

**forest utilization contracts
on public land**

2d edition

by

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ABSTRACT

Forest utilization contracts, or forest concessions as they are more commonly called, play an important part in forest management in many developing countries. The nature of such contracts and the policy, economic and legal problems associated with these are examined. Recommendations for a sound basis for utilization contracts are put forward as guidelines for governments and forest administrations.

The various categories of publicly owned forest land are described and the legal basis on which utilization contracts may be granted are discussed. Other alternatives for making use of forest resources, their advantages and disadvantages are given.

Aspects of exploration contracts, timber harvesting contracts and forest management contracts, including problems of short- and long-term agreements are investigated. The objections to granting long-term contracts and their effect on the interests of the local population and established forest industries are discussed. Then follows a consideration of the duration and size of contracts.

The main requirements concerning local processing of the raw material, minimum and maximum annual exploitation volume, road construction, felling restrictions and utilization standards to safeguard the interests of the forest owner are explained. The necessary provisions for forest management such as the preparation of a management plan, measures of forest protection and responsibility for silvicultural practices are reviewed. The various types of forest fees and the methods of assessment are described.

The measures of control and supervision to be exercised by the forest owner and the penalties and sanctions that may be applied are discussed, and also the process of arbitration in case of disagreement between the parties.

The preconditions for granting a long-term contract and the problems of preparation and negotiation are enumerated. The special incentives which a government may offer to foreign investors in order to attract international capital for forest industry development are set out.

Finally, a list is given of the more important clauses or provisions to be included in a contract or in general forest legislation aimed at safeguarding the interests of both parties to the contract. Various appendices show typical examples of long-term utilization contracts, and a list of literature and relevant legislation is given.

The second edition of the Handbook contains the original text presented in 1971, and a review updating problems and trends in national allocation policies more recently experienced in the humid tropics.

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FOREWORD

The importance of forest utilization contracts as a major element of national wood utilization policies in developing countries is illustrated by the fact that in the humid tropics alone approximately 100 million has. of forest land have been leased to industry for timber harvesting during the last two decades. Moreover, it is our understanding that the lease of a further 20-25 million has. is being considered or is actually on offer by governments.

This Handbook, which examines the legal and economic nature of forest utilization contracts, was first published in 1971. It has found wide acceptance in many developing countries and has been recognized as a valuable guide in the work of national institutions and international consultations. In 1976, a review was made of the problems related to the granting of timber utilization contracts and forest concessions, which confirmed that the previous analysis of the nature of utilization contracts and of their role as instruments for national policies on forest resource allocation is still valid. This validity applies also to the checklist of clauses and provisions for long-term utilization contracts. Accordingly, no major amendments have been made in this edition.

During the last five years, many countries have shown their determination to exercise a more rewarding control over the utilization of their forest resources by improving the legal framework of timber harvesting agreements. In addition, new structures for regional or sub-regional cooperation among the major producers of tropical timber have emerged, which will allow an exchange of valuable information with regard to timber harvesting conditions. Such efforts should of course be seen in the broader context of the objectives of the New International Economic Order, and should enable the developing countries to make a better use of their natural resources in their drive for national development.

The evolution that has taken place in the issuing of forest utilization contracts has also shown that many of the problems related to this form of resource allocation have yet to be solved. There has been a tendency among policy-makers to consider timber utilization contracts merely as a legal or contractual issue. But concession-granting is intimately linked with central forest policy problems and resource management concepts. Such aspects as land-use classification, inventories, management plans, and the planning of wood-processing industries, which in fact determine the scope of a particular utilization contract, have not been sufficiently examined in the past. This is precisely the reason for the failure of many new concessions to contribute to the long-term economic and social development of the countries in which they have been granted. On the other hand, professional foresters have not always fully realized that management of timber resources in developing countries means, above all, implementation of timber allocation policies.

In some cases problems have arisen with respect to the assessment of timber fees, royalties, or production-related forest taxes. Often, these have been considered as mere devices for revenue collection and not as payments for the raw material made available to concessionaires. Fortunately this situation is rapidly changing and many countries are adopting more rational forest revenue assessment systems that are based, generally, on a simplified appraisal and evaluation of the wood raw material available in the concessions. The development of technically and economically sound stumpage evaluation procedures and the formulation of an active price policy for high quality tropical timber will undoubtedly become an important element in future forest concession contracts.

One of the main obstacles to the implementation of newly defined national concession policies is the chronic weakness of many public forest administrations: The operational funds are scarce, professional and technical staff are in short supply, and the organizational structures are outmoded and inappropriate. A major effort will therefore have to be made to strengthen the national forest services in order to build up competent resource-managing agencies capable of implementing national timber allocation procedures.

This second edition of the Handbook on Forest Utilization Contracts on Public Land includes the full text presented in 1971 to which has been added a supplement which reviews the problems more recently experienced in granting utilization contracts in the humid tropics.

In presenting this new version of the Handbook, the Forestry Department of FAO wishes to stress that substantive work on forest utilization contracts and appropriate methods for assessing forest taxes and fees, as well as advice on these matters requested by individual countries, will remain an important activity in its forest resources development programme.

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INTRODUCTION

In most developing countries, the forests are largely or even exclusively under public ownership - whether they are state forests or belong to communal institutions or other public agencies. They often cover the major part of the total land surface of a country and contain species that are or may be in demand in world markets; yet these forests with their existing industry rarely contribute nearly as much to the Gross National Product as would be expected of so important a resource. So in a country with areas of unexploited or partly exploited forests, particularly in the tropical high forest or the tropical coniferous forest zone, the responsible authorities may be under considerable pressure to expand rapidly the rate of utilization of this resource.

In these circumstances, the government has first to define its wood disposal policy. Three alternative ways in which the utilization of the forest resources could be organized may be considered: first, the raw material may be utilized by the government itself in conversion units owned by the state or other public agency or in industries established as joint ventures through some form of association with private capital; second, government may dispose of the forest land and with it of the standing timber by grant or sale; third, the government may dispose of the standing timber only and keep the ownership of the land itself.

The third solution is the one most commonly adopted and may be carried out either through sales of wood felled and graded at stump or roadside, through sales of standing trees or through the grant of timber harvesting rights, under what can be called forest utilization contracts ^{1/}. While the sale of wood at roadside, and to a lesser extent the sale of standing trees, requires a considerable activity in logging, road construction and forest management on the part of the forest authority, utilization contracts involve the authority in much less technical work of this kind. Inadequate infrastructure, the lack of a sufficient number of technicians and professional foresters, the lack of a well-staffed national forest service and the considerable problems of logging, road construction and marketing offer the explanation for the fact that in developing countries the most common solution for forest resource allocation has been the granting of utilization contracts. They exist in different forms and vary as to duration, size and conditions. Basically, three types of contract - forest exploration, timber harvesting and forest management contracts - can be distinguished.

While such contracts, which transfer the responsibility for most or all forest operations to a private company, are a comparatively easy method of organizing the utilization of forest resources, they do not free the government from all responsibility. It is necessary to determine appropriate provisions of forest legislation and of the individual agreements governing the rights and obligations of the contracting company which will lead to the implementation of the national wood disposal policy and safeguard forest production in the future. The government must also arrange for the inspection and supervision of all operations of the company to ensure that the nation retains its full ownership of the land and receives its due share of the forest wealth. A national forest service able to undertake this task is therefore absolutely necessary.

A policy to enter into forest contracts has always to be seen in the context of the whole economic and social development of the country, and responsible authorities, especially the state forest service, should be concerned not only with technical problems, but also with the integration of forestry into the general economic and social planning of the nation. The forests of a country are not only a source of raw material for industry; they are essentially part of the human environment. People live in them and make their living there. They exercise a protective function against erosion and floods, and they are the habitat of animals, birds and plants (other than trees) which may have a value as great or even greater than the trees themselves. All these factors must be considered and appropriately covered in the provisions of a utilization contract. Any forest contract, especially if it involves a large area, may considerably affect the interests of the local population, of existing forest industries and of other third parties. The responsible

^{1/} Or "forest concessions", as they are known in a number of countries.

authorities must recognise the possibility of disagreement between these groups and the contractor, and take measures to ensure that these do not jeopardize the aims of the contract.

In the last two decades, long-term utilization contracts have gained considerable importance in many developing countries. It is generally felt, and with good reason, that such contracts may be an important way of bringing into use the forest wealth of a country and expanding wood processing. New forest industries may be attracted, since such contracts offer to national or international investors security of raw material supply by granting timber harvesting rights over fairly large areas of forest for a considerable period of time.

With the benefits to national development that can flow from the establishment or expansion of an industry for which a forest contract is to be granted, there may be the temptation to settle for fairly easy terms in order to get an operation going without delay. Yet, because of the long-term and far-reaching effects of a utilization contract, it must be carefully and skilfully negotiated. It should be recognised that forests are becoming more valuable in the judgement of international and national forest industries, and, therefore, owners of public forest land may be able to make more favourable contracts than past experience might suggest.

Negotiating and drawing up forest utilization contracts carries the heavy responsibility of ensuring that they are compatible with medium- and long-term management plans for the forest sector as a whole; that the provisions of the agreements are in line with the long-term development interests of the nation and that adequate institutional and staffing arrangements are made for the control of the execution of the contract. Unfortunately, experienced negotiators with business acumen to match that of the company representatives are scarce. Furthermore, by the time they gain that experience, most of the forest areas may have been granted, and an area once granted to a particular company cannot normally be relet until the end of the contract, even if a more advantageous offer to the country should become available.

This situation has caused the Food and Agriculture Organization of the United Nations to be deeply concerned with the problems of forest utilization contracts. Through its position of being able to make an objective and global view of the trends in the development of forestry and forest industries, and with its ability to recruit staff with a wide range of experience, FAO has been able to study a number of actual contracts and, when requested, give advice on general or specific points. A substantial part of FAO's efforts in this field has been the preparation of the present handbook which is intended to give governments and forest administrations of developing nations the information necessary for solving the major problems of forest utilization contracts.

In the first part of the handbook, the nature of forest contracts is examined and the various categories of public forest land on which they may be granted are described. The alternatives which are open to a government for organizing the utilization of the national forest resources and their relative merits are discussed. It is explained why forest utilization contracts form an important element of any wood disposal policy, why certain types of contracts, e.g. short-term timber harvesting contracts, should be considered as a temporary expedient, and why long-term contracts may be an efficient method of wood disposal and thus become an accepted form of forest organization, provided that the interests of the nation are safeguarded by appropriate clauses of the agreement. It is shown that it may be in a government's interest to use several methods of wood disposal and to adapt the conditions of contracts to the particular aims of forest management, the type of industrial operator concerned, the legal status of the land and the type of forest. In the last chapter of this part, the handbook examines the major problems of legislation related to utilization contracts.

The second part of the handbook is particularly concerned with long-term forest contracts granted for 20 to 30 years. The various aims which a government may achieve by this type of contract are discussed. The major matters to be included in a long-term agreement are considered. This part examines also the various fees which the grantees may have to pay and methods of assessing them. Measures of supervision and control, and penalties and

sanctions to ensure that the grantee will implement his obligations and responsibilities and comply with the clauses of the contract are mentioned. The last chapter discusses the various incentives that may be offered to invest international capital in forest industrialization.

The third part of the handbook gives a list of the main conditions, requirements and provisions which should be included in long-term agreements or in legislation on forest utilization contracts.

The Appendices give three typical examples of long-term agreements.

PART I

GENERAL PROBLEMS OF FOREST UTILIZATION CONTRACTS

Chapter 1

THE STATUS OF FOREST LAND AND THE ALLOCATION OF FOREST RESOURCES

Because of their physical characteristics, trees are generally viewed as bearing a dual legal character. While standing, they are treated in most legal systems as part of the land. However, once separated from the land they assume a separate legal identity. Thus a resource forest may be allocated by virtue of the land ownership - whoever owns the land owns the resources growing on it, whether that person be a private individual, a communal organization or the state. On the other hand, land ownership may be left untouched in the process of disposing of the forest resources, the disposal being only of the right to use the resources as distinct from the rights of ownership of the land itself or rights over the minerals lying under that land. It is in this latter type of situation, where the state or other public body is the owner of the land, that the forest utilization contract applies. A further type of allocation also exists, similar to forest utilization contracts, in that it involves only rights to the utilization of forest produce and not the land itself, but different in that these rights of use do not derive from a special contract, but from customary rights that have grown up separately.

The first chapter then will attempt to place forest utilization contracts in perspective by discussing the general aspects of forest ownership, the legal status of land to be granted in such contracts and the customary rights of usage which may continue to exist in the granted area.

1.1. THE OWNERSHIP OF FOREST LAND

In the countries with a long history of forestry development, as for example most of the European countries, the ownership of land, including forest land, is normally well established. But in other parts of the world, in large areas of the tropics for example, who owns the forests and what are the limits of usage over them has often not yet been unequivocally determined.

The ownership of forest land and the rights of usage over it are settled - in so far as they are determined - by general land tenure and forestry laws. A large proportion of these laws may be put into one or other of the following three categories ^{1/}:

- i. Legislation based on English law, as for instance in Canada, Guyana, Sierra Leone, Ghana, Nigeria, Cameroon (western part), Kenya, Tanzania, Uganda, Burma, Malaysia and Australia.
- ii. Legislation based on French law, as in Ivory Coast, Dahomey, Gabon, Congo-Brazzaville, Senegal and the Central African Republic.
- iii. Legislation based on Iberian law traditions as in Latin America.

^{1/} Legislation based on the Koranic tradition is not considered in this context.

1.1.1 State forest land based on traditional ownership

In the early stages of development, modern western concepts of land tenure were often not applicable to the use of agricultural and forest lands. Where land was abundant and shifting cultivation and nomadic grazing were practised, the concern was more with rights of temporary usage over land than with rights of permanent ownership. Forest lands in particular were thought of as peculiarly unsuitable for private and permanent ownership. Such formal title to forest lands as existed was therefore often confined to the general ownership by the state or the head of the state of all lands which were not yet under private ownership - "terres vacantes et sans maître" as they are called in the French legal code. This general ownership by the state was subject to customary rights of usage over particular lands by the local population, such as the rights to clear the land for agricultural purposes or the right to cut trees for firewood or for construction 1/.

According to the tradition of English law, the general ownership by the head of state, the Crown, over vacant lands, and in this context forests lands, stemmed from the feudal system of land tenure. Under this system all land belonged to the Crown and portions of it were parcelled out - or rather the use of these lands was parcelled out - to feudal overlords who in turn would parcel out land to sub-tenants and so on down the feudal chain 2/. Where no grant was made by the Crown, these lands remained "Crown Lands" as they are called. Although some forest lands were alienated by the Crown, many of them remained as Crown Lands and were reserved for the "delight and pleasure" of the King, and usually for hunting 3/. The English system of land tenure has been passed on to many countries through the former British administrations.

French-speaking and Spanish-speaking countries have a similar tradition which recognises the right of ownership by the state of all unappropriated lands. Forest lands tend to fall into this category more often than land that is easily cultivated.

In many countries the title of the state to such lands has been confirmed by legislation. The French decree of 1935 relating to French West Africa, as it then was, is an example. Article 1 of the decree reads: "Les forêts vacantes et sans maître en Afrique occidentale française, ainsi que les périmètres de reboisement définis à l'article 6 appartiennent à l'Etat" 4/. The decree on forestry of the former French Guiana seems to go further in declaring all forest to be "terres vacantes et sans maître" and as such the property of the state 5/.

- 1/ Jassogne, in his work on forestry in the former Belgian Congo, described rights over forest lands there as being based on the two principles of "Le respect des occupations indigènes en vue du libre exercice des droits coutumiers et le droit de l'Etat aux terres vacantes en vertu du principe généralement admis que les biens sans maître appartiennent à l'Etat". Jassogne (56): L'exploitation forestière au Congo Belge. p. 109. Customary rights will be discussed later in more detail.
- 2/ Gordon (46): "The Law of Forestry". p. 9.
- 3/ Manwood : "Forest Laws". p. 143. Quoted in Gordon op. cit. p. 66.
- 4/ "Décret réglementant le régime forestier de l'Afrique Occidentale Française". 4 July 1935, Art. 1. A considerable part of the present forest legislation of the French-speaking countries of West Africa derives from this legal decree.
- 5/ "Dans le territoire autonome de l'Inini (French Guiana), les forêts sont considérées comme biens vacants et sans maître et font de ce fait partie du domaine de l'Etat". Decree on Forestry (188), Article 1.

Normally, this kind of legislation does not exclude the exercise of customary rights by local populations.

Similar legislation is to be found in some countries of Central and South America, declaring state ownership over "Tierras Baldías" - uncultivated lands - of which unappropriated forest lands form part 1/.

1.1.2 Appropriation of forest lands.

In some countries, the government is authorised to appropriate forest lands which are of particular importance because of their protective function or as a source of raw material, and to settle, change or abolish private or communal rights of ownership, or usage over those lands, with or without compensation. These special state forest reserves are referred to in English-speaking countries under terms such as "Crown forest", "Demarcated forests", "National forests", and "Forest Reserves"; in French-speaking countries as "Forêts classées", and in Latin American countries as "Reservas Forestales", "Bosques Nacionales" or "Bosques Estatales".

1.1.3 Private (non-state) ownership.

In many countries, however, a proportion of the forest land has found its way into private hands as the pressure for land and raw materials increased. The lands may pass into private or community ownership by grant from the state whether for monetary considerations or as compensation for the abolition of customary rights of usage in public forest reserves or by legal recognition of ownership claims put forward by individuals, communal or tribal organisations. The recognition of ownership claims over forest lands based on ancient customary land laws has been of particular importance in the English-speaking countries of West Africa. In Nigeria, for example, large forest areas are owned not by the state or central governments but by local tribal organisations, the "Native Authority Councils". Most of these forests have now been declared "Native Authority Reserves". Tribal rights over forest land have also been recognised in Ghana 2/.

1.2 THE LEGAL STATUS OF FOREST LAND

1.2.1 Unclassified forest lands.

Where forest management is still in an early stage it is normal to find that no decision, or at least no decision having the force of law, has been made as to which lands should be kept permanently under forest and which might eventually be turned over to other uses. This of course does not mean that such forests are outside the provisions of the forestry laws. But the protection afforded by those laws may be less than that accorded to forests which have been expressly declared permanent forest estates or reserved forest areas.

1.2.2 Permanent forest estates.

The permanent forest estate of a country is made up of areas that have been declared by law or decree as those that should remain permanently under forest

1/ For the expression "Baldío" see for example the Articles 1 and 2 of the law on land tenure (183) in Colombia. Equally Section 111 "De la administración y explotación de los bosques en terrenos baldíos", Article 12-14 of the Venezuela forest law of 1955 (203).

2/ A detailed description of the different forms of land tenure in Ghana and Nigeria is given by Gordon and Douglas in "The Law of Forestry" (46), pp. 422-446.

cover. The declaration may be made with respect to all forest land, regardless of whether it is state or non-state owned. But the nucleus of a permanent forest estate usually consists of special state forests which, because of their state ownership, can be protected and managed more efficiently than others. To these may be added forest areas owned by communities, tribal organisations or public agencies and, finally, even under private ownership. Any declaration of lands as permanent forest should of course be based on detailed technical, social and economic studies and land use surveys.

The designation of a permanent forest estate is one of the most important steps to be taken in the early stages of forest management. The object of doing this is to ensure that the country has sufficiently large and well-distributed areas of forests, in which major management efforts must be concentrated, and it is here that long term utilisation contracts, which may be an important factor in ensuring a continuous supply of raw material for the country, will normally be granted.

