THE FUTURE OF THE COMMERCIAL DIVISION OF THE NEW ZEALAND FOREST SERVICE

The following is the text of the submission of the New Zealand Institute of Foresters to the Ministerial Advisory Committee, of June, 1969. The N.Z.I.F. Committee was convened by J. G. Groome, the members being R. T. Fenton, D. S. Jackson, M. H. McKee, J. S. Stronge and J. J. K. Spiers.

HISTORICAL

A prelude to the objective assessment of the present situation is undoubtedly some knowledge of the circumstances which brought it about. The State first became involved in logging and sawmilling soon after the Depression, and at a time when the New Zealand sawmilling industry was poorly equipped, under-capitalized and its practices left much to be desired. It was imbued by a “dressing heart philosophy”, which wasted vast quantities of comparatively high grade timber. Furthermore, large sums of taxpayers’ and investors’ money had been used to create a vast resource of exotic forest on which at this time there appeared little hope of realizing a profit. Entry by the Forest Service into the field of timber harvesting, processing and marketing on a realistic scale was most necessary in the public interest.

The Forest Service mills and logging activities originated in 1938 from a Government plan which called for the establishment of State-owned forest industries including sawmills, box factories, planning mills, and wood preservation plants. These were to act as demonstration, control and salvage units in exotic and indigenous forests. From this time onward, the establishment of indigenous logging operations at Te Whaiti and elsewhere, and the construction of mills at Tapani and Waipa, with their ancillary treatment plants and logging operations, has enabled the Forest Service to make significant contributions which have had a marked influence on the timber industry and indirectly on forest management throughout New Zealand. The Forest Service commercial operations have been responsible for the initiation, introduction or development of:

(1) Modern methods for sawing small logs with the initiation of Swedish log frames and edgers and the handling of large throughputs by segregation into diameter assortments.

(2) Green chain grading tables which undoubtedly proved the practicability of applying grading rules and segregating sawn radiata pine into quality classes.

(3) Utilization of sawmill waste residues for power generation and chipping.

(4) Suitable kiln drying techniques and schedules for a wide range of exotic species (in association with the Forest Research Institute).
The Rueping process of treatment and the development of preservation processes generally, along with schedules and standards for oil-based and water-soluble preservatives. At a later stage the OPM method of treatment was developed. In all these developments, Waipa and FRI have been closely associated.

Specifications and treatment schedules for pine sleepers and a wide variety of poles.

The manufacture of glued laminated members for engineering structures, laminated beams, structural beams and cross beams.

End-branding and packaging of timber.

Stress grading techniques.

Early trials of knot plugging.

A very significant part of the treated round produce market.

Export markets for sawn timber in the Pacific.

The Forest Service, through its mills, has without doubt contributed largely to the introduction and maintenance of standards for production and grading for merchandising in the exotic timber trade. Furthermore, its personnel have been available and used by industry to assist in demonstrations, planning and setting up new equipment and techniques. We would mention particularly D. MacPherson, K. Goudie and J. Kerr in this respect.

Initially emphasis was on development and extension, but the trend changed in the early 1950s following the Land and Income Tax Act of 1951. The NZFS Annual Report of 1952, in commenting on the fact that the Forest Service had become liable for income tax on commercial logging and milling operations, stated: "This is a very desirable measure and it has the effect of placing the Forest Service commercial operation on an equal footing with private industry. Forest Service commercial accounts will thus be shown on a more realistic basis and both the Department and the public will be able to make a true appraisal of the trading accounts." From this time onwards more emphasis was placed on the State saw-mill operations being able to compete with private enterprise in demonstrating efficiency and showing reasonable profits on its operations, with the same overhead charges that would apply in private industry.

