mechanization which has taken place in the whole field of agricultural work, the situation has changed so rapidly in the past few years that a lot of farmers are placed in brackets that 25 years ago they did not expect to be placed in.

Mr. HERRIDGE: In Great Britain and in the Scandinavian countries they have accepted the philosophy of the long-term view and made possible the long-term ownership of woodlots and tree farms, permitting the family or persons concerned to be assured of a fair living with a fair return to the state. There is a tremendous amount of work being done along that line.

Senator TAYLOR (*Norfolk*): Would you think that taxation was the primary motive?

Mr. HERRIDGE: Yes, particularly property taxation in the first place.

Senator TAYLOR (*Westmorland*): That is one of the two places where this difference started from.

Mr. ASSELIN: I think in the general attitude also in considering these tree farm and woodlots as an agricultural pursuit and treating them and trying to help them to the same extent as we do the farmer who is producing something else; that is a basic consideration. The government at most levels generally has not accepted this yet.

The CHAIRMAN: They have been working largely in the area of large paper and pulp companies and not thinking of the smaller unit?

Mr. ASSELIN: That is exactly it. I think that is just as basic as the taxation structure.

Mr. MACDONALD: We should re-orient our thinking as to the sources of wood.

The CHAIRMAN: Gentlemen, I think this is a fine brief.

Senator TAYLOR (*Westmorland*): Mr. Chairman, I should like to move a motion of this committee to express our appreciation to these gentlemen who have presented this brief to us, because I think it came at a most opportune time, as this committee has been giving consideration to some of the problems of rural taxation as it applies to agriculture. This being part of an agricultural development, I think it is an opportune time for them to come and make this presentation, and personally I think this is a fine presentation.

The CHAIRMAN: Yes, gentlemen, we are in the middle now of establishing a rural taxation study right across the country, and this will go along with it.

Mr. HERRIDGE: I am glad to hear that.

The committee adjourned.

THE CASE FOR EXPANSION OF PRIVATE FORESTRY IN CANADA

Taxation, Forest Tree Improvement, Grading and Scaling Standard for Wood Cut on Private Lands

Submitted to The Special Committee of The Senate on Land Use in Canada by
Canadian Tree Farmers' Association, 1962

C O N T E N T S

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Honourable Sirs, we in this Association of private woodland owners have come today to present the Case For Expansion of Private Forestry in Canada. We come not as experts but to see whether experts can give good reason to disagree with what we say as practical, private woodland operators.

I think our immediate objective in preparing this Brief has been to demonstrate the situations which would benefit from projects under the Land Use phase of ARDA. It is our long-term objective to demonstrate the feasibility of government policy to foster more private forestry. Also we want to emphasize some of those things in the nature of laws and regulations and such governing bodies as are required to create a suitable economic climate for this type of ARDA programme. And last but not least we believe sincerely that private land forestry must be permitted to blossom if our tremendous wood using industries and forest exports are to maintain and attain the place in Canada's economy of which they are capable.

We also want to emphasize that wood is a farm crop. Grain and wood are Canada's two most important crops. The work of the C.T.F.A. is devoted to the interests of those producing this farm crop on private land. In European countries wood is regarded as an agricultural crop. Thinking in Canada since the last World War is developing in this direction. The Resources for Tomorrow Conference helped and speeded up this national thought process.

The private woodlots are most accessible to markets of all wood-producing lands in Canada. Moreover, the private forest lands are more fertile than the government forest lands. These circumstances can contribute to lower cost and better quality wood from private forest land. We in the C.T.F.A. appreciate the growing threat in the world's market places to Canada's largest export and we want to help meet this threat. We private woodland owners do not want to be spurned and rejected as in the past. We would like the opportunity of proving that we are capable of playing our part in the national family. However, several conditions have to be established and this Brief will outline some of them.

Why an Association of Woodland Owners

These remarks have been by way of justifying the forming of the Canadian Tree Farmers' Association. It was against this background that a group of woodlot owners first met in 1958 to plan an Association.

A nation-wide organization was decided upon with provision for a Branch in each Province. Full voting membership is provided for any woodland owner anywhere in Canada. Associate Membership is available to anyone at \$3.00 a year. Annual fees are now set at \$2.00 for individual owners with less than 100 acres of woodland, \$5.00 with 100 to 500 acres, and \$7.00 when owning more than 500 acres. Corporations pay \$10.00 a year.

A national charter was granted as a non-profit organization in May 1959 and in it the purposes were stated to be:

1. To encourage and assist members to apply good forestry practices to the growing, harvesting and marketing of wood products and to encourage the practice of fish and game management.
2. To obtain and make available to members accurate and extensive information on the growing, harvesting and marketing of wood products.
3. To stimulate advertising, experimentation and research by governments and by industry which will increase demand for wood products and develop efficient methods of production.
4. To strive for the establishment of systems of taxation which will permit and encourage, the economical use of land for growing of wood crops.
5. To stimulate and encourage activities which will reduce waste by fire, insects, disease, grazing and destructive cutting in wood lots.
6. To encourage better land use in Canada on both private and Crown lands and the establishment of tree farms where they would contribute to better land use.
7. To encourage provincial governments to provide qualified representatives to assist in woodlot management.
8. To cooperate with other organizations having generally similar objectives and purposes.
9. To accept donations of funds and to administer them for promotion of the purposes of the Association.
10. To do all such other acts and things as are incidental or conducive to furthering these objectives or any of them.

One of our first activities apart from holding field days at members' woodlots was to publish a folder, Programmes For Local Groups of Tree Farmers. This was a list of activities which could be carried out in local communities depending on the local needs. These programmes were classified into Growing, Harvesting, Marketing and Community and General Activities as follows:

Growing:

1. Identification of commercial and undesirable or weed tree species. The requirements for healthy growth of commercial species.
2. Selection of the right species of trees for planting on your farm and how to plant for best results.
3. Tree planting machines and arrangements for their joint use in a community.
4. Arranging for assistance by Extension Foresters available through the Provincial Governments or wood-using industries.
5. Developing a tree seedling nursery on your farm. Does it pay?
6. How to encourage natural regeneration of more valuable tree species in your woodlot.
7. Forest insect recognition and control.
8. Forest diseases recognition and control.
9. How you can benefit from the results of tree breeding for improved quality of wood products.
10. Steps you should take to protect your woodlot against fire.
11. Model woodlots and where you can see them in your area.
12. Fertilizing your woodlot, experimental results.
13. Discussions of provincial and federal legislation to relieve the impact of taxation on woodlots.
14. Christmas Trees as a crop; selection of species; protection and pruning.
15. Serious and long term effects of pasturing woodlots.
16. The progressive deterioration of the sugarbush and how to prevent it by cultural measures.

Harvesting:

1. Thinning and improvement cutting in a woodlot.
2. Measuring the volume of standing timber when planning to cut a woodlot.
3. Marking selected trees in a woodlot for harvesting.
4. Planning permanent roads in a woodlot.
5. Felling, skidding and loading wood products cut in a woodlot.
6. Joint use by a local group of woodlot owners of machines and other equipment for harvesting operations.
7. Scaling and grading veneer logs, sawlogs and pulpwood cut from a woodlot.
8. Use of tractor services provided by provincial government departments.
9. Trained and reliable jobbers in the local area to do cutting of marked trees.
10. Maple syrup production.

11. Custom sawing of logs, How to choose a good sawmill.
12. Use of logs barkers for sawmills and the possibilities for chippers to dispose of slab and other waste material at mill or in the woods.
13. Grading you own lumber after custom sawing.
14. Harvesting balsam, fir and spruce for Christmas Trees to insure future crops (stump culture).
15. Harvesting Scotch Pine for Christmas Trees, new method required.
16. Harvesting sugar maples in sugarbush management.

Marketing:

1. Joint Marketing of logs, particularly the less common and more valuable species.
2. Assisting in marketing surveys conducted by universities and government statistical departments.
3. Discussion of marketing laws in each province, such as the Quebec Joint Marketing Board.
4. Possibility for operation of a charcoal kiln.
5. When to cut and sell your wood products. Arrange for sale before cutting.
6. How to prepare a contract for sale of standing marked timber from your woodlot.
7. Sources of credit for woodlot operations.

Community and General Activities

1. Where to see forest and woodlot activities in your local area.
2. Establishing a farm pond for fish cultivation, increased water supply and woodlot fire protection.
3. Pamphlets available for distribution to ALL woodlot owners in your local area.
4. Certification of tree farms by the Canadian Forestry Association or the provincial branch of the Canadian Forestry Association.
5. Technical bulletins distributed by the federal and provincial governments and the woodusing industries.
6. Advertising in local newspapers to encourage membership in the C.T.F.A.
7. Encouraging the preservation of forests and woodlots and water sheds in your community to improve available water supplies and provide recreational areas.
8. Surveying the local area for underdeveloped land suitable for woodlot management or reforestation.
9. Encouraging the interest of municipal officials and Chambers of Commerce in development of parks and picnic areas as well as the establishment of municipal forests on lands reclaimed for taxes.

10. Encouraging schools to include woodlot management subjects in the school curriculum.

11. Encouraging Boy Scouts, Girl Guides and other youth organizations and schools to acquire and develop a woodlot.

12. Encouraging protection of forests, wildlife, soil and water resources of the area, with assistance available from your provincial forestry association or woodusing industries in the area.

13. Renewable Resources Management films and film strips available for local use. (Write to the Secretary-Treasurer for list of subjects.)

The Tree Farmers' Guide

Our next major undertaking was our own monthly publication, "The Tree Farmers' Guide". This provided a medium devoted solely to voicing the needs of the wood farmer and it is distributed to each member.

This publication has been greeted very enthusiastically and there is now a growing demand for its distribution to county and district agricultural associations and farm forums throughout Canada.

An ambitious programme of publication on this scale is beyond the means of the C.T.F.A. However, some means must be found of meeting this demand for a voice for those practicing wood farming. All our work is done gratis by members and friends and our only revenue is members' dues. An annual grant to cover the costs of printing and distribution would make it possible to meet this demand.

To date we have organized a Branch for the Province of Quebec only although we have members in six of the ten provinces. Organization work to establish a Branch in Ontario has been started. Membership is increasing steadily month by month and since our annual meeting in March 1962 it has increased from 200 to 249.

For the future it appears that some form of liaison with the Agricultural Associations in each Province is advisable. The message of C.T.F.A. would meet a need in these Associations and thereby give wider circulation to this message. Development in all probability will be in the direction of cooperation with the Agricultural Associations according to the needs and circumstances in each province.

At present our Executive Officers and Directors, all of whom own and operate a tree farm, are the following:

President—C. B. Kevin Clarke, who operates his own business in Montreal and has a tree farm at Carillon, P.Q.

Vice-President—H. W. Herridge, M.P., of Nakusp, British Columbia, where he has his tree farm property.

Secretary-Treasurer—J. A. MacDonald, B.Sc.F., graduate Forester and now a Chartered Accountant with the Post Office Department in Ottawa, who operates a tree farm at Mont Tremblant, P.Q.

Directors—

Edmund T. Asselin, M.P., of Montreal who operates a farm at Rigaud, P.Q., on which he has a tree farm property managed under contract with a professional forester.

G. G. E. Aylesworth, of Toronto, a bank executive, operates a tree farm.

Glen P. Brown, M.L.A., Knowlton, P.Q., whose farm property includes a tree farm.

G. M. Gray, a Toronto executive, operates a tree farm, one entirely from planting.

Martin J. Haley, Deschenes, P.Q., is a full time tree farmer, engaged in log and pulp production, Christmas tree cultivation, a tree nursery and horticultural sales of trees.

A. R. C. Jones, B.Sc.F., professor of Woodlot Management at Macdonald College, also operates his own tree farm. He is also responsible for the silviculture at Morgan Arboretum.

I. C. Marritt, B.Sc.F., retired from the Forestry Extension Service of the Ontario Department of Lands and Forests, is now a Consulting Forester, residing at Galt, Ontario.

F. Howard Wilson, a retired pulp and paper mill executive of Montreal, has a tree farm property at Ste. Lucie, P.Q.

The Canadian Forestry Association and the Canadian Tree Farmers' Association are complementary organizations. The C.F.A.'s function is to make all Canadians conscious of their forest resources and of the need to care for and protect them. The C.T.F.A.'s function complements that of the C.F.A. by providing a medium for private woodland owners to discuss their operating problems and to express their needs.

The C.F.A. sponsors the Certified Tree Farm programme to encourage private woodland owners to care for their properties. Once these properties have been certified the owners should join the C.T.F.A. to give continuity to this interest.

The C.T.F.A. now is an ardent supporter of the ARDA programme. We believe that there are some very essential rules which must be established before ARDA undertakes projects in the private forestry field and we will outline them in this Brief.

There is one significant thing we would like to emphasize in closing this section of our Brief. Membership in the C.T.F.A. demonstrates that there is a considerable reserve of private capital which the owners are willing to invest in private forestry. It is the duty of the Federal and Provincial governments to appraise private forestry in light of the Agricultural Revolution now in progress and determine whether this now small stream of capital should be encouraged, by giving it a sound economic climate, or, whether private forestry is not feasible.

It is our sincere desire that the potentialities of private forestry for ARDA should receive the attention we believe they deserve. The rapid progress of scientific agriculture entailing high intensities of specialization and mechanization, with consequent high capital requirements for economic farming units, has brought it about that the "subsistence" or "maintenance" farm is likely to be regarded as anomalous and obsolete. Essential as it may be to understand and adjust ourselves to the play of economic forces and technological progress, it is still true that there are fields and occasions where the "countervailing powers" of society have to be set against them. This necessity arises now out of the social, ethical and moral considerations raised in the implementation of the Rural Development phase of ARDA.

Our members can cite examples of farmers living happily on marginal farms, depending largely on their woodlands for cash income, who demonstrate elements in our national life that have regrettably become exceptional. These qualities are:

- a desire to be independent,
- frugality and careful management,
- specialized skills and initiative,
- solid satisfaction from their way of life contrasting with that of the urbanized wage earner.

These people may not profit a great deal from a boom but they do have a good deal of built-in insulation against all ordinary slumps and unemployment.

Forestry extension services have not reached these people who rely on proceeds from their woodlot. The reason is that the forestry extension officers have not had the tools with which to assist and gain the cooperation of these people.

Private forestry requires more long range confidence in government co-operation and the economic future than any other form of private enterprise. We make no apology, therefore, for demonstrating through our examination of the questions of taxation, forest tree improvement and marketing facilities how great the need is for an unequivocal statement of government and national policy on this question.

THE CASE FOR EXPANSION OF PRIVATE FORESTRY IN CANADA

INTRODUCTION

1. It is an objective of the Canadian Tree Farmers' Association to secure acceptance as part of the public policy of Canada of the following thesis, along with its necessary implications for Canadian conditions:—

- (1) Forest land with growing forest thereon should, by suitable use of the timber producing capacity of the soil, be managed so that a satisfactory economic result is achieved and, so far as possible, an even yield is obtained.
- (2) By forest land is meant land suitable for forest growth and not used mainly for other purposes. Land that is lying wholly or mainly idle should not be considered as Forest land, if it is more suited to be used otherwise than for forest growth or on account of special circumstances ought not be claimed for forest growth.

Land should also be considered as forest land, even if it does not come within the definition in the first part of this section, when forest should grow there as a protection—.

2. The quotation is a translation of the first two sections of the Swedish Forestry Law of May 21, 1948: there, this is not merely a thesis—it is part of the substantive law, evolved out of an Act first passed in 1903. The implications, accepted in Swedish government policy have been stated generally as follows:—

Sweden's forest policy is based on her concept that, because of the great importance of forests in her economy, and the peculiarities of forest production—especially the long time that elapses between seeding and harvesting—owners of forests and forest land cannot be given complete freedom in the management of their property. The Swedish view is that forests must be managed with reasonable regard for the interests of society. An underlying objective of her forest policy is to maintain and, wherever possible, to increase forest yield. Present day measures in which the policy is reflected are the result of a long evolutionary process.

It is well established national policy to require that the 75 per cent of Sweden's productive forest land that is private be managed in general conformity with the timber-producing capacity of the land so as to give a satisfactory economic return to the owner and a steady output of timber.*

(*Marsh, R.E.: Public Policy toward Private Forest Land in Sweden, Norway and Finland: Charles Lathrop Pack Forestry Foundation report: 1954)

3. The major implication of the thesis, for Canada as for Sweden, is that management includes not only management of the forest by the owner or lessee but also, and chiefly, the management by the responsible government(s) of the conditions within which he operates and which determine the objectives he sets for himself. Similarly, "a satisfactory economic result" implies satisfactory to the owner or lessee and also to the public interest, embracing therefore the social benefits flowing from conservation, amenity, and opportunities for the fruitful investment of capital and labour. It must follow from these principles that to the extent that the owner or lessee accepts, or is subjected to, restraints on his freedom of action and on the exercise of his property rights, imposed differentially on him in the public interest, he is entitled to safeguards for the labour and capital that he invests.