1.2.3 Protection forests.

Parts of the forest area that are of particular importance because of their protective functions may be declared by act, order or other legislative or administrative decree "protection forests". This declaration may have certain legal implications, notably that the areas may have to be maintained under forest cover; certain activities such as clear cutting or burning of branches and tops may be prohibited, and obligations to plant bare land may be laid on the owner. Where forests of this category are included in a utilisation contract, special provisions for logging, road construction and reforestation will be necessary. In areas such as national parks, felling operations may be partially or completely prohibited.

1.2.4 Land not to be kept permanently under forest cover.

This is land which sometimes on the basis of land use surveys has been proposed for uses other than forestry, generally some form of farming. The fact that such land will eventually be cleared should not, however, exclude the application of provisions of forestry regulations while it still remains under forest cover. It is important that the disposal of the standing timber in these areas, frequently a large volume of valuable raw material, should be planned and carried out well in advance of the change in land use. Where very large areas are to be cleared, the quantity of raw material may warrant granting to private industry a forest utilisation contract. In this case a special condition for salvage logging may be required.

1.3 RIGHTS OF USAGE AND EXPLOITATION OF FOREST RESOURCES ON PUBLIC LANDS

Rights to use or exploit the forest resources normally go with the ownership of the land. In certain cases, however, these rights may be enjoyed separately from the ownership of the land. It is these separated rights of usage that will be discussed in the following section.

1.3.1 Customary rights.

In many countries, the forest is the source of livelihood for a large part of the local population. It may be of importance for hunting, for collecting wild fruits, fungi, roots, honey and other products from the forest, and for wood supply for construction or fuel. The forest area may also be used for grazing and shifting cultivation in a subsistence economy. These activities exercised by the local population are usually called "customary rights". It is beyond the scope of this study to examine in detail customary rights and their impact on forestry 1/.

1/ An introduction to the general aspects of customary land law in Africa has been prepared by FAO (30).

They are, however, mentioned since they may occur on land which has been or is to be the subject of utilisation contracts and may interfere with the operations of the contracting company.

The characteristic feature of customary rights is that they are usually not determined by legislation and are exercised on land which is owned or controlled by the state or other public agencies. The local population may, without any formally expressed legal right to do so, exercise the various activities "de facto" simply because of its need for subsistence. The rights may, on the other hand, be exercised within a well-defined framework of unwritten tribal laws and customs ^{1/} In many countries, and particularly in Africa, customary rights of both kinds have been formalised by legislation, and the use of forest land for farming or grazing has been legally recognised after "squatters" have occupied the land for a certain period.

Customary rights may not be exercisable to the same degree on the different categories of forest land. They are usually ill defined and little controlled in those forests which have not yet been designated as forest reserves. Where, however, certain zones have been classified and demarcated as part of the permanent forest estate, the rights of the local population are set out in detail and restricted in quantity and quality. The exercise of these rights must be strictly controlled by the national forest service and special permits may be required. Ultimately, customary rights may be completely abolished in the special state forests either with compensation, for instance by the designation of special community forests, or without compensation. On land which has been classified legally as forest, but not declared as a special state forest, customary rights may be exercised more freely but should be restricted to those activities which are not harmful to the forest cover.

Forest utilization contracts sometimes include land over which the local population is still exercising customary rights. These cannot just be ignored, since they are based, as pointed out, on strong unwritten traditions and in many cases are absolutely necessary for the people's existence. Therefore, legislation concerned with such contracts usually provides that these rights must be respected by the contracting company. The continuation of these rights may, however, lead to complications and to a clash between the interests of the grantee and the local population. This is particularly likely to occur if shifting cultivation is practised to a major extent. The problems which may arise from such a conflict are discussed in the second part of this study. In any event, it is important that both parties to a contract are well aware of the impact of customary rights on the execution of the contract.

1.3.2 Classification of customary rights.

Customary rights cover a wide range of activities which have different impacts on the forest itself and it will be useful to enumerate the major groups of rights which may have to be respected by the grantee or which may interfere with the utilisation contract ^{2/}:

^{1/} The juridical basis of customary land laws and rights is particularly strong in most African countries, where it has continued to exist parallel and subsidiary to the concept of European law traditions introduced during the 19th and early 20th century. See "Customary Land Law in Africa" (67) pp.1-10.

^{2/} This enumeration is based on the list of customary rights which is given in a special study of FAO; "Forest Reservation Policies and Rights of Usage in Africa" (30), pp.4-5.

- i. The right to cut and use logs, posts and firewood, including charcoal burning. This right is usually restricted to the cutting of trees for own consumption and does not include exploitation on a commercial scale. A special permit for logging and extraction, issued by the forest service, may be required. When exercised in the area of the utilisation contract, its worst interference with the grantee's interest will be if logs of high commercial value are cut and used for firewood or low value purposes.
- ii. The right to collect forest produce such as underwood, branches, tree tops, bark, caoutchouc, latex, gum, resin, fruits, nuts, and so on. This right does not usually interfere seriously with the interests of the grantee. An exception may occur for instance in pine forests where the local population extracts the resin. Fruit-bearing trees or trees that yield a special produce, such as caoutchouc, latex, gum, are usually protected in the interests of the local population by a ban on cutting.
- iii. The right to use fire for shifting cultivation, for hunting, or to gain new grazing areas. This right may provoke very dangerous risks of starting uncontrollable forest fires.
- iv. The right to use forest land for farming purposes - for permanent agriculture, shifting cultivation or grazing. This right may conflict seriously with the interests of the grantee. It constitutes a problem which has to be seen and solved in the context of overall land-use planning and economic development.
- v. The right to construct permanent or temporary dwellings, camps, stables. This right in itself does not conflict much with the interests of the grantee, but it may lead to other difficulties such as new shifting cultivation or the extension of grazing areas.
- vi. Rights of hunting and fishing, rights of way, rights to draw water from rivers and wells, rights to use minor forest produce other than trees, for instance medicinal or edible plants, fibres of tree climbers, copal, honey, stones, laterite, limestone. These rights are generally not harmful to the forest cover nor do they interfere with the grantee's operations, and some provision that they should be respected is usually included in utilisation contracts.

1.3.3 Rights of commercial wood exploitation.

Where forest lands are the property of individuals, communities, tribal organisations or others, the owners have the right to exploit the timber on their land commercially and to dispose freely of that right to other parties, always, of course, within the terms of the forest legislation. In forests owned by the state, the state itself may exercise the right of commercial exploitation, or it may allocate that right to private persons. One means of such allocation is by forest utilisation contracts.

Chapter 2

DEFINITION AND CLASSIFICATION OF FOREST UTILIZATION CONTRACTS

2.1 DEFINITION

2.1.1 Forest utilization contracts

A forest utilization contract can be defined as formal permission of the government or a public agency which entitles an individual, a private company or a public or semi-public corporation, under clearly defined conditions, to the exclusive (see para. 1.3.1 on customary rights) rights to explore the forest potential, to harvest wood and/or to manage a specified area of public forest land. Such a contract combines public ownership of land with the private or semi-private utilization of the raw material thereon. This kind of arrangement may lead to a partial or complete integration of the production process of forestry and the industrial utilization of wood without affecting the ownership of the land.

In English-speaking countries, this type of contract may be called "Lease", "Licence", "Agreement", "Concession", and "Permit" 1/. In French-speaking countries, it is usually referred to as "Permis d'exploitation" or "Licence" 2/. In Spanish-speaking countries, the main expressions are "Permiso Forestal", "Licencia", "Contrato de Aprovechamiento" and "Concesión" 3/. Although the different expressions may indicate some variety in the legal form by which the rights are conveyed, all of them are used to describe a special type of agreement between a public forest owner and a private or semi-private enterprise by which no land ownership rights on public forest land are conveyed 4/.

In some ways, the term "contract" used in this connection may not be completely appropriate. In many countries it does describe accurately the means of granting rights over public forest land to private enterprises. But in others, the formal granting of rights, although preceded by negotiations, may be in the form of an administrative, ministerial or even legislative act, rather than in the form of a contract. In the present handbook, however, the term "forest utilization contract" is used to describe this particular type of arrangement, irrespective of the actual legal form by which the timber harvesting or management rights may be conveyed in any particular country.

A forest utilization contract must be distinguished from a "cutting permit" required in some countries before a private forest owner may cut trees on his own land. The distinction between a utilization contract for public forests and a curing permit for private lands is not always clearly made in current terminology. In Colombia, for example, both are referred to as "Licencias".

2.1.2 Grantor, forest owner and responsible administration

The distinction must be clearly recognized between the agency that is entitled to grant a utilization contract, the forest owner to whom the land covered by the contract

- 1/ MacGregor and Dow (62) have presented a list of various terms which are used in several Commonwealth countries. See "Revenue Collection in Commonwealth Forestry Departments", p. 16-17.
- 2/ "Permis d'exploitation" in several French-speaking countries of West Africa and in French Guiana, "Licence" in Cameroon.
- 3/ "Permiso" in Venezuela, "Licencia" in Colombia, "Contrato" in Mexico, Venezuela and Peru, "Concesión" in Bolivia and Nicaragua.
- 4/ Up to now, most of these contracts have been made with private firms. In a few cases, contracts have been made with joint companies, owned partly publicly and partly privately.

actually belongs and the agency which is responsible for the administrative and technical control of the forest.

In many countries, forest utilization contracts on state-owned forest land can only be granted either by the central government or by regional governments. Consequently, forest owner and granting agency are identical. In some cases, however, forest contracts granted by national or provincial governments may also include or comprise entirely land which is owned by others, for instance tribal or communal forests 1/. A few examples exist where even privately-owned land has been included. The integration of different forest properties in a state-granted utilization contract may occur if the government has negotiated with the other owners, or acts under special legal provisions made in the national interest 2/. In several countries, forest utilization contracts may also be granted by independent public agencies, such as autonomous territorial organizations or tribal communities on land which belongs to them 3/. In these cases, the government may only exercise a measure of supervision as determined by the forest legislation. The agency responsible for administration of the granted areas is usually the national or provincial forest service. This service has to ensure that the conditions of the contract are respected, and supervise the forest management of the granted areas. In the following chapters, the government, the state forest service and the forest owner will be referred to as the "grantor" or first party to a contract.

2.1.3 The grantee

The "grantee" is the second party to a contract and in the following chapters may also be referred to as "the company" or "the entrepreneur" whether the grantee be private, public or semi-public.

2.2 SOME IMPORTANT CHARACTERISTICS OF FOREST UTILIZATION CONTRACTS

While forest utilization contracts differ fairly widely between countries, certain characteristics can be identified, although not all of the factors listed below are necessarily applicable in all countries.

Legal points:

1. The state of the public agency granting a contract is usually the owner of the land and has the primary right to exploit and manage the forests. No individual or enterprise has a prior legal right or claim that a contract be granted to it.

1/ If the government is empowered by special provisions of the forest law to grant forest utilization contracts on land which is owned by tribal or communal organizations, the owners will usually receive a financial compensation for the raw material to be removed from their forests.

2/ In New Guinea, the government may enter into an agreement with the native owners and acquire the right for wood exploitation on their forest land. The cutting rights may then be granted to private entrepreneurs in the form of timber harvesting contracts. See Forestry Ordinance (210), Sec. 9/1-2.

In Mexico, the government is empowered to include forest land of local communities and of private individuals into long-term forest contracts (unidades forestales). See Ley Forestal, Art. 106 in connection with Art. 94-96.

3/ In Nigeria, tribal communities through the Native Authority Councils may grant utilization contracts on land which is at their disposal. See the Forestry Rules for the Southern and Northern Provinces Native Authorities (135, 136) and the cited agreements (137, 138).

In Ghana, tribal communities (Stools) have granted utilization contracts on their forest land. Recently, similar contracts on stool lands have, however, been granted by the central government acting for the respective Native Authority. See the cited agreements (117, 118, 119) and the Stool Lands Act (115).

- ii. The government is legally entitled to grant forest rights. The rights for a particular area can be conveyed by a variety of legal or administrative instruments or by a special contract. Contracts over large areas may be the subject of a special law or legal decree.
- iii. A utilization contract may only be granted if any provisions laid down by law are fulfilled.
- iv. An utilization contract covers the right to dispose of forest resources but not the right of ownership over forest lands.
- v. The company has to pay certain fees for the raw materials. These are often settled in advance for all contracts ^{1/}. In several countries these fees may only be changed by law or special regulation.
- vi. Usually, the conditions and regulations governing the granting of contracts and those for carrying out a contract may only be changed by law or legal decree.

Financial and organisation points:

- i. The grantee usually receives exclusive rights for certain activities concerned with the utilization of forest resources. As it is expressed in Australia, no other company can operate "for the same raw material" in the specified forest area.
- ii. The grantee may have to invest large sums of money in road construction and infrastructure before he can start with wood exploitation.
- iii. The grantee has partial or complete responsibility for planning logging operations, opening up the forest and extracting the wood. He may have to build roads, bridges, canals, depots and camps.
- iv. The grantee is usually fairly free to organize forest operations and utilization of the raw material according to his interests.
- v. In some countries, the grantee has to undertake silvicultural treatment after logging.
- vi. The activity of the grantor is usually confined to ensuring that the conditions of the contract are complied with.
- vii. Apart from the conditions which concern forest operations, the grantee may have to accept obligations such as the construction of schools, medical centres, community roads.

2.3 TYPES OF FOREST UTILIZATION CONTRACTS

F.U. Contracts can be classified according to the rights granted and according to their duration.

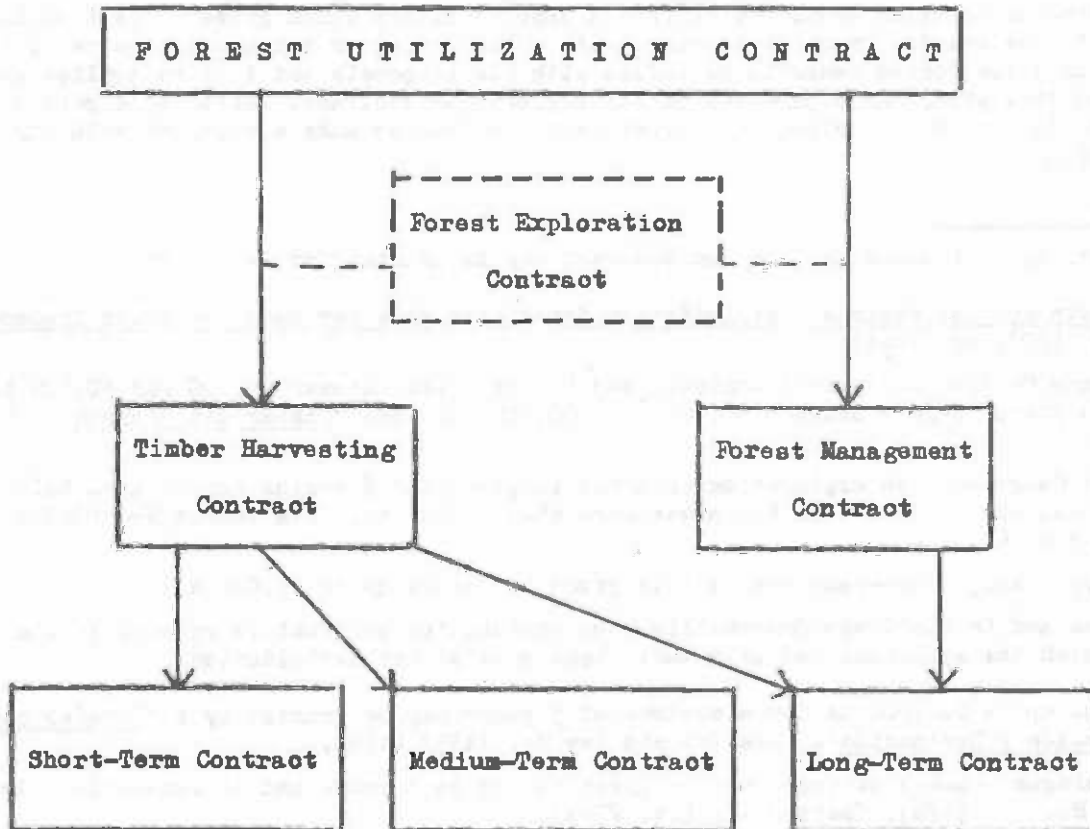
^{1/} In some countries, the fees are determined by auction, by tender or by stumpage appraisal and vary consequently from one contract to another.

2.3.1 Classification of forest utilization contracts according to the rights granted

As illustrated in Table 1 below, two types of utilization contracts can be distinguished: timber harvesting contracts and forest management contracts. The forest exploration contract, appearing between dotted lines, represents an option for either of these two contracts.

Table 1

CLASSIFICATION OF FOREST UTILIZATION CONTRACTS
ACCORDING TO RIGHTS GRANTED AND CONTRACT DURATION



2.3.1.1 Forest exploration contracts

A private enterprise may receive permission to explore certain areas in order to find out whether in its opinion exploitation may be successfully carried out under the conditions laid down by the forest owner. This permission is formally given in a forest exploration contract conveying the exclusive right to undertake activities such as timber cruising and mapping for a specific time, in a particular area. If the result of the exploration is satisfactory to both parties, the granting of a harvesting or management contract may then be discussed. An exploration contract is a short term agreement, usually for 1 to 3 years, and may be renewable. Such contracts exist, for example, in Liberia 1/ and in several French-speaking countries: Congo-Brazzaville, Cameroon (East), French Guiana, Gabon and Ivory Coast 2/. They may also be granted in Peru and Nicaragua 3/.

The exploration contract is a useful instrument if a long term contract is to be prepared. The grantee has a monopoly of exploration for some years and may prepare a forest inventory and a management plan. The collected information will also serve for a feasibility study on which the proposals of the company for the utilization of the forest resources can be based. It is important for the forest owner to ensure that all information collected by the grantee is made available to him.

Some exploration contracts contain a special clause which gives a preferential right to the grantee by which he may obtain a harvesting or management contract, provided that the forest owner is satisfied with his proposals and that he applies within a fixed time after the expiration of the exploration contract. After this period, perhaps 30 days or 3 months, the forest owner is free to make a contract with any other company 4/.

1/ In Liberia, a standard exploration contract may be granted for two years.

2/ See "Note sur les régions d'exploitation forestière dans les pays tropicaux francophones" (20), pp. 16-17.

In French Guiana, a 2 years' contract may be for areas between 25,000 and 50,000 ha, and a 3 years' permit between 50,000 and 100,000 ha. See "Cahier des charges" (189), Art. 3.

In East Cameroon, the exploration contract is given for 6 months for an area below 10,000 ha, and for 9 months for areas more than 10,000 ha. See Décret No. 68/179 COR (100), Art. 58.

In Ivory Coast, a one-year contract is given for areas up to 25,000 ha.

In Gabon and in the Congo-Brazzaville, the exploration contract is related to the area which the applicant had previously been granted for exploitation.

3/ In Peru, up to 200,000 ha for a maximum of 5 years may be granted by a "Permiso para Exploración y Evaluación". See Decreto Ley No. 14552 (196).

In Nicaragua, such a contract may be given for up to 3 years and is renewable. See Decree No. 316 (176), Chapter IV, Art. 25-33.

4/ In the Congo-Brazzaville, in East Cameroon, French Guiana and Ivory Coast, the grantee has a preferential right within the duration of the exploration contract. In Peru, he has to apply within 30 days after expiration of his exploration permit.

2.3.1.2 Timber harvesting contracts

These give the right to undertake logging in a determined area without the responsibility for any other forest management. Usually, the quantity to be harvested annually or periodically is specified. The rights may sometimes be restricted to the removal of certain species or particular grades, such as pulp wood, saw logs or veneer logs. Timber harvesting contracts are usually short- or medium-term. They may, however, be long-term contracts if they concern forest land to be converted to other uses, or when granted over areas of permanent forest land.