This policy gradually influenced a changed role where the development function diminished and the commercial role tended to dominate. Thus both management and staff prominent in the control of commercial activities have tended to have a commercial rather than a technical or professional background. This recent concentration of Commercial Division on its commercial role has undoubtedly been detrimental to its research-development role. A redefinition of objectives is obviously essential.
RESEARCH AND DEVELOPMENT

Importance of Sawmilling

The following table shows the log production in New Zealand by end-use categories (1968 data):

<table>
<thead>
<tr>
<th>Log Category</th>
<th>% of Total</th>
<th>Million cu. ft</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sawlogs</td>
<td>69</td>
<td>143</td>
</tr>
<tr>
<td>Pulp logs</td>
<td>17½</td>
<td>36½</td>
</tr>
<tr>
<td>Export logs</td>
<td>8</td>
<td>16</td>
</tr>
<tr>
<td>Other</td>
<td>5½</td>
<td>11</td>
</tr>
</tbody>
</table>

The planning model used for the Forestry Development Conference anticipates that by the year 2000 the proportion of sawlogs to pulp logs may be about 45:55, but the sawlog proportion may be amended upwards, as recent economic analyses indicate that sawn timber or sawlog exports may be more profitable than pulp exports. In the intervening period between 1969 and 2000, approximately 5 billion cu. ft of logs will be sawn in New Zealand at a cost of approximately $600 million at present-day costs of sawing. Thus a 5% improvement in efficiency would represent a saving of $1 million per annum.

Significance of Cost of Sawing

Figure 1 shows the proportion of the total cost of producing sawn timber contributed by each operation from seed to sawn board. The overwhelming influence of sawing cost upon the forest + sawmill budget, and the profitability of plantation forestry generally, is self-evident. The sawing cost for stands of lower mean diameter, or where top logs are sawn as well, would account for an even higher proportion of the total cost of producing sawn timber. This diagram effectively demonstrates that relatively small efficiencies in sawmilling alone would have a marked impact on the profitability of forestry.

Need for Research and Development

Institute members who made submissions were unanimous that there is still a pressing need for research and development in harvesting, sawmilling and processing. The following quotations are representative of the sentiments expressed:

"The need to introduce new methods, processes, and products is as important today as it ever has been" (State forester).

"An essential feature within any dynamic industry is a strong research and development organization — the forestry industry can be no exception" (Company forester).
"It will be conceded by all timber-using interests that the field of forest products research is a constantly expanding one which must be constantly and unremittingly explored, and the results applied if the industry is to maintain its competitive position" (Company administrator).

"It is desperately important to the whole New Zealand economy that we cash in on the slender advantages we have in world trade — to achieve this, mill/plantation planning must be closely integrated" (Forest economist).

Members' views substantiate the case presented by the Forestry Development Conference Working Party for Research for a greatly intensified effort in harvesting, sawmilling and processing research, a conclusion which was verified by the FDC and presented as specific recommendations in the Forestry Sector Report of the National Development Conference (Nos. 46, 47 and 48).
Integration of Research and Development

It was the majority view that research and development projects must be carried through to the stage of being a commercially viable and practicable operation. A minority view was that the research function could be separated from development to the commercial scale, but most members consider that the two facets are so interwoven that research which is divorced from the developmental aspects is in danger of becoming divorced from reality and the economic necessity of producing salable and profitable products. Examples in preservation research can be instanced, where all treatment processes have presented technical problems when brought into operation at the commercial level, difficulties which were readily resolved only because of the close liaison between the research group and the technical/commercial group within the one organization. Economics research, directed towards evaluating the profitability of alternative management regimes and establishing value gradients for log size and quality, cannot be done effectively without assessing the influence that log characteristics have on throughput, grade recovery, sawing patterns, and conversion factors in commercial plants. Data obtained from studies done in the Forest Service sawmills have provided the basis for most economic evaluations of silvicultural practice, and the results have been widely disseminated in more than twenty publications on the subject since 1960. The list of reports and publications on forest products research projects linked with Waipa Sawmill is equally impressive.