For our present purposes it is reasonable to consider that Sweden has one government only—the 24 counties of Sweden have local governments with taxing but not legislative authority and have no analogues here. In Canada we are confronted by a multiplicity of taxing and regulatory bodies: it would be utopian to expect that their policies and practices could within any foreseeable future be brought into conformity with the principles cursorily indicated above. It is a necessary implication of our thesis for Canada, therefore, that the responsible governments, namely, the Dominion Government acting in concert severally with the Provincial Governments, should interpose a shield between the forest owner and the necessities, or the caprice, not only of the subsidiary taxing and regulatory bodies, but also of their own departments and subdivisions.

4. It is not our purpose at this time to discuss the character or functions of such a shield, or to develop further the implications of the thesis we have advanced, except in our specific areas where we deem it urgent that remedial action be no longer delayed. We should say, however, that we consider it ought to be made a consideration of provincial participation in ARDA that the province establish a Private Forestry Board charged with implementing, by direct or indirect means, within the provincial government and at subsidiary levels, the concept of public policy set out above and that it should be responsible for maximizing thereby the contribution which investment from the private sector of the economy could be expected to make toward the purposes of ARDA.

5. To give perspective to our presentation, may we quote from the address given by the Honourable Senator A. M. Pearson, your Chairman, on the occasion of our Annual Meeting, March 10, 1962:—

Many business men who were originally farmers are now acquiring land again, and after hours and on weekends they motor out to work at their farms. This is a trend today.

We have four great metro areas and many smaller industrial cities in Canada with literally thousands of men with time, money and transportation and a desire to get away from the monotony of city life, while at the same time holding on to their city jobs... If the present shift of population continues as between urban and country, Ontario alone would have over 7,000,000 urban dwellers within the next 15 years. I feel our great cities and industrial areas are vitally interested in the proper development of our sub-marginal lands to make room for the city folk in their recreational needs.

Most of our members are non-resident farmers with the objectives described by Senator Pearson and some have pioneered in this movement. Many are two or more generations removed from farm life and may well be diffident

about, or may not have the means to undertake, a food farming operation: intensive forestry is peculiarly suited to their needs. They would deprecate the term "hobby farmer"; if tree farming is a hobby it is one that can give enduring satisfaction only if the operation is technically efficient and economically sound and our members are constantly seeking the knowledge and the conditions that will make this possible.

6. To these, and other members, the remarks of Mr. A. T. Davidson, Director of ARDA, on the same occasion, were of special interest as endorsing a conviction they had already formed and acted upon:—

I believe that research will show that investments in forest production on the rural lands will pay in the face of rapidly rising demands for wood products, the increasing cost of our northern wood, and the world competitive position. If so, we are again in the happy position of having available large areas of rural lands that we may dedicate to permanent intensive tree production. Highly successful tree farming in the Scandinavian countries shows what can be achieved under intensive forest management when the demand for tree fibre is high.

Again, rural lands which, looked at in an agricultural context alone, present problems and difficulties, may, in fact, hold out another great opportunity—the opportunity of building our forest industry on an even broader and firmer foundation, and at the same time increasing incomes in our rural areas where people now live, where social capital in housing, institutions, roads, and so on, is now there, and there are considerable unemployed labour and skills. These are the areas, too, where forests have an important role to play in soil conservation, flood control, control of water pollution, and in recreation—so important, both to our farms and urban areas. This is a story, however, well known to you.

7. Our Association is all too well aware that in this advocacy it is endeavouring to check a trend and to dispute assumptions that have too long gone unresisted and almost unquestioned and, in our view, have been a preponderant and a regrettable influence in North American forestry. The assumptions and the trend were stated by B. E. Fernow, called the "Father of American Forestry" in his "Economics of Forestry", page 273, that "eventually the community shall own or control and devote to forest crops all the poorest soils and sites, leaving only the agricultural soils and pastures to private enterprise." It is not difficult to detect the influences which, in his day, might have led Fernow to this conclusion, but they are now irrelevant: in the 60 years since his book was published his conclusion has been effectively controverted in each of the four Scandinavian countries and in Britain as well, to name only the most conspicuous examples. In that 60 years Forest Economics on this continent has been inhibited from advancing even so far as to recognize that while as W. E. Hiley states ("Woodland Management": Faber & Faber, 1954: page 20) the participation of the state must be active and pervasive:—

It is desirable, however, that as large a proportion of the woodlands as possible should be cultivated by private owners. At its best private forestry is more enterprising, more productive and cheaper than State Forestry: The most efficient forest management may sometimes be found on a private estate, where an enthusiastic owner can make every variation in soil type and every local market serve his ends. But an enthusiastic owner may be followed by one who is less interested in forestry, one who finds in the store of timber built up by his predecessor a useful reservoir of capital on which he can draw to meet the claims of tax collectors and other creditors. Good forests take generations to create, but they may

be destroyed in a few years. So in every country the average condition of private forests is unsatisfactory unless some form of State control ensures continuity of policy.

It is against this background that what we have to say here should be interpreted.

PART I

PROPERTY TAX

1. The argument that trees in a woodlot are like money in the bank has had a regrettable effect on the behaviour both of taxing authorities and of woodlot owners. It is true only of mature trees: the immature tree is a locked-up investment of a peculiar kind. That investment consists chiefly of the accumulated amounts of property tax paid during the years it has been growing and the implications of this fact for silvicultural measures, achievement or maintenance of sustained yield, achievement or maintenance of the optimum productivity of the land, are rarely fully realized by the owners and have been persistently disregarded by the responsible governments. We should not like to think that any bank could be so carelessly indifferent to the safeguarding of the values entrusted to its care.

2. Rather than present our own argument in support of these assertions we have decided to adopt and endorse the analysis and, as modified below, the recommendations of an impartial and expert body, the Canadian Tax Foundation, as expressed in Part IV of "Forestry Tenures and Taxes in Canada" by A. Milton Moore, published by the Foundation in July, 1957: we are obliged to the Foundation for the permission given us to quote from this publication.

We have, however, two general reservations:

- (a) The study assumes throughout that regeneration is natural: it does not deal with the cases where submarginal cultivated, pasture or idle land is planted to trees, now one of the major objectives of ARDA. It is made clear that where silvicultural expense is undertaken during the rotation period the burden of the property tax increases sharply, verges upon and in many situations actually becomes, confiscatory. Where the relatively substantial costs of planting must be incurred in the first year of the rotation, this effect is greatly magnified. Unless or until markets or better markets are available for thinnings and the produce of improvement cuts, the intensive selective management of existing stands necessary to bring them to optimum stocking and a sustained yield basis also entails substantial net outlays in the early years.
- (b) The Woodlands Tax proposed is intended to vary with stumpage prices. This may have been reasonable within the context in which the study was prepared but we submit that, having regard to ARDA and the desirability of maximizing the contribution which could be drawn as investment from the private sector of the economy for the purposes of ARDA, the long-range planning required in private forestry ought not to be fettered or circumscribed by short-term variations in stumpage prices.

3. *The Weight of the Tax*

We shall now quote from "Forestry Tenures and Taxes" for convenience and for emphasis, the sentences we regard as material.

Calculating the weight of the real property tax sustained by immature timberland is not a simple matter. No conclusion can be drawn from the isolated bit of information that a particular forest property has

a market value of so much and is charged with a tax of so much. We must relate the measure of the weight to the use we wish to make of it.

Since a primary purpose is to inquire into its effects we want to know how much of the profits produced by the growth of the trees is absorbed by the tax. (p. 175)

To find the value of the annual tax payments made over the period (of rotation), they are cumulated at compound interest. This is done because the only way to compare taxes paid decades in advance of the realization of any income is by finding the value of the taxes and the income at a common point in time . . . By using this formula we find that a property tax of 1 per cent amounts to 33 per cent of the value of the crop when the period of growth is 40 years; 40 per cent when it is 50 years; 46 per cent when it is 60 years; and 51 per cent when it is 70 years. These are the percentages of the value of the crop absorbed by the tax whether the interest rate, including an allowance for risk, used in cumulating the tax payments, is as low as 3 per cent or as high as 7. The choice of different interest rates within this range has only a very slight effect upon the resulting weight of the tax. (p. 176)

The reason that the weight of an annual property tax is so heavy upon deferred yield forests and why it increases with the length of the rotation, is obvious. The income is yielded only periodically while the tax is levied annually upon the full value of the property, but that income is locked in the venture for years as a capital value subject to tax before any income is realized. Toward the end of the rotation the tax is little less than the weight of an income tax of the same rate levied several times over on the full value of the single income receipt. In the last ten years for example, tax at 1 per cent of the value of the property amounts to almost 10 per cent of the income produced over the rotation period.

To summarize, a tax of 1 per cent levied on the value of the standing timber in each year of the life of the crop amounts to between $\frac{1}{3}$ and $\frac{1}{2}$ the value of the crop . . . This is a heavy weight of tax. Where there are expenses additional to taxes, the weight of the tax is much higher when measured as a percentage of the present worth, at the beginning of the rotation, of the income accruing to the ownership of the land.

We next turn to an examination of the property taxes levied in the two provinces for which detailed tax data are available, to see whether their weights are as heavy as those indicated by these theoretical calculations. These provinces are Nova Scotia and British Columbia. The findings are that in these two provinces where timberland is most extensively subjected to property taxes, the weight of the tax is frequently much higher than the heavy weight indicated by a theoretical tax of 1 per cent of the value of the immature crop . . . Elsewhere, in New Brunswick, Quebec and Ontario where private woodlots and plantations are taxed by municipalities for amounts which appear nominal, it may be safely concluded that the weight of the tax is nevertheless in many instances as onerous as that indicated by our illustrative example. (p. 177)

(Particularly noteworthy are Tables 58 and 59, at pages 178 and 179, giving the results of specific case studies in four municipalities in Nova Scotia. In 20 cases (70-year rotation) cumulated taxes at the rates then applicable varied from 5% to 645% of the indicated crop value and in 9 cases exceeded 100%: in one municipality the weight ranged from 41% on a good site to 645% on a poor one. In the second set of 20 case studies (50-year rotation) the weight of the tax ran from 5% to 575% and again exceeded 100% in 9 cases: the range from good to poor sites in one municipality was from 34% to 575%.)

4. *The Effects of the Tax*

(a) Cut-over Lands

As we have seen, a property tax of only a small amount per acre per year can make it quite unprofitable to hold forest land while a crop grows to maturity. It may be that there are people who will retain ownership even though they receive no net return from their woodlands. It is much less likely, however, that they will continue to do so when the tax and the interest they could earn on their tax payments amount to more than the value of the timber produced.

By a priori reasoning we may conclude that a heavy property tax on the value of land and trees tends to:

- (a) make it unprofitable to retain possession of the most heavily taxed lands when they are cut-over;
- (b) shorten the financial rotation period, which decreases the volume of timber produced per acre per year;
- (c) decrease the amount of expenditure undertaken to increase yields because the tax increases with the yield;
- (d) greatly decrease the value of cut-over lands. (p. 185)

(b) Mature Stands

A property tax is a carrying charge of an inventory of mature timber. If it is raised it can be expected that the inventory will be drawn down more quickly to the extent that the owner has freedom to manoeuvre. And owners do have considerable scope for changing their cutting plans when they draw timber from any combination of other woodland owners, Crown lands and their own freehold timberlands located in different municipalities and consequently subject to different rates of tax. Unless offset by other considerations, it is to be expected that the most heavily taxed freehold lands will be logged first. This effect is undesirable on two counts. It interferes with the orderly programming of a company's cutting on its various properties, Crown and private; and it favours clean cutting over selective logging because the former effects a greater reduction in tax. Selective cutting, however, is in the public interest because it is usually more likely to maintain the productive capacity of the forest. In the extreme case where the tax burden is very heavy, such rapid logging might be induced that under certain conditions the productive capacity of the land would be impaired. (p. 186)

In the country as a whole and in most regions the rate of cut on private lands is considerably greater than on Crown lands. Many factors account for this behaviour, not the least being that private lands are often among the best and most accessible forests and that Crown timber does not have to be paid for until it is cut, while the holding of mature private timber imposes an interest cost. Even though the rate of cut on large private holdings is usually lower than on smaller holdings, particularly woodlots, and sometimes no greater than on Crown lands, it is difficult to resist the conclusion that the relatively high carrying charges in the form of property tax on private lands compared with the often nominal ground rents for Crown lands is one of the influences accounting for the greater rate of cut and private forests. (p. 187)

(c) Evaluation of Effects

1. It is surely undesirable that the property tax should make it unprofitable to retain ownership of cut-over timberlands. In addition,

the reduction of expenditures on re-growth is a serious adverse consequence of property taxes in some areas which can be expected to increase.

2. The induced disorderly cutting pattern between taxed and non-taxed or lightly taxed forest lands is a serious evil. It produces a maldistribution of logging activity among regions and a diminution of tax bases for municipalities dependent upon forest land assessments; and it can lead to a serious depletion of tree cover in the heavily taxed regions. Where the weight of the tax becomes so great as to induce a very rapid logging, the productive capacity of the land is in some circumstances seriously impaired. That the tax induces owners to clean-cut limits which they would otherwise cut selectively also diminishes the efficiency of the use of the forests. (p. 187)

(d) The Benefit Principle

There is one other item to be considered. It is sometimes said that timberland should not pay taxes to defray costs of services which benefit other rural property. It is contended, for instance, that timberland property receives no service performed by rural municipalities but other property in the municipality at least has the benefit of police protection, county roads and the like. This is an instance of an admitted defect of the property tax—some part of it has the nature of a service charge but the correspondence between benefit and charge is haphazard. (p. 189)

That the tax pays for services which are not used and gives no return in the form of those services that are needed and can best be rendered on a communal basis, e.g. area protection against fire, disease and insects, was pointed out by B. E. Fernow no less than 60 years ago.

Proposals of the Canadian Tax Foundation

(a) Preliminary Comments

It is obvious that bare land, mature timber stands and sustained yield tree farms are unlike entities of greatly different values. They cannot be taxed as though they were the same thing unless the lowest *value* property sets the amount of the tax for all. In particular, it is not feasible to adopt the fiction that all timberlands are sustained yield areas in operation and to tax them on that basis. Recently cut-over land cannot sustain the resulting weight of taxation even if the rate is as low as $\frac{1}{2}\%$. The income of a tree farm is much greater than that of a recently cut area and the market value of a mature stand in turn is greater than that of a tree farm. This consideration appears to preclude a solution to the problem by adopting the familiar recommendation that the assessed value of all timberlands be set at the capitalized value of the property's productive capacity. The trouble is that the assumed productive capacity is not that of recently cut-over land or even-aged immature timber but rather of a hypothetical working circle of balanced-aged trees. The productive capacity of the soil may be the same but the decisive consideration is whether income is produced today or is deferred for several decades.

We have been forced to the conclusion that the only way to impose a tax on all timberlands which does not vary with the growth of the trees—and this is almost universally advocated—is by some variation of the so-called barelands tax.

Of all the desirable qualities of a tax on timberlands the one which appears to us to be of the greatest long-run importance is that the amount payable per year on immature stands and on forests which have been selectively cut should be kept very low. This consideration has determined the nature of our major proposal.

It also seems clear that administration must be entirely in the hands of the province if there is to be any hope of tax uniformity among municipalities. Rural municipalities are neither equipped to do the job nor sufficiently free from pressure for revenue to attempt it. To avoid the complications which invariably crop up when a provincial government collects a tax for distribution to municipalities, there would appear to be no reason why the tax, assessed and billed by the province, should not be payable directly to the rural municipality.

It is of course a necessary condition that any proposal be administratively feasible. There is no point in proposing a scheme which would cost so much to establish that the tax revenue would be absorbed for a dozen years or more. And it would be a mistake to strive for the accuracy in evaluation, for purposes of setting a tax, which is appropriate where Crown timber is being sold, for example. While accuracy is admittedly necessary for tax equity sight cannot be lost of the additional cost relative to the increase in equity achieved. If a new scheme were adopted by a province, say Nova Scotia, with administration taken over entirely by the provincial government, it would seem entirely reasonable that as few as four or five rough timber property classifications be set up initially. Once the new scheme was in operation, more and greater accuracy of site classifications could be gradually developed.