In many countries, in the early stages of forestry, the only form of wood disposal on public land is short- or medium-term harvesting contracts which leave considerable freedom to the grantees with regard to exploitation techniques, utilization standards and road construction methods. Such contracts provide basically that the entrepreneur receives the right to cut wood and has in exchange to pay fees to the owner. In a more advanced state, the owner will, however, plan and control the utilization more intensively; the annual exploitable volume will be fixed, the cutting area delimited and the trees to be removed marked, probably by the state forest service; the logged area will be inspected and wasteful logging methods penalized. The operations of the grantee come more and more under close supervision by the Forest service ^{1/}. With increasing interest in better utilization, the owner may introduce other forms of wood disposal, such as the sale of standing timber, which will allow better control of operations and perhaps give higher prices. Short- and medium-term harvesting contracts may be replaced by sales based on stumpage derived from public auctions or tenders.

2.3.1.3 Forest management contracts

These place the responsibility for parts or all of forest management on the grantee. The grantee may have to do inventory work on which the management plan will be based, the determination of the allowable cut, the preparation and periodic revision of the management plan, experimental work such as permanent sample plots and all other operations prescribed in the management plan. The state forest service checks the data prepared by the company and supervises its activities. A forest management contract is in its nature a long-term arrangement and may offer a satisfactory way of ensuring proper forest management ^{2/}.

2.3.2 Classification of forest utilization contracts according to duration

A useful classification can also be made by duration: short-term contracts of 1-5 years, medium-term contracts of 5-15 years and long-term contracts of over 15 years. The important point of this classification is that the duration affects the type of

^{1/} As an example the "concession under operation plan" in Surinam may be cited. A forest inventory is made for a whole region and the total exploitable volume is divided among different contracts. The forest service builds the basic roads and the secondary roads, and skidding roads have to be constructed by the grantee according to standards of the forest service. The operation plan provides a pattern of logging units and rules for the felling operations. The companies have to exploit one unit completely before they can start logging in the next one.

^{2/} Efficient forest management that is entirely in the hands of the grantee can be found in the long-term contracts, "Tree Farm Licences", of the province of British Columbia. In Mexico, 15 large units have been granted, in each of which the company is exclusively responsible for forest management. In some of the large forest utilization contracts in Mindanao (Philippines), the initial steps to manage the granted forest resources on a long-term basis have been made. Other countries which have recently adopted this solution are Venezuela and Peru. Guatemala has also created the legal conditions to grant this type of contract.

industry or company attracted and creates different problems for the forest owner. The boundaries between the three types have been fixed rather arbitrarily and may serve only as a rough indication ^{1/}.

2.3.2.1 Short term contracts

Sometimes governments are prepared to grant only short term contracts, with the area restricted to some 1,000 hectares and the duration limited to a few years. The explanation for this restrictive attitude is usually that the government is afraid of losing the control of forest exploitation if contracts cover large areas of forest and run for long periods. This policy may, however, have adverse effects on the efficiency of forestry and forest industries.

The main disadvantages of short term contracts stem from the high risks involved for entrepreneurs in making capital investments in conversion plants, logging machinery, and infrastructure elements, such as roading systems, logging camps, repair shops, loading facilities, offices, over periods which are too short for the investment to be normally amortised. Either the rate of return on such an investment has to be very high so that the whole operation is likely to be uneconomic, or the investment is made at the absolute minimum level possible, so that operating costs are high and only the utilization of the most valuable species and grades is profitable.

For the forest service, short term contracts mean more contracts for a given area of forest and this involves the granting of more renewal contracts after the old ones have expired, with an increase in the amount of administrative work and field control. It could be difficult for a small forest service to undertake proper forest management in numerous small logging units.

The shortcomings of wood disposal procedures mainly based on short term contracts may make it desirable to introduce other forms of utilization contracts or to sell the raw material on the stump through timber auctions or by tender.

2.3.2.2 Medium term contracts

By granting contracts of 5-15 years' duration a government may avoid some of the shortcomings associated with short-term contracts.

- i. The contract period is sufficient to allow the grantee to invest in the heavy equipment necessary for an efficient logging and extraction operation.
- ii. The grantee can plan the opening-up of the forests for several years ahead and construct all-weather roads.
- iii. It is worth-while for the grantee to provide repair shops, logging camps and housing facilities.
- iv. It may be possible to establish certain types of forest industry such as small- and medium-sized sawmills for which the assurance of log supply is sufficient.

^{1/} It is important to distinguish between the effective and the formal duration of a contract. In countries with stable political and legal conditions, where an entrepreneur can expect that his agreement will be renewed if he has accomplished the required conditions, the effective duration may be longer than the time for which the original agreement was granted. The situation will be different under conditions where the company has to reckon with a relatively high chance of losing its rights before the end of the period formally covered by the agreement.

2.3.2.3 Long term contracts

A long term contract should cover a forest area of at least 10,000 hectares to guarantee a long and steady supply of wood for at least 15 years. Frequently, the granted area may be much larger and cover between 100,000 and 1 million hectares, and the duration may be considerably longer. Such contracts can lead to a complete integration of wood production, logging and processing, thus opening up many possibilities of rationalization.

A policy of long term utilization contracts can have far-reaching effects on forestry and the forest industry of a country and, as will be discussed in the second part of the handbook, long term contracts may be one of the most important instruments for encouraging industrialization of forest resources. Their impact has, however, to be seen not only in terms of industrialization, but also for their effect on the forests as a guardian and stabilizing factor of the human environment. Forests give protection against erosion and flooding, yield a regular water supply for farming, industry and human consumption, and afford recreation and a habitat for wildlife; provision must be made to safeguard all these values in the conditions of the contract.

The granting of a long term utilization contract may have effects over a much longer period than the formal duration of the agreement. A large forest industry which depends upon the granted area for its major raw material supply may have to rely on these forests even after the contract has expired. The government may thus have to accept the responsibility for continued supplies in order to maintain the stability of the industry and the employment it gives.

Due to the importance of the rights granted, to the length of the period and the possible implications beyond that period, the interests of the forest owner are much more at stake than in the case of short term contracts. It is therefore very important that the agreement for long term contracts include provisions which safeguard the position of the forest owner and of the nation. A complex set of problems will have to be solved if this aim is to be achieved:

- i. The exact definition of the rights and responsibilities of the grantee and the preservation of the proprietary rights of the forest owner.
- ii. The setting-out of the exact obligations of the owner or his agent.
- iii. The definition of the industrial facilities which have to be established or maintained to process the raw material.
- iv. A detailed time-table for salvage logging if part or all of the granted forest is to be cleared and converted to other uses.
- v. A plan for the establishment of forest plantations if this is required in order to maintain or to expand the raw material supply in the long term.
- vi. The organization of forest management for those areas which are to be maintained permanently under forest cover.
- vii. The determination of an appropriate system of payment by the grantee for raw material and perhaps other privileges.
- viii. The control and supervision of the activities of the grantee and the enforcement on both parties of the provisions of the agreement.

The special problems of long term forest utilization contracts will be discussed in Part II.

Chapter 3

FACTORS INFLUENCING SYSTEMS FOR TIMBER ALLOCATION

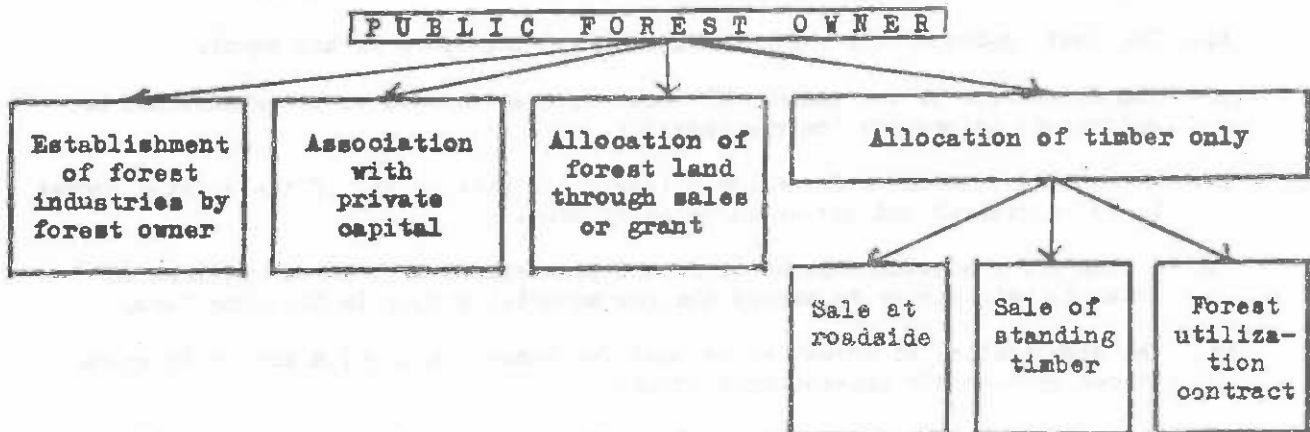
3.1 THE POSITION OF THE GOVERNMENT IN THE EARLY STAGES OF FOREST DEVELOPMENT

In the early stages of forest development it may only be possible to extract wood from a small belt along rivers. The economic development of the remaining forest may not be achieved until utilization is planned on a large scale and made possible by considerable investment. It is in the government's interest to bring these natural resources into use to support the general economic and social development of the country. The tax base of the nation may be small and the forest could be a potential source of income from which to finance a considerable part of the national budget. Yet the government may be unable to bring these resources into use because the infrastructure of the country is not sufficiently developed and the administration lacks the technical staff and operational funds. For these reasons it may be difficult for the government to raise the required investment funds and find the necessary specialists to open up the forests and to organize wood utilization itself.

The government should therefore examine other possibilities for bringing the forest resources into use. These are shown in Table 2.

Table 2

ALTERNATIVES FOR A PUBLIC FOREST OWNER TO UTILIZE THE FOREST RESOURCES



The choice of alternatives will vary according to the conditions of a country, and sometimes a combination of various alternatives, such as the grant of long term harvesting contracts to large industrial firms and the sale of standing timber to smaller companies, may be a satisfactory solution.

3.2 ESTABLISHMENT OF FOREST INDUSTRIES BY THE FOREST OWNER

The main advantage of this method lies in the fact that the forest owner can completely plan and control the development of the industries and the utilization and management of the forest resources. On the other hand, the owner will need to invest large amounts of capital which may be urgently needed in other fields. Furthermore, he will himself have to solve a wide range of difficult technical, managerial and marketing problems and provide competent staff to run successfully the wood conversion industries and logging operations. In developing countries particularly, careful consideration must be given as to whether this solution will show the best results or whether other forms of wood disposal may not be simpler to operate and more effective.

3.3 ASSOCIATION BETWEEN THE FOREST OWNER AND PRIVATE INDUSTRY

An association between the owner who has forest resources and private industry which can provide capital, and technical and managerial knowledge and experience, may be another suitable solution ^{1/}. Two major problems have, however, to be solved if such an arrangement is to function to the satisfaction of both partners. The first problem concerns the valuation of the forest resources made available by the owner and how the joint company's capital shall be divided between the two partners. The second problem concerns the evaluation of the real profit which the joint company makes. The public forest owner as well as the associated private industry will have to examine very carefully the book-keeping methods to ensure that both parties obtain their due share of the profit.

3.4 ALIENATION OF FOREST LAND

One of the obvious alternatives to the utilization of the forest resources by the owner himself is the disposal of forest land either by grant or sale. The grant of forest land to communities or tribal organizations may be a good solution in some countries in order to guarantee wood supply for the local population ^{2/}. But the alienation of public forest land to private corporations or individuals is today very rare.

The outright sale of forests means that the owner renounces all future income and benefits from their utilization even though their value may increase considerably in the future. The current value of forest land may, however, be very low, particularly in areas without a basic communication system. The present net discounted value ^{3/} of the potential future market price of the raw material could therefore be greater than the price that a company may be prepared to offer for the land under present conditions. In addition, from the point of view of the entrepreneur, it may be undesirable in buying land to tie up capital which is needed for investment in the forest industry itself. At an early stage of forestry, private companies may be more interested in acquiring timber harvesting rights than buying land.

^{1/} The advantages of this solution have been discussed in some detail by François in "Les divers types de coopération".

^{2/} The creation of some form of community forests may help to increase the interest of the local population in better forest management. This argument has, for example, been strongly advocated by Simha for some regions of India. See Simha (78): "An experiment in associating Gram Panclayats with forest management in Bihar".

^{3/} Present net discounted value is usually accepted as the maximum price that a purchaser would be prepared to pay. If a purchaser is prepared to pay only less than present net discounted value, this means that he has calculated a lower present net discounted value and he is not offering less than that, only less than somebody else's calculation.

Another argument against the sale of public forest land is that the government would thus reduce its influence upon the future development and structure of forestry and forest industries. It might also be considered socially undesirable for large forest areas to be owned by a few private enterprises. On the other hand, many small sales of public forests may lead to an undesirable fragmentation ^{1/}. For many such reasons numerous countries have established the principle that public forests should not be diminished by sale. This principle may be supported by the desirability of conserving and managing forests in the interest of the whole nation because of their social values ^{2/}.

3.5 DISPOSAL OF TIMBER ONLY

The disposal of timber only through sales of timber at the roadside, sales of standing trees and forest utilization contracts is today a common practice. The three methods which need different degrees of activities and participation in logging and forest management by the owner, are discussed below ^{3/}.

3.5.1 Sale of timber at roadside

By this method trees are felled, graded and skidded to a road where they are sold. The forest owner can integrate the logging operations with the other sectors of forest management, since the same staff that manages the forest can also organize felling and extraction. This method is often used in countries where intensive forest management is practised ^{4/}. The raw material is sold either on the basis of free market prices, or of prices fixed administratively, taking into account the production costs of the raw material, or through timber auctions or tenders.

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- ^{1/} The possible dangers of a policy of selling public forest land have been explained by Gordon (49). See "Obstacles to Tropical Forestry - Land Tenure".
 - ^{2/} See also the relevant chapters of Francois' "Forest Policy, Law and Administration". (41bis)
 - ^{3/} The advantages and disadvantages of these three methods of wood disposal have been discussed in more detail by Tromp and Schmithüsen (84): "The Introduction of More Effective Wood-Selling Techniques".
 - ^{4/} Sales of timber at road- or riverside are largely practised in central and northern Europe. They are common in some parts of the southern states of the United States of America. Frequently, wood from plantations of fast-growing species is also sold by this procedure.

If sales of timber at roadside are practised, the forest owner needs a developed forest service with an appropriate number of forest officers and technicians, sufficient manual labour and the necessary tools and machinery.

Sales of wood free on road or riverside offer several advantages to the forest owner compared with short term timber harvesting contracts; there can be better control of the forests in general and of logging operations in particular, and prices may be better if the raw material is sold at free market prices or through timber auctions. Considering, however, the difficulties some countries have in building up a state forest service to the point at which it can successfully undertake exploitation, it is understandable that this method of sale is not widely used in tropical forests.

3.5.2 Sale of standing trees.

Another method that can be recognized is sometimes known as a "stumpage sale" and the price as the "stumpage". The buyer has to organise and finance the felling operations and the extraction of the wood. The forest owner remains responsible for all other activities of forest management ^{1/}.

It may sometimes be difficult to distinguish between a utilisation contract and a stumpage sale, especially if the former covers only a short period. The significant difference is that in a stumpage sale a determined quantity and quality of wood is sold at a certain place for a specific price, whereas in a utilisation contract cutting rights are granted but quantity and quality of the raw material are usually not exactly specified. An example of stumpage sale is the "Timber Sale Licence" of British Columbia. There the boundaries of certain parcels of forest land are marked by the provincial forest service. The exploitable volume on each parcel is measured and the total quantity sold to the enterprise which offers the highest price at auction. A "Forest Licence" in Trinidad which gives the right to a private entrepreneur to cut certain trees marked by the forest service in advance could be also considered as a stumpage sale. That the distinction between the two forms of wood disposal is somewhat arbitrary may be indicated by the one-year "Permisos" which are issued in Venezuela, granting an area of up to 800 hectares to an enterprise for timber cutting, and which have something of the character of a utilisation contract.

A stumpage sale gives less possibilities to the owner to influence logging than he would have by selling the raw material free on road. On the other hand, his control on exploitation is stronger than in the case of a utilisation contract.

3.5.3 Forest utilisation contracts.

Often the easiest way for a government to organise the exploitation of the unworked forests is by a utilisation contract ^{2/}. The company to whom the forest utilisation contract is granted provides the necessary skills and capital required to open up the forests and extract the timber; the government receives,

^{1/} Stumpage sales are common in western and southern Europe, in large parts of USA and in some Canadian regions; they are also practised as an alternative for wood disposal in many countries in which forest utilisation contracts are granted.

^{2/} In most tropical countries a large proportion of commercial logging is organised through utilisation contracts. Outside the tropics this form of wood allocation is of importance, for example in northern Mexico and in the Canadian provinces.

without too much involvement and difficulty, the revenue from the fees associated with the contract and the timber purchased.

Despite the advantages that utilisation contracts would appear to have, serious arguments are sometimes put forward against them. Three of the main ones are as follows:

- i. The granting of such contracts favours the uncontrolled exploitation and perhaps the destruction of the forest, since private entrepreneurs are only interested in making as large a profit as possible. The result may be forests which have been creamed.
- ii. If large areas are given to a single company, this company acquires an important monopoly of wood supply, which will give it a substantial advantage over the other members of the timber industry. The result may be such a restriction of competition that this company comes into a position to exercise an undue influence on the state forest service or even the owner.
- iii. An entrepreneur may acquire rights for large forest areas mainly for motives of speculation without being interested in utilising the resources that have been granted to him. A whole region could thus be denied economic and social development.

Nevertheless, the method is used in many countries and the main reason seems to be that till now it has frequently been the only form of timber sales procedure by which governments could implement large scale utilization of the national forests. It should, however, be emphasised that there is nothing intrinsically harmful in utilisation contracts; difficulties stem from mistakes in drawing up contracts and/or from ineffective supervision of their implementation. If appropriate provisions are included in the agreements and if the state forest service exercises proper control, utilisation contracts can be made to work in a mutually satisfactory manner. Uncontrolled exploitation which can still be found in many forest areas is generally the result of poor forest management in its widest sense rather than the consequence of using any particular method of timber disposal. Since utilisation contracts are often granted during the early stage of forestry, it is easy to find examples of harmful practices by grantees. This does not mean that in a more advanced stage, when the state forest service can more effectively deal with the long term management of the forests, utilisation contracts will not function satisfactorily.

It can therefore be concluded that forest utilisation contracts have two different aspects. First, in many areas they result in more or less uncontrolled exploitation of forests. With the advancement of forestry and when the forest owner can practise more intensive forest management and exercise better control of logging, utilisation contracts, especially the short term timber harvesting contracts, may be replaced by operations carried out directly by the state forest service, or wood may for example be disposed of through stumpage sales. Utilisation contracts have to be considered in this case as a transitional form of forest utilization, characteristic of an early stage of forest development. Secondly, in their long term form, utilisation contracts may play an important part in intensive forest management and become a regular feature of sustained yield forestry. Long term forest management contracts in particular are a comparatively new but useful device consistent with sound overall management of public forest lands.

Chapter 4

THE OBJECTIVES OF THE PARTIES TO FOREST UTILISATION CONTRACTS

4.1 THE OBJECTIVES OF A PUBLIC FOREST OWNER

Before a government decides to adopt a policy of granting forest utilisation contracts either on part or all public forest land, its objectives should be analysed carefully. These may include all or some of the following :

- i. The development of an efficient and stable national forest industry.
- ii. The rational clearance and use of forest resources in areas where the forests will not become part of the permanent forest estate.
- iii. The conservation and protection of the forest and the full utilisation of the production potential of those areas which will form the permanent forest estate of the country.
- iv. The preservation of protection forests.
- v. The rationalisation of the system of fees to be paid under a utilisation contract.