Present Position

Development of the sawmilling industry for harvesting, converting, processing, and marketing exotic species has occurred much faster and proceeded much further than the indigenous sawmilling industry which has languished in comparison. The marked difference in large part reflects the significance of the early developmental work done in the Forest Service sawmills cutting exotic species, and the paucity of corresponding developments in private sawmills employing traditional methods for cutting a higher quality indigenous resource. From the earlier historical review, however, it is readily apparent that the pace of development in the Forest Service sawmills has diminished significantly, during recent years, present efforts being directed mainly towards solving immediate commercial problems and establishing wider market outlets. This trend has been inevitable when a highly capitalized unit like Waipa Sawmill that is becoming increasingly obsolete is required to operate profitably on an equal footing with other sawmills. If the Forest Service sawmills are to continue to have a substantial developmental role, some means of overcoming obsolescence will have to be provided. Otherwise there will be some substance in one member's statement that "the only demonstration mill is the last one to have been built". There will be occasions when development
expenditure cannot be recouped, a situation that requires an accounting system that allows development or research expenditure to be isolated from normal commercial operations. If the State is to undertake further developmental ventures on behalf of the industry and sustain reduced production in the course of fact-finding, its efficiency should not be measured wholly by the criteria normally applied to commercial enterprises.

**Proposals for Future Research and Development**

Members have listed several areas which warrant immediate attention and a greatly expanded developmental effort if timber is to retain its competitive position on both the domestic and export markets.

1. New Zealand has a large resource of mature exotic timber grown in unthinned stands which will yield a high proportion of No. 1 framing grade timber if the logs are predominantly sawn to 2 in. dimension. Thus there is scope for the development of an export market in sawn framing, but to overcome distortion problems in dry climates, the timber will have to be dried. Waipa Sawmill should take the lead in the swing from a “wet timber economy” to the “dry timber economy”. To meet the challenge from other materials — aluminium, steel, plastics — we must be capable of producing a stable, precisely engineered material. This can only be achieved by a high standard of kiln drying (no drying stresses or gradients), accurate machining and stress grading to engineering standards, and by quality packaging, wrapping and shipping, so that the customer receives a product on the job that is at the specified moisture content for its end use, is accurately machined to the dimensions specified, and is delivered in an undamaged and unchanged physical state by an attractively sealed packaging system. This “dry timber economy” development should be aimed at both the export and the domestic market, and should apply to all timber — structural (laminated products), framing, flooring, weatherboards, joinery, both external and internal, mouldings, etc. It is essential to the concept of modular building components, and to panel products and the composite products concept for the housing of the future.

2. Because most of the timber sawn during the next twenty years will be produced from untended stands, there should be an intensified programme in developing processes for up-grading low-grade knotty material. If timber is to retain its cost advantage in housing construction, we must look towards producing more uniform material in the range of sizes that is quick, simple and cheap to erect. We should be meeting this need as the foreseen demand for it arises rather than run the risk of losing such outlets to substitute materials.
(3) Although Waipa and Conical Hill sawmills may not be typical examples of modern New Zealand sawmills, it is possible to obtain sufficient cost data and detail for their operations to determine how differences in the size assortment and quality of the log supply would affect sawmilling costs, and to demonstrate how returns could be optimized by regulating the log size, quality and cutting pattern. The sawmill cost data should be published so that they may be easily and readily referred to by the industry or other interested parties.

(4) The silvicultural treatment that today's young stands are receiving will require that the logs within the tree will need to be segregated into separate classes, each class being converted to different end products, if returns are to be optimized and the forest owner receive fair return for the capital invested in silvicultural treatment. There is an urgent need to establish log quality classes, and value gradients for size and quality for each of the principal end products. Research officers will need to have ready access to conversion plants, and cost data, in order to establish suitable criteria for these purposes. Much greater attention in future will have to be directed towards obtaining efficient log segregation, the best place to do such segregation, and the type of plant and layout required. The Forest Service, through its research, utilization development, and commercial divisions, is the logical agency to develop efficient log grading and segregation.

(5) Radiata pine silviculture in New Zealand is directed towards the production of clear boards in long lengths from pruned butt logs. Some pruned logs are now becoming available, but little is known of the production techniques that will optimize the use of this most valuable part of the tree. For example, taper sawing on a commercial scale should receive high priority for development.

(6) Current Douglas fir silviculture produces a high proportion of small logs, the sawing of which provides a surfeit of narrow 1 in. boards which are not easy to market. There is a great deal of scope for more intensive investigation of this small log problem, both in respect to harvesting and processing. Basically, we need to resolve the least cost solution by correlating the harvesting system, mill capacity and design with forest management objectives. The Forest Research Institute has the co-ordinated team to investigate this problem fully, but fundamental to the success of this project will be ready access to production units and their cost data. The Forest Service sawmills should have a vital role to play here.