The long-term programme for the replacement of the property tax on forest lands in all the provinces which has won our preference is as follows. First, attention would be given to logged-over lands, immature stands and limits which have been selectively cut. If these were granted exemption from the property tax and made subject to a provincial Woodlands Tax, all forest areas would gradually come within the new scheme as mature stands were cut. A primary requisite of the scheme is that the tax be capable of being computed with little difficulty each year as an amount per acre. No annual inspection of the property should be required—this is prohibitively expensive—and in our view no inspections whatever are necessary except for purposes of setting the initial rough classifications and for the later revision and improvement of that classification.

(b) Immature Timber

In our view this central question should be determined by deciding what proportion of the roughly estimated natural productivity of a recently cut-over area should be taken by the Crown as tax—natural productivity being taken, for practical purposes, to be the productivity under the unavoidable minimum of management.

Let us assume that the Crown decides to take 50% of the natural productivity as tax. The proposal is that the tax should be the sum per year which, when cumulated at compound interest for the commercial rotation, produces one-half the value of the estimated crop (or whatever the desired proportion might be). To illustrate, it might be estimated that lands of a particular classification would during a commercial rotation of 50 years under minimum management produce a crop of 10 cords per acre. At \$5.00 per cord this mature crop would have a stumpage value of \$50.00. This is an optimistic forecast of the gross income if nothing untoward happens. Therefore, since it is

intended that the Crown pre-empt no more than one-half the return accruing to ownership of the forestland, the tax calculation might reasonably be the sum per year which cumulated at, say 8%, would produce the Crown's share of one-half the yield, or \$25.00 in our example. This would allow 4% as interest and 4% as risk allowance. In the example the tax would amount to about $4\frac{1}{2}$ cents per acre per year. If the site classification had a natural productivity set at $\frac{1}{2}$ cord per acre per year, the tax would amount to about 11 cents per acre per year. If a lower rate of interest were used in cumulating the tax payments, say 6%, the tax per acre would be 8.6 cents and 21.5 cents respectively.

Starting with a year in which land is cut-over, it is a very simple matter to levy an amount of tax per acre per year which takes a predetermined proportion of the estimated natural productivity. It would be accepted that whether the owner adhered to the assumed pattern of operations or whether he varied the rotation or made expenditures on the management of his lands should not affect the tax calculations. If the representative stumpage values used in evaluating the natural output were adjusted periodically the tax would still amount to the assumed one-half of the natural output even if stumpage values, along with the price level, doubled in the 50 year period. Measured in constant dollars the owner would have contributed one-half the value of the natural output of his lands.

No allowance is suggested in recognition of operating expenses because it is proposed that the estimates of yields should be of the bare minimum of management which, it is assumed, would not entail more than nominal cost. To that extent, however, the proposed tax would be the equivalent of a severance tax rather than of the preferable net income tax, but this disadvantage seems of less consequence than the consideration of keeping to a minimum the number of variables which have to be estimated.

Since the proposal is that a clean break be made away from the property tax, it is further suggested that advantage be taken of the opportunity to avoid a characteristic of the tax which is undesirable in many circumstances. This characteristic is that the tax increases with the improvement of the property. For forest lands the property tax rises roughly proportionately, depending on the accuracy of the assessment, with the increased productivity of the lands brought about by silvicultural expenditures. It can be argued that this characteristic is no more objectionable in a tax which is a substitute for the property tax than it is in the federal income tax. But the contrary argument can also be made. First, it would greatly complicate administration of the tax when contrasted with the simpler scheme of setting a rough classification of lands on the basis of natural productivity and site value (growth, capacity, location, accessibility and terrain). For another it would encourage investment in the business of growing forests. Finally, it has been argued that only a few activities such as forestry are peculiarly subject to an increase in property tax proportional to the increase in productivity—most commercial ventures suffer that disability to a smaller degree.

Once started the proposed tax would be the same sum each year except for the effect of the periodic changes in the representative stumpage values used in valuing the estimated yields of the various site classifications. The sum so calculated would be payable without regard to the use actually made of the land by the owner.

So far, the proposal has been discussed as it applied to lands that had been cut-over recently. It is suggested that all immature stands and all selectively cut limits having a cover density lower than a selected volume per acre also be placed in the new classification when the scheme was initiated. As mature stands were logged in later years, the land would be exempted from the property tax and made subject to the proposed Woodlands Tax. In time therefore all timberlands would fall within the scope of the new tax and outside the scope of the property tax.

(c) Advantages of the Proposed Tax

The advantages claimed for the proposal are as follows:-

- (1) By its nature, the tax would never make it profitable for the owner of logged-over land to let it go for tax arrears because the tax burden would be fixed at a predetermined proportion of the land's natural productivity.
- (2) The market value of lands which received only minimum management would be reduced by a uniform proportion once the scheme had been in operation for a number of years.
- (3) The tax would not deter the intensive management of private forest lands; silvicultural measures would not raise the tax bill.
- (4) Administration would be extremely simple compared to any known alternative. No record would need to be kept of the volume of cut, as under a Severance Tax; nor of the volume of tree cover, as under a property tax. Once classified, the tax circulation of a property could go unchanged for decades except for the periodic changes in the representative stumpage values used and the gradual perfection of site classifications.
- (5) The tax would provide a fairly stable revenue for rural municipalities.

6. *Proposals as modified by the Canadian Tree Farmers' Association*

1. On application of the owner any cut-over lands, immature stands, or stands that have been selectively cut, or tree plantations, shall be entered on a Woodlands Register maintained initially by the provincial government, and eventually by the provincial Private Forestry Board, and shall thereafter not be liable to payment of any property tax or to any levy of similar kind based on value, assessed by the municipality.

2. On application of the owner any combination of such lands, together with bare land which he intends to reforest or hold for purposes integral with the three-farming enterprise, and mature stands, shall be entered on the Register as Registered and Dedicated Woodlands if he has registered against the title thereof a Deed of Covenant in terms set by agreement between the Federal and Provincial governments, constituting an engagement that the lands will be managed in accordance with approved silvicultural purposes.

3. The Director of Woodlands Register shall classify all lands registered into not more than five categories, according to the roughly estimated natural productivity of the land under the minimum management. He shall compute the Woodlands Tax applicable in each category at no more than will absorb 50% of the estimated yield, when computed at 8% compound interest over the estimated rotation period appropriate to the site. The Tax on Registered Woodlands shall be adjusted from time to time in proportion with the changes in an index of stumpage prices.

4. The Woodlands Tax on Registered and Dedicated Woodlands shall be not more than one-half the tax on Registered Woodlands of the same category, shall not be subject to variation with stumpage prices and shall not be subject to change for an initial period of 50 years from the date of dedication. (It is assumed that the Dominion Private Forestry Board will accumulate information on which to base any revision of this initial tax base that experience may show to be desirable.)

5. Provided, however, that buildings on Registered and on Registered and Dedicated Woodlands, to the extent that they are deemed by the Director to fulfil no purposes essential to the management of the lands as woodlands or to the operation of the tree farming enterprise, shall be assessed by him to tax in the same amount as they would be if they stood on unregistered land.

6. The Woodlands Tax as assessed and billed by the Director annually shall be paid by the owner to the municipality.

7. The owner of Registered and Dedicated Woodlands may obtain their release from dedication, and the annulment of the Deed of Covenant, by paying to the Director the difference, cumulated at 6% compound interest, between the tax on Registered Woodlands and the tax actually paid from the date of dedication.

If the lands are sold to a purchaser who does not register against the title his assumption of the Deed of Covenant, he shall pay to the Director a sum similarly calculated and if he fails to do so the lands shall be subject to expropriation if the Director and/or the provincial Private Forestry Board so decides, and, if not shall be discharged from the Register and returned to municipal assessment.

8. The Director may order an inspection, by a qualified forester, of Registered and Dedicated Woodlands and if it is found that there has not been adequate observance of the terms of the Deed of Covenant, may discharge the dedication and transfer the lands to Registered Woodlands, upon payment by the owner of the penalty suggested in (7) above, and proceed similarly on default of payment.

If the owner disputes the report of the forester and the decision of the Director, the matter shall be submitted to arbitration by three qualified foresters, one selected by the owner, one by the Director and the third by the Department of Forestry, Ottawa (later, by the Dominion Private Forestry Board): provided that the owner may select, in lieu of a forester professionally qualified, a practicing tree farmer who is the owner of Registered and Dedicated Woodlands.

PART II

INCOME TAX

1. That the income tax as at present applied militates against sound forestry management, against conservation objectives and against the purposes of ARDA is so cogently demonstrated in Part VI of "Forestry Tenures and Taxes in Canada" that we should do injustice to the situation if we did not quote it in full. Instead, we shall amplify and illustrate the Foundation's criticisms of "historic cost" depletion and endeavour to make clearer how seriously and how unwisely it hampers efforts to bring woodlands to the stage of sustained yield and, hence, of maximum productivity—this being the aspect that is of special concern to our Association.

2. It is pertinent to quote here what is said at page 229 of "Forestry Tenures and Taxes in Canada".—

There are two income tax matters about which conservation groups, such as the Conservation Council of Ontario are very concerned. One is that just discussed—the operation of the lure of making capital gain as an obstacle to the creation, preservation and good management of farm woodlots, plantations and tree farms. The other is the bar to deduction of losses incurred in the early years of a plantation from income from another source.

In brief, the interest of conservation groups and members of forestry societies is that land which is best employed as forest land should be kept continuously productive. There are social returns, in the form of protection of watersheds, wildlife and the recreational value of the woods above and beyond the monetary return to the owner. As well, farmers do not realize that a high rate of return can be secured from a properly managed woodlot, and the work of education is obstructed by tax considerations. Finally, since the social value of plantations and tree farms exceeds the private return to the owner, there is justification for tax provisions which make tree farming attractive, or at least do not act to thwart the intensive management of woodlands.

A specific complaint is that a farmer can charge off as current costs of operating his farm, the expenses he incurs (other than his own labour) in starting a new woodlot or plantation. This is because it is not practicable to try to segregate the finances of the various parts of a farm's operations—all expenses and income are lumped together. On the other hand, if a hobby tree farmer buys a tract of timberland in poor condition and improves it greatly by afforestation of bare areas with a view to making it an intensively managed, continuously productive woodlot, his expenses in the early years when no income is produced may not be used to reduce his taxable income drawn from other sources. The expenses of creating the plantation must be cumulated in a depletion account for claim when timber is cut decades later. Yet there is a net gain to the public above the return to the tree farmer himself.

Advocated is an unequivocal right:

- (1) to treat all costs of establishing and maintaining a new plantation as current costs of operation;
- (2) to aggregate losses so calculated in the early years of establishing the plantation with income from other sources; and
- (3) to include in the expenses so treated maintenance costs, annual property taxes, all planting costs, costs of protection from fire, disease and insects and of installations for improvement of the limit such as tile drainage and roads.

3. The argument, applied to new plantations, is equally valid with respect to stands depreciated and depleted by neglect where the costs of thinning, of removing weed, wolf and defective trees and of building up a properly balanced growing stock, may have to be borne for many years (from ten to twenty-five) before slowly increasing net returns begin. The weight of these criticisms and the urgency of remedial action can be fully appreciated only if the values involved are stated quantitatively in a concrete example. The calculations are necessarily intricate and we have found no model for them in our forestry literature: in Europe the Faustmann formula could be employed, but it entails the use of yield tables, which we do not have though,

in Europe, they are made generally available as essential data for all forestry planning and management. Our whole case is that we want an impartial Board to do continuing down-to-earth research on this matter so a programme to sponsor private investment in forestry lands may be undertaken as a government policy with a good conscience and sound arguments, or to reject it from the standpoint of the non-resident farmer.

4. The following hypothetical example envisages successive plantings of red pine on a 600 acre site capable of giving a 60-year rotation. In order not to complicate the calculations unduly, it is assumed that each 100 acres is planted and that thinnings, when they begin, are taken, at 10 year intervals. No costs for preliminary clearing or for fencing are charged and it is assumed that machine planting is feasible throughout. No losses from fire, insects or disease are allowed for, and a constant price level and wage level during the rotation period is assumed. Costs are cumulated at 4% for interest and 4% for risk, the basis employed by the Canadian Tax Foundation.

5. OWNER'S INVESTMENT, AT THE END OF YEAR 60

	"Historical Cost"	"True" Investment
Cost of land, @ \$20 per acre	\$ 12,000	\$ 12,000
Cumulated interest allowance		114,235
Cost of planting, @ \$25 per acre	15,000	15,000
Cumulated interest and risk allowance		116,708
on \$2,500 in Year 1	\$ 47,598	
\$2,500 in Year 10	30,532	
\$2,500 in Year 20	19,004	
\$2,500 in Year 30	11,216	
\$2,500 in Year 40	5,956	
\$2,500 in Year 50	2,402	
Expense of silvicultural measures (fireguards, access road, fire, insect and disease protective measures, limbing to produce clear logs, etc.) Estimated at \$1 per acre per annum on an average of 300 acres over 60 years:—	18,000	
Amount, at year 60, of the annuity this represents:—		124,794
Charge for Property Tax, at hypothetical rate of 1% of value (See "Forestry Taxes and Tenures", page 176)		
(a) 40% of value of thinnings		
\$ 2,000 at Year 25	\$ 800	
5,200 at Year 35	2,080	
11,600 at Year 45	4,640	
11,600 at Year 55	4,640	12,160
(b) 51% of value of final harvest on 100 acres at Year 60: \$64,800		33,048
(c) Cumulated interest and risk allowance on (a)		21,086
(d) We are unable to calculate exactly what the actual cash tax payments would have been that produced this result: they may have been no more than 30¢ per acre per annum:—	10,800	

Minimum mechanical equipment for this operation would be: tractor, planter, plough, discs, chain saw. For simplicity it is assumed that these correspond to a constant investment, throughout the 60 years, of:—

of:—	2,000	2,000
Cumulated interest and risk allowance		38,078
	<hr/>	<hr/>
	57,800	489,109
LESS		
Net returns from thinnings (presumed reinvested):—		
At Year 25:—		2,000
Depletion allowance	216	
Interest and risk allowance		11,784
At Year 35:—		5,200
Depletion allowance	677	
Interest and risk allowance		17,324
At Year 45:—		11,600
Depletion allowance	1,829	
Interest and risk allowance		18,580
At Year 55:—		11,600
Depletion allowance	1,829	
Interest and risk allowance		5,028
	<hr/>	<hr/>
	4,551	83,116
Net return from final crop on 100 acres, taken in Year 60:—		64,800
Depletion allowance	14,771	
	<hr/>	<hr/>
	19,322	147,916
NET BALANCES:		
	<hr/>	<hr/>
“Historical Cost”	38,478	
“True” Investment		341,193
	<hr/>	<hr/>

REALIZED, AND REALIZABLE, VALUE TO OWNER
AT END OF YEAR 60

Land	12,000
Mechanical Equipment	2,000
Inventory of Trees	
100 acres, 30 yr.: 2,500 c.f. per acre @ 2½¢	6,250
100 acres, 40 yr.: 2,700 c.f. per acre @ 4¢	10,800
100 acres, 50 yr.: 2,900 c.f. per acre @ 8¢	23,200
200 acres, 10 & 20 yr.: Est.	6,000
	<hr/>
	60,250
Final crop from 100 acres, net	64,800
	<hr/>
	125,050
	<hr/>

CASH RETURNS TO OWNER, DURING 60 YEARS

	Gross	Labour	Net
4 Thinnings, each of 100 acres at age 25 320 Mcf @ 10¢\$	32,000		
Labour, to put wood at roadside, 7½¢ per c.f.		24,000	8,000
3 Thinnings, each of 100 acres at age 35 240 Mcf @ 11½¢	27,600		
Labour		18,000	9,600
2 Thinnings, each of 100 acres at age 45 160 Mcf @ 15½¢	24,800		
Labour		12,000	12,800
Final harvest of 100 acres at age 60 360 Mcf @ 25½¢	91,800		
Labour		27,000	64,800
	<u>176,200</u>	<u>81,000</u>	<u>95,200</u>

6. It will be observed that:—

- (a) The “unrealistic” appearance of the “True” Investment total directly measures the inequity of binding the owner to “historic cost” depletion. The yield from alternative forms of investment that he foregoes must then be a cost to him as actual as his cash outlays. There are enterprises in which “historic cost” depletion entails no essential hardship, the profit margin being sufficient to recoup the entrepreneur for the interest loss while he waits for his return but this can never be the case in intensive forestry; here, “historic cost” depletion is logically, economically, morally and socially indefensible.
- (b) The costs of this operation are essentially the same, save for the Property Tax, whether the owner is the state or an individual. It can be argued that they more truly represent the cost to the state (we are dealing with intensive, not extensive, forestry) for which the cumulative interest cost is unavoidable, although concealed by being incorporated in the burden of the public debt. An owner who, by one device or another, can lessen or avoid the consequences of “historic cost” depletion need not charge his investment with so high a rate of interest, if any.
- (c) On the assumptions employed, the owner would be subject to income tax in 5 years only out of the 60. The income for those years would obviously carry him into much higher tax brackets. It is assumed that all work is done by paid labour: to the extent that the owner does any of it himself, he increases his tax liability.
- (d) Our calculation also demonstrates the magnitude of the investment represented by a property nearing the stage of sustained yield: and, still more, the need to enable the owner to resist the temptation to sell a maturing stand “en bloc” in order to realize a tax-free capital gain, or to enter into what “Forestry Taxes and Tenures in Canada”, at page 228, refers to as “suppressed agreements—under which the purchaser of land and timber agreed to sell the land back to the vendor after making the cut.” Such agreements, it would seem, may be illegal under Section 137 or liable to Treasury Board action under Section 138 of the Income Tax Act.