It is important that forestry legislation and the individual utilisation agreements each include provisions which ensure the achievement of the owner's objectives.

The objectives of the owner may change according to the prevailing stage of development of forestry and forest industries. At an early stage of this development, the objective may be to use resources as intensively as possible primarily as a source of revenue, even if this involves the uncontrolled exploitation of the forest. With the development of a forest industry, the forests become important as a source of supply of raw material to support the home economy and for the foreign exchange derived from the export of high quality logs and manufactured wood products. By these circumstances the forest owner becomes more interested in building up wood production and utilising the forest resources on a planned basis. Progress of economic development, combined with more efficient administration, improvements in infrastructure and decrease of unexploited commercial forests often strengthen the idea that the forest resources represent an important source of wealth and income. The owner now realises the importance of the forests as a basic factor in continued social and economic progress and is interested in managing them on a sustained yield basis.

Efficient control of utilization contracts in the interests of the owner does not depend on administrative measures only, but also on sound decisions on numerous technical problems of forest management which require a knowledge of logging methods and industrial practices. Even if wood disposal is largely organized through contracts, it may well be good policy for the forest owner to manage some forest areas, especially some of the forest reserves, by his own forest administration. The experience and information which the state forest service may gain from such operations could be useful in controlling the activities of the companies to which forest contracts are granted. The techniques, including logging, practised in these directly managed areas may be looked upon as "pilot projects" to demonstrate which measures can be most effective under various conditions.

4.1.1 The position of the grantee.

The attitude and requirements of an operator interested in a forest utilization contract may differ considerably depending on the extent of industrial development and the size of capital investment required in relation to the time needed to amortize it. Accordingly, four classes of operators can be distinguished.

The first and simplest class is represented by independent fellers using manual extraction methods only. They may, for example, fell trees near a river, put the logs on rollers and drag them along a path to the water; the costs are comparatively low. This type of logging depends greatly on natural tracks and waterways and is associated with the pioneer stage of logging in virgin forests. The result is selective exploitation in a narrow strip along rivers or existing roads.

The second class is represented by an enterprise which uses some machinery such as motor saws, tractors, winches and lorries. Exploitation may penetrate some miles into the forest up to the maximum distance from the nearest communication line over which tractors can economically operate. Sometimes primitive forest roads usable only for a short period may be built. Logging is usually restricted to the best species and to the most valuable pockets of timber and lacks a well prepared logging plan for the whole forest. Such operations, organised by entrepreneurs who may have invested their capital in the required machinery, are still common in many regions. If a considerable number of these operations are at work, large forest areas may be exploited in an unsystematic manner in very few years, particularly if the terrain is flat and primitive roads, built during the dry season, are sufficient for wood extraction. This kind of exploitation will lead soon to a situation to which the expression "many forests but no wood" could justifiably be applied.

The third class consists of companies which are sufficiently strong financially to make a high level of capital investment and are technically capable of opening a forest area with a planned logging system including all-weather roads that may be used by heavy transport. Due to the substantial investment, this type of operator is interested in extracting a big volume per unit of area in order to absorb the high overhead costs. Large timber export companies, medium and large size sawmills or partially integrated forest industries belong to this group.

The fourth class includes companies which, due to their large capital investment in wood processing industries, require long term security for raw material supply. Typical enterprises of this type are integrated industries, for instance a sawmill with planing mill and furniture-making, a plywood mill combined with a particle board factory, or the large units of the pulp and paper industry.

Operators of all the different categories are equally keen that their operations should not be delayed by the administrative procedures of the forest owner. They are of course concerned that the grantor fulfills his obligations in a satisfactory manner, and that there is no unjustified dispossession, which is of the utmost importance to all of them.

The importance attached to continuity of raw material supply differs, however, according to the type of operator. It is of course true that even the entrepreneur who is only concerned with logging and is using machines perhaps already completely depreciated would still be interested in obtaining a long term contract. But his freedom to change to other activities is much greater and his dependence upon a continuous supply of raw material much less than in the case of a sawmill or a plywood plant where reduced production due to inadequate log supply is accompanied by greatly increased unit costs.

The more heavily capitalised the enterprise, the more importance it is likely to attach to long term security of wood supply.

4.2 THE ADJUSTMENT OF UTILISATION CONTRACTS ACCORDING TO THE DIFFERENT CLASSES OF OPERATORS

One of the most important requirements for a successful wood disposal policy is therefore to make the duration of contracts, the size of areas and volume of wood to be harvested annually, suit the needs of the different classes of operators in the country. Generally, the duration, area and volume should be increased with increasing capital investment and degree of industrial integration of the operator.

The interests of the independent small scale loggers or small logging units could be met by short term contracts of say 1-5 years. At the other extreme are pulp and paper companies and fully integrated wood conversion units whose scale of industrial organisation requires long term (say over 15 years) security of raw material supply. In-between would be those operators whose interests can be met by an intermediate contract of 5-15 years. These would include companies which have to operate over more than 5 years in order to amortize their investments in, for instance, the construction of permanent forest roads, but whose investments in wood processing are not so large that long term security of wood supply is essential. A range of contract durations along these lines has been suggested by Farqhar after a study of the wood disposal policy in the Philippines ^{1/}. According to his proposals, the following three types of contracts should be offered:

- i. "Industrial licences" for a period of 25 - 30 years, linked with a definite undertaking to establish an industrial plant.
- ii. "Forest development licences" for a period of about 15 years, involving the building of a permanent forest road network and linked with the development of a forest management unit.
- iii. "Minor licences" granted for a short period only, with no development foreseen. This type of contract should mainly be applicable to the salvage of timber from land which will not remain under forest.

Guidelines for settling the minimum contract period according to the size and structure of the operator are given below (the proposed periods are only given as an indication) ^{2/}:

- i. Operators who work without large machinery and without building permanent forest roads: 1-5 years.
- ii. Operators using heavy equipment and building forest roads, and companies installing small sawmills: 5-10 years.

^{1/} FAO (36): "Forestry Economics. Report to the Government of the Philippines".

^{2/} Among the different countries which have varied the contract duration according to this principle, Ivory Coast may be cited as an example. There, logging operators may apply for contracts of 5 years; operators with a sawmill may be granted a contract for up to 10 years, companies building a peeling plant, a plywood factory or an integrated forest industry may obtain 15-year contracts.

- iii. Operators building large logging systems or with important wood conversion units : 10 - 15 years.
- iv. Companies building pulp and paper mills and companies with large integrated forest industries : over 15 years.

To arrange utilisation contracts along the above lines is frequently difficult or almost impossible because of contracts which have already been granted. However, an interesting provision which could facilitate a reorganisation of all utilisation contracts in a country can be found in Guyana. There the forest service has not entered into any contract extending beyond a certain date. At that time all contracts will have to be renegotiated and then a comprehensive plan for wood disposal can be implemented.

Chapter 5

LEGISLATION AND FOREST UTILIZATION CONTRACTS

5.1. LEGISLATION ON FOREST CONTRACTS IN RELATION TO THE GENERAL LEGISLATION ON NATURAL RESOURCES

Like all forms of resource disposal, the grant of forest utilization contracts on public land is subject to law. This chapter will therefore discuss briefly the nature, form and content of the acts and regulations which directly or indirectly govern such contracts.

In general it is the forestry legislation which governs utilization contracts. The forest acts lay down what types of contracts may be granted, and set out the principles governing logging and forest management in the granted areas. The forest regulations, which normally supplement the acts, may regulate in detail the legal, administrative, technical and financial requirements for the various types of forest contracts. An exception to this practice is to be found in Ghana, where the legal provisions for forest contracts are partially contained in a special Concession Act, which refers also to mining and other non-forestry concessions 1/. Occasionally, provisions for forestry contracts are included in Acts related to agriculture and land reform, as in Panama 2/. In some countries, special legislation related to forest utilization contracts, usually in connection with some basic provisions of the forest law, applies 3/.

Forest utilization contracts, however, exist within the general framework of the national legal system and will thus be subject to numerous other acts and regulations. The first of the general laws that may have to be considered is of course the Constitution; its provisions may, for example, empower the government to grant contracts on public land or fix the maximum duration for a contract 4/. Again, land tenure law may well be pertinent in setting out the different categories of forest ownership and the rights to dispose of forest resources. Not only the general legislation and common law of the country are to be taken into account, but also its customary law which may in some cases determine the rights of local populations over certain categories of forest land.

Other legislation or legal processes, such as the labour law, investment legislation and of course the general provisions of contract laws and arbitration legislation will also have to be considered. The special problems related to investment legislation and its importance for foreign investors are discussed in Chapter 12.

1/ See Concession Ordinance of 1900 (111) and Concession Act of 1962 (116).

2/ Thus Art. 457-465 of the Agricultural Law (177) of Panama determine in detail the legal provisions applicable to forest utilization contracts.

3/ See for example the decree on forest concessions (172) of Honduras.

4/ This is the case in the Philippines, where Art. 13 of the Constitution lays down that forest contracts may not be granted for a period longer than 25 years and may only be renewed for another period of at most 25 years.

MAIN REQUIREMENTS FOR AN EFFICIENT LEGISLATION ON FOREST CONTRACTS

It is obvious that any policy of forest utilization contracts must be in accordance with and supported by appropriate and sufficiently detailed legislation. The following paragraphs deal with the main requirements for effective legislation in this field.

Legislation related to forest contracts should be part of comprehensive forest legislation designed to ensure implementation of government policy for forest management and the development of forest industries. The provisions of this forest legislation must be realistic and aligned to the real needs of the community and to its stage of economic and social development. All too easily the efficient operation of a national forest utilization policy may be hindered by the uncritical adoption of legislation from other countries that is either unnecessary or impracticable under local conditions. In preparing such legislation, some attention will need to be given to such factors as the extent of the forest area and its legal status, the availability of manpower, technical skills and capital, the existing system of land tenure, the extent to which customary rights are practised, the pressure for agricultural land and the structure of the existing forest industries. Legislation regulating utilization contracts should furthermore be based on an examination not only of all laws relevant to forestry and forest industries, but also of those laws of social and economic nature which may somehow affect the forestry sector. Only then will it be possible to ensure that the relevant provisions on forest contracts are not inconsistent with the other laws of the community.

One of the shortcomings often found in existing legislation is that only one type of contract, usually a short term timber harvesting contract, may be granted. It is therefore impossible to vary the area and duration of contracts in relation to the needs and capabilities of operators. Thus the stabilization of the timber industry on a long term basis cannot be achieved, since the legal provisions empowering the administration to grant long term contracts just do not exist. In the last few years, however, considerable progress has been made in view of the increasing importance of forest exploitation and rapidly growing exports of roundwood and forest products. Several countries have now introduced new legislation allowing for different types of contracts, including contracts for long term forest management ^{1/}.

It is important to distinguish between those legal provisions related to forest contracts which should be part of the Forest Act itself, and provisions which should be in Regulations. The Forest Act should provide only for the main factors such as the different types of contracts, their duration, the conditions under which they may be granted and the main objectives. Provisions which have to be modified frequently or which include much detail should be in Forest Regulations. The Forest Act must have a provision enabling the executive to issue regulations as required from time to time; by this means, the legal basis of forest contracts will be flexible enough to permit modifications of the government's wood disposal arrangements to fit in with socio-economic changes. An example of the necessity for a distinction between the Act and Regulations is the problem of stumpage. In some countries, the actual rate of stumpage has been laid down in the Forest Act itself, and as a consequence the stumpage

^{1/} New forest laws, which determine to a considerable extent the rights and obligations of the grantee, or special legislation related to utilization contracts, have, for example, been enacted during the last 10 years in Honduras (1961, 1963), Mexico (1960, 1961), Panama (1962), Ecuador (1960, 1966), Peru (1963, 1967), Venezuela (1964, 1965), Cameroon (1969), Congo-Brazzaville (1962), Gabon (1962), Ivory Coast (1962, 1965, 1966), Indonesia (1967, 1970), and the Philippines (1961, 1968).

has remained at the same level for a long period, since a change of the law could only be achieved with great difficulty. The Forest Act should lay down only what types of forest fees are to be levied and the methods of assessment, while the actual stumpage rates, if they are to be fixed at all, should be in the Forest Regulations.

Legislation should also lay down clearly which authority is to have responsibility for formulation and implementation of forest policy in general and of wood disposal through forest contracts in particular 1/. In addition there should be provisions for ensuring effective coordination and collaboration at the national, regional and local levels between the national or state forest service and other authorities having an identifiable interest in forest utilization contracts. Finally, legislation should make provisions to ensure effective implementation and enforcement of the conditions of contracts.

5.3 LEGAL FORM OF FOREST CONTRACTS

Although the expressions "forest utilization contract" and "forest utilization agreement" are used in this handbook, the actual legal form of the document establishing the relationship between the entrepreneur and the state may in fact vary considerably 2/.

In English Law tradition, prevailing in most English-speaking countries of the tropics, the form is usually a "contractual agreement" as, for example, a lease or a licence 3/.

In the Roman Law tradition prevailing in French and Spanish-speaking countries, on the other hand, rights over public forest land are usually transferred either by a unilateral act of the state administration, for instance by a "concession" in its legal meaning or by a government decree or special act. Areas of minor importance are usually granted directly by an administrative action, while larger and more important areas are granted by government decree or a special act 4/.

Although in some countries timber harvesting or forest management rights may be transferred by a unilateral act of the grantor, the transfer is usually preceded by a negotiating stage just as in the case of a contract. It is at

- 1/ The determination of the competent authority is of particular importance in countries in which special state agencies exist, such as an independent authority concerned with land reform and settlement. This body may be concerned with forest land that has been classified to be turned over to agriculture. It should be clearly defined whether the grant of timber harvesting contracts on such land is the responsibility of the forest service or whether it is within the responsibility of this agency.
- 2/ In this handbook, the term "agreement" is used to mean the legal instrument which transfers the timber harvesting and/or forest management rights for a particular area. An agreement may also determine rights and obligations which are not regulated by the general legislation on utilization contracts.
- 3/ Gordon has also called attention to the fact that the term which is used for a certain type of forest contract may not express in an appropriate manner its actual legal form. Thus the "Forest Management Licence", as issued in British Columbia, has, in his opinion, much more the legal character of a "Lease". See "Tenurial Consideration in Tropical Forestry" (50) p.2-3.
- 4/ The most important forest utilization contract of Surinam has been granted by a special decree (202).

this stage that the details are discussed and agreed between the two parties. The result of these negotiations may be finalised in two different ways :

- i. By a document, either in the form of a contractual agreement or a unilateral act of administration, transferring the rights and also laying down the conditions that govern the operations of the contract.
- ii. By an agreement signed by both parties, setting out the conditions of operation and the obligations and responsibilities of the parties, but not transferring any rights. The actual rights are then transferred by a separate legal document which includes the provision that the agreement shall be respected by the parties 1/.

Countries vary in the extent that rights and obligations of the grantor and grantee are determined by general legislation or by clauses in individual agreements. In some countries almost all provisions which govern the operations of the company are covered by the Forest Act and Regulations. An example of this is the legislation of Colombia which contains detailed provisions on methods of exploitation, construction of roads, operations of forest management and payment of forest fees. This arrangement may be appropriate if the conditions do not have to be varied from one scheme to another, as is generally the case for short term timber harvesting contracts.

On the other hand, the "Exclusive Licence to Take Trees and Timber or other Forest Produce", as issued in Tanzania, is a case where almost all the conditions of operations are set out in each agreement. In more than 45 clauses, the working of the area, the payment of forest fees, the rights which are reserved to the grantor and the general provisions dealing with transfer of rights, suspension, cancellation and termination of the contracts are set out in detail. This procedure makes it possible to adapt the agreement more easily to meet the circumstances of each individual scheme. In many cases there is, however, no need to vary the conditions significantly, and standard forms for licences and agreements which contain a fixed set of clauses have been prepared in several countries.

As can be seen, each country may have a different approach and each situation needs to be examined separately. It can, however, be stated that in French and Spanish-speaking countries, the general legislation (Forest Act and Regulations) determines in considerable detail most of the provisions related to wood utilization and forest management, while in English-speaking countries most of the provisions are usually included in each agreement.

5.4 PRINCIPAL PROVISIONS OF LEGISLATION ON FOREST CONTRACTS

It is difficult to be precise as to which provisions should be by Acts, by Regulations under the Acts, or in individual agreements, since procedures vary considerably in different countries. As a general guide, however, it might be preferable for the following provisions to be in the basic Acts :

1/ This solution has been adopted in Indonesia. See Decree No. 57/8/67 (145) concerning the conditions and method of settlement of Forest Development Concessions.

- i. Determination of the various methods of wood disposal on public forest land such as sale of wood felled and graded, sale of standing trees and grant of utilization contracts.
- ii. Definition, purpose and scope of forest contracts.
- iii. Duration and size of area to be granted for the various types of forest contracts.
- iv. Authority responsible for granting contracts and agency responsible for supervision of the contract.
- v. Formalities and procedure in applying for a contract.
- vi. Forest lands on which contracts may be granted.
- vii. General rights and obligations of the grantor.
- viii. General rights and obligations of the grantee.
- ix. Interests of third parties.
- x. Special provisions concerning forest management contracts.
- xi. Methods of assessing forest fees.

Finally, it cannot be too strongly emphasised that sound general Forest Acts are of the greatest importance to give a secure basis for forest contracts as valuable instruments of progressive forest management and forest industry development.

Several lists of the main legal provisions for forest contracts have been prepared. ^{1/} based on an analysis of important Forest Acts and Forest Regulations and on the examination of a considerable number of long term agreements. Part III of this handbook includes a list of the main objectives and requirements for legislative or contractual provisions in long term forest contracts. It is impossible to provide in this list for every circumstance that may arise, since the situation between grantor and grantee varies from country to country and contract to contract. The list may, however, serve as a guideline for general legislation and individual agreements.

^{1/} One of the first lists was published by Troup (85) in 1940. His attention was mainly concentrated on the problem of how the exploitation of the company can be efficiently controlled and how the rights and obligations of both parties can be defined clearly. Whitman (91), 1956, has prepared a list for timber sale contracts which includes a number of provisions that may also be considered in connection with forest utilization contracts. In 1968, Somberg (81) has modified this list for the special purpose of long term forest contracts.

PART II

SPECIAL FEATURES OF LONG TERM FOREST UTILIZATION CONTRACTS

Chapter 6

OBJECTIVES OF LONG TERM UTILIZATION CONTRACTS

6.1 THE DEVELOPMENT OF FOREST INDUSTRIES

The establishment or expansion of integrated wood processing factories on the basis of long term utilization contracts could bring several advantages to the public forest owner and to the whole nation ^{1/}. The most important ones may be mentioned :

- i. Greater contribution to economic growth than from log export.
- ii. Diversification of the national economy.
- iii. Contracts in international markets leading to improved standards in domestically manufactured wood products.
- iv. Contribution to improve the balance payments through foreign exchange earnings from export of manufactured goods and savings of foreign currency by import replacement.
- v. Increased employment, accelerated economic and social development in rural areas, and formation of stable communities and population centres in the vicinity of the forest industries.
- vi. Fuller utilisation of the national forest resources.

6.1.1 Security of raw material supply as a major incentive to attract wood processing industries.

Security of capital investment is often stressed as one of the main incentives if the private sector is to be attracted to the establishment of forest industries, and the security of raw material supply is at least of equal importance ^{2/}. The lack of suitable means of ensuring long term security for large scale industrial units may therefore be a serious handicap in developing a national wood processing industry. Three advantages which a

^{1/} The necessity to promote national forest industries has been strongly expressed by Westoby "The role of forest industries in the attack on economic underdevelopment" (90) and by Osara "Expansion of forestry and forest industries in underdeveloped countries" (71).