(7) New Zealand's indigenous forest resources are not being fully utilized to best advantage. If a small part of the same effort that established radiata pine successfully as a timber of commerce could be directed towards the more
rational processing and marketing of beech timbers from our extensive South Island forests, the prospects for better management would be greatly enhanced.

(8) The State has established substantial areas of a wide range of exotic species which are commercially important in their country of origin for a range of general-purpose or specialty uses, but the requisite technology has not been adequately developed for processing or marketing them in New Zealand. Similarly, there are substantial volumes of potentially high quality timber in our minor indigenous hardwoods which are either not being utilized, are destroyed in the process of logging or conversion, or are being used for inferior purposes. There has been little concerted effort to exploit their special qualities as clear or decorative woods or to develop small but profitable market outlets for them. A significant stumbling block has been to induce private companies to process sample material using correct technological processes, because the local resource is obviously too small or too diffuse to make it a commercially viable proposition at present. It is in the State's interests, therefore, to promote a more active developmental programme with these species.

This list of projects which warrant further research and development is by no means complete. It should suffice, however, to highlight that there is no shortage of important work to be done in the research, developmental, and commercial fields if New Zealand is to make the most of its opportunities in being able to produce large quantities of wood quickly, tailored to consumer needs or preferences. There is also no question that the sawmill, with its ancillary processing units, still has a vital role to play in evaluating these opportunities.

Training

In the field of training, the Forest Service Commercial Division has clearly demonstrated its value to the forest industry of this country. Possessing viable commercial operations in logging, milling, and preservation has meant that many technical, professional and managerial staff within the Forest Service have had the opportunity of developing the wide background in utilization operations necessary for an effective deployment in the forest industries. The past Forest Service policy of seconding professional, field and technical staff to Waipa has meant that individuals in all phases of the forest industries have been trained with a much greater appreciation of the requirements of industry than their counterparts in other countries.

It is noticeable that, amongst the submissions received from individuals, those who have had experience in overseas countries emphasize this point. In particular, they consider that the forester must appreciate the necessity of growing, not just trees, but trees planned to supply definite products and
foreseeable quality demands. There is no doubt that this is a very strong feature of New Zealand forestry, and the Forest Service officers, who represent the State in dealing with contractors, loggers, millers and merchants in the private sector, are required to have a high degree of competence and understanding of the industry. Training in commercial operations has achieved a great deal in attaining these ends.

Forest management in this country has emphasized production forestry based on a knowledge of utilization requirements and economics. Undoubtedly this has been greatly influenced by the training most foresters have received from periods in close association with the Department's commercial activities. The recent radical proposals for forest management produced by the Economic Section of FRI and accepted by the Forestry Development Conference, are directly attributable to close association of the individuals concerned with Commercial Division. It is also particularly noticeable that more recent developments in preservation, in treatment such as the OPM method, have been pioneered by individuals who have had close association with Waipa Sawmill. We believe that the Forest Service and the forest industry has had outstanding benefits through this training policy. The success of it is evident in the calibre of management personnel in much of the forest industry.

A look at the prominent companies in the forestry industry of this country will show a high percentage of their managerial personnel have originally been trained in Commercial Division of the Forest Service.

As well as the effects on individuals, Waipa Sawmill has always been prominent in training of groups and has cooperated with the Forestry Training Centre, in particular with grading courses, and more recently saw-doctors' courses. Individuals on Waipa staff have also been prominent in the presentation of courses on logging training and possibly could be more widely used in this way.

We are concerned that one factor that has not been so noticeable in recent years is the secondment of Forest Service field staff, particularly professional foresters, to Waipa. It is unfortunate if this system has now ceased. We would recommend that it be re-instituted, as a basis in utilization that is invaluable to the furtherment of effective forest management, and essential to liaison and understanding between foresters, rangers and those involved in the timber processing industries.