- (e) A real tree farm would incorporate as much diversification as possible and, in particular, would include uneven aged stands of trees under selective management, some of which might be brought to sustained yield in 20/30 years or less. Planting and thinning would be done annually and the value of mature trees harvested each year would increase gradually as more and more of the land reached the stage of sustained yield. Once the whole property had been brought to that point, the influence of "historic cost" depletion would become neutral: the depletion account would remain constant, unless the owner expanded his holdings or, in special circumstances, reduced his timber inventory by cutting at a rate in excess of the mean annual increment.

7. It will be apparent that it is not an easy matter to set up a satisfactory system of bookkeeping for an enterprise of this kind. There is, we believe, a need for an agreed method of accounting for forestry operations in general and for tree farms in particular, including methods of costing that will permit direct comparison of the efficiency of tree farms of varying sizes or different management plans, and that will key into revised income tax procedures. This is a matter into which our enquiries are not yet sufficiently advanced to permit us to make any specific suggestions but we submit that it deserves prominence among the research objectives of ARDA and in any program of economic research arising out of the interim report of the Forestry Section of the Resources for Tomorrow Conference.

As a gloss on this subject, and on what has gone before, may we quote comments from one of our members after, in 1961, he first had occasion to include his tree farm operations in his income tax return:—

When at the beginning I discussed my plans with officials of the National Revenue Department I was told that my operations were not to be "farming" within the meaning of the Act, and that all my expenses were to be considered capital investment, some of which I might claim on a depletion basis some day—if I ever had any revenue. It was suggested that the property (190 acres) was merely a "retreat" and no more deserving of consideration than a summer cottage.

The attitude when I interviewed the officials again this year was much more sympathetic and they clearly did their best, within the straitjacket of departmental rulings, to meet my case. Christmas trees are now a farm crop, to be dealt with on a cash basis and it is assumed that the same applies to trees sold for landscaping purposes. However, the necessary division of the operations into Long-Term Plantations and Woods (subject to depletion accounting) and Short-Term Plantations which will henceforth be on a cash basis—but, for trees planted in 1959 and previously, on an accrual basis (which may not be liquidated for 15 years) gives rise to difficulties of no small calibre. I had set up a system of accounts to record what were the obvious costs: it was still necessary to review each item of eight year's expenses and re-allocate them, some being divided three ways—on no very clear or firm principles—into expenses not claimable at all, expenses eventually claimable as depletion and expenses either immediately claimable or to be apportioned against income from Short-Term plantations.

8. Recommendations

Our recommendations in respect of Income Tax differ from, though they are based on, those of the Canadian Tax Foundation, because we consider that reform of the Income Tax in this area would be futile unless preceded by, or

firmly tied in with, amendment of the Property Tax. They are also less general in their bearing and of an interim character, because of the importance which we attach to a demonstration by the Government of Canada that it intends to create and foster conditions in which intensive private forestry will be economically justifiable and capable of attracting investment.

It is relevant and timely to point out that, having regard to what has been said above and to the position of private forestry in other countries, it cannot be believed that the present yield from taxes on those woodlands to which these recommendations would apply can be either large, steady or increasing. There is every reason to believe that it is none of these things: and that the changes we seek, besides facilitating the formation and continuing growth of a body of private and social capital represented by woodlands properly managed for sustained yield, would produce a reliable, a growing and, eventually, a substantial body of public revenue in addition to all the other social benefits.

We recommend that:

- (1) The owner of Registered and Dedicated Woodlands shall be entitled to deduct from his taxable income from any source, as current operating expenses of the year in which they are incurred, all costs of establishing, growing, cultivating and maintaining trees upon such lands, save only bare land costs and such items, to be specified, of a capital nature, for which depreciation at agricultural rates shall be allowed.
- (2) The vendor of Registered and Dedicated Woodlands shall, if the purchaser assumes the Deed of Covenant, be free of Income Tax on the whole of the sale proceeds.
- (3) The vendor of Registered Woodlands (and the vendor of Registered and Dedicated Woodlands, if the purchaser does not assume the Deed of Covenant) shall be subject to Income Tax on the sale proceeds, provided that he may claim as a tax-free capital gain, if he is otherwise eligible to do so, such portion of the sale price as may be established to the satisfaction of the Inspector of Income Tax as pertaining to the value of the land only.
- (4) The purchaser of lands which he dedicates (or the purchaser of Registered and Dedicated Woodlands, if he assumes the Deed of Covenant) shall not be entitled to claim any depletion on account of the purchase price: but he may, by cruise or other valuation procedure satisfactory to the Inspector of Income Tax, establish what portion of the purchase price relates to the value of the standing trees which he shall record in his Income Tax Return as a Capital Cost Allowance Claimable. The owner of lands purchased prior to their Dedication may similarly establish a portion of their value at the date of dedication as a Capital Cost Allowance Claimable. Beginning in the tenth year following the purchase the owner may deduct pro rata portions of this Allowance from taxable income derived from the said lands, or, at his option, add ten per cent per annum thereof to the current operating expenses of his Registered and Dedicated Woodlands.

PART III

ESTATE AND SUCCESSION DUTY TAXES

1. It would be repetitious after what has gone before to demonstrate that under our Estate Tax and Succession Duty legislation the tax collector, once again, where woodlands are concerned, is required to "take his cut and get

out." Praise for the Death Duties of England is, if not unheard of, rare: yet we must commend them for provisions which in comparison with our legislation show an enlightened and prudent regard for the preservation of what are national and social as well as private assets. Woodlands forming part of an estate are not reckoned in the total which determines the rate of tax: the portion of the tax levied that falls on standing timber cannot be exacted as a lump sum, so leading to devastation—felling licences would be refused: it stands as a liability of the property discharged pro rata as felling licences are granted or as timber is harvested pursuant to the approved Plan of Operations, in the case of Dedicated Woodlands. Though complaints are made that it is a severe burden, it does not appear to have had a deterrent effect on the growth of the area under the Dedication provisions.

2. We would recommend, as a minimum, that the value of Registered and Dedicated lands included in an estate here should not be included in the total which determines the rate of tax: where it is the succession that is taxed, that they should be subject to a special schedule of minimum rates; that in no case should the tax exigible be collectible over a lesser period than 10 years, without interest, in annual instalments, or otherwise at the option of the person liable for the payment (so long as the land remains Dedicated).

PART IV

EFFECTS ELSEWHERE OF TAX REFORMS

It is appropriate at this stage to enter positive evidence that enlightened taxation provisions can induce owners to make woodlands more productive and elicit a substantial flow of investment into private forestry. We quote from "Woodland Management" by W. E. Hiley (Faber & Faber: 1954: page 405) regarding the situation in England:

The special concessions which are allowed in the taxation of forest property are intended to be an inducement to owners to make woodlands more productive and there is evidence that they are having an important influence in securing this object. Some wealthy owners are buying woodlands and are planting up bare land as a kind of insurance against estate duty. By transferring a portion of their wealth into woodland property, the value of which is not taken into account when the rate of estate duty is assessed, their estate may fall into a lower bracket and duty may be paid at a lower rate.

A man whose main income-earning investment was 1,000 acres of well stocked woodland would today be in a very enviable position in regard to taxation. If the soil was reasonably fertile and the stocking was normal so that the woods could be worked on a system of sustained yield, his net income should be some £3,000 or £4,000 a year. If taxed under Schedules A and B, without recourse to Schedule D, his income for tax purposes would be assessed at some £150 to £200 a year: at the present rate of income tax he would pay 9s. 6d. in the £ on this assessed income and, if the income which he received from other sources did not bring the total to more than £2,000 a year, he would not be liable for surtax. When he died his land and timber would be valued for probate, but only the value of the land would be aggregated with the rest of the property in determining the rate at which estate duty should be paid. The land might be valued at £5,000 and if his other property was worth £24,000, the rate of estate duty would be 18 per cent.

So his successor would have to find some £4,300 to meet the immediate payment of estate duty on the other property and £500 for estate duty on the land; and he would be liable to a tax of 18 per cent on the timber he felled, until duty had been paid on the total amount at which the timber was valued. The immediate payments could be met by felling rather more than the normal coup of timber and, to re-establish a normal growing stock, he would need to exercise restraint in felling for a few years. But the tax would not cripple the business. It may be doubted whether there is any other form of family business which would stand up so well, and could be continued so surely from generation to generation, despite the ravages of the tax collector.

After a lengthy period in which landowners and investors seemed slow to appreciate the benefits to which Mr. Hiley points, and during which the Commonwealth Forestry Institute, on behalf of the U.K. Forestry Commission, carried out intensive research into the economics of private forestry, developing guidance for the Commission's policy and for the decisions of private investors, the pace of investment in woodland development has greatly accelerated. According to the latest report of the Forestry Commission available to us (for the year ended 30 September, 1960):

The area dedicated rose by 46,176 acres net to 621,957 acres, and the number of dedication schemes by 233 to 1,704. In addition, preparations for dedicating another 60,969 acres, representing 257 schemes, were well advanced. The acreage of woods not dedicated but managed according to an approved plan of operations fell (mainly owing to transfers to dedication) by 952 acres to 154,263 acres, although the number of schemes increased by 20 to 546; plans of operations for a further 287 acres (3 schemes) were in hand. Grants paid amounted to £1,150,000; details are given in Tables 4 and 23-25 of Appendix I.

Acceleration of progress in England has probably had to wait upon:

- (1) The development by the Commission of yield tables for all important species and all site classes: and the related pioneering work in the economics of private forestry, including studies of management policies and results on estates for which records over a long period are available, done for the Commission by the Commonwealth Forestry Institute.
- (2) The increase in the number of professional consultant foresters, familiar with this material and with the needs of woodland owners and hence competent to prepare for owners management plans and, as required for dedication, detailed Plans of Operation.
- (3) The increase in the number of firms providing silvicultural services on contract. An owner may thus supplement the labour of his own staff, or labour locally available, with the skilled labour and special mechanical equipment of such a firm, or contract with it for all silvicultural measures prescribed in his Plan of Operations. There are also more or less informal arrangements among groups of owners for sharing skilled staff, labour and equipment and the Commission encourages the formation of owners' co-operatives.

A more recent and most interesting development has been the formation of "Forestry Syndicates" a device by which groups of investors engage skilled management to acquire and develop woodlands under the dedication scheme. We have been expecting a report from England with details of this method of operation, which has not yet come to hand, and beg leave to submit an ancillary report to the Committee on this subject when we are in a position to do so.

2. Corresponding evidence can be supplied from the United States. A. E. Wackerman, Professor of Forest Utilization at the Duke University School of Forestry, in "Keeping Faith with Forest Farmers" (American Forests: May, 1962) p. 12, traces the growth of private forestry in that country:—

The factor contributing most to the rapid progress of private forestry unquestionably was the revision of federal income tax policy in 1943. Prior to that time, income from long years of timber growing was classed as ordinary income for the year in which it was received, regardless of how many years had elapsed between the investment and the return, unless the timber was sold outright. Income from timber cut by an owner to use in his business or sold as sumpage with restrictive provisions, even those requiring good forestry, was taxed the same as the gain from buying something one day and selling it for a profit the next.

This made investments in growing timber quite unattractive as compared to numerous other opportunities to put capital to work. At best, it discouraged expenditures for intensive timber growing. Owners could not invest very much in site preparation for planting, weeding out undesirable competing vegetation, drainage, thinning, or other silvicultural practices when the federal income tax actually penalized the owner for so doing. By allowing long term capital gains treatment for forest management timber income, the federal government itself adopted what it had long urged the states to do, i.e. encouragement of private forestry by co-operation and equitable taxation. The capital gains rate for timber income, in effect, holds the tax rate on applicable transactions to one-half the rate on ordinary income with a maximum of 25 per cent.

From among the numerous examples of progress mentioned by Professor Wackerman we cite:—

The American Forest Products Industries, Inc., is an agency that disseminates forestry and forest industry news and extends encouragement and assistance to forest owners in their timber programs. The well known and highly effective tree farm movement, initiated just 20 years ago, is one activity of this organization. From 2,500 tree farms in 1950, representing 21,000,000 acres of private forest, the number has grown to 20,105 representing 55,194,535 acres by May 1, 1961. Considering that there were no tree farms 20 years ago, the magnitude of the tree farm movement is impressive.

We endorse and underline a comment by Professor Wackerman:—

Forestry is not a "get-rich-quick" scheme nor a way to make a "fast buck". It requires more long range confidence in government co-operation and the economic future than any other form of private enterprise.

PART V

FOREST TREE IMPROVEMENT

1. From time immemorial the importance of good seed has been respected in agriculture: procedures for the certification of seed have been in effect for many years. In the United States, it is said "The cost of breeding and improvement programs on such agricultural crop plants as cotton and corn is now in excess of \$5,000,000 annually."⁽¹⁾

⁽¹⁾Frank H. Kaufert, Director, School of Forestry, University of Minnesota: Second Lake States Forest Tree Improvement Conference: Lake States Forest Experiment Station Paper 40: December, 1955: Page 47.

If there is a loss from seeding of wheat subject to rust, it is one year's loss only. The economic loss resulting from the planting of defective seedlings may extend over a rotation period of 50/80 years and even further into the future, if haphazard methods of tree seed collection allow seed from this plantation to be used.

"It is self-evident that woodlots, especially in southwestern Ontario, have been depleted in the last few years to an alarming degree."⁽⁹⁾ Not only the casual reader might take it that the depletion referred to is quantitative only: but what is involved is something much more serious. Here, as elsewhere in Canada, prevalent logging methods and the intermittent exploitation of smaller woodlots by their owners have left a preponderance of weed trees and low-value species: if, exceptionally, seed trees have been left to provide natural regeneration they are all too apt to have been those without sawtimber value—in plain language, the runts, the deformed, the genetically defective.

For 60/80 years the need for reforestation has been a foremost preoccupation of the forestry profession on this continent and of all forestry departments under governments having a prudent regard for the future welfare of their citizens. We do not have readily available the figure for Canada but, in the United States, in 1959 "2,151,743 acres were planted with over 2 billion trees. This was 37 per cent larger than the area planted in 1958 and three times that planted in 1953. Most of the planting, 89 per cent, was on private lands of which one fourth was on lands owned by industry. In 1960 the acreage planted again was in excess of 2 million acres."^{*}

It is against this background that we present, with the unavoidable minimum of comment—but with some underlining—the quotations which follow.

Our quotations come largely from publications of the Lake States Forest Experiment Station of the United States Forest Service and we are concerned to forestall any impression that we might be holding this Station, the foresters of its Region, or their predecessors, up to criticism. This would be most unfortunate: the publications of that Station are among the best, the most useful and the most informative known to us and have been made available to us and to our members with much generosity. There is nothing to suggest that foresters of the Region have been any more remiss than the profession generally throughout North America, and everything to indicate that those concerned with the active Forest Tree Improvement program now under way are pressing remedial measures with all the vigour and persistence that long continued public and governmental apathy and indifference permit. Nothing could justify more cogently the enlightened publications program of this Station than the fullness and freedom with which this subject is now being ventilated in the reports it has been issuing.

2. "A surge of interest in improved forest tree seed and planting stock has developed in the United States in recent years. One aspect of this interest has to do with seed certification. To sample the thinking of those concerned with this question the Society of American Foresters' Committee on Forest Tree Improvement early in 1960 sent a special questionnaire to a large group of foresters, geneticists, and seed specialists. . . . Despite general interest in seed certification relatively few foresters are well informed on the subject. . . . Ninety-seven per cent of the replies favored some sort of forest tree certification service. Forty-seven per cent felt this need was pressing at present; 42 per cent that it would be within the next few years; and 11 per cent (mostly from the Northeast and Canada) foresaw no need for certification for several to many years to come. . . .