^{2/} This argument has been brought out quite clearly by Gordon (50) in his statement: "Countries that are failing to attract investment for their forests and forest industries might consider whether part of the reason does not lie in the inadequacy of available tenures". See: "Tenurial consideration in tropical forestry", p.6.

particular forest industry may gain from long term security of raw material supply seem important :

- i. The company may plan industrial expansion on a long term basis.
- ii. The company may improve its competitive position against other companies, as diminishing forest areas and reduction of primary forests in many countries increase raw material values.
- iii. The company may more easily obtain bank credits and better banking facilities for financing industrial investments.

An efficient policy of long term utilization contracts could therefore be a major instrument for encouraging the establishment of wood processing units. The long term rights over a substantial part of the forest resources, which this form of wood disposal transfers to a specific company, can be a very attractive incentive. The government needs to be aware of this point and should only be prepared to transfer such valuable rights if its main objective is thereby adequately served. Many governments therefore accept as a basic principle that the allocation of large tracts of public forest land under long term contracts is only justified if the grant is linked to a specific wood processing unit. Thus long term agreements would only be granted to companies undertaking either to establish a new forest industry or to link the facilities of an already existing one to the granted forests.

In some circumstances it may of course be necessary to make exceptions to this general rule and to allow the grantee to dispose of part of the extracted volume outside of his processing facilities as logs, either on the national log market or on the export market. Such circumstances may arise when:

- i. Certain species or grades cannot be utilized in the entrepreneur's own plant. In this case, the grantor may agree to such logs being sold for processing to some other national company. He may also accept that several grantees establish a common manufacturing unit, specifically to utilize logs of these classes.
- ii. The international log market has, at least momentarily, to be supplied with certain species or grades in order to keep established marketing positions, to gain foreign currency or to introduce new species to overseas markets.
- iii. A certain type of raw material, e.g. pulpwood, cannot be used economically in the country at present, but an export market for it can be developed.
- iv. The export of logs during the initial phase of the operation is necessary for the company to finance part of the necessary infrastructure.

An elastic policy in this matter should be adopted by the forest owner and the relevant provisions of the agreement should be specified in detail. The grantor has to watch carefully that any initial easing in the obligations recording domestic wood conversion does not become a permanent exception.

6.1.2 Additional incentives to encourage industrial conversion of wood.

In several countries the government has further encouraged the establishment of wood processing industries under investment incentives which usually apply to industrial development generally.^{1/} Some of these are :

- i. Tax exemption for a certain period after the establishment of the industry.
- ii. Guarantee of stable tax rates for a fixed period.
- iii. Accelerated depreciation allowances.
- iv. Investment subsidies or access to cheap credits for construction.
- v. Facilities to import the necessary machinery and equipment.
- vi. Priority for supply of construction materials and other goods needed for the operation of the enterprise.
- vii. Priority to obtain foreign currency for imports of machinery.
- viii. Construction by government of transport and loading facilities, e.g. basic roads, bridges, and port installations.
- ix. Guarantees as to use of water resources and supplies of electric power needed for the installations of the conversion unit.
- x. Special regulations with regard to protection of foreign investments and rights to repatriation of profits if foreign capital is concerned.

Combined with the security of raw material supply from long term contracts, these additional investment incentives may considerably promote domestic wood processing. They may either be used in order to encourage the expansion of the forestry sector as a whole, or to interest international investors in participating in the industrialization of the forest resources ^{2/}.

The charging of particularly low stumpage ^{3/} for the raw material may be used as another important incentive to promote forest industrialization. If a reduction of stumpage during the initial period of the contract is agreed on, the time during which the low stumpage level will apply should obviously be limited. In some cases it may even be worth considering the complete suspension of stumpage payments during the initial period of the agreement if this is necessary to attract the desired type of wood processing industry.

^{1/} These incentives are of a general economic and financial nature and refer frequently not only to the forestry sector. The general problems of the investment legislation as related to agriculture and forestry have been discussed by Henderson in a recent FAO publication "Foreign Investment Laws and Agriculture"(54).

^{2/} The particular incentives which many countries have granted in order to attract foreign capital for the establishment of forest industries will be discussed in Chapter 12.

^{3/} The concept of stumpage and the method of its appraisal will be discussed in Chapter 9.

The government may reason that the overall social and economical benefits resulting from the new industry would be more important to the development of a certain region or of the whole country than the actual income from stumpage. ^{1/} The reduction or suspension of stumpage payments as an incentive for industrialization may be justified if definite social and economic progress, fuller utilization of the raw material and responsible management of the forest resources do result. But such a policy would be difficult to justify if the grantees were to exploit the forest only for the sale of raw material.

6.1.3 Provisions of the agreement to ensure industrial wood conversion.

The forest owner has to ensure that the terms relating to the construction of industrial facilities which the grantee undertakes to establish are specified in the agreement in detail. The lack of sufficiently precise definition of this requirement can be a serious obstacle to the fulfillment of a policy of industrialization. Provisions such that the grantee "will make all reasonable effort to process the available raw material" or "shall establish a conversion unit if economically feasible" are too vague and can easily lead to disagreement between the two parties. It may therefore be advisable to require that proposals for the establishment of a new industry or the expansion of an existing unit, based on a feasibility study, must be submitted by the applicant. This study should specify the kind and quantity of wood to be produced, the type and size of industrial unit, for instance pulp mill, sawmill, peeling plant, particle board factory or intergrated forest industry, to be established, and when or by what stages the industry will go into operation. Only when the grantor is satisfied with the detailed proposals of the feasibility study should a long term utilization contract be granted.

The agreement has then to include provisions which in relation to the industrial processing of the available raw material determine :

- i. the date by which processing of wood must begin, the quantity of raw material to be processed and the kind or kinds of processing;
- ii. a detailed time schedule for the installation of the industrial facilities;
- iii. the extent to which wood extraction, prior to the operation of the industry, may take place. Such extraction should normally be limited to that quantity which is needed for running trials and to build up a stock for the first period of operation;
- iv. the quantity and kind of raw material excluded from processing in the new industry which the grantee may be allowed to extract before the industrial unit has started operation;
- v. the period, say 5-10 years, after which the percentage of raw material which is allowed to be used outside the industrial facilities of the unit will be subject to a new agreement between the parties.

^{1/} In some countries, this problem has been discussed in the context of the concept of "Negative Stumpage". Logging, transport and processing of timber from certain remote areas may only be possible at a loss, even if no stumpage is payable. The grantor may, however, be interested to develop this region through a system of basic roads, which could be constructed in connection with exploitation of the forest resources. Under the concept of negative stumpage he may then agree that the grantee will be compensated for his losses in this particular region by not assessing the full value of standing timber in more accessible and profitable areas.

- vi. that, if the contract is granted under the condition that already existing wood conversion facilities will be expanded, the above-mentioned provisions are formulated accordingly;
- vii. that the grantor has to be informed regularly, say every 6 or 12 months, on the progress of the installations.

If the grantee falls behind the schedule of industrialization due to reasons reasonably within his control, this will be breach of the agreement and its sanctions may be invoked. In addition it may be useful that the agreement includes special provisions relating to the industrial programme, such as:

- i. that the granted area will be reduced by a determined proportion if the grantee fails to establish the agreed type of forest industry on the agreed scale and schedule;
- ii. that the grantee will forfeit his surety bond which he had to deposit as guarantee for the industrialization;
- iii. that the stumpage rates will be increased for all roundwood which under the agreement should after a specified period be processed in the company's plant, but is not.

Just as it is in the interest of the forest owner to ensure the processing of the raw material which is harvested, it is important for the company to verify whether the necessary wood for the industrialization is really available and whether it may rely on the estimates of future timber supply. The company should therefore examine carefully the survey of the forest area to be granted. If the forest inventory has been made by the owner, it may be necessary to allow the prospective grantee to run a check cruise. Where wood supply depends partially on more than one forest owner, the company will have to verify whether these will contribute their share of raw material as proposed in the contract. The company may also require that the agreement determine, in the form of an annual allowable cut, a minimum quantity of raw material ^{1/} that may be harvested from the granted area, and guarantees that the owner will make up any reduction of this annual cut with timber from other land ^{2/}.

6.2 STABILIZATION AND INCREASE OF EFFICIENCY WITHIN THE EXISTING FOREST INDUSTRY

As long as the established conversion units are small scale and have to rely exclusively on their own short term timber harvesting contracts or on the supply from other small logging companies, the development of an efficient national forest industry may be considerably hampered. The established companies will have to fight from year to year for the required raw material and some of them may even have to close down or at least reduce their activity due to difficulties of supply.

^{1/} The determination of a minimum quantity of supply should, however, not exclude that later on a revision of the management plan may provide a higher annual cut if this seems appropriate on sound management principles.

^{2/} A reduction of the annual cut in the granted area may for instance become necessary if the volumes have been overestimated in the beginning or if the area has suddenly to be reduced for some unforeseen event such as political or social pressure for more agricultural land. It is of utmost importance that the grantee has a reasonable security that such a development will not affect greatly his plans of industrial expansion as determined in the long term agreement.

In such a situation, the introduction of long term utilization contracts may offer a sound basis to stabilize the existing forest industry. Once such contracts have been granted, the former structure of the forest industry will almost certainly be changed. The wood disposal policy of the government may determine which enterprises will continue to operate. Among the small industrial units, some firms will expand and become the nuclei of important forest industries. Other companies may be forced either to sell out or to amalgamate with the larger units. The security of supply from long term contracts may thus remove at least one of the obstacles to the industrial expansion and speed up the process of concentration and integration ^{1/}. It should, however, be kept in mind that a policy which favours concentration and integration within the forest industry may frequently not be uniformly applied all over the country. In certain regions, especially near towns or rural population centres, it may be desirable for social and economic reasons to encourage small- and medium-sized companies, and other forms of timber disposal may thus be more appropriate.

6.3 THE PRESERVATION OF FOREST LAND

In many countries, the forests are continuously threatened by shifting cultivation or fires set in order to gain grazing land. Utilization of the forest resources through long term forest contracts, granted to important forest industries which obviously make a substantial contribution to the national development, could lead to more effective protection of the forests from destruction ^{2/}. The forest industry may provide employment for people who would otherwise continue to burn the forest land according to custom. With a reserve of raw material in the unexploited forests, and the possibilities of a future crop on the logged-over areas, it is in the interests of the grantee to preserve the forests on the granted area and to cooperate with the forest service to prevent or reduce the destruction of the forest.

An example of how the lack of utilization of the forest resources may lead to their even faster destruction can be found in some of the states of Mexico. Under a conservative policy of forest protection, the government had declared a considerable portion of the forest to be protected areas in which all commercial exploitation was forbidden. As a result, the forests, particularly the privately-owned ones, had absolutely no economic value and were burnt severely in order to gain pasture land. Under these circumstances the objective of preserving the forest could only be achieved by abolition of the ban on exploitation and industrial utilization of forest resources.

The preservation of the forest by tying it up with a particular industry has, however, to be conducted within the framework of a general land-use policy. A detailed socio-economic survey is needed to determine if the retention of the land under forest would be a better and more practicable use than agriculture. On forest land which should ultimately be converted to other uses, the problem of preservation exists only for as long as is required to utilize the available material under a system of salvage logging.

6.4 THE INTRODUCTION OR IMPROVEMENT OF FOREST MANAGEMENT

One of the aims of a policy of long term utilization contracts may be the introduction or improvement of forest management in the granted forests. In view of the advantages which the company may derive from the long-term security of supply, the government may well consider transferring part or all responsibility

- ^{1/} The study of Dealy (29): "Mergers in the Forest Products Industries", which examines some areas of the USA, indicates quite clearly that the necessity to provide for the long term security of raw material may be one of the main factors to favour concentration within the existing forest industry.
- ^{2/} The necessity to link certain forests to important industrial conversion units in order to achieve their preservation has been strongly advocated by Gordon (50) in "Tenurial Considerations in Tropical Forestry".

This situation may, however, change in the future as the tropical broad-leaved forests diminish and the area of plantations of fast growing species increases. Long term management contracts with the objective of building up a new forest on undeveloped land may thus become of considerable importance. The granting of this type of contract as an instrument of bringing undeveloped land into production has recently been discussed in New Zealand. It has been proposed that the forest service lease to private companies barren and idle land which, under proper management, is suitable for forestry. The companies will plant the land and eventually harvest and utilize the raw material ^{1/}. An agreement of this type already operates successfully in Victoria (Australia).

One of the major problems in such a contract is to settle the payments that the company has to make for the right to use the land. Several methods have been proposed :

- i. The company pays a nominal rent during the initial period, during which no timber can be harvested. Once the trees mature, the land owner receives the value of the standing timber in the form of stumpage. The stumpage is calculated by deducting the logging costs and the costs of road construction, planting and forest management, from the value of the raw material delivered to the factory. This method may give a reasonable return to the land owner, but it has the disadvantage that he will receive virtually no income during the initial period.
- ii. The value of the standing timber is determined as indicated in "i", but the company makes annually advanced stumpage payments of a predetermined percentage. The land owner will consequently receive payments from the very beginning, an argument which may be of great importance if local or tribal communities have to be persuaded to agree that their land may be included in such a contract ^{2/}.
- iii. It is agreed by the two parties that, once the mature trees can be harvested, a certain percentage of the available raw material belongs to the land owner and the remaining part to the grantee ^{3/}. The land owner may then sell his part of the raw material. In determining the respective percentages, the future value of the raw material and the production costs have to be considered.
- iv. Another possibility might be some system of direct profit-sharing between the land owner and the grantee. Such a method may, however, present serious problems. Detailed cost records for a long period of time would have to be kept, and it would be difficult to agree on the division of overhead costs and how to allow for the effects of inflation.

^{1/} See Grainger (51) : "Leasing of forest land on a royalty basis".

^{2/} This method has been proposed in New Zealand. Proposed payment varies between 1% and 25% of stumpage, depending on land categories. See Grainger : "Leasing of Forest Land on a Royalty Basis" (51).

^{3/} In Spain, land which is owned by communities has been planted by an independent reforestation agency. Once the trees can be harvested, the profit will be shared according to this method.

Chapter 7

DETERMINATION OF RIGHTS AND OBLIGATIONS

7.1 THE RIGHTS AND OBLIGATIONS OF THE GRANTEE

Many difficulties leading to disagreement between the parties may be avoided if the rights and obligations under a long term utilization contract are defined in a precise, unequivocal and comprehensive manner 1/. The following list includes the most important items :

- i. The exclusive or restricted right to utilise wood in the granted area, with the right to enter on such land and to carry out all operations concerned with felling and removal of merchantable timber on such land.
- ii. The right or obligation to carry out operations of forest management as determined by the management plan or authorized from time to time by the forest owner 2/, including the obligation to take specified measures against damage by fire.
- iii. The right to establish facilities required for the various operations in the forests such as the construction of the necessary logging roads, canals, loading facilities, ponds for wood storage, the installation of logging camps and repair shops, and the construction of houses and offices for forest guards or employees concerned with forest management.
- iv. The right to establish facilities connected with the industrial processing of wood such as the construction of industrial buildings, the use of the water, the use of electric power, and the construction of administrative buildings or housing projects for staff and labour force.

1/ The determination of the rights of the grantee may be more or less explicit in the different countries. As an example for a very general description of the transferred rights, clause No. 1 of an agreement from Venezuela (208) may be cited : "El Ejecutivo Nacional, de acuerdo con los Artículos 64 y 65 de la Ley Forestal de Suelos y Aguas y de acuerdo con el Reglamento parcial de la Ley Forestal de Suelos y Aguas sobre el aprovechamiento racional de las Reservas Forestales, otorga a la Contratista al aprovechamiento racional de la Unidad Forestal No. .. de la Reserva Forestal de ...". A more explicit definition of the granted rights is given in an agreement from Western Samoa (212) "The Minister hereby grants a licence ... to go in and upon the said land and exclusively (but subject in particular to the provisions of clauses 10 and 16 hereof) to remove merchantable timber therefrom and to carry out thereon such forestry operations as may be authorized from time to time in writing by the Minister of Forests and in every case for any purpose incidental hereto for all purposes connected with the felling, logging and removal of merchantable timber from the said land ...".

2/ From the point of view of the grantee, the responsibility for forest management may be understood in some countries as a right and in others more as a duty. If the company is very interested in the long term wood supply and will benefit from the management operations after a short period (for instance thinnings in coniferous forests), this responsibility will be considered as a privilege. Since in the long run forest management will be in the interest of each operator, it is usually included under the heading of rights.

- v. Privileges granted to the grantee with regard to investment credits, tax exemption and transfer of profits and special conditions concerning the employment of local and foreign staff.
- vi. The obligation to provide training facilities and courses for nationals as forest workers and industrial operatives, and for supervisory and managerial positions as appropriate.

Frequently, the agreements specify also what rights are to be withheld from the grantee, for instance :

- i. Mining and oil drilling rights are always excluded from forest contracts.
- ii. Rights of hunting and fishing and the right to establish agricultural crops are normally withheld, but may be granted if these activities are exercised in order to supply the labour force with food.
- iii. The right to use secondary forest produce, for instance fruits, nuts, and resins, and the right to use earth, gravel and stones for purposes which are not connected with logging or forest management are also usually excluded.

The right of the local population and rights of access for interested third parties will be discussed in the following section of this chapter.

The agreement has also to determine whether and under what conditions the rights may be transferred by the grantee to a third party. Many agreements include provisions which prohibit the transfer of any of the granted rights without the consent of the forest owner.

7.2 INTERFERENCE WITH THE INTERESTS OF THIRD PARTIES

The grant of a long term utilization contract will frequently affect the social, political or economic interests of people already established in the area involved. The rights to be granted may interfere mainly with two groups - the local population depending upon the forests as a basis for its livelihood, and the existing forest industries relying on the forests for their raw material supply. Conflicts between these groups and the grantee may easily arise. It is therefore necessary to identify the possible fields of disagreement and in the agreement to provide solutions which will reconcile the conflicting interests. Otherwise conflicts arising from these problems could lead to confrontations of such intensity as to have considerable political implications for the whole country, and even make it impossible to achieve satisfactorily the objectives of a long term contract. The forest owner as well as the company need to be aware of this possibility and jointly strive to anticipate solutions satisfying the interests of third parties.

7.2.1 The interests of the local population

In many countries, the local population exercises a number of rights on public forest land. These rights may be very significant if the contract is granted on land which has not been previously declared as permanent forest and where the local population has exercised them without much restriction. Even if the granted area has been declared a permanent forest and the customary rights have been officially abolished or limited, a considerable part of the local population may still have to rely on such land for its subsistence.

If land on which the local population still exercises certain activities is included in a long term utilization contract, the interests of these people have, if exercised legally within the framework of customary rights, to be safeguarded, or, if only exercised "de facto" for the need of subsistence, to be taken into consideration. Many agreements include therefore provisions which require that the company has to respect the customary rights and the activities of the local population exercised in the granted area.

Some of the activities, whether practised in accordance with the customary rights or not, may seriously interfere with the interests of the grantee and with the ultimate aim of the long term contract. This is especially true if the forests are used for shifting cultivation or if they are burned regularly in association with grazing. Valuable raw material which should contribute to the long term raw material supply of the forest industry may then be wasted and the future forest crop endangered. Under such circumstances even the richest forest resources and a long contract duration could be of little value to the company.

The government should therefore distinguish between activities of the local population which are not harmful to logging and forest management and which may be tolerated and those which endanger the forest resources. The former, which may include the right of hunting and fishing, the right to collect fruits, nuts and other secondary forest produce, the right to collect firewood or to fell timber for local consumption, will have to be respected. Among the latter, the main problem to be solved is that of shifting cultivation.

Shifting cultivation has to be seen from the aspect that the local population may have no other recourse than to this form of agriculture for its survival. The preservation of the remaining forests can then only be achieved through social measures which give the cultivators a practical alternative for their livelihood. No forest utilisation contract or policy will cope with the problem of shifting cultivation without an effective, concurrent, social and political solution ^{1/}.