COMMERCIAL IMPLICATIONS

Few of the persons who made submissions were in a position to comment fully on the profitability of Commercial Division or of its individual utilization units. Our subcommittee (after studying Forest Service annual reports) considered the available information on declared profits and stumpages paid, but could not comment constructively on such matters as return on capital invested, the proportion of costs which should be credited to research and developmental activities, or
the business efficiency of the enterprise. Some submissions, however, contained useful information and well-considered opinion on the past effect of the activities of the Division, and suggestions for future improvement where commercial matters involving raw material supply, conversion and value are concerned. On the negative side, it was pointed out that Commercial Division had apparently been:

— receiving preferential access to Forest Service resources;
— achieving profitability by adjusting stumpages downwards and/or logging charges paid to the Forest Service;
— omitting to publish adequate information by which the economics of sawmilling could be assessed;
— competing from a protected position for timber sales with private industry which is required to compete for its raw material and show normal business returns;
— on behalf of the Forest Service, engaging in commercial activities while at the same time the Department is responsible for advising on, and administering, national forest policy.

Even if these allegations cannot be justified, the fact that they have been made indicates an unsatisfactory situation.

One submission (from a private Company Director) stated baldly that: "Since the middle 1950s, however, the State has not made any major contribution either in the method of pioneering the use of equipment, [or] new methods of marketing, and has in fact adopted the protectionist role for its own operations, and has not [even] picked up new methods, i.e., finger jointing"; that is, it has adopted "the role of a conservative, entrenched private company".

EFFECTS ON FUTURE MANAGEMENT

Justification for State Participation

From the point of view of forest management, State participation in the harvesting, sawmilling and processing spheres is needed to determine the value of wood as a raw material for alternative end products. This information is necessary to ensure efficient management of public production forests, to provide sound advice to private forest growers, and to determine the true economic merit of forestry relative to alternative industries or forms of land use. Knowledge of the real worth of wood is indispensable for intelligent management of a man-made resource.

The real worth of wood for various products can be established only by intensive studies of the most expensive links in the chain from seed to end product — namely harvesting and processing (see Fig. 1). The requisite data are not readily available from private concerns, because production can rarely be disrupted, or established usage patterns altered, to suit the investigator. Normally, the only data readily available from private sources are gross input-output relationships, and even these may not be disclosed if the firm's competitive status is likely to be jeopardized by doing so. Gross input/output data
are entirely inadequate for relating quality outturn to the characteristics of the stands being utilized. In intensively managed plantations, quality and log size are two factors that can be readily manipulated by silvicultural and tree breeding programmes, but the forester must know the relative significance of the changes he can induce, and the costs incurred in doing so, if he is to produce raw material with the desired qualities for the industry he is supplying. The Forest Service, as the largest forest grower, and the agency charged with predicting future needs, cannot afford to be ignorant of the economic significance of the management practices it adopts. The close liaison of foresters, loggers and processors that at present exists within the Forest Service, and in large integrated companies, is one of the outstanding advantages of New Zealand plantation forestry. Evaluation of both growing and utilization requirements within the one organization is probably the best insurance for sound co-ordinated management for both forest and mill.

Most members who presented submissions could see no suitable means of meeting all requirements without the State controlling and operating one or more efficient, up-to-date processing plants. A requisite corollary is that the State, in operating them, should adopt a progressive policy that is "positively persuasive towards enlightened forest management and utilization".

**Comparison with the Indigenous Sawmilling Industry**

One means of assessing the value of the State sawmills to the Forest Service is to compare developments in the husbandry and utilization of its exotic forest resources with those pertaining to its indigenous forest resources, where the Service does not directly participate in processing or market development. On the one hand, through its commercial, research and development activities, the Forest Service has done a great deal to promote intensive management and good use of its exotic forests by the development of suitable logging, sawing, and merchandising techniques, by sales promotion, by sponsoring the establishment of the newsprint industry, and by a great deal of research and development on timber grading, machining, kiln drying, preservation methods, and lamination.