⁽⁹⁾Report to the Ontario Legislature from the Select Committee on Conservation: 1950: page 121.

^{*}A. E. Wackerman, Professor of Forest Utilization, Duke University School of Forestry: "Keeping Faith with Forest Farmers"; American Forests: May 1962: page 59.

Although generally not true, certification of tree seeds from genetically proven material may in some instances be confirmed as early as for agricultural crops. For example, where the superior material is supposed to be rust-resistant white pine, the buyer of seed may have a check on his purchase within a few years. The same may be true for a few other traits. Many foresters think that the wise forest manager will collect or produce his own seed. This is true and is being done to a large degree in many parts of the country. . . .

In conclusion, we suggest that readers who want to evaluate this report keep in mind three things: (1) Whether we certify identity and purity of genetically improved seed or merely the exact geographic origin of "wild" seed from natural stands our primary objective is to provide for improved planting stock. (2) Although the actual production of genetically improved seed may be quite limited for some time to come, now is the time to establish the best standards we can for its production and use. . . ."*

3. Five biennial Forest Tree Improvement Conferences have been organized and held under the auspices of the Lake States Forest Experiment Station: the reports include records of the attendance at three:—

Second, 1955: present 72, including 1 Canadian

Third, 1957: Present 80, including 1 Canadian

Fourth, 1960: Present 51, including 2 Canadians (one of whom, since his affiliation is not given, presumably attended in a personal capacity.)

The latest report on the Research Program organized at these Conferences lists 125 projects being conducted by 10 selected agencies, with 64 "co-operators". Among the last are included the Manitoba Forest Service and the Ontario Department of Lands and Forests, assisting in one project each, and the Petawawa Forest Experiment Station, assisting in three. It appears that the assistance of co-operators, in most cases, may be in the form of supplying specified kinds of seed or seedlings.

It was from reports of these Conferences that we learned of the existence of a Canadian Forest Tree Improvement Committee but we have been unable to date to obtain reports of its activities. However, we do know of Canadian foresters engaged in this work, who are enthusiastic devoted—and overworked.

"The idea of using good quality seed as the source of stock for reforestation has long been advocated. European forestry is replete with examples of the desirability of carefully selecting the seed source for plantation forestry. Sweden has a vast forest industry dependent upon maximum volume production. As such Sweden is utilizing, wherever possible, seed of the highest quality to furnish the stock for reforestation work. These practices are not advocated, they are a must and are strictly enforced. Similar programs exist in Germany, Denmark, Norway, etc.

In this country too, prominent foresters, conservationists, plant breeders and others have advocated the use of seed of known and desirable origin in reforestation programs. Failure to heed their warnings has resulted in losses of both time and money to the forest industry. Concurrent with these losses have been the additional losses resulting from continued exploitation of natural stands which represented potential reservoirs of both seed and germ plasm. . . .

In the South a number of forest seed production areas have been established. . . . In considering the situation in the Lake States, it can be said that the best stands of our indigenous species are now probably gone. We must be satisfied for the present with having to labor, in most cases, with remnants. Further, not all of the remaining virgin or good second growth stands are in the public domain. Generally these areas do not involve large acreages. They are not all of the best type, do not form pure stands, and often lack proper isolation for

seed production. Many of the plantations now attaining the age for seed production can be used only as a last resort as seed sources because of their unknown seed origin. . . .

We also recognize . . . that the most insignificant cost item in the total unit production cost of forest tree planting stock is the cost of the seed. Even a doubling or tripling of the initial cost of the seed would not greatly increase the cost of the final planting stock. In fact, the improved quality of the seedling stock derived from the Verified Seed might result in more vigorous seedlings with less cull, thereby reducing the per unit cost of production. . . .

Viewing the situation in the Lake States, there is at the present time a large tree planting program in progress. Nursery facilities are being expanded and utilized to full capacity. There is a great demand for forest tree seed, and unfortunately a high percentage of this seed is being harvested from genetically undesirable sources. We may expect that the quality of the trees in many of tomorrow's forest plantations will be inferior."¹

* * * *

"The economics of logging require the cutting of a specific volume per acre or certain size trees to meet merchantability requirements. Extensive management is applied in these instances. Large areas are clear cut, leaving cull trees and suppressed unmerchantable trees as a seed source. Cutting systems such as stick limits and diameter limits are applied, which in most cases leave the poorest trees in the stands. How much future forest degrading is being done by these practices?"²

* * * *

"For many years we have talked in silviculture of leaving superior trees as seed trees but have always given way to the so-called practical approach which is leaving trees that aren't suitable for harvest. I believe newer work in genetics has greatly strengthened our position in demanding that better trees be left as seed production agents for the future generations. . . .

* * * *

The value of collection of seed from high quality stands has been an accepted theory for many years but, unfortunately, even today it is not being followed owing to the pressure of expanded seed production. . . ."³

* * * *

"Before 1944 we purchased our seed from any and all seed dealers. The futility of such practice became very evident in 1943 when one sowing of spruce seed provided to be a colossal flop—no germination. After this experience we decided to collect our own white spruce seed; and we certainly became aware that a low price per pound of seed doesn't always indicate a bargain."⁴

5. "...there is urgent need to establish seed production areas without delay while suitable natural stands still are available and while large-scale planting programs are in effect...

(1) Hitt, R.G.: Forester-in-Charge, Forest Genetics Research, University of Wisconsin: Lake States Forest Experiment Station Paper 58: February, 1958.

(2) Zasada, Z. A.: Forester, Lake States Forest Experiment Station: *ibid*, p. 15

(3) Bramble, Wm. C.: Head, Dept. of Forestry, Dept. of Forestry & Conservation, Purdue University: L.S.F.E. Station Paper 98, April 1962: page 3

(4) Consolidated Water Power and Paper Company: L.S.F.E. Station Paper 40, December, 1955: page 19.

Reforestation is needed on 8 million acres or more in the Lake States (Minnesota, Wisconsin, and Michigan) according to the best estimates available. This area should be planted with the best adapted and most productive planting stock we can grow. The stock should be produced from seed with the best genetic potential available.

At present the search is under way for forest trees outstanding in volume production, wood quality, form, growth habit, and resistance to injury. These trees will be propagated vegetatively and tested for genetic superiority. Those that give high-quality progeny will be used to develop seed orchards for the abundant production and easy collection of superior seed.

It probably will be at least 40 years until enough seed orchards are available in the Lake States to produce most of the forest tree seed needed. It will be even longer before the best clones have been found and tested adequately for this purpose. In the meantime a valuable intermediate step can be taken by developing seed production areas. For that purpose the best stands of important forest tree species should be located and so treated that abundant seed will be produced on the best trees. Rather small areas will be sufficient to supply the seed needs of the region, and collection should be concentrated in these areas as soon as they are developed...

... experiences indicate that the cost of cones from seed production areas will be higher than that from open market cone purchases by about 50 to 100 per cent. This will increase seed costs by about that amount, although better yields may partially offset the increase. However, since seed procurement accounts for only a small part of the total nursery stock production costs, the increase seed costs will not add much to the total and should be more than offset by the better quality of the stock obtained...

Assuming that collections will be made only in those years that 50 per cent or more of a full cone crop is produced, the number of seed-crop trees required per million seedlings will vary from about 210 to 910. Translated into acres of stand this will range from about 4 to 30 per species. These values are very small. Because of variability in seed production and the proportion of the crop that can be harvested from standing trees, a safety factor of 2 has been used. Increase seed production resulting from release and other treatment provide an additional safety factor..."*

6. (In the British Isles) "Extensive trials with exotics over more than a 200-year period have convinced most British foresters that such introduced species as Sitka spruce, Douglas fir, grand fir, European larch and Pacific Coast lodgepole pine are better suited to the site conditions of England than the "native" Scotch pine which reaches its best form and development in the continental climate of the Balkan region..."

The main success with exotics as tree species, however, has been in the Tropics and in the Southern Hemisphere, regions where historical geographical, and climatic conditions have prevented a normal distribution of trees by means of natural dissemination. Many of the economic plants of the Tropics, including the coconut, beefwood, rubber tree, common teak, and mahogany, have been disseminated artificially by man and have become successful exotics in many parts of the Tropics.

In the Southern Hemisphere great success with introduced conifers has been experienced. In Australia, New Zealand, Chili and South Africa several million acres have been successfully afforested to Monterey pine and other hard pines. Results have been phenomenal in many cases. On the better sites, it has proved possible to raise these plantations to maturity on a 30-year

*Rudolf, Paul O.: Research Forester, Lake States Forest Experiment Station: "Seed Production Areas in the Lake States: Guidelines for their Establishment and Management": Station Paper 73, June 1959.

rotation, with heights in excess of 100 feet achieved and yields up to 10,000 cubic feet per acre."¹

* * * *

"In a country like Brazil, for example, the exotic eucalyptus is the backbone of the charcoal and pulpwood industries, and other promising exotics have been tested, some to fail and others to look useful. The fact that Brazil is a country with a wealth of species, even beyond that of the United States, leads me to believe that there is still a great deal to be gained by us through testing foreign species in a tree improvement program, particularly where extensive reforestation is involved."²

* * * *

"We are testing the Danish willow hybrids developed by Carl Jensen. They are reported to produce pulpwood-sized trees of about 6 inches in diameter in 3 years under optimum conditions in Denmark."³

* * * *

"The Forest Survey figure show that in this country we are already growing an enormous volume of wood, principally hardwood species, that is largely unmerchantable. The deficit in our growth-drain balance is in high-quality material, for which there is a great present and potential demand.

There should be a programme to experiment with tree species from Northern Asia which has more commercial tree species than we have in Canada. Asia did not have a period of glaciation which in Canada has affected our tree distribution.

To illustrate, every 2-pound increase (per cubic foot) in wood density of southern yellow pine produces about 1 pound more kraft pulp. Stated another way, a cord of low density southern pine wood will yield about 847 pounds of kraft pulp, but a cord of high-density wood of the same species will produce 1,477 pounds—almost twice as much. The same general relationship between wood density and kraft yields is true of other species.

If, through selection and breeding, we can achieve a 50 per cent increase in both growing rate and specific gravity, kraft pulp yield per acre per year from southern pines would be increased by about 2.3 times and fiber-production costs at the woods level would be substantially reduced. In monetary terms, assuming that a ton of kraft pulp is worth \$90, such elite trees would yield enough fiber to make kraft pulp valued at \$114.30, as compared to \$49.50 worth of pulp per acre per year from run-of-the-woods trees... Lumbermen, too, would be interested in this kind of elite trees from the standpoint of volume increment and because of the higher specific gravity would substantially improve the strength and dimensional stability, and therefore, the value, of lumber, structural timbers and other products cut therefrom.

We sometimes forget that quality control starts in the woods—not in the pulpmill, sawmill, or plywood plant. We are dealing not with a mineral that is mined, but with organic fibers produced in living trees that, like all agricultural crops, can be modified and improved in both yield and quality through culture, selection and breeding."^{*}

"In an article that appeared in 1934, Carl Syrac Larsen, Denmark, proposed that seed plantations or seed orchards should be established for the production of forest tree seed. In Sweden it was Holger Jensen who, in his articles published at the beginning of the 1940s outlined plans of far-reaching

(1) Spurr, Stephen H.: Professor of Sylviculture, School of Natural resources, University of Michigan: L.S.F.E. Station Paper 81, April 1960, p. 11

(2) Bramble, Wm. C.: op. cit.

(3) Baum, Martin: Supervisor, Wood and Lignin Research, Marathon Corporation Rothschild, Wisconsin: L.S.F.E. Station Paper 40, December, 1955: p. 16

* Mitchell, Harold L.: Chief, Division of Timber Growth and Utilization Relations, United States Department of Agriculture Forest Products Laboratory, Madison, Wis.: L.S.F.E. Station Paper 40, December, 1955:

practical importance: Swedish forestry was to be supplied with seed from seed plantations. The idea was accepted and has become a reality. For two decades the hunt has proceeded for parent trees, plus trees, for these seed orchards. Thousands of foresters have assisted in this search. Among the tens of thousands of trees that were proposed, about 3,000 have been selected, certified, entered on registration-book cards, and propagated by grafting...

According to this method of breeding, the selection method, which presupposes an appraisal of progeny, a long time will elapse before we can see results put into practice. The large gains will perhaps first become apparent some time in the early part of the next century. It is still possible, however, that the appraisal may proceed more rapidly than we now venture to think. The possibilities of judging, at an early stage, the properties of a plant material in respect of increment and production, should not be underestimated. The volume weight of the wood, the relation between spring wood and autumn wood, fibre length and certain chemical properties probably remain unchanged during the life of a tree. Gradually, we shall perhaps be able to predict, already at the plant stage, the properties of the adult tree.

In Sweden the Genetic Department of the Forest Research Institute and the Swedish Forest Tree Breeding Association are working on forest tree breeding. Practically all the forest owners and associations of forest owners in the country are attached to this Association. Besides its experimental activities, the Association provides services by collaborating in the establishment and management of seed orchards. The Collaborating Committee on Forest Tree Breeding and Genetics deals with the control of plus trees, for the planning of all seed-orchards, and the framing of regulations for progeny-tests. Moreover, this committee provides a forum for collaboration between all the bodies in Sweden that are occupied with forest tree breeding in its many different forms.**

Our recommendation on this subject appears in Part VII.

PART VI

GRADING AND SCALING STANDARDS FOR WOOD CUT ON PRIVATE LAND

Wood is a farm crop. Wheat and wood are Canada's two most important crops. In the past ten years this has come to be accepted as a principle by those who have had occasion to concern themselves with the Agricultural Revolution going on in Canada since the last World War. They realized that the wood crop can be the solution to most of our marginal and sub marginal land problems in Canada. In this respect we are fortunate because trees grow particularly well on Canada's types of marginal lands.

Historically within the memory of any of us it was not generally accepted that wood is a farm crop. On the contrary, wood was cleared from the land by our parents and grandparents because it was an impediment to agriculture.

Today we are no longer breaking and clearing land for food crops and pasture. Instead cleared land has been allowed to regenerate naturally to forest or is being replanted to forest. Many farms are simply being abandoned for taxes and those farmers who have been relying on their woodlots are finding increasing difficulty in marketing their wood. It is in this atmosphere that the Federal and Provincial governments face the responsibility of establishing conditions permitting the growth of wood farming as an essential phase of our agricultural economy. No time may be lost if we are to salvage the social resources of hundreds of rural municipalities.

*Arnborg, Dr. Tore: "Tree Breeding in Swedish Forestry": Stockholm, 1960.

One of the most essential and fundamental cornerstones that must be laid for private land wood farming is an accepted standard for grading and scaling wood cut on private land. Wood farming cannot develop until these standards are adopted and enforced.

Ironically, the provincial governments, with which the private land owner competes for sale of his wood, have established not only the necessary wood grading and scaling standards for wood cut on government land, but they provide squads of scaling personnel to do the work. This service should be provided immediately for the private wood producer and the provision of this service should be a condition for ARDA projects involving forest development on private land.

Failure to provide these wood grading and scaling standards and the personnel to provide the service is tantamount to abandoning the grading standards for agricultural food products such as eggs, meat, butter, cheese, fruits and vegetables. Wood grading and scaling standards are as essential for wood farming as the food grading laws are for the food farmer. Both producer and consumer benefit.

Establishment of wood grading rules for pulpwood, for example, would overcome one of the arguments used by the pulp and paper companies' representatives for paying the farmers \$15.00 to \$20.00 per cord for their wood delivered to the mill when it is reported that it costs the companies \$40.00 to \$45.00 per cord to deliver to their mills pulpwood cut from government limits. There would be no justification for this discrimination if the grading rules were established.

Incidentally millions of cords of pulpwood could be provided from private land at a price midway in this range at a profit to the farmer and at lower cost to the pulp and paper industry than the reported \$40.00 to \$45.00 per cord figure, if the essential marketing climate and conditions were created. In this way Canada's pulp and paper industry would be in a stronger position to compete in world markets as the competitive conditions become more tight in the next decade or two. Also our marginal lands would blossom again with prosperous rural communities.

There are some other phases of the marketing problem which deserve the attention of the Federal and Provincial Governments. It is our view that there is far more merchantable wood available on private land than is generally recognized by foresters. There are a number of reasons why this wood is not being harvested but the major one is the continuing decline in marketing facilities for sawlogs and veneer logs in addition to the conditions surrounding the sale of pulpwood as described above.