It will therefore require the combined effort of the forest owner and of the company if the problem of shifting cultivation is to be handled without political and social repercussions. Before a long term utilization contract is negotiated, the question of whether there is a sufficiently large area of agricultural land available for the local population should be settled. If there is not, then it may be a more realistic policy to reduce the area that is to remain permanently under forest cover, and to decide which part of the area may be turned over to agriculture. Only then will it be possible to concentrate the local farmers in certain parts of the area and to harvest there the raw material by salvage logging operations before it is destroyed. It will then also be easier to protect the remaining permanent forests.

Once the various local claims to using the land have been solved, the grantees may contribute to the protection of the forest resources in several ways :

^{1/} The importance of a detailed land-use policy for the preservation of the forest resources has, for example, strongly been advocated by Aung Din (15). Referring to the situation in the tropical area of South East Asia, he says: "In other words, rational apportioning of land among different uses and in planned juxtaposition - agriculture, pasture and range, and forestry on a national basis after comprehensive land use, land capability and soil surveys leading to legal enactment and constitution of forest reserve or estate is the first and most urgent undertaking needed."

- i. By the creation of new jobs in logging and wood conversion and the employment of people who otherwise would have to continue to practise shifting cultivation.
- ii. By combining shifting cultivation with reforestation, as for instance under the taungya system, to maintain agriculture and create new forests at the same time.
- iii. By introducing a system of education and social assistance helping the local farmers to improve their agricultural methods thus enabling them to practise permanent agriculture on a smaller area.
- iv. By arranging to guard the permanent forest and co-operating with the forest service to prevent shifting cultivation.

7.2.2 The interests of established forest industries

Since the grant of a long term utilization contract may affect the interests of established forest industry, it is important for the government to examine carefully the structure of the existing industry and the means of ensuring their raw material supply. It may even be useful to collect information and views by means of a public hearing before a new long term contract is granted ^{1/}. It is usually necessary for the forest owner to find a compromise which will satisfy the grantee and the local industry, and it may be found along one of the following lines :

- i. The government guarantees the established companies an annual quota of wood which will be sold to them from other public forests.
- ii. The company to which the long term contract is to be granted will have to supply to certain operators annually a volume of wood of specified species and grades, at specified or agreed prices.
- iii. The grantee will have to employ certain companies for contractual logging and transport operations in the new unit. This requirement is usually limited to a certain period, perhaps 5 or 10 years.

7.2.3 The right of access in the granted area

The roads of the granted area which have not been classified as public highways will frequently have to be used by third parties such as :

- i. The local population, who may have a legitimate need to use the roads.
- ii. The holders of neighbouring utilization contracts, who may have to use some of the roads if no other practical access route to their areas exists.
- iii. Companies which hold mining or oil concessions.
- iv. The general public, for communication between villages or for tourism.

^{1/} This procedure is used in British Columbia if a long term tree farm licence or a public working circle has to be established. See the relevant sections of the Sloan Report (79) p. 67-76.

It is very important that the agreement specifies which group of individuals shall have the right of access on the roads of the granted unit, and the conditions which apply to the exercise of those rights, especially on roads which have been constructed by the grantee himself. If the roads have to be used by heavy traffic, for instance trucks from neighbouring logging units or areas, the agreement should provide that adequate compensation for construction and maintenance costs should be paid to the grantee. It may also be necessary to include provisions for arbitration over such matters as interference with operations or damage to roads and installations between the grantee and other parties entitled to use certain roads.

7.3 CONTRACT DURATION

The duration of long term utilization contracts may vary considerably. As may be seen from Table 3, in which the maximum periods of such contracts have been compiled for various countries, there is a tendency to grant the rights for a period of 20-30 years. A duration of more than 40 years is exceptional. Judging from experience, a contract duration of 20-30 years seems to offer a sound compromise between the divergent interests of the grantor, who, on the one hand, may, for economic, social and political reasons, see advantages in limiting the duration to a comparatively short period so as to have freedom to introduce changes regarding the utilization of the forest resources, but, on the other hand, realises that the duration has to be sufficient for the principal aims of long term contracts to be achieved.

The contract duration has also to be seen in connection with the question of whether the agreement is renewable or not. Providing for the possibility of renewal recognizes that the interests of both parties would be served by the continuation of the operations beyond that period for which the agreement was originally granted, but gives to both parties an opportunity to renegotiate. Several countries have therefore a renewal clause in the agreements subject to the grantee having worked in a satisfactory manner. In some countries, the renewal is limited to one or two more periods, while in others no such provision is made. If a long term contract is to be renewed, it is the usual procedure for the grantee to notify within a certain period prior to expiry, perhaps 6 months, its interest in the renewal. The government then considers whether the grantee has complied with all conditions of the agreement and whether it is in its interest to renew the contract.

The agreement must also specify clearly the starting date of the contract and the circumstances or conditions which may lead to its termination. The beginning of the contract is usually the date on which the agreement is signed, but there is no necessity for this to be so if some more convenient date is agreed upon.

The termination of the contract may occur for various reasons :

- i. The agreement expires without being renewed for another period.
- ii. The grantee renounces his rights.
- iii. The grantee becomes insolvent or is dissolved.
- iv. The rights are withdrawn, because the grantee has not complied with his obligations. (The main reasons for which the grantor may invoke this sanction are given in Part III).

Table 3

DURATION AND POSSIBILITY OF RENEWAL OF LONG TERM CONTRACTS
AS DETERMINED IN THE LEGISLATION OF VARIOUS COUNTRIES

Country	Maximum duration / years	Renewal	Special remarks
<u>LATIN AMERICA</u>			
Ecuador	30	no	
French Guiana	18	yes	
Mexico	29	yes	
Venezuela	50	no	Contract granted for 40 years
<u>AFRICA</u>			
Congo-Brazzaville	25	yes	Former "Permis temporaires d'exploitation" granted up to 25 years. Present "Permis industriels" granted for 10 years
Cameroon	5	no	Contract to be renewed several times. Special renewal conditions for companies with wood conversion units
Ghana	up to 50	no	
Ivory Coast	15	no	
Madagascar	20	yes	Renewal only for one period
Nigeria	25	no	
<u>ASIA</u>			
Khmer Republic	up to 20	no	
Indonesia	20-30		Renewal proposed but not specified
Philippines	25	yes	Renewal only for one period
Thailand	15	yes	Renewal to 30 years, period proposed
<u>PACIFIC AREA</u>			
Australia (Eastern New Guinea)		no	
British Solomon Islands	20	no	
Western Samoa	20	yes	Renewal limited to 40 years

When the agreement ends, or if the contract rights are withdrawn, the government repossesses the land. The agreement should therefore contain provisions referring to this situation, and may require, for instance, that the grantee must leave all buildings and installations in good working conditions, and that they shall become, with or without compensation, the property of the grantor. Usually, the provision is made for the buildings and permanent installations connected with logging and forest management, such as loading facilities or logging camps, to become property of the forest owner if he so advises the grantee in writing prior to the termination of the agreement ^{1/}.

The grantee usually has the right to remove all machines, vehicles and movable equipment within a certain period, say 3 months, after termination. In some cases it has been specified that the grantee will be required to hand over all equipment utilized for forest management, such as vehicles, maps, photographs, equipment for fire fighting and forest protection, to the forest owner. It may also be necessary to provide that the grantee must pull down certain buildings and installations within a set period after termination, if so advised in writing by the forest owner.

7.4 EXTENT OF AREA

The following three problems have to be considered in connection with the extent of the granted area :

- i. The size.
- ii. The different categories of forest land which are to be part of the unit.
- iii. The definition and demarcation of the boundaries.

7.4.1 Size of area

The size of the area may vary considerably in practice. In some countries, the government has determined minimum and maximum figures for the area to be granted. This approach should, however, only be used to give a rough indication. An efficient policy for long term forest contracts should provide that in each case the raw material requirements for the proposed industries be examined and the size of the area be adjusted to this. If such an analysis is not made, it could happen that the area will either be too large, and consequently the forest resources will not be utilized to the fullest possible extent, or that the area will be too small and the aim of efficient long term utilization will not be achieved.

The two factors which mainly influence the size of a particular contract area are, therefore, the type of the forest which governs the long term possibilities of wood supply and the type of industry.

In forests which, according to present knowledge, are capable of being managed on a sustained yield basis, it will be comparatively easy to adjust the size of the granted area to the long term raw material requirements of a particular type of forest industry. The problem is likely to be more difficult in tropical broad-leaved forests, where sustained yield management may be difficult. In such

^{1/} The buildings and installations of large integrated wood processing factories are usually not included under this heading. If this should, however, be the case, it must be so stated in the agreement.

cases the grantor may have to plan for a first cutting period of some 30 years and determine the size of a particular unit so that the industry can operate at least for that period. He should, however, also plan for the first cutting period to be used to build up new forests or to increase the yield of the existing ones by measures of forest management, if the continuation and expansion of the industry beyond this period is to be ensured.

7.4.2 Categories of land

The granted area may comprise forest land of different land-use categories. Since a long term utilization contract is by its very nature an instrument of long term forest management, a substantial part of the granted forests should be made up of areas planned to remain permanently under forest cover. If the area includes protection forests, special provisions will have to be included in the agreement governing their utilization and conservation. In some cases, a long term contract may include areas which according to a national land-use plan will eventually become agricultural or pastoral land. The wood which can be harvested on these lands may nevertheless be a valuable source of raw material supply for the first period of the contract, so in such cases the boundaries of those parts which are to be turned over to other uses than timber production forestry should be determined by a detailed land use survey before the first management plan for the long term unit is made. Provisions relating to the logging methods and the type of forest management should therefore allow for adjustments in accordance with the status of the land to be included in a particular long term contract.

The following are the four main categories of land involved:

- i. Permanent timber production forest in which all provisions for rational exploitation and management must be applied. Reforestation should be concentrated in these areas.
- ii. Protection forest in which special measures of conservation, for instance restrictions on logging and road construction, have to be enforced.
- iii. Areas which will not remain under permanent forest cover and which have to be exploited under a special salvage logging programme. No silvicultural treatment should be applied in these forests.
- iv. Forests whose future use has not yet been settled. These areas should be treated as forest land and certain management activities such as silvicultural logging be carried out.

The granted area may include land under different ownerships for which special provisions with regard to wood utilisation and forest management may have to be made. Some of the points to be settled in order to safeguard the interests of the various forest owners are :

- i. The identity of different forest owners and their respective areas to be included in the unit.
- ii. The rights and obligations of the grantee in relation to each property.
- iii. The responsibility for logging and forest management on the different properties.
- iv. The fees to be paid to the various forest owners for the harvested raw material and the method of its assessment and payment.

7.4.3 Boundaries of area

The exact definition of the boundaries of the area included in a forest utilisation contract and their demarcation on a map and on the ground are of equal importance to the grantor and the grantee. Numerous and continuing difficulties with the local population or with neighbouring companies may arise if this is not done adequately. Each long term agreement should therefore define clearly the limits of the granted area by precise reference to artificial or natural boundaries, which can be unmistakably recognized ^{1/}. The agreement should also include a detailed map of the area. The actual location of the boundaries must be carefully examined if disagreements between the grantees of adjacent units are to be avoided. The practice of setting up boundaries drawn on maps without a field examination of the actual situation is hazardous, as it can lead to many difficulties with regard to demarcation, area and rights of access. Frequently, the best solution will be to choose, wherever feasible, natural boundaries such as rivers and mountain ridges.

It is usually advisable to demarcate the boundaries on the ground, for instance, by clear-cut strips or boundary posts. Well and clearly marked boundaries will help to control illegal cutting by third parties. The grantee should insist that demarcation be done during the negotiating stage of the contract. Demarcation should therefore be the responsibility of the grantor and should probably be undertaken by the national forest service, but it could be provided that the grantee ultimately bears the cost.

^{1/} A difficult situation may arise if the boundary description uses as point of reference the limits of neighbouring units since these may frequently not be well defined either. In order to avoid confusion between the grantees, Art. 10/3 of decree No. 68/179 of Eastern Cameroon (100) has thus prohibited this type of boundary description.

Chapter 8

FOREST MANAGEMENT 1/

The term forest management covers for the purpose of this study all activities which aim at a rational utilization of the standing timber and at the conservation or augmentation of the yield of the forests. But management operations in forests that have been granted in long term contracts cannot be carried out in an equally intensive way at all stages of forestry development. The economic and social importance of the forests, the relative scarcity of wood, the prices paid for the raw material and the experience in silvicultural techniques, are some of the factors which govern the intensity of management. A careful and realistic examination of what is possible in this field under the prevailing conditions must be made by the forest owner, and the long term agreement should only include such provisions concerned with management which can be reasonably well practised and adequately enforced.

8.1 THE FOREST MANAGEMENT PLAN

The public forest owner should be aware that a well prepared management plan is one of the most important instruments for the efficient use of forest resources and therefore no long term contract should be granted without the preparation of such a plan. The plan must cover all important management aspects in the granted area and should be concerned with operations such as :

- i. Protection of the forest resources, involving say, fire prevention and control on shifting cultivation.
- ii. The rational utilization of the raw material, including the determination of an annual allowable cut, and the prevention of wasteful logging methods.
- iii. Systematic working of the granted area, e.g. by felling according to the "Coupe System".
- iv. Proper planning of the road system.
- v. The treatment of stands in order to favour the valuable species in lower diameter classes.
- vi. Restocking of the logged-over areas with commercial species.

1/ For a general treatment of this subject the reader may refer to numerous standard books, such as:

- 1 Davis, K.P. : "Forest Management", 2nd ed. McGraw-Hill, New York, 1966.
- 2 Huffel G. : "Economie forestière", 5 Vols. Librairie Agricole de la Maison Rustique, Paris, 1919.
- 3 Mackay E. : "Ordenación de Montes", 2 Vols. Escuela Técnica Superior de Ingenieros de Montes, Ciudad Universitaria, Madrid, 1944 and 1949.
- 4 Mantel W. : "Forsteinrichtung", J.D. Sauerländer, Frankfurt, 1960.
- 5 Mayer H.A. et al : "Forest Management", 2nd ed. The Ronald Press Co. New York, 1961.
- 6 Osmaston F.C. : "The Management of Forests", George Allen and Unwin Ltd, Aberdeen, 1968.
- 7 Patrone G. : "Economia Forestale", Università di Firenze, Firenze, 1970.

Each management plan may be complemented by additional documents which cover certain activities in more detail, such as a plan to determine the annual felling areas, a plan for reforestation operations, a general plan for road construction or a schedule for the installation of fire fighting facilities.

The period for which a management plan is in force usually covers 5 or 10 years. The rapid changes in wood utilization and marketing conditions make a longer duration in most cases impractical. After the first management period the plan must be revised periodically. The regular revision of the plan is an essential element for ensuring efficient forest management throughout the period for which the area is granted.

Ideally, the management plan should be prepared and agreed before the long term contract is granted. If this is not possible, the agreement should require that such a plan be worked out and agreed during the first 2-3 years which follow the signature of the agreement. The date by which the plan has to be presented, the method by which it has to be prepared and the interim provisions which govern the activity of the grantee until its approval must also be specified.

A well-prepared management plan will include many prescriptions concerning matters which would otherwise have to be defined by general forest legislation or by provisions of the individual long term agreement. It is therefore necessary to lay down that it shall form an integral part of the agreement or, if the plan is to be prepared after the agreement has been signed, that it will become an integral part of the agreement.

The responsibility for the preparation of the management plan may lie either with the forest owner or with the grantee. Usually, the party which has the overall responsibility for forest management is also responsible for the preparation of the management plan. If the responsibility lies with the forest owner, the plan should be prepared in close cooperation with the future grantee. The latter may also contribute to its preparation by providing certain information, such as inventory data and aerial photographs or by making available equipment and facilities for field work and data processing. In some cases, the management plan is prepared by the forest owner at the expense of the grantee.

In several countries it is entirely the responsibility of the grantee to prepare the management plan. This procedure has frequently been adopted where there are many long term contracts, and where the planning section of the state forest service is too small to handle the amount of work. This will be a satisfactory solution, provided the preparation is carefully supervised and the data verified by field checks. It may be desirable for the grantor to specify the outline of the plan ^{1/} and say to what specifications, for instance the standard of forest inventory, the plan has to be prepared. Some countries have also required the company to employ a competent professional forester to be in charge of the preparation. Once the plan has been prepared, it has to be approved by the forest owner.

8.2 THE PRINCIPAL OBJECTIVES OF FOREST MANAGEMENT

8.2.1 Forest Protection

The management activity most urgently required, even at an elementary stage

^{1/} Thus Art. 25 of decree No. 156 (206) of Venezuela presents a detailed outline according to which management plans have to be prepared. Appendix F contains as an example the outline of a management plan for long term contracts in this country.

of forestry, is protection. In many countries, the forests have to be protected mainly from two factors - fire and shifting cultivation 1/.

An efficient fire prevention and suppression system may require that :

- i. The total granted area be divided into sections according to geography and communications and a territorial fire protection organization be set up for each section.
- ii. A programme for providing the necessary infrastructure for fire control, be instituted, including the following measures :
 - (a) Construction of jeep roads and trails to the isolated parts of the different sections.
 - (b) Establishment of fire control lookouts with communication to ground staff.
 - (c) Preparation of landing strips for small planes to facilitate rapid movement of fire fighting crews and equipment 2/.
- iii. Additional manpower for detection and fighting be provided in the fire season. Fire control lookouts must be manned and regular patrol flights to spot fires may be necessary.
- iv. The grantee participates in educational campaigns aimed at reducing the lighting of forest fires by the local population in order to gain agricultural or pasture land.

The problems of shifting cultivation and the contributions which the grantees may make in this field have already been discussed in paragraph 7.2.1.

Measures for the prevention of forest fires and the control of shifting cultivation must be backed by adequate forest legislation and law enforcement. Legislation must include clauses on burning forests or illegal occupation of forest land, and provide for adequate deterrents. For effective enforcement of the law it may in some cases be necessary to appoint special forest police and to protect forests by forest guards or local police forces. The legal aspects of forest protection are usually not left to the grantee but are retained as the responsibility of the national forest service or other government authorities 3/.

- 1/ In the tropical rain areas, the destruction of the forests is mainly caused by shifting cultivation practised for the subsistence of the local population or for cash crops. In the semi-deciduous regions with a dry season, the forests are threatened by fires begun by man in order to create new pasture land.
- 2/ In several large units the companies have their own planes which may be used for fire detection. In other cases, chartered planes are used.
- 3/ If the responsibility to exercise functions of forest police is given to the grantees, conflicts between its representatives and the local communities may arise. A better solution might be that the company has to cooperate with the forest authorities by providing buildings and vehicles, but that the actual police function is exercised by state officials.

8.2.2 Rational logging methods

Forest management has to be concerned with the application of rational logging methods and with a systematic exploitation of the granted area. The logging operations should advance systematically by a system of "Coupes" or felling units. In each coupe all usable wood should be removed before extraction may start in the next one. Provisions to penalize wasteful logging methods, such as high stumps, breakage, the leaving of marketable trees or logs, and damage to the remaining trees as a result of careless felling or extraction, must be included in the agreement. It is also necessary to determine which species, according to the market conditions of the country, are to be considered exploitable. In some cases it will be necessary to define in detail which logs shall be used in the veneer and sawmill industry and which logs shall be used as pulp wood ^{1/}.

In many countries it is prescribed that logging will progress as laid down in an annual felling plan which the company must submit for approval. This plan should indicate which coupes are proposed for logging during the next year and what quantities of wood are to be removed. The plan thus assists in controlling the rate of utilization and checking whether logging proceeds in accordance with the provisions of the management plan.