This picture is very different from that prevailing in the indigenous timber industry, which has been notable until recently for its inefficient utilization of a resource that is intrinsically of high quality. The developmental role of the State sawmills during the 1940s and 1950s was instrumental in attaining the favourable comparative position of the exotic industry. In the process, the Forest Service has obtained a fairly detailed and precise knowledge of the technology of processing the species it is growing, of their quality values as sawn timber, and of their marketing potential. It also has a good knowledge of the future needs of the industry, and, through its processing plants, has the means for pioneering new processes and standards to meet those requirements.
Consequently, there is a sound case for the Forest Service retaining its processing plants, provided they continue and intensify their developmental functions.

NATIONAL IMPLICATIONS

It is a widely accepted principle in this country that, wherever possible, commercial and industrial activities should be left in the hands of private enterprise. Whether it is in fact more efficient, more competitive, more enterprising, than collective or socialized effort, the burden of justification must nevertheless rest on those who would depart from this principle. This Institute considers that, from the national point of view, there are the following compelling reason for retaining effective participation by the State in conversion and processing of forest products, up to market development.

(1) As the largest forest owner, the State must not only ensure a continuing supply of raw material to dependent industries, it must also endeavour to prevent gross exploitation of this national resource for the profit of unbridled entrepreneurial groups. Moreover, the pattern set by the State in this recurring contest is of vital concern to many small, independent growers of timber; it is essential, therefore, that the Forest Service should be fully competent to market State Forest timber fairly and rationally. To do this, it must have uninhibited access to authentic data on wood products and their value, derived through active participation in processing produce from its own forests, and through being allowed to develop a strong position for negotiating sales of raw material to private enterprise.

(2) There is much evidence that the production and distribution of timber is being concentrated into fewer and fewer hands. In a small country such as New Zealand one must anticipate that free competition could be superseded by exclusive trading agreements and controls, to the detriment of the public interest, unless adequate safeguards are devised in time. The present Commercial Division sawmills are free of such exclusive ties, and are already one of the few sources from which the independent timber merchant or builder may obtain supplies of sawn timber. The Commercial Division should be regarded as an important tool through the use of which the State may influence prices, maintain the stability of local trade, and retain an effective role in the marketing of forest products.

(3) The pioneering and development of overseas markets by Commercial Division has been a major contribution to New Zealand's export potential. Not only are these roles that private enterprise may consider it unrewarding to pursue, but international affiliations between companies may not infrequently forbid entry into certain overseas
markets. Moreover, in a trade of such national importance as that in timber, it is essential that there should be State leadership in establishing and maintaining high standards of marketing.

(4) There are various interests which are always in need of advice about timber valuation, standards, administration of sales, etc. — namely, local bodies, other Government departments, farm foresters and other private individuals. Without direct internal knowledge of utilization and marketing, the Forest Service would not be able to provide such well-informed services.

Finally, we may mention that there are several examples of similar State participation in fields largely occupied by private enterprise — namely, the Post Office Savings Bank, the Public Trust, the State Insurance Office, and the State transport systems. To quote from a submission by one of our members: "It is my view that Government participation in many sectors of industry and trade developed as a result of public demand — for what may in some cases be a 'governor' acting on private enterprise; in others for the promotion of new and desirable, but speculative, developments; in others to perform necessary or desirable functions that private enterprise would not or could not carry out. It is also my view that the continuation and expansion of these activities under direct Government control rests on the basis that a majority of the electorate at large believe that such participation is desirable. The commercial activities of the Forest Service clearly fall in this category."

**SUMMARY AND RECOMMENDATIONS**

(1) The Commercial Division has:

— introduced conversion techniques and developed markets for new products both in New Zealand and overseas;
— set grading standards which have ensured continued acceptance of exotic forest products;
— trained a large number of administrative, technical and marketing staff who are now distributed throughout the industry;
— been available for professional foresters to familiarize themselves with conversion and end use matters, thereby improving forest practice;
— been available for research staff to conduct, on a commercial basis, projects which would be impossible to undertake at an institution equipped only for experimental purposes;
— supplied timber merchants who are not connected with production firms with a range of timber, without conditions and at standard prices.

The Institute believes that the Commercial Division should continue these functions.
(2) The Commercial Division has, however, not:
— published information which could be used in assessing the grade and true value of logs;
— replaced equipment which, although initially valuable for demonstration purposes, has now become outmoded. The tendency has rather been to install additional, and retain old equipment;
— continued in the second half of its history to develop new methods and techniques.