One of these difficulties is the decline in numbers of sawmills capable of sawing good quality lumber. In some parts of Ontario and Quebec during the past year farmers relying largely on woodlots have not been able to sell their sawlogs because of the closing of sawmills in these districts. One possible solution to this problem is the establishment at intervals of one hundred to one hundred and fifty miles of either cooperative sawmills or government sawmills of an efficient capacity to do custom sawing.

At these planned sawmill and planing sites a Wood Mart could be established where buyers could purchase the graded and scaled lumber directly from the farmers or from a farmers' cooperative. Sites could be chosen now in Ontario, Quebec and the Maritimes for experimental projects under ARDA to establish these sawmills and planing mills. The governments provide food processing plants, the equivalent of sawmills to the wood farmer.

With the proposed changes in the Farm Credit Act which we understand would permit wood farmers to borrow under that Act, the complementary action of establishing experimental sawmill and planing mill projects and

instituting wood grading and scaling laws and regulations, would give new hope to the hundreds of rural municipalities where marginal land is the rule. It would tend to check the drift of this population to urban centres.

Establishment of a healthy wood farming type of agriculture, due to the long term crop rotation of up to 75 years requires a government sponsored insurance scheme to cover fire insurance and epidemic attacks by insects and diseases. This type of insurance cannot be provided economically at present by private insurance companies. The day would come when private companies could enter the field. However, the loss to a wood farmer of a fully established, sustained yield stand of trees would be equal to the loss to a dairy farmer of his barns and cattle. Both types of enterprise require insurance. The wood crop is excluded under the terms of The Crop Insurance Act.

In closing this Marketing Section of our Brief we would like to quote from the Forestry Section of the Background Papers, Volume 2, for the Resources for Tomorrow Conference, page 690:

The bargaining power of thousands of small scattered owners is extremely poor as they must accept the offered price or leave their timber unsold.

PART VII

SPECIAL RECOMMENDATION

Needless to say, we have no sympathy with the tendency to defer needed action until complete and technically perfect plans for conservation in general or for forestry in particular shall have been completed, nor can we view with equanimity losses of time consumed in the processes of consultation and co-ordination backward through a seemingly unending series of departments, sections of departments, associations and other bodies at the provincial level and below. Reform of property tax and of income tax were requested in the Kennedy Report of 1947 and by the Select Committee on Conservation of the Ontario Legislature, in 1950: or can it be supposed that these were merely the first times of asking. Inequities of the property tax were pointed out in 1902 by B. E. Fernow.

We do not wish to belittle pure research, e.g. in forest economics or forest genetics, or its eventual utility; we shall refrain from suggesting that circumstances may have favoured making a fetish of careful planning and design, in the spirit of academic perfectionism. It is not unfair or unreasonable to assert, however, that had we been allowed this past 60 years to develop a vigorous and vocal private forestry, applied research would by this date have been further advanced and it would not now be necessary for us to urge that practical applications ought, at long last, to be initiated before Canada's competitive position has been irreparably undermined.

Accordingly, the Canadian Tree Farmers' Association specially and urgently recommends:—

- (1) That no grants be made under the Agricultural Rehabilitation and Development Act to any province for encouraging or assisting the reforestation of privately owned lands, or for the acquisition and/or reforestation of any lands to be publicly owned, until such time as an independent and impartial Commission shall have reported:—
 - (a) That the province has taken such action as the Commission deems appropriate to ensure that the incidence of Property Tax, or of any similar tax based on value, does not and shall not in future operate to penalize, hamper, or render uneconomic

the efforts of any private owner of woodlands or forest plantations to manage his property in accordance with approved silvicultural practices, who is prepared to give such assurances as the Commission may define as desirable that such management will be continued.

- (b) That any facilities which the province operates for producing and supplying tree seedlings for reforestation of public and/or private lands are conducted with due regard for the recommendations regarding seed sources made by the successive Forest Tree Improvement Conferences in the United States, and for the principles and procedures applied in these matters by recognized authorities abroad: and that, as rapidly as may be practicable, Certified Forest tree seed and Verified Forest Tree seed, or seedlings grown therefrom shall be made available to qualified users. The Commission may, to the extent it deems advisable, conduct examinations of representative samples of tree plantations in the province and shall report specially on any instance in which, in its opinion, the provision of stock derived from faulty phenotypes or defective genotypes has had the result of rendering the operation, and the investment, uneconomic.
- (2) That the Commission report what amendments to the Income Tax and Estate Duty Acts, and to the several Succession Duty Acts, are required to protect and encourage investment in private forestry by private landowners: and that the implementation of such recommendations shall not be delayed for any other changes in forest taxation or in the aforesaid Acts.
- (3) That the Commission shall include at least one forest economist, one expert in silviculture, one representative of agriculture, and one private landowner engaged in the management of woodlands and tree plantations: and that it shall have power to co-opt up to three additional members for sections of its inquiries when, in its judgment, their assistance would expedite completion of its reports and add weight to its recommendations.
- (4) That the Commission shall thereafter be constituted a Private Forestry Board: that it shall report annually on the progress and the needs of private forestry in Canada: that it shall be responsible for the preparation of an Operating Manual for the guidance of private woodland owners: and that it may initiate, and shall co-ordinate and report on, any research projects likely to contribute usefully toward these or other aspects of its major purpose, the fostering and development of investment in private forestry.
- (5) That the Federal and Provincial Governments, before any projects under ARDA involving private forestry, establish, by means of laws and regulations, standards for wood grading and scaling applicable to wood cut on private lands, and that facilities for marketing wood from private lands be arranged so that wood sold by the provincial governments from government lands, does not compete with wood harvested from private lands.

APPENDIX "A"

INVESTMENT IN RELATION TO RETURN ON
A TREE FARM ENTERPRISE OPERATED BY A RESIDENT FARMER

The resident farmer will take a different viewpoint from the city investor, who is looking for a net return on capital. He does his own labour. The resident farmer probably will not consider the effect of compound interest. Also his capital will grow rather than represent an outlay of dollars from other sources. The inherited family tree farm should be the objective of national policy.

Assumptions:

1. It requires 600 acres of land with a productive capacity of 100 cubic feet (1 cord) per acre per year to employ and provide a reasonable living for a family engaged full time in "Tree Farming".

2. That the stumpage price for standing timber will vary according to size as follows:

25 years of age—	2½¢ cu. ft.	(\$2.50 per cord)
35 years of age—	4 ¢ cu. ft.	(\$4.00 per cord)
45 years of age—	8 ¢ cu. ft.	(\$8.00 per cord)
55 years of age—	15 ¢ cu. ft.	(\$30.00 per M bd. ft.)
60 years of age—	18 ¢ cu. ft.	(\$36.00 per M bd. ft.)

These assumptions I believe to be realistic and conservative. At present stumpage price for pine thinnings are about \$1.50 per cord, but a clear cut would realize about \$2.50 per cord. Stumpage prices for poles or sawlogs go up to 25¢ to 30¢ per cubic ft. (18¢ per cubic foot = \$36.00 per thousand board feet and 200 cu. ft. = 1,000 bd. ft.).

3. It costs about \$7.50 per cord or \$15.00 per thousand to put the material on the roadside.

4. That a family can manage and perform the labour necessary to put the product of 600 acres of productive forest on roadside each year.

5. A rotation of 60 years has been adopted.

6. Species, Red Pine and planting cost \$25.00 per acre.

Capital Involved

A. Land—600 acres at \$20.00 per acre = \$12,000.00.

B. Wood capital

Age Class	Av. Age	Merchantable Vol. Per Acre	Number		Value Per Cu. Ft.	Value of Inventory Per Acre	Total Value Inventory	Thinning Schedule Per Acre Cu. Ft.
			Acres in Age Class	Value				
0-10	5	0	100	—	\$ 30.42*	\$3,042.00	—	
11-20	15	0	100	—	45.05**	4,505.00	—	
21-30	25	2500 cu. ft.	100	2½¢	62.50	6,250.00	800	
31-40	35	2700 cu. ft.	100	4¢	108.00	10,800.00	800	
41-50	45	2900 cu. ft.	100	8¢	232.00	23,200.00	800	
51-60	55	3100 cu. ft.	100	15¢	465.00	46,500.00		
							\$94,297.00	

Total capital—\$106,297.00

* Planting cost at 4% compounded for 5 years

** Planting cost at 4% compounded for 15 years.

Annual Returns

A. Stumpage:

Final harvest 10 acres each year at 3600 cu. ft. per acre at .18 per cu. ft.	\$ 6,480.00
Thinnings:	
10 acres 45 years old at 800 cu. ft. at 8¢	640.00
10 acres 35 years old at 800 cu. ft. at 4¢	320.00
10 acres 25 years old at 800 cu. ft. at 2½¢	200.00
	7,640.00
Total Stumpage:	\$ 7,640.00

B. Labour to put material on roadside:

36,000 cu. ft. (180,000 board feet) final harvest at 7½¢ cu. ft.	2,700.00
24,000 cu. ft. thinnings at 7½¢ per cu. ft.	1,800.00
	4,500.00

(Total 30 M bd. ft. per acre) Total Labour Return:\$ 4,500.00

C. Total Gross Return:\$ 12,140.00

Allotment of Income to Obligations

Taxes—600 acres at 30¢	\$ 180.00
Interest on capital \$106,297 at 4%	4,251.88
	\$ 4,331.88

Net family income which must cover management, allowance for risk, expenditure for machinery for harvest and protection and labour expended would be \$12,140.00—\$4,331.88=\$7,808.12.

The foregoing example is intended only to give a realistic picture of the capital involved in a small forest enterprise relative to a resident farmer's return. The prices of material and costs are subject to argument, but the rate of growth is based on a second grade or average site.

APPENDIX "B"

YIELD OF PULPWOOD AND SAWLOGS FROM A RED PINE PLANTATION
ON A 60 YEAR LIFE CYCLEWITH A PRODUCTIVE CAPACITY OF 200 CU. FT. OR 2 CORDS PER ACRE
PER YEAR*Assumptions and Observations*

1. On a 60 year life cycle.
2. Plant 6' x 6', i.e. 1200 trees per acre.
3. Crop Trees 15" to 20" diameter at 60 years.
4. At 25 years or 30 years remove to 12' x 12' spacing, i.e., from each acre remove 900 trees (less mortality) and assume 10% mortality leaving 810 trees to remove.

5. These 810 trees per acre to be sold for poles and pulpwood but computed and valued as pulpwood with a 20 foot commercial length with a 2 inch top and averaging four inches in diameter for purposes of calculating cordage.

That is there would be five four-foot sticks of pulpwood averaging four inches in diameter.

It would require 312 sticks of pulpwood of this size to make a cord; this would be 62 trees per cord.

Therefore, the 810 trees would make 13 cords per acre of pulpwood at the 25 to 30 year stage.

6. A farmer could count on \$10.00 per cord and \$40.00 per thousand board feet at his farm for this wood at present prices after paying trucking costs to the mill for an average haul of 100 miles.

7. That is an income of \$130.00 per acre for the farmer's work and investment at the end of 25 to 30 years, or, \$5.00 per acre per year.

This is a half a cord per acre per year for the thinnings only during the first 25 to 30 years.

8. The balance of the acre, that is, the remaining 300 trees, would be thinned again at 45 years, by cutting out 175 trees and leaving 125 trees to grow the full cycle of 60 years of age.

The 175 trees may be assumed to be from 10 inches to 15 inches in diameter at breast height with half in the 12 to 14 inch range, one quarter 15 inches and one quarter 10 inches.

One could estimate the commercial length to a 2 inch top as follows:

- | | |
|-------------------------|----------------------|
| (a) 10 inch group | = 30 feet (44 trees) |
| (b) 12 to 14 inch group | = 36 feet (88 trees) |
| (c) 15 inch group | = 45 feet (43 trees) |

Estimate of Sawlogs and pulpwood per tree:

- (a) one 12-foot log with an 8-inch top plus four sticks of pulpwood per tree averaging 5 inches in diameter.
- (b) one 11" and one 7" log, each of 12 feet plus three pulpwood sticks averaging 5 inches in diameter.
- (c) One 13" log and one 11" log and one 8" log, each of 12 feet in length plus two sticks of pulpwood averaging 5 inches in diameter.

9. Summary of total cut at 45 years, all logs 12 feet long:

- (a) 44 logs, 8 inch tops
176 sticks of 5-inch, four foot pulp.
- (b) 88 logs, 11 inch tops
88 logs, 7 inch tops
264 sticks of 5 inch four foot pulp.
- (c) 43 logs, 13 inch tops
43 logs, 11 inch tops
43 logs, 8 inch tops
86 sticks of 5 inch four foot pulp.

Summary based on International Log Rule ($\frac{3}{4}$ " Kerf)

- 88 logs, 7 inch tops = 1760 bd. ft.
- 87 logs, 9 inch tops = 2175 bd. ft.
- 131 logs, 11 inch tops = 7205 bd. ft.
- 43 logs, 13 inch tops = 3655 bd. ft.

14795 bd. ft.

526 sticks of 5 inch four foot pulpwood
(or 200 sticks per cord = 2.6 cords).

10. The 125 trees remaining when cut at 60 years age would produce:

- (a) 12 to 14 inch group — 36 feet (32 trees)
- (b) 16 to 18 inch group — 56 feet (62 trees)
- (c) 20 inch group — 68 feet (31 trees)

Estimate of sawlogs and pulpwood at the 60 year age cut, all logs 12 feet long:

- (a) 12" to 14"—One 11 inch log and one 7 inch log, each of 12 feet plus three pulpwood sticks averaging 5" in diameter.
- (b) 16" to 18"—One 15 inch log, one 13 inch log, one 10 inch log, one 8 inch log, plus two pulpwood sticks averaging 5" in diameter.
- (c) 20" Group—One 18 inch log, one 16 inch log, one 13 inch log, one 10 inch log, one 7 inch log and two sticks of pulpwood averaging 5" in diameter.

Total cut at 60 years all logs 12 feet long:

- (a) 32 logs, 11 inch top
32 logs, 7 inch top
96 sticks of 5 inch four foot pulp
- (b) 62 logs, 15 inch top
62 logs, 13 inch top
62 logs, 10 inch top
62 logs, 8 inch top
124 sticks of 5 inch four foot pulp
- (c) 31 logs, 18 inch top
31 logs, 16 inch top
31 logs, 13 inch top
31 logs, 10 inch top
31 logs, 7 inch top
64 sticks of 5 inch four foot pulp

Summary of cut at 60 years:

63 logs, 7 inch top	=	1,260 bd. ft.
62 logs, 8 inch top	=	4,185 bd. ft.
93 logs, 10 inch top	=	4,185 bd. ft.
32 logs, 11 inch top	=	1,760 bd. ft.
93 logs, 13 inch top	=	7,905 bd. ft.
62 logs, 15 inch top	=	7,130 bd. ft.
31 logs, 16 inch top	=	4,030 bd. ft.
31 logs, 18 inch top	=	5,270 bd. ft.
<hr/>		<hr/>
467	Total	= 33,090 bd. ft.
<hr/>		<hr/>

284 sticks of 5 inch four foot pulpwood
(or 200 sticks per cord = 1.4 cords)

In Canada a well managed fully stocked stand of timber of mixed species from natural regeneration, if managed on a sustained yield basis where good silviculture practices are followed, may be expected to produce yields approximating those in this illustration, i.e., two cords per acre per year in perpetuity.

The total valuation per acre at the farm of this cut over the sixty years at \$10.00 per cord for pulpwood and \$40.00 per thousand board feet is \$2,090.00, consisting of \$170.00 for 17 cords of pulpwood and \$1,920.00 for 48,000 of feet board measure of sawlogs. No allowance has been made for veneer grade logs.

This is a gross return for the farmer's labour and investment of \$20,900.00 from ten acres per sixty years. This is \$35.00 per acre per year and compares favourably with many types of food crops when one considers the relatively low ratio of labour hours per dollar of gross income.

Also the farmer's annual gross income in perpetuity would be \$20,900.00 because he would cut the equivalent of ten acres per year in each year of a sixty year rotation on a 600 acre tree farm.