8.2.3 Planning of road construction

The forest owner must ensure that logging roads will fit into the network of roads which already exist in the country, and that the area will be opened up in a systematic manner. In order to keep road standards consistent throughout the country, it may be desirable for the government to set minimum specifications for logging roads to facilitate their use eventually as public roads.

The location of the new logging roads and the standards of construction must be defined in a general communications plan. The responsibility and standards for maintenance must be determined. These points, together with a time schedule for the construction of the road network, should be laid down in a special chapter of the management plan. Preferably, this planning should be approved by the government agency responsible for public road construction. In some cases, certain rights of way may have to be acquired and it should be the responsibility of the grantor to ensure that any necessary rights of way are given to the grantee.

The projected roads must be classified according to their functions and the responsibility for construction and maintenance. Such a road classification may comprise :

- i. Public highways built and maintained by the government. If the grantee uses these roads to a considerable extent, a special contribution towards maintenance costs may be required.
- ii. Roads built and maintained by the grantee :

Primary forest access roads which are mainly used for log transport and which are connected to public roads. It may be necessary to require

^{1/} This may, for example, be the case in coniferous forests if the company operates an integrated forest industry that includes a pulpmill. As long as saw logs are available in large quantities, the company may be inclined to use trees - which under sound utilization methods could still be converted to sawn wood - as pulpwood.

that they are open to the public, but the grantee should have the power to regulate or restrict such traffic in order to avoid interference with logging operations.

Logging roads which open up certain areas and serve mainly for logging operations. Use by the public may be subject to a special permission issued by the grantor. They may be constructed so that they are only open part of the year (dry season).

Spur roads, which are built to last only for a short time, 1-3 years. No road construction and maintenance standards should be specified. They should only be used by the grantee.

Forest penetration roads as primitive access roads for management operations, No standards should be required.

8.2.4 Silvicultural treatment

Silvicultural measures which maintain or increase the yield of the forests are also part of forest management. Some of the most important silvicultural activities are :

- i. The treatment of stands with the aim of favouring the exploitable species in the lower diameter classes.
- ii. Increasing the representation of valuable species by enrichment planting.
- iii. Natural regeneration or reforestation of the logged areas to ensure adequate restocking with commercial species.

The possibilities for applying specific silvicultural methods in the granted forests vary greatly in different countries ^{1/}. If the responsibility for silviculture devolves on the grantee, the forest owner must plan carefully minimum silvicultural requirements which the grantee can be reasonably expected to maintain under the prevailing conditions. Without such a plan, based on realistic cost figures, the provisions of the agreement related to silviculture will tend to remain a theoretical exercise with very little application on the ground.

The minimum requirements that a company should need with regard to the establishment of a new forest crop may be based on two considerations : first, what minimum area of new forests must be regenerated or planted every year if a given annual cut is to be harvested once the new forests come into full production; second, what is a reasonable percentage of the value of the extracted raw material for the grantee to spend on silvicultural operations. The forest owner should combine both considerations to determine in detail the intensity of silvicultural treatment to be carried out. The agreement or the management plan should also state whether the grantee has to establish forest nurseries, and if so, their size and annual capacity.

^{1/} The silvicultural possibilities are determined in a decisive manner by the percentage of the total volume per hectare that cannot be exploited economically. Thus Moore (68) reporting on the situation in Trinidad has shown how the intensification of silviculture will be favoured by an augmentation of the exploitable volume per unit area due to a closer utilization of more species.

8.3 DETERMINATION OF THE ANNUAL CUTTING VOLUME

Unfortunately, a considerable number of existing agreements do not include any provision as to how much wood is to be harvested annually, so that the grantee may decide freely on quantity, species and grades to be taken out. Some regulation of the annual cut should, however, be exercised by the forest owner, at least by setting an upper limit to the annual utilization volume or fixing the minimum volume which must be taken out annually, or preferably by setting both.

8.3.1 The annual allowable cut

In many countries, limitation of the annual logging volume is urgently required if overcutting and excessively rapid depletion of the forests are to be avoided. The most efficient basis for control is the setting of an allowable cut for each area granted. The allowable cut is an important instrument of any wood utilization policy aimed at stabilizing the forest industry of the country. Under the concept of sustained yield, the cut would be fixed at such a level that the quantity of wood removed each year will not exceed the average annual yield of the forests. The present volume of utilisable raw material has to be spread over the period of time which is required for a new crop to grow up and supply the needs of the forest industry.

The main requirements for the determination of the annual allowable cut are reliable inventory data on the quantity of raw material available in each unit, and accurate information on the annual increment of the different species. Unfortunately, in many countries very little increment information is available. This is particularly serious in tropical hardwood forests, in which the annual increment is very difficult to determine without a long series of growth records. A system of permanent sample plots for increment measurement in non-exploited as well as in exploited forests must therefore be set up immediately either by the forest owner or by the grantee.

The difficulties are further aggravated in tropical forestry where suitable methods of forest regeneration may not yet be known and where it is not feasible to estimate what volume of the presently uncommercial species may be utilized in a later period. Under these conditions the annual allowable cut should at least be determined so that the raw material will be sufficient to supply the forest industry for a substantial period, say, 30 years. During this period experience in silviculture may be gained and new methods developed.

A simple method of fixing the annual cut is to divide the total granted area into felling units of equal size; each year one of these units will be logged. The annual exploitation area multiplied by the average stocking volume per unit area will indicate the volume of the annual cut. This system will give good results in homogeneous forests, for example in Mangrove forests, but in forests with an uneven distribution of the exploitable species the determination of the annual allowable cut should be based on the volume distribution ^{1/}. The total volume of all exploitable species must be spread over the utilization period. If only a comparatively small number of species are merchantable, it will even be necessary to determine what annual quantity of each of the important species, or of each group of similar species, may be harvested. Limitation of the annual exploitation volume for each of the important species can be an efficient tool for achieving fuller utilization of the raw material. A grantee who is not

^{1/} If the area of the long term utilization contract is to be worked under monocyclic logging followed by reforestation, one of the classical yield control methods may be applied. In many tropical forests where polycyclic logging is practised, the annual allowable cut can be determined through methods on the lines of the Brandis System.

allowed to carry out a rapid logging operation utilising only the most valuable species may become more interested in less wanted species in order to increase his annual extraction volume.

If the annual allowable cut is determined in each granted unit, provisions covering the following points may be required :

- i. It will often be impossible for the company to extract during each year exactly the volume laid down in the agreement. A certain tolerance, say, 5 or 10 percent, should be allowed within which over- or undercutting will be acceptable.
- ii. The operations will be made flexible if over- or undercutting above or below the acceptable limits may be balanced in the following period, say, 1-3 years ^{1/}.
- iii. The penalties to be applied if the grantee has not respected the cutting limitations.

8.3.2 Minimum diameter limits

Another form of a cutting control is to set minimum diameters below which no trees may be cut. The minimum diameter is usually measured at breast height; in the case of buttress trees it is measured above the main buttress. A diameter limit for logging is a simple but important control measure which can be applied even in the early stages of forestry to retain young vigorous trees of valuable species until they reach bigger dimensions. In areas which are not to remain permanently under forest cover, or which are to be clearcut and replanted after logging, the enforcement of a minimum diameter is obviously inappropriate, so the provisions relating to diameter regulations should allow for exceptions to the rule in appropriate situations such as salvage logging operations.

Since increment varies with different species and on different sites, diameter limits should be varied accordingly ^{2/}. However, the regulations should be simple enough for easy checking by the grantor, and this need frequently excludes the more detailed regulations that might be desirable for silvicultural reasons. In most countries, the diameter limits have to be fixed arbitrarily, since detailed information on increment is not available.

The usefulness of minimum diameter limits as an instrument of cutting control has been questioned. In Venezuela ^{3/}, for instance, it has been shown that the diameter regulation of the country does not guarantee sustained yield for most of the important species, since their diameter distribution is not regular, but has a heavy over-representation of higher diameter classes. Below the minimum diameter

^{1/} In British Columbia, for example, the grantee may over- or undercut up to 10% in one single year. He will have to adjust the exploitation volume of a 5-year period within a variation of 5% to the aggregated volume of 5 years allowable cut. Specified penalties may be applied by the grantor if these limits (10% in one year and 5% for 5 years) are not respected.

^{2/} In Venezuela, for example, three groups of species are distinguished. For the most valuable species "Maderas Finas", the minimum diameter limit is 65 cm, for the so-called soft species "Maderas Blandas", it is about 55 cm, and for the hard species "Maderas Duras" it is 30 cm.

^{3/} See Lamurecht (58) : "Unos puntos sobre el principio del rendimiento sostenido en la Ley Forestal de Suelos y de Aguas Venezolana".

limits only few trees are left. This form of cutting regulation alone can therefore not ensure the long term wood supply of the forest industries.

The shortcomings of minimum diameter limits in the case of unequal distribution of diameter classes are no reason to renounce them completely. They will not lose their usefulness, especially if an annual allowable cut is determined for each granted unit, until they can be replaced by more efficient methods of control ^{1/}. Even then minimum diameters may remain an instrument of silvicultural practice, though no longer an instrument of management planning, for use in selection systems.

8.3.3 The minimum exploitation volume

Control may be exercised through a minimum exploitation volume specified as the minimum quantity of wood that the grantee must extract annually. Such a clause may be necessary if the exploitable forests are large in extent and the forest owner is interested in a rapid advance of the utilization of the forest resource ^{2/}. A minimum cutting volume can also be of value in promoting the use of less wanted, but still merchantable, species.

If provisions concerning the minimum annual volume of exploitation are to be included in a long term agreement, the following two points should be considered :

- i. The sanctions that will be applied if the grantee cannot reach the minimum volume in any one year. A practical clause can be that the company has to pay the stumpage for that minimum quantity even if a lesser quantity has actually been extracted.
- ii. The provisions that may be necessary if, in exceptional cases, such as a sudden drop of demand for certain species on the world market or operational difficulties outside the grantee's control, the minimum volume regulation becomes impracticable.

8.4 RESPONSIBILITY FOR FOREST MANAGEMENT

8.4.1 Forest management by the forest owner

The overall responsibility for forest management may be retained by the forest owner. This does not exclude providing for the grantee to undertake certain specifically determined management operations such as supplying information for a forest inventory or assisting in fire fighting operations, although he will mainly be concerned with felling and extraction of timber. The forest owner will have to build up a technical and territorial forest organization capable of implementing forest management in each granted unit.

On first sight, the solution by which the grantor keeps the responsibility for forest management seems to be advantageous, since he can exercise a direct influence and control on all operations. On the other hand, this responsibility may be a heavy burden on the administration. Lack of qualified personnel and of funds may make it difficult to build up the forest organization required for effective management. This kind of arrangement may place all the difficulties on

^{1/} Thus in the pine forests of northern Mexico, an annual allowable cut based on a detailed forest inventory is determined in the long term units. The diameter regulation there is gradually losing its importance. Its application in intensively managed forests may even be wrong, since this will make it impossible to carry out the necessary thinnings.

^{2/} This is, for example, at present the case in Indonesia.

the shoulders of the government and give all the advantages of an assured long term wood supply to the grantee. In addition, the integration of forest management, wood extraction and conversion, which can produce many advantages for forestry and forest industries, may not be achieved if this solution is adopted. Some careful consideration needs to be given, therefore, to the question whether, in general, long term forest contracts which leave the principal responsibility for management to the forest owner should be granted.

Retention by the grantor of responsibility for forest management may become necessary where some operations have to be concentrated in one region of the country and will therefore not be carried out within each granted unit. Such a situation will, for instance, occur if the government plans to carry out a reforestation scheme with softwood species close to the site of a future pulp mill or to concentrate all plantations with native species in an area which is particularly suitable for them.

The state forest service is usually in charge of the management operations for which the grantor is responsible. In some countries, however, part of the management operations are transferred to an autonomous agency. Such a solution has, for example, been proposed in Ivory Coast where an autonomous state organization responsible for a country-wide reforestation and silvicultural programme may be formed, the state forest service remaining in charge only of the exploitation control. The establishment of an independent agency in charge of management operations could offer some advantages, since it may be able to raise capital for forestry programmes over and above funds allocated under the general budget. It must, however, be recognized that this system means a double administration in forestry with all the difficulties and frictions that may result.

8.4.2 Forest management by the grantee

In some countries, long term contracts are granted as forest management contracts which place the responsibility for all management operations on the grantee. In some countries, this method is not used at all and in others it is partially used. Taking into account the prevailing circumstances of forestry development, an examination of the experience of countries using forest management contracts indicates that this solution may show good results if appropriate provisions are included in the agreements and if operations of the grantee are supervised adequately.

One of the main requirements is that the grantee must employ a forester to be in charge of all forestry operations in the granted area ^{1/}. Such a provision can be a means of ensuring good progress in management in the granted forests, and mutual understanding between the parties in the management control function.

The professional forester in charge of forestry operations, where the grantee is responsible for forest management in the granted area, is firstly a representative of the company and is concerned with the efficient and economical utilization of the forest resources. But he is also responsible for seeing that the regulations are respected and that the measures of forest management are carried out in a satisfactory manner. This double responsibility is especially evident in countries in which the forester is an official of the national forest service whose salary, however, is paid by the grantee. The influence of the grantor is particularly strong in this case, but the interests of the grantee are also

1/ The employment of a forester of a specified professional standing in all long term utilization contracts is, for example, required in Mexico, Venezuela, Philippines and in British Columbia.

safeguarded since it is usually provided that the post may not be filled without his approval ^{1/}. More commonly, the responsible forester is an employee of the grantee and the annual expenditure for forestry operations is financed directly out of the company's operational budget ^{2/}. It may be useful to provide in this case that the forest owner has to give his approval to the appointment of the forester.

The grantee's responsibility for forest management implies that a technical forest organization has to be built up, sufficient technicians have to be employed ^{3/} and the necessary facilities, such as housing, offices, machinery, equipment, vehicles, and radio communications, have to be provided. The structure of the forest department, as laid down in the past long term management plan in Venezuela, illustrates the organisational considerations :

- i. All forest management, including logging, is to be the responsibility of a professional forester.
- ii. All field operations are to be supervised by forest technicians.
- iii. Specially trained forest workers are to be employed as forest guards for forest protection.
- iv. All operations are to be directed from a central office and field stations to be available for the territorial staff. All forest technicians are to have radio equipped vehicles.

This organization shall be responsible for :

- i. Protection against forest fires and illegal shifting cultivation.
- ii. Planning of the communication system and road construction, determination of annual exploitation area in accordance with the management plan, supervision of logging operations, and marking and measurement of felled timber.
- iii. Forest inventory and preparation or revision of the forest management plan.
- iv. The annual silvicultural programme.

^{1/} This is the solution which has, for example, been chosen in Mexico. The situation in this country is remarkable, since the independent position of the responsible forester with regard to management operations is particularly strong. The forestry organization in charge of the granted area is set up as an independent administrative unit with its own annual budget to finance forestry operations. The necessary funds are raised from a financial contribution of the grantee. A similar organization of forest management has been proposed in Venezuela.

^{2/} This method exists, e.g., at present in the Philippines and in British Columbia.

^{3/} Thus, according to the Philippinian regulations, the company has also to employ at least 5 forest guards for a unit larger than 10,000 hectares. For every additional 3,000 hectares, the company, at the discretion of the Director of Forestry, may have to employ one more guard. The guards will be under the supervision of the national forest service. See Forestry Administrative Order No. 2-1 (157), Clause 2.

The assessment of manpower requirements for forest management given in several FAO studies gives an indication of the number of technical staff that may be required 1/.

The question of ensuring adequate financing of the management operations to be carried out by the grantee may be handled in different ways :

- i. The expenditure incurred in complying with the prescriptions of an approved management plan to approved technical standards could be considered as part of the costs of the wood harvesting operations. These costs are taken into account when the stumpage is assessed. This method, which is used for example in British Columbia, is perhaps the most satisfactory one, but its introduction requires that a thorough stumpage appraisal is carried out in each unit.
- ii. The grantee could decide independently on the amount to be spent in a particular year for management operations. The grantor is not particularly interested in how much the grantee spends on management, but only in the results achieved. If certain management objectives are not reached, the determined penalties or sanctions may be applied. This method may work satisfactorily if the grantee has a strong interest in carrying out the operations and if the grantor exercises strict supervision.
- iii. The expenditure for forest management is a charge additional to the operational costs, but the grantee has to submit annually a budget which indicates the amount of money that is to be spent for the various management operations. The budget has to be approved and the grantor will then determine a certain sum to be paid for each m³ of wood to be removed during the next year in order to finance the proposed expenditures. This method which is applied in Mexico and proposed in Venezuela gives a guarantee to the forest owner that the planned measures will really be carried out. It also strengthens considerably the position of the professional forester in charge of management operations. The example of a North Mexican unit for the year 1966, given in Table 4, shows the structure of such a budget 2/.

1/ See FAO (35) : "Needs and problems of forestry education in Asia". FAO (57) : "Needs and problems of forestry education in Africa". FAO (77) : "Forestry education and training in Latin America".

2/ The forest area of this unit covers about 250,000 hectares and the total annual cut is about 430,000 m³. In this example, the total charge for forest management operations was approximately 0.40 \$ US per m³ removed wood.

Table 4

BUDGET FOR MANAGEMENT OPERATIONS FOR 1966 IN A
MEXICAN FORESTRY UNIT (IN MEXICAN PESOS) 1/

Operations		Annual Expenditure		%
Administration	1 chief of office	33 000		
	1 employee	10 000		
	2 secretaries	17 000		
	office equipment	<u>7 000</u>	67 000	4
Technical	1 director	130 000		
	1 deputy director	58 000		
	1 forest engineer (field)	45 000		
	1 engineer (surveying)	50 000		
	2 draftsmen	39 000		
	6 tree markers	85 000		
	2 technicians	38 000	445 000	26
Territorial organization	2 forest guards (chief)	40 000		
	21 forest guards	232 000		
	field stations	13 000	285 000	16
Fire fighting	Snag felling	90 000		
	Fire towers	13 000		
	Equipment	19 000	122 000	7
Silviculture	Nursery	35 000		
	Clearing/tending	104 000		
	Species regulation	17 000		
	Erosion control	10 000	166 000	9
Technical studies	Inventory	518 000	518 000	30
	Experimental areas			
	Management plan			
Social services	Doctor, medicines, insurance	24 000	24 000	1
Other items			120 000	7
TOTAL			1 747 000	100

1/ 1 Mexican Peso = about 0.08 US\$.

Chapter 9

THE DETERMINATION OF FOREST FEES

9.1 DEFINITION

All payments which the grantee has to make to the owner for the rights to remove and utilize the wood on a specific area of forests and for the purchase of that wood can, for convenience, be considered as "forest fees". Although this expression may not necessarily agree with the usage in the public administration of a country, it is used here to refer specifically to the following financial obligations which may be incurred by the grantee in exchange for the granted rights and the wood (and other materials) standing on or to be produced on the granted areas:

- i. Payments which have to be paid only once, for instance in connection with the application for or the preparation of legal or administrative documents. These fees are usually low and in the context of the whole of a long term contract are without major importance. It is possible, however, that the rights to the contract, as distinct from the timber involved in the contract, could be the subject of a special fee, in which case the amount could be of some significance over the life of a contract.
- ii. Recurring regular payments in the form of an annual area fee, fees for a specific purpose, for instance forest management, and the fees to be paid for the purchase of the raw material.

The term "forest fees" does not include payments such as transport taxes, export duties on sawn wood or logs, and duties on imported machinery and equipment, which are not levied specifically for the granted rights; payments to the local population for damage such as compensation for damage to fruit trees which, for example, are required in parts of Ghana and Nigeria; nor the payment of a guarantee or deposit by the grantee which is required in several countries.