The Institute considers that the Commercial Division should remedy these deficiencies.

(3) The following proposals for the future role of the Division are submitted by the Institute after fully considering the submissions and drawing on them for what it believes to be the feeling of the majority of members:

In order to demonstrate effectively and have accepted as economic possibilities any new developments in equipment, techniques, and processing, the plants controlled by the Division must be large enough to operate as commercial entities, and sell output to the best advantage. Particular fields into which the Division should be directed are:

— to give a lead in the necessary switch from "green timber" to marketing dried and fully seasoned timber, particularly in the context of developing markets in hotter and drier countries;
— the upgrading of knotty timber;
— the establishment of log quality classes, and value gradients for size and quality according to end products;
— optimum conversion of butt logs through economic techniques of taper sawing;
— an integrated and optimized solution (in conjunction with Economics Section of the Forest Research Institute) for the management, harvesting and conversion pattern for Douglas fir;
— extended promotion of beech timbers, through appropriate processing and marketing techniques;
— development of conversion processes and markets for secondary exotic species.

These research and developmental responsibilities of the Division should be paramount. The need to operate efficiently and as profitably as possible is, however, recognized, especially with regard to the possible effects on obtaining and holding satisfactory staff and selling fairly on the open market.

(4) The apparent incompatibility of these two functions appears to be the most important problem to be solved and consideration of the following proposals is suggested:

— a separate accounting system whereby development and research expenditure can be identified apart from that normally connected with a wood processing enterprise;
— financial facilities for the writing off of obsolescent installations as soon as they can be replaced by new equipment, either for demonstration purposes, or to improve efficiency;

— publication of full details regarding the cost and quality of the raw material delivered to the plants, and its value as processed products. A true assessment of stumpage values could then be derived. The availability of this information would be of inestimable value to the development of forestry and industries dependent on a permanent and expanding source of raw material.

(5) Regarding the control of the Commercial Division, a substantial majority in the Institute favour retention of the Division within the Forest Service; a smaller number favour the setting up of a Crown Corporation with non-Governmental participation; and a small minority recommend sale of the utilization plants to private enterprise under certain conditions.

REPORT OF THE MINISTERIAL ADVISORY COMMITTEE

The Committee, chaired by D. C. Kirkpatrick, with N. R. Davies and Professor P. J. McKelvey as members, reported in October 1969. Its findings were as follows:

The Committee can only state ... on the limited evidence submitted to it the State sawmills would appear to be no less efficient or profitable than sawmilling units in the private sector of industry.

In our view retention of the sawmills under Forest Service control is desirable for the following reasons: it will act as a brake on any tendency towards monopoly control, allay the fears expressed by small merchants and the building industry, and stimulate competition.

New Zealand is a recognized world leader in the practice of exotic forest establishment, management and utilization. This has been a hard-won reputation due in no small measure to a close liaison between grower and user. In our opinion this liaison should be maintained and strengthened by increased training of New Zealand foresters in the State sawmills.

The Committee stresses the importance of providing the consumer with a range of choice, good quality and reasonably priced products and considers that retention of Government control will contribute to the attainment of these objectives.

The Committee is of the view that the Commercial Division has contributed significantly to Forest Service knowledge of, and policies in, utilization and forest management. At the same time the Committee considers that greater use should be made of the State sawmills as training grounds for professional and general staff.
The Committee finds that for the whole range of technological and market development required there is no completely satisfactory administrative alternative to the status quo; the State must be able to participate on a commercial scale.

In our opinion the advantages to be obtained from continued departmental participation in wood processing and marketing of the products decidedly outweigh the disadvantages. These are listed as follows:

**Advantages**

1. The State, the largest forest owner, must retain some control over the marketing and processing of its raw material resource in order to ensure the best return to the taxpayer. This will best be achieved by commercial participation through Waipa and Conical Hill sawmills.

2. It is important for the future success of forest management, that foresters have ready access to utilization experience. The continuance of the State sawmills in the Forest Service will mean that the great majority of foresters in New Zealand will have ready access to sawmill experience.