First Session—Twenty-fifth Parliament
1962

THE SENATE OF CANADA

THE SPECIAL COMMITTEE OF THE SENATE

ON

LAND USE IN CANADA

No. 2

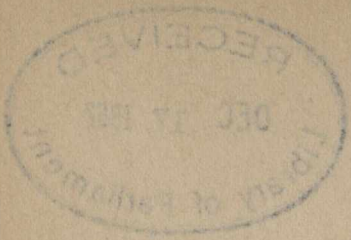
TUESDAY, DECEMBER 4, 1962

The Honourable Arthur M. Pearson, Chairman
The Honourable Cyrille Vaillancourt, Deputy Chairman

REPORT

Summary of Briefs presented to the Committee
during the 5th Session—24th Parliament
1962

ROGER DUHAMEL, F.R.S.C.
QUEEN'S PRINTER AND CONTROLLER OF STATIONERY
OTTAWA, 1962



THE SPECIAL COMMITTEE ON LAND USE IN CANADA
1962-1963 Session

The Honourable Arthur M. Pearson, *Chairman*

The Honourable Senators

Basha	Hollett	Smith (<i>Kamloops</i>)
Boucher	Horner	Smith (<i>Queens-</i> <i>Shelburne</i>)
Buchanan	Inman	Stambaugh
Cameron	Leonard	Taylor (<i>Norfolk</i>)
Crerar	MacDonald (<i>Queens</i>)	Taylor (<i>Westmorland</i>)
Emerson	McGrand	Turgeon
Fournier (<i>Madawaska-</i> <i>Restigouche</i>)	Methot	Vaillancourt
Gershaw	Molson	Veniot
Gladstone	Pearson	Welch (29)
Higgins	Power	

Quorum—5.

ORDER OF REFERENCE

Extract from the Minutes of the Proceedings of the Senate, Thursday, October 18, 1962:

The Honourable Senator Brooks, P.C., moved, seconded by the Honourable Senator Macdonald, P.C.:

That a Special Committee of the Senate be appointed to consider and report on land use in Canada and what should be done to ensure that our land resources are most effectively utilized for the benefit of the Canadian economy and the Canadian people and, in particular, to increase both agricultural production and the incomes of those engaged in it;

That the Committee be composed of the Honourable Senators Basha, Boucher, Buchanan, Cameron, Crerar, Emerson, Fournier (*Mada-waska-Restigouche*), Gershaw, Gladstone, Higgins, Hollett, Horner, Inman, Leonard, MacDonald (*Queens*), McGrand, Methot, Molson, Pearson, Power, Smith (*Kamloops*), Smith (*Queens-Shelburne*), Stambaugh, Taylor (*Norfolk*), Taylor (*Westmorland*), Turgeon, Vaillancourt, Veniot, and Welch;

That the Committee have power to engage the services of such counsel and technical and clerical personnel as may be necessary for the purpose of the inquiry;

That the Committee have power to send for persons, papers and records, to sit during sittings and adjournments of the Senate, and to report from time to time;

That the evidence taken on the subject during the seven preceding sessions be referred to the Committee.

After debate, and—

The question being put on the motion, it was—
Resolved in the affirmative.

J. F. MacNeil,
Clerk of the Senate.

MINUTES OF PROCEEDINGS

TUESDAY, December 4, 1962.

Pursuant to adjournment and notice the Special Committee of the Senate on Land Use in Canada met this day at 2:00 p.m. in camera.

Present: The Honourable Senators: Pearson, *Chairman*; Basha, Fournier (*Madawaska-Restigouche*), Gershaw, Higgins, McGrand, Smith (*Kamloops*), Smith (*Queens-Shelburne*), Turgeon and Welch.

In attendance: Mr. Ralph A. Stutt, Special Consultant to the Committee.

The Committee considered a draft summary of a Report, covering the work of the Committee during the last session, i.e. the Fifth Session, 24th Parliament, 1962.

After discussion, certain redrafting and on Motion of the Honourable Senator Smith (*Kamloops*), it was Resolved to present the Report to the Senate as the Second Report of the Committee for the present Session of Parliament.

It was also Resolved that a Motion be made in the Senate recommending that the said Report be printed as an Appendix to the Debates of the Senate and to the Minutes of the Proceedings of the Senate.

At 3:00 p.m. the Committee adjourned to meet in camera on Thursday, December 6, 1962, at 11:00 a.m.

Attest.

James D. MacDonald,
Clerk of the Committee.

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SUMMARY

This report is a summary of the briefs presented to the Special Committee of the Senate on Land Use in Canada during the last session of Parliament. The objective of the Committee was to stimulate and promote the initiative and interest of administrators and local groups in the ARDA program, to get an insight into the progress and direction of economic development proposals in the provinces, and to study the critical role of rural extension and the organization of local area committees in the furtherance of this program. The briefs were directed to this end. Some of the highlights of the proceedings are noted here.

Preliminary plans and proposals under the ARDA program were presented to the Committee. Cost-sharing federal-provincial projects envisaged putting some rural lands to more productive use as well as soil and water conservation programs and general rural economic development. These are being incorporated into a three-year federal policy program. Some of the projects are viewed as pilot.

Witnesses from two provinces that have made a start on rural development programs stressed the need for detailed research and study in long-range planning; vocational agricultural training and training to up-grade the skills of farm people for off-farm jobs; development of soil and water resources through ARDA to facilitate efficient agricultural production and rural industrialization; and switching of submarginal cropland to more appropriate alternative uses such as grazing, forestry and recreation. The organization of local area committees was viewed as essential for sustained economic development of rural resources.

The availability of more farm credit and more technical information including farm business management for farmers was urged to enable the efficient operation of economic units. To this end a rural development fund, which would especially apply in high risk marginal areas, was proposed by a rural settlement society.

The role of the extension service and the individual extension worker was viewed as critical to the success of the ARDA program. It was believed that a new kind of rural development extension agent with a background in agriculture, trained in organization of community activities and group dynamics, ability to motivate and stimulate local leadership and action was needed. He should be backed by specialists with technical knowledge of resource in agriculture and other industries to help rural residents organize and carry out the kinds of improvement projects which they desire.

REPORT OF THE COMMITTEE

WEDNESDAY, December 5, 1962.

The Special Committee of the Senate on Land Use in Canada make their second report as follows:

The Committee presents herewith a summary of the proceedings held during the last session, i.e., the Fifth Session, 24th Parliament, 1962.

I. ORDER OF REFERENCE

The following resolution was adopted on February 7, 1962, by the Senate:

That a Special Committee of the Senate be appointed to consider and report on land use in Canada and what should be done to ensure that our land resources are most effectively utilized for the benefit of the Canadian economy and the Canadian people, and, in particular, to increase agricultural production and the incomes of those engaged in it;

That the Committee be composed of the Honourable Senators Basha, Bois, Boucher, Buchanan, Cameron, Crerar, Emerson, Gladstone, Higgins, Hollett, Horner, Inman, Leonard, MacDonald, McDonald, McGrand, Methot, Molson, Pearson, Power, Smith (*Kamloops*), Smith (*Queens-Shelburne*), Stambaugh, Taylor (*Norfolk*), Taylor (*Westmorland*), Turgeon, Vaillancourt, Veniot, Wall and White;

That the Committee have power to engage the services of such counsel and technical and clerical personnel as may be necessary for the purpose of the inquiry;

That the Committee have power to send for persons, papers, and records, to sit during sittings and adjournments of the Senate, and to report from time to time;

That the evidence taken on the subject during the six preceding sessions be referred to the Committee.

A Steering Committee was appointed as follows: Honourable Senators Pearson, Stambaugh, Smith (*Kamloops*), Taylor (*Westmorland*), Taylor (*Norfolk*), and Vaillancourt. Senator A. M. Pearson and Senator C. Vaillancourt were appointed chairman and vice-chairman, respectively.

II. COMMITTEE PROCEDURE

During the session a total of five meetings were held and eight witnesses were heard. There were 130 pages of evidence presented to your Committee.

The Committee directed and focussed its efforts towards the attainment of public interest and attention on the Agricultural Rehabilitation and Development Act, hereinafter called ARDA, by acting as a forum. Witnesses were requested to present briefs dealing with the basic land use, economic and social problems of their area, the institutional and organizational aspects involved in fostering local rural leadership and initiative, the stimulation of rural planning and development, and, in particular, the rehabilitation of low income areas. This course of action was taken with the view of assisting the Federal Government in starting the ARDA program through the free expression of improvement needs and proposals. The Committee was particularly concerned

with the matter of ensuring the support and participation of rural citizens in the development of projects desired and needed by the people themselves. This is a very real extension problem and critical to the success of the Program in the long run. Your Committee feels that it can take much credit in placing the need for a rural resources development program before the Federal Government and can provide a service by following up on the action phase of the Program. The briefs were, therefore, devoted to a review of the organization and initial development stages of the ARDA program and its joint relationships in alternative land use, rural development and soil and water conservation activities with the provinces. Further briefs concerned the preparations of two provinces, one in Western Canada and the other in the Maritime Provinces, for co-ordinated and joint federal-provincial projects; the experience of a rural settlement organization; and the theoretical considerations pertaining to extension or educational principles and administrative responsibilities or implications with respect to ARDA of a professional extension organization.

It was the intention of your Committee to call witnesses to describe the state and incidence of rural taxation in different parts of the country. This subject was recommended in the last report of the Committee (see proceedings No. 11, June 28, 1961—recommendation No. 5 (b)) as one of six specific problem areas singled out for research and study by the Committee. It was planned that the witnesses would outline the principles of rural taxation and assessments, the systems in use, the problems of inequity, the burden on real property and other problem phases of rural taxation. This would be preliminary to the conduct of basic research by technical persons employed by your Committee. This part of the agenda was not, however, undertaken.

The activities of your Committee in this session were largely confined to the promotion and maintenance of interest in the ARDA program in all its phases and ramifications. No recommendations were made by your Committee at this time. It is the hope of your Committee that the circulation of the proceedings will serve the purpose it had in mind of stimulation and motivation. The following sections present the highlights of the information submitted by the witnesses.

III. A PROGRESS REPORT OF THE EARLY STAGES OF THE ARDA PROGRAM

An oral submission was presented to your Committee by the Director of the Agricultural Rehabilitation and Development Act, who had only been in office slightly over two months. He pointed out that the various kinds of programs and projects possible under the terms of the Act must be carried out jointly between the federal and provincial governments through specific project agreements. The actual physical arrangements of projects may be carried out jointly or the federal government may co-operate only through the provision of financial assistance. There is one area of activity provided in the Act in which joint federal-provincial financial cost-sharing is an exception and not mandatory. The federal government may conduct research strictly on its own as well as on a joint basis with the provinces.

It was explained that exploratory and informal meetings had been held with representatives of the provinces for the purpose of clarifying the objectives and basic aims of the legislation and to develop the policy on a joint co-operative basis in line with needs and desires of each government level. In most cases the provinces have already set up interdepartmental co-ordinating committees concerned with the kinds of projects possible under the legislation. Keen interest on behalf of the provinces was noted and a large number of projects and programs were proposed for consideration and agreement under the Act.

Project Proposals

With the help of these federal-provincial administrative discussions and the submissions of the provinces a federal policy statement on the application of the ARDA program within the next two or three years was being drawn up.

The kinds of projects proposed by the provinces were:

- (a) Section 2 of the Act—alternative use of land—in terms of maintaining land in some appropriate use, not idle or permitting abandonment
 - (1) projects to establish association, group or community pastures on lands considered to be submarginal or marginal for cultivation
 - (2) projects to establish pastures on individual farmer-owned marginal cropland
 - (3) projects to acquire marginal or other related lands for forestry purposes—provincial crown forests, municipal forests, county forests or other public forestry management areas
 - (4) projects to acquire marginal lands for assembly to lease to adjacent farmers for forestry purposes and promote establishment of diversified economic forest farm units
 - (5) projects for the acquisition and planting to trees of lands that are designated as marginal or submarginal agricultural lands
 - (6) projects to assist in the establishment and maintenance of farm woodlots, including assistance in planting, thinnings, access trails to woodlots, management, planning and other woodlot extension services
 - (7) projects to acquire marginal lands for recreational needs, particularly in areas close to large urban centres
 - (8) projects to acquire marginal lands for public shooting areas, wildlife management areas or to lease or acquire easements on such lands from farm owners for public use
- (b) Section 4 of the Act—soil and water conservation of good agricultural lands
 - (1) projects for the drainage of good arable farm lands
 - (2) projects for the protection of such lands from flooding, including dykes, main ditching systems, stream improvement, flood control dams
 - (3) projects for the supply of water for agricultural purposes, including water storage, dams and dugouts
 - (4) projects for shelter belts and other such soil erosion control measures
 - (5) projects for stone removal on good arable land, also grassing and terracing to prevent erosion
 - (6) projects to maintain water levels for stability of agricultural production and related flood control, wildlife and recreational purposes
 - (7) projects to provide for engineering studies, cost-benefit studies or other studies related to projects proposed in this section of the Act
- (c) Section 3 of the Act—rural development
 - (1) projects to establish rural development areas

- (2) projects for pilot area studies
 - (i) studies of present land use and land capability for various purposes
 - (ii) studies of resource use or resource development opportunities for increasing income
 - (iii) studies of soil and water conservation project needs
 - (iv) rural sociological studies
 - (v) agricultural economic studies including marketing, employment, labour, underemployment and vocational training needs
 - (iv) studies of off-farm employment and industrial development opportunities

Some of the provinces suggested the above kinds of intensive pilot studies in rural development areas where low incomes are prevalent and in which local committees would be set up. The results of these studies will be presented to local committees in such a way as to be understood in devising appropriate projects to improve employment and income opportunities and living standards. It is hoped that blueprints or proposals for development of the particular area will emerge from the deliberations of these committees.

Through technical and financial facilities co-ordinated through ARDA, programs for the better use of land and improvement in use of good agricultural land by soil and water conservation measures will be applied. Technical and financial assistance will be focussed on local areas through an integrated attack on local economic development.

Organization and Co-ordination

A relatively small headquarters staff of ARDA was planned to direct, organize and co-ordinate the various existing agencies at the federal and provincial government levels. An interdepartmental co-ordinating committee at the federal level is planned to function at two levels, (1) at the Deputy Minister level to consider broad policy matters, and (2) at a senior officer working level to consider and appraise provincial program and project proposals and to advise on project execution.

It has been proposed that the P.F.R.A. organization in Western Canada and the M.M.R.A. organization in the Maritime Provinces form the operating arm of ARDA to deal with negotiations and joint inspection, and to carry out joint federal-provincial projects. At the time of the hearing there was considerable indication that they were taking an active interest in the development of the ARDA program. Under the terms of the Act the lines of communication with local areas and committees will be through the provincial co-ordinating body or its agents.

IV. ARDA-TYPE RURAL RESEARCH PROGRAMS IN TWO PROVINCES

(a) *Rural Development Approach in Manitoba*

The Rural Development Specialist for the Manitoba Department of Agriculture and Conservation dealt with ways and means of promoting positive thinking and action with respect to rural development in general and ARDA in particular in this province. He considered that there were two broad approaches to rural development. The first of these was the liberal provision of capital in order to develop what really amounted to a completely new resource. The second alternative was a "bootstrap" approach whereby people are given assistance, primarily technical, in order to develop their resources. This is the basic extension philosophy of helping people to help themselves.

The general public is generally inclined to view a program, such as ARDA, as of the first type while public administrators tend to regard government assistance as technical help only. The types of programs to be developed under ARDA were suggested as falling between the two extreme categories. In addition to the provision of more technical assistance, development capital is needed. This development capital should not be government handouts in the form of a series of stop gap programs but rather funds for planned long range development of the resources at hand.

In dealing with rural development, it is unrealistic to try and solve the economic problems in a narrow setting of relatively small marginal or sub-marginal areas. These areas should be considered as a part of a larger region including other areas with more resources, often non-agricultural, capable of development. Economic development can no longer be attained in terms of primary resources of agriculture, forestry, fisheries, etc. The utilization of these resources must be related to industrial development to permit wider employment and income opportunities.

Organization of an Interdepartmental Committee in 1961

An interdepartmental committee was set up in 1961 in Manitoba under the direction and guidance of the Minister of Agriculture to formulate a list of proposed ARDA projects. Two sub-categories composed of research and investigation projects and physical projects were proposed in each of the major categories of alternative land use, rural development and soil and water conservation.

Emphasis on Research

Since ARDA is primarily a long range, fundamental program a great deal of detailed information is required. Thus research projects in such fields as soil surveys, farm ownership, rural sociology and hydrology are needed to develop multiple use programs. A considerable amount of research work was at hand in these fields and the provincial committee felt able to propose action on several physical works, including a land purchase program in certain marginal areas, reorganization of certain currently marginal agricultural land into more effective agricultural use including livestock and expansion of the community pasture program. The provincial committee recognized a basic problem of underemployment in agriculture, especially in the marginal areas, and proposed an educational program in one area to retrain some of the people for non-farm employment.

To prepare the people in local rural areas for participation in the ARDA program, a one week course for 25 rural leaders was held to acquaint them with the details of the ARDA program, the general philosophy of rural development, and the application and implications on local community development. In one area an advisory committee of five local residents and five governmental representatives of major resource fields has been set up and is working toward the maximization of a long range program based on involvement of all local people.