9.2 THE AREA FEE

This type of fee comprises payments which are assessed on the granted land either in a lump sum or more often per unit of area ^{1/}. The area fee may be levied annually or once for all. In some cases, the annual charges may be paid in advance for a period of years in order to simplify the administrative procedure.

In some countries, the area fee may be a legal requirement showing that the grantee has only received rights of forest utilisation but not ownership. The formation of private forestry holdings out of the public forest estate is thus prevented. The payment of this fee is at the same time one of the safeguards for the grantee, which proves that the rights of forest utilization have been granted to him and that no other entrepreneur may acquire the same rights.

^{1/} The area fee has frequently the aspect of a land rent which the grantee has to pay for the use of the granted forest land, as has been described by Wilkes (93): "Ground rent for provincial forest land in Ontario".

The purpose of an area fee may also be to raise revenue for the grantor ^{1/}. A third reason to levy this particular fee may be to discourage speculation with the granted area ^{2/}. This will, however, only happen if the area fee is set at an amount that is a significant financial burden, and has a fairly close relationship to the transfer value of the forest utilisation contract.

9.3 FOREST FEES FOR SPECIFIC PURPOSES

Forest legislation may provide for the payment of fees which must be used by the grantor for a specific purpose. The general management fee or special fees for forest protection or inventory belong to this group ^{3/}. The payments for works of public interest, which are, for example, required in Ivory Coast, ^{4/} can also be included under this heading. This type of fee may be charged for a special purpose which will be of direct advantage to the grantee ^{5/}. Usually, the payments for such fees are paid into a forestry fund out of which management operations in the whole country are financed.

The important feature of this type of fee is that the payment does not have to be accounted for as revenue in the national budget; the money is handled through a special fund for certain specified purposes, which has several advantages. The position of the national forest service might be strengthened considerably if it can be proved that the expenditure required for management can be financed out of the forest. The fact that the grantee has to contribute directly to finance forest operations could also have a favourable influence on public opinion on the management activities of the national forest service. A further important advantage of a special management fee is that the forest service may plan programmes for several years in advance, since the size of the revenue from this fee can be forecast with some accuracy. Taking into consideration the limited funds available in the annual budget to most national forest services, the collection of a management fee may be in many countries one of the few practical solutions for financing those silvicultural or forest protection operations which are the responsibility of the grantor.

If a management fee is to be realistically fixed, the forest service must have proper information on the costs of different operations for which it is responsible.

- ^{1/} It has been estimated that in 1964 about 15% of the total income from all forest fees assessed in Ivory Coast could be attributed to the area fee. See: "Les activités d'exploitation et de transformation du bois de 1960 à 1964" (9), p.40.
- ^{2/} The possibility of reducing speculation by assessment of an area fee has, for instance, already clearly been seen during the last century in the Canadian Province of Ontario. See Wilkes (93): "Ground rent for provincial forest land in Ontario" p. 63-64.
- ^{3/} A substantial general management fee exists in Thailand. For teak logs, the fee is at present US\$5 per m³, and for other species the amount varies between US\$ 1.5-2.5 per m³. In French Guiana, the regulations provide for a silviculture fee (taxe sylvicole forfaitaire). In British Columbia, a special forest protection fee may be levied.
- ^{4/} In Ivory Coast, this fee, which is made in a single payment, amounts up to 400,000 F. CFA (about US\$2,000) per working unit (chantier) of 2,500 ha.
- ^{5/} Thus the legislation of Surinam requires that in forests in which the national forest service has constructed the basic road system the grantee has to pay a special fee in addition to the normal stumpage.

One way of estimating the fee would be to analyse the annual accounts of companies having long term management contracts and use this information as a basis for deciding how much other companies which are free from the management responsibility should pay in the form of a forest management fee. Such a fee may then be charged annually in a lump sum for each granted unit or applied according to the extent of the granted area or the volume of wood removed 1/.

9.4 THE STUMPAGE FEE

9.4.1 The importance of the stumpage fee

In payment for the raw material, the grantee has to pay a fee which is called in this handbook "stumpage fee". In English-speaking countries, this fee is usually called "Royalty", "Stumpage", "Forest Fee" or "Forest Due" 2/. In French-speaking countries, the fee is referred to as "Redevance d'abattage", "Taxe d'abattage", "Taxe de production" and "Prix forfaitaire de vente" 3/. In Latin American countries, the current terms are "Impuesto Forestal", "Precio Forestal" and "Derecho de Monte" 4/.

The stumpage fee is the price at which the forest owner sells the raw material to the grantee. It is assessed on the actual exploitation volume and the payments usually form part of the national revenues. In some cases, however, the stumpage fee may have to be paid partially or totally to local or tribal communities, if these organizations originally owned the exploitation rights in the granted forests. In Nigeria, the revenues go to the "Native Authority Councils" if the harvesting rights are granted on forest land under their jurisdiction. In Ghana, the fees are paid to a central fund of the general administration out of which the tribal organizations (Stools) receive certain payments.

The stumpage fee is by far the most important of all forest fees 5/. While sometimes the area fee or fees for special purposes are not levied, a stumpage fee is levied in almost all countries. Usually, more than 90% of all payments to the grantor derive from the stumpage fee. One of the few examples where it is not charged is French Guiana, where for a certain period the stumpage fee was waived, since the government was more interested in increasing the international competitiveness of the newly-established forest industry by supplying it with cheap raw material than in gaining direct revenue.

- 1/ The annual protection tax in British Columbia to be paid for all areas which are not included in long management units is assessed on a hectare basis. The different silvicultural or management fees which exist in several countries are normally assessed on the basis of the removed volume.
- 2/ "Royalty" in British Columbia, Guyana, Fiji, Ghana, Nigeria, Malaysia, Trinidad, Sierra Leone. "Fee" in Tanzania, Uganda, and for part of the payment in Fiji, Ghana, Nigeria and Sierra Leone. "Tariff" in Eastern Nigeria. See also the study of MacGregor and Dow (62), which in its appendix contains a list of definitions of these terms.
- 3/ "Taxe d'abattage" in French Guiana. "Prix forfaitaire de vente" in Ivory Coast.
- 4/ "Impuesto Forestal" in Venezuela. "Precio Forestal" in Peru. "Derecho de Monte" in Mexico.
- 5/ The problems related to the determination of this fee have been discussed during the last years on various occasions. The publication of Weintraub, 1959; MacGregor, 1961; Lowsley, 1961; Farquhar, 1962; and Leslie, 1969, related to this topic may be particularly considered. Valuable information on the basic problems of stumpage determination is also included in the reports of the different Royal Commissions which have analysed the forestry problems in various Canadian provinces.

The difficulties of many forest departments and some of the most serious problems of tropical forestry are related to low stumpage rates which limit income flow from the areas that have been granted. In order to obtain more revenue, several countries have merely increased the area exploited by granting more forest contracts instead of assessing and applying higher stumpage rates; such a policy will obviously lead to a more rapid depletion of the national forest resources. The determination of realistic stumpage fees which will give to the forest owner the full value of the standing timber is therefore one of the most urgent problems of forestry in many countries.

No problem can cause so much disagreement between the parties concerned and no measure may be so heavily criticized by the forest industry as stumpage determination. The forest owner has therefore to be well aware that stumpage rates will be one of the central points of discussion when an agreement is to be negotiated. If his interests are to be safeguarded, the following two basic principles must be covered by forest legislation:

- i. The methods by which stumpage payments will be determined have to be clearly defined. It may be useful to examine the results of these methods from time to time (after 5-10 years) and to provide for the introduction of appropriate changes.
- ii. A provision must be made so that the stumpage rates themselves be revised from time to time, say, in periods from 3-5 years, by negotiations between the two parties, or that an automatic revision operating at shorter intervals will take place 1/.

Since a policy of long term forest utilization contracts should put emphasis on matters concerned with social improvement of the local population and rational management of the forest resources, the level of stumpage rates should also be seen in relation to these benefits. It may be more important to the interests of a country to ensure that the grantee provides a minimum level of forest management and a stable forest industry and that he undertakes urgently required social services to local communities than to squeeze out a high stumpage rate. The financial implications to the grantee of these additional responsibilities must be evaluated and taken into consideration when the stumpage fee is determined. The forest owner should realize that the costs incurred by the grantee as a result of the various responsibilities of the agreement, such as social services, obligations for forest management, and for the payment of stumpage or other forest fees cannot in the long run add up to an amount which does not leave the grantee an adequate profit and return on his investment.

9.4.2 The influence of the level of stumpage on wood utilization

The stumpage fee may be primarily a revenue instrument, but it can have implications for wood utilization standards which need to be examined thoroughly. In the past too little attention has been given to this important aspect of stumpage assessment. Frequently, a close examination will show that the stumpage for particular species is not realistically related to their actual market value and to logging costs. If the company can make a higher profit on the more valuable species and on the better grades, essentially because the stumpage fee does not reflect the relative values of different species and grades, there is a strong incentive for logging to be highly selective and wasteful. Stumpage determination

1/ An automatic revision of the rates may, for example, be carried out in such a manner that for every change in the price of sawnwood the stumpage will change also by a determined percentage of the price movement.

which takes into consideration the selling price, the logging and manufacturing costs and the recovery rates of the different species is therefore one of the necessary conditions for the introduction of better utilization standards. Improvements in forest utilization may often be brought about more easily and effectively by an appropriate scale of fees than by the numerous stipulations which are usually included in an agreement.

The aim of the forest owner might be, for example, to adopt a system which leaves a smaller than average profit for the most valuable species, in order to reduce the chance of overcutting of these species. The extraction of less valuable species might, on the other hand, offer the prospect of a greater than average profit as an incentive for fuller utilization. In the case of species which have not yet an established market it may even be expedient to charge no stumpage fee in the initial period or to adopt the concept of "Negative Stumpage" as described in paragraph 6.1.2.

An appropriate gradient of stumpage rates is also of importance in order to favour full utilization of lower grades - tree tops, branches, cull trees, damaged trees. Several countries have introduced a special low rate "salvage fee" for this material. A reduced stumpage fee may also be applied for "salvage areas" from which the wood has to be removed urgently, as in areas threatened by shifting cultivation or that have been burned. The full or even an increased stumpage fee should, however, apply to sound trees which have been cut but left in the forests, or to logs broken and damaged by careless felling and extraction.

The impact of stumpage on the profitability of logging different species can be illustrated by an example from Tanzania. In Table 5 the selling price, the total production costs, the present stumpage rate and the estimated profit on sawwood, recalculated as m³ roundwood equivalent, of some of the important species are shown. As can be seen in column 5, the estimated profit for the different species varies from 50 sh per m³ to 200 sh per m³ ^{1/}. Any company is thus given a strong inducement to prefer the more profitable species such as Muninga and Mvule. This is particularly serious in the case of Muninga, a species which is still used for all kinds of utility purposes, whereas it should be used only as a high class, high value, timber.

^{1/} 1 US \$ equals 7.14 Tanzanian Shillings (sh).

Table 5

STUMPAGE VALUE, SELLING PRICE FOR SAWWOOD, TOTAL PRODUCTION COSTS AND ESTIMATED PROFITS FOR SOME IMPORTANT SPECIES IN TANZANIA 1/. Sh per m3 roundwood equivalent 2/. Year 1968

Species ^{5/}	Selling price ^{3/} for m3 sawwood (roundwood equivalent)	Estimated ^{4/} production cost (roundwood equivalent)	Present stumpage (roundwood equivalent)	Estimated profit (roundwood equivalent)
Mvule	364 ^{6/}	120	37	about 200
Camphor	210	120	28	about 60
Muninga	335	120	28	about 185
Mahogany	200	120	28	about 50
Loliondo	294	120	28	about 140

1/ Based on the work of a FAO forest economist - FAO/UNDP SF project. Forest Industries Development Planning.

2/ All figures have been recalculated per m3 roundwood equivalent on the basis of a recovery of 40% for all species.

3/ Average selling price for the whole country and for all grades.

4/ Average sawmilling costs have been estimated at 180 sh per m3 sawwood (true volume) and logging and transport costs at about 50 sh per m3 roundwood. These cost estimates include overheads and business taxes. There is no reason to assume that either manufacturing or logging costs vary greatly within the different species.

5/ Clorophora exoelsa (Mvule), Ocotea usambarensis (Camphor), Pterocarpus spp. (Muninga), Khaya nyasica (Mahogany), Olea welwitschii (Loliondo).

6/ 1 US \$ equals 7.14 Tanzanian Shillings (sh).

9.5 METHODS OF STUMPAGE DETERMINATION

It is one of the important principles of a progressive wood disposal policy that the determination of stumpage should be aimed at realising the real value of the standing timber and the true volume of the actual removed raw material 1/. The application of this principle will minimise the danger that stumpage rates will give an incentive either to concentrate exploitation in limited areas of the country or on extraction of high value species or qualities.

Stumpage may be determined by a unilateral act of the forest owner setting out a fixed schedule of fees, by public auction or tender or by individual negotiations between the parties 2/.

9.5.1 Stumpage determined by a fixed schedule

In many countries, the stumpage rates are specified in a fixed schedule which is usually attached to the forest law or regulations. A company has in such circumstances only the choice of accepting the rates or of not applying for a forest contract at all. This method has, as Farquhar points out with good reason, much in common with the assessment of a tax: "Timber was treated in fact as a form of natural wealth akin to mineral deposits and the same rough and ready method of taxation could be applied to both. The very term 'royalty' points to this close connection" 3/. The stumpage schedule often comprises several groups of similar species for which different rates are listed, but these often do not reflect adequately the differences in the real values between the various species and grades.

The main shortcomings of fixed stumpage rates as they are commonly applied can be summarized as follows:

- i. The stumpage rates are usually determined for a long period and often cannot be adjusted rapidly to changes in the value of the raw material 4/.
If the rates are fixed by the forest law, it may be difficult to change the schedule.
- ii. The rates are usually fixed at the same level for the whole country or for large forest regions. In such cases, the exploitation of forests close to ports or consumption centres is favoured, since lower transport costs from these areas will leave a higher profit to the grantees. These zones will be overexploited, while wood utilization in the remote regions will be low.

1/ It was commonly the case in the beginning of forest exploitation that the stumpage rate was set at a fixed amount per removed tree, irrespective of its actual size and value, since it was easy to count the fresh stumps and to assess "stumpage" accordingly. In a more advanced stage, this method, which strongly encourages a low utilization standard, should be abolished and the stumpage payments assessed on the basis of the quantity of raw material removed, measured, for instance, in m³ or cu. ft.

2/ One of the first comparative surveys examining how stumpage rates are at present determined in tropical areas has been made by MacGregor and Dow (62). The study describes stumpage assessment in several Commonwealth countries and presents some of the most important considerations for the improvement of the prevailing methods.

3/ Farquhar (38): "The assessment of forest fees", p. 1.

4/ A somewhat extreme example is the case of Surinam, where the stumpage rates in the "free concessions" have not been changed for more than 30 years.

- iii. Frequently, stumpage is determined at a flat rate for all species or only varied for a few groups of species. The relation between the real values of different species is not sufficiently considered, and as a consequence the exploitation of more valuable species is favoured and the utilization of less known species discouraged.
- iv. The same stumpage rate is often fixed for all grades and qualities of a particular species, and this gives an undesirable incentive to exploit only the best qualities of a species.

There is no good reason why stumpage fixed in this way should not provide adequate payment for the wood removed, but in practice this is rarely the case. A comparison of rates in countries where stumpage is assessed in this manner, with the situation prevailing in countries where the assessment is by other methods, suggests that the rates fixed do not bear a reasonable relationship to the value of the wood.

9.5.2 Timber auctioning

Another way to arrive at the value of standing timber is from the results of verbal bidding at public auction or written sealed tenders. The price to be paid is influenced by the competition between the parties interested in acquiring the timber on offer. If the raw material is sold in this manner, the forest owner may receive a considerably higher price than from fixed stumpage rates ^{1/}. The auction method may include minimum price, set but not published by the forest owner, below which he will not sell. The minimum or reserve price may be determined by reference to other sales of comparable material or by a detailed stumpage appraisal for the respective logging operations.

The method of public auctioning of timber may be a convenient system for short term utilization contracts. The study by MacGregor and Dow (62) shows that there is a strong tendency in several countries to replace fixed stumpage rates by public bidding. The practice of timber auctioning is used, for example, in the different states of the Malay Federation ^{2/}.

In long term utilization contracts, the application of the auction method may only solve part of the problem. It would be difficult and certainly not in the interest of the forest owner to determine through the auction method the stumpage for the whole contract period once and for all when an agreement is first made. The future value of the wood could only be assessed on the present situation and on the extrapolation of past trends. If a company had to bid for the total volume of raw material to be harvested during the contract duration, it may only make a very conservative offer in order to have a large security margin, since it is impossible to predict the changes of prices and costs over a period of perhaps 30 years. If the forest owner is to receive an adequate price for the harvested raw material and if the grantee is to be protected against losses from falling prices and/or rising costs, the stumpage should be

^{1/} An example from Venezuela illustrates this. In some parts of the forest reserves, the government has gradually introduced stumpage sales with public auctioning. For the years 1961-1964, the average price for Caoba and Cedro amounted to US\$ 7-12 per m³ and for Apamate and Saqui Saqui US\$ 7-12 per m³, while the official stumpage rates were only US\$ 12 and US\$ 6, respectively.

^{2/} In Sarawak, a combined system of fixed stumpage rates and an additional "premium", which is determined by bidding, has been established. The percentage of revenue from this additional payment has amounted to about 20% of total stumpage revenue. The premium may be paid in a lump sum, in a monthly payment during the contract duration, or as an addition to the actual stumpage rates. See Gallant (42): "Export of Ramin. Report to the Government of Sarawak".

redetermined at a regular interval, say, 3-5 years, on the basis of the then prevailing prices and cost situation. Since the company has been granted the exploitation rights for a much longer period, bidding in order to determine stumpage at regular intervals after the first determination, is no longer possible. Another reason why auctions may not be appropriate is that holders of long term contracts control very large areas and may frequently have a dominant position in the market. This will reduce the element of competition so that no satisfactory bid may be made.

What a company acquires in a long term contract can be separated into two items: first, an actual amount of raw material for which it pays a stumpage fee and, secondly, the security of raw material supply for which it may be prepared to pay an additional amount of money. Accordingly, the auction method could be applied in the following manner :

- i. Interested companies may be invited to offer a price for the raw material to be harvested during the initial period of the contract, say, 3-5 years. In later periods the stumpage will have to be re-negotiated and the rates determined by some other method, for instance a proper stumpage appraisal.
- ii. The auction method can also be used in order to find out how much the various companies interested in the contract are prepared to pay for the long term security of raw material supply, either in the form of a lump sum or a premium on the actual stumpage rates.

9.5.3 Stumpage determination through negotiations

Especially for contracts covering large forest areas, stumpage rates are often individually negotiated between the forest owner and the interested company ^{1/}. Based on the prices which he expects for his products and his forecast of costs, the buyer will calculate the upper limit to which he is prepared to go for the raw material. On the other hand, the forest owner will determine his minimum figure, mainly from the following considerations :

- i. In a country in which little information on the value of standing timber is available, reference to the stumpage fees in other countries may give useful information if only to serve as an initial indication.
- ii. In countries in which a market price for the different species and grades exists outside forest utilization contracts, the forest owner may use this price level. Such a case exists, for example, in Venezuela, where a considerable percentage of the annual cut comes from private forests.
- iii. Valuable information may be gained from an analysis of the offers of companies that have participated in timber auctions, in sales of standing timber, or in short term contracts.
- iv. The bargaining position of the forest owner may be based on the results of a calculation of the residual value of standing timber through a stumpage appraisal. In practice this may be the principal method for determining the stumpage for long term contracts, since it is frequently impossible to find a comparable price level.

^{1/} As has just been mentioned, the negotiation of stumpage is of particular importance in connection with the periodic revision of stumpage rates