3. The availability of wholesale supplies from State mills gives an assurance of continuity of supply to a free and competitive private industry including small merchants, thus countering growth of monopolistic practices.

4. The State mills have a most important demonstrational role in the development and utilization of species of wood other than radiata pine, for which it is acknowledged their demonstrational sawmilling role has now been fulfilled.

5. Forest Service advice to Government, and to the timber industry, would be less effective without the commercial experience obtained through Waipa and Conical Hill mills, which ensures to Government a better understanding of the forest industry and thus provides it with a means for more effective influence in the national interest.

6. Commercial Division has an important influence in setting and maintaining good standards in conversion, quality control, grading and presentation, for materials sold in New Zealand or overseas.

7. The retention of the State mills will facilitate the development and/or maintenance of markets in trading conditions not as favourable as at present. It is conceivable that to maintain access to overseas markets the State may be prepared to take a small loss. Private industry, being profit oriented, may not; or when the domestic market is more favourable it may withdraw from export marketing for a period.
8. Availability of cost data and other commercial information from the mills is desirable, if not in fact essential, for the research and development projects of the Forest Research Institute and the Utilisation Development Division.

Disadvantages

1. There is no doubt that there are disadvantages in the administration of Commercial Division: (a) Problems from having to work under State Services regulations; (b) Because of Government service regulations the State mills cannot expand or diversify production in line with industry trends as easily or quickly as can private operators; (c) As Waipa and Conical Hill mills' activities are subject to Government authority they can and do come under political pressure.

2. In view of Government-expressed policy of not in general competing with commercial enterprise, the maintenance of the commercial operating units in competition with private enterprise no doubt can and will engender criticism.

3. A State mill is likely to show a lower return on capital than many private mills since its output and range of products are arbitrarily controlled.

The Committee drew up a list of principal and additional recommendations. Recommendations were:

I. The place of the Commercial Division to remain as part of the N.Z. Forest Service.

II. The role of the Commercial Division sawmills to further the development of New Zealand's timber industry through:

A. Research and demonstration of techniques and equipment for the conversion of forest roundwood to marketable wood products.
B. Keeping abreast of advances in (i) sawmilling technology, (ii) marketing techniques; within New Zealand and overseas; and disseminating the knowledge and information so gained that will be of value to the New Zealand timber industry.
C. Continuing market development within New Zealand and overseas.
D. Ensuring the best use of the forest resources of New Zealand through experience gained in research and investigation of the utilization of those resources.

The "Additional Recommendations" are introduced by a brief preamble: As a result of our investigations of all evidence received in the course of our enquiries the following recommendations are suggested for your consideration:

1. That the annual accounts of the Waipa and Conical Hill sawmills be presented in future in a form that will more clearly allow for comparison with company reports.
2. That for the purposes of this presentation the Director-General of Forests be requested to formulate a basis of presentation related to the current Reserve Bank Survey of Public Company accounts — in particular the accounts of the group of companies engaged in businesses similar to those of the State mills — and that this be reviewed at least once every three years.

3. That a note be appended to the annual accounts of the mills setting out a schedule of capital expenditure each year and the source of these funds.

4. That, as a note to the annual accounts of the mills, the stumpage rate paid to the Forest Service be published.

5. The Director-General of Forests be requested to investigate the use of the residual-value formula in determining stumpage to be paid by Waipa and Conical Hill mills.

6. That Waipa and Conical Hill mills be modernized and re-equipped as necessary in order to maintain efficiency and profitability, but, so far as is possible, such re-equipping should have regard to their demonstration role in timber processing.

7. That the timber production of the two mills be allowed to expand at a rate approximately relative to the existing production ratio with private industry but not so as to jeopardize unduly any established and viable private industry unit.

8. That the Commercial Division charge in its accounts on a fair-market-value formula for any work undertaken on an agency basis or for any special work (such as salvage due to any cause whatsoever) undertaken on behalf of the Forest Service.

9. That the Forest Service take better advantage of the opportunity provided through Commercial Division sawmills to train young forest officers in sawmilling and timber processing.