Rural Development Through Industry, Business and Tourist Expansion

The activities of the regional development program under the Provincial Department of Industry and Commerce were described by the Director. This body has the broad objective of securing the proper development of the physical and human resources to provide the needs of the people through productive measures to put permanency and stability into the regional economy.

The concept of the regional development program in this province is consistent with the community development approach employed in the United States through the Rural Areas Development and the Area Redevelopment Administration Programs of the Departments of Agriculture and Commerce,

respectively. It also has similarity to the concepts of rural development which are implied in Section 3 of the Canadian ARDA Act. It is believed that the prime way to help in the development of rural and urban areas of the Province is through the introduction of secondary manufacturing and processing industries, business developments and tourism and recreation. The program is premised upon the initiation of self-help at the local level supplemented where feasible by government assistance per se in the role of a development promotion agency to interest out-of-province investors to establish in the Province. It depends upon close interdepartmental co-operation and partnership with local development agencies for economic progress and social improvement.

The first major step in the program to stimulate and assist regional development is the preparation by expert consultants employed by the government of a broad economic inventory and analysis of human and physical resources of a region. It concerns the extent of the region's resources, the significance of each resource, overall opportunities for economic growth, and particularly opportunities for industrial expansion in the broadest sense. The development opportunities recommended in these economic surveys involve agriculture, forestry, industry, business and tourism.

Local Development Organizations

The organization set up to enlist the co-operation of the people in the region is responsible for carrying the program forward. Conferences and workshops are held to present the facts of the economic survey, to give the local people an opportunity to present their views as to the development potentialities and to stimulate local leadership. This is followed by the completion of an evaluation form by the community. Four types of community surveys are used and are referred to as community data, drawing power, industrial impact, and industrial location. These are valuable and useful tools in promoting, stimulating and assisting industrial development.

Three kinds of local development organizations are found throughout the Province. Under the Companies Act as amended in 1958, community development corporations or quasi-public bodies can be formed to act as local development agencies. They are a formal and legal framework through which municipal leaders, farmers and businessmen can work together to solve common problems and assist in the initiation of industrial projects. In addition to their functions to publicize industrial opportunities, stimulate business and industrial expansion, provide information to make business contacts, the most important role is the power to raise funds to assist industrial establishment. This latter power has been employed recently in a number of cases to provide buildings for an industry, usually under a lease-purchase arrangement. The second kind of local development organization includes a chamber of commerce or a board of trade. Recently other organizations have been established, which are unincorporated, under the name of Civic Affairs or Development Committees. If these latter two bodies are successful in stimulating interest in retail or service commercial activities or tourist attraction or any kind of local development project, then a corporate body, as outlined above, is established. The third kind of local development organization which has grown up of late is an area development association. These associations are of a regional nature and include representatives from a relatively large number of rural and urban municipalities. They are comparable with area committees as envisaged under ARDA with various study sub-committees such as beef, swine, dairy, sheep, grain, special crops, allied agricultural industries, credit, linear programming and public information. Other non-agricultural committees include forestry, recreation, employment, and vocational training.

An important agency with respect to growth of industries and tourist facilities is the Provincial Development Fund. Its purpose is to provide financial

assistance to new and existing manufacturing industries, tourist and recreational facilities and to community development corporations. While the source of funds of this agency is the provincial government, it is administered by an independent board of directors. It does not compete with banks or other private lending institutions but rather supplements their activities.

Another service of the Regional Development Branch is a town and rural planning service which provides technical information to municipalities and works directly with local planning commissions. This body helps local people to assess the community problems and formulate future plans for action to assure the best possible overall development of the area.

The experience in area economic development has met with far greater success when an effective development group has been set up. The common needs of every class of people in a community in terms of employment, industrial development, more income, municipal services, new development capital at the farm, processing and service industry level simplify the task of drawing the various segments of the community together through co-operative effort.

The Relationship of ARDA to the Provincial Regional Development Program

The relationship of ARDA to the regional development program is viewed as complementing each other and meshing perfectly. A major part of ARDA is concerned with the development, adjustment and use of natural and human resources upon which rural industrialization depends. Rural industrialization in an agriculturally-oriented province can be built upon a framework of raw agricultural products, adequate water supplies and under-employed farm people. The efforts of the Regional Development Branch are compatible with the economic and social aspirations of rural communities which can be aided and abetted further through ARDA. A key point with respect to assistance to local development committees is the provision of a sort of rural development specialist or regional co-ordinator, with experience in local involvement and motivation, access to technical knowledge of local resource use in agriculture and other industries, and ability to stimulate gainful employment in those kinds of production demanded by a maturing economy.

(b) Rural Development Launching Steps in Prince Edward Island

The early phases of the rural and community development program was outlined in a brief presented by the Director of Research of the Prince Edward Island Department of Industry and Natural Resources. The program became effective on January 1, 1961 and the launching steps were relatively simple. These were, (1) analysis of the physical, economic and social conditions of the normal and natural regional boundaries coinciding with the existing regional high school areas centering on a key centre, (2) selection of a sponsoring group in each area, and (3) preparation of a list of institutions, organizations and leaders in agricultural, business and civic affairs active in each area. Invitations were sent to leaders and representatives of the area organizations to attend a meeting at which the overall provincial program was discussed. An opinion survey was then used to obtain some community and personal attitudes followed by a declaration of program agreement and support of the local participants.

Those attending the meeting were asked to pursue a study course, to take part in an area-wide survey of physical and human resources, and to serve on one of 18 different sub-committees in such fields as agriculture, fisheries, recreation, tourism, education, public health, small business, new industry, rural beautification, etc. Out of 150 people co-operating in the study course, 130 were graduated at a formal ceremony and about 70 per cent agreed to carry out all three steps. The remaining group were asked to bring an additional person to a group meeting at which the survey was initiated. The prime purpose

of this survey was to investigate the physical and human resources mainly in terms of ideas, aspirations, hopes and needs; kinds of talents and skills; employment opportunities; training requirements. The survey returns justified the belief that people in local rural areas have worthwhile thoughts and ideas for the improvement and development of the local economy. The intent is to derive and set reasonable, sensible and practical long and short-range goals, specific fields of community activity and even to suggest project priorities.

Those in charge of the provincial resources development program have catalogued the provincial and federal technical experts from which scientific and technical knowledge and skills might be sought and made available to local groups. In this context and with respect to the ARDA program it was emphasized, first, that complete co-ordination of technical assistance between federal departments was essential as well as an understanding between the provincial and federal departments on the availability of technical people, and second, local and provincial groups were encouraged to refrain from appealing for financial assistance from the federal treasury only after every other possibility of local effort has been exhausted, or in the case of worthwhile projects when no known local solution exists.

After the provincial program got underway a forty-four man provincial development council was formed representing virtually every economic and social strata of the Province. Their duty is to counsel, to guide and direct the program.

Suggested Rural Development Guidelines

Several guidelines were suggested with regard to the administration of the Agricultural Rehabilitation and Development Act. These were as follows:

- (1) community and area development calls for a broad and carefully planned adult education effort. All development problems are basically a matter of adult education or extension concern.
- (2) the rural development phases of ARDA are so broad and so varied that operations at first should be instituted on a pilot basis.
- (3) the availability of federal technical help should be given very careful consideration. The creation of a federal extension service embracing field men and women with a background in agriculture and trained in organization, group dynamics and community action was believed to be essential by the witnesses.
- (4) a nationwide training program should be launched through the use of materials, radio, television and newspapers.
- (5) an urgent need for information on mechanics and operational plans of ARDA pertaining to kinds of specific projects and methods of determination and lines of communication.

V. THE EXPERIENCE OF A RURAL SETTLEMENT ORGANIZATION

A brief was presented to the Committee outlining the principles of Catholic social doctrine that a rural settlement organization is attempting to put into practical application. This rural settlement organization, La Societe Canadienne d'Etablissement Rural, resulted from study sessions held by a group of priests, laymen and sociologists in 1946, who held that some organization was needed to co-ordinate efforts to improve conditions in rural agricultural areas. The organization which emerged was composed of representatives of regional rural settlement societies, rural settlement credit unions, diocesan colonization societies, rural youth movements, agricultural associations and rural leaders. It carries on a program of disseminating information on rural life, of stimulating farm leadership and of inciting the development of a few pilot projects.

Reference was made to the position of the Catholic Church as outlined in the Encyclical issued by the Pope dealing with current rural problems. The

problems of depressed economic sectors and such as in agriculture, and of "underdeveloped regions such as are found not only from country to country but also within individual countries" constitute an important part of this Encyclical.

The Fundamental Problem in Rural Areas

The fundamental problem with regard to agriculture as a depressed sector of the economy was expressed as follows, first, how to proceed in order to reduce the relative disproportion in productive efficiency between the agricultural industry and the rest of the economy, secondly, what to do to raise the level of living of the rural farm population to that attained by city dwellers, and thirdly, how to assure that farmers can assert and develop their personalities and look to the future with confidence.

In light of the above conceptual problems, it was pointed out that the Senate Land Use Committee had demonstrated the necessity of renewing the local economies of the depressed or underdeveloped rural regions across Canada. Essential agreement was expressed in the basic tenets of the ARDA program.

With respect to the federal legislation embodied in the Agricultural Rehabilitation and Development Act, a view was expressed in the brief that the rehabilitation and development aspects should first take into account the physical, social and economic conditions of individual regions and the resultant projects should be formulated and carried out on a regional level. This view meshes with the concept of the Senate Land Use Committee to utilize the community development approach entailing the tripartite collaboration of the local units of government, the municipalities, as well as the federal and provincial governments. The basic question is, what do rural people want their government to do rather than, what the government should do to or for rural people?

Concern was expressed over the apparent unawareness and lack of the role of conservation in rural renewal programs by Canadians. The Societe supported a program of basic research, including social and demographic research, which would precede the launching of pilot projects and the fostering, encouragement and training of local leaders to the full extent of facilities in Canada.

Retention of the Family Farm Concept Urged

The retention of the belief in a closely-knit family-type farm was urged in this brief. The extension of this ideal situation to a 'community of persons' involving a number of farm units with a common interest and relationship was also proposed. This phenomenon of grouped individual family farms was carried further through reference to agricultural co-operatives, and it was suggested that this type of structure offered a more definite guarantee for the survival of the family farm than other forms of organization.

Need for More Farm Credit and Technical Information

Methods in agriculture are changing rapidly. Mechanization compels farmers to modernize involving increased investment. This underlines the need for more farm credit and more technical knowhow. More research in the area of farm management was urged as well as other related areas of estate management and family transfer arrangements. In these respects your Committee strongly concurs.

Based on the resettlement experience of farm families both as individual units and as a group, the Societe considered that present-day credit facilities were inadequate to satisfy the needs in the high risk marginal areas and suggested that ARDA should set up a rural development fund. This fund should first provide guarantees for the basic investment of private capital in the form of bonds or debentures to stimulate private investment, and secondly, provide interest rebates on farm loans for settlement, development and im-

provement, as in the case of Quebec Farm Loans Act, and provide government-approved regional and community processing plants for agricultural and forest products.

The establishment of local action co-operatives composed of all organizations, groups, businesses and local units of government in each church diocese was urged. This organization would put into practice the recommendations resulting from the research and planning groups. The experience of La Societe in fostering these developments suggests that if the two types of organization maintain close liaison, excellent co-ordination should result. This parent organization acts in the role of a co-ordinating and liaison agency between corresponding organizations in different parts of the country.

The publication of a loose-leaf Atlas of Rural Canada was recommended, which would contain precise scientific, social and economic data. These data should be made available to all concerned and constantly kept up to date.

VI. EXTENSION PRINCIPLES AND ADMINISTRATIVE IMPLICATIONS FOR ARDA

Three members of a professional organization, The Canadian Society of Rural Extension, having the objective of advancing the standards of research and education in rural extension in Canada and of encouraging professional improvement among extension workers presented a brief to the Committee.

The first part of the brief included comments on the Agricultural Rehabilitation and Development Act and referred to it as a sound and timely program which provided a new focus and hope for the development of rural communities and introduced a co-operative approach to resource development among the different tiers of Government.

The New Extension Challenge

The philosophy and primary job of ARDA posed a great challenge to those engaged in extension activities. They considered that the purpose of ARDA is to stimulate change and adjustment and to bring about improvements in rural living.

While the duty of extension workers in the past has been to provide answers to individual farmer's production problems and to teach production and management skills, the new challenge is now primarily related to the establishment of goals, motivations and capacities for self-help projects of individuals and communities, and help to improve the character of whole communities. The fundamental principle of ARDA is to develop self-help programs in rural areas but the witnesses cautioned that activities should not be limited to purely agricultural possibilities.

This brief was organized along three lines, principles of extension, administrative responsibilities or implications of extension, and the way in which ARDA may fit into these principles and implications.

Principles of Extension

Nine principles of extension were outlined to the Committee. In brief summary these were as follows:

- (1) full cognizance must be taken of existing local organizations, institutions and agencies in order to deal effectively with people at the grass-roots level on a self-help basis.
- (2) to obtain interest, support and participation of the people, the objectives of any program must be clearly understood.
- (3) a well-directed extension or educational program is essential to bring about changes in knowledge, attitudes, skills and practices.
- (4) extension, which is the major channel of communication, should have full information on research findings, trends and rural needs to facilitate a two-way flow of information between research and the public.

- (5) a well-balanced extension program including production techniques, marketing, management, leadership development, youth work, community improvements and social and cultural interests, should be democratically developed and oriented to the needs of the community.
- (6) a good extension program should be long-range and be ready to meet anticipated problems.
- (7) the extension field staff should have a well-balanced training in the physical, biological and social sciences. It should be supported by competent subject-matter specialists.
- (8) there should be close association between researchers, administrators and extension personnel.
- (9) there should be research into the different types of organizations, teaching techniques and methods so as to evaluate and measure the achievements of the extension activities.

Administration Phases of Extension

In order to facilitate the administrative structure of an extension program, the objectives representing financial, social and cultural goals should be clearly defined. Also to minimize gaps and misunderstandings in the extension process, the roles, responsibilities and contributions of each participating agency should be clearly set down and accepted. Another important suggestion, which has been repeatedly impressed on the Committee by several witnesses, was the establishment of advisory committees. These committees would establish the local and regional needs of rural people and co-ordinate all community development. The proposed composition of these advisory committees would include representations from the local communities, extension agencies, research and teaching institutes and various levels of government. The provision of a high quality well-trained extension staff was regarded as necessary.

The real problem ahead in the ARDA program is the development of people, to interest and involve them, to raise their objectives, to change their farming practices and to use the available technical information. This is also the same challenge facing Extension. The objectives would be to broaden the scope of the ARDA program rather than restrict it to production-type projects. More information and research is needed on the factors associated with decision-making, planning programs and measuring achievements in order to apply the principles and administrative implications of extension to the ARDA program.

Extension Staff Requirements of ARDA

It was felt by the three witnesses of this professional organization that the assignment duties of the ARDA program to the present provincial extension staffs was impossible with the current schedule of work. Two requirements must be met to implement the extension activities needed by ARDA, first additional extension staff, and second, a concerted effort to upgrade the training of the present extension staff. All federal assistance to extension should be extended through the present provincial services. A strong plea was made by one of the witnesses for the provision of federal financial assistance for the training of extension personnel, community leaders and farmers along with other carefully-planned research and program projects. This would be the best means of achieving the objective of better rural living.

All which is respectfully submitted.

Arthur M. Pearson,
Chairman.

APPENDIX

*List of Witnesses Appearing Before the Special Committee of the Senate on
Land Use in Canada*

Fifth Session, 24th Parliament, 1962

Printed Proceedings No. 1

Agricultural Rehabilitation and Development Administration, Mr. A. T. Davidson, Director.

Printed Proceedings No. 2

Manitoba Department of Agriculture and Conservation, Dr. G. Albert Kristjanson, Senior Rural Development Specialist.

Manitoba Department of Industry and Commerce, Mr. Roger B. Truemner, Regional Development Branch.

Printed Proceedings No. 3

La Societe Canadienne d'Etablissement Rural, Mr. Jean-Baptiste Lanctot.

Printed Proceedings No. 4

Prince Edward Island Department of Industry and Natural Resources, Mr. Hartwell Daley, Director, Division of Research.

Printed Proceedings No. 5

Canadian Society of Rural Extension, Dr. W. A. Jenkins, President; Mr. Lloyd W. Rasmusson, Vice-President; Dr. L. C. Paul, Secretary-Treasurer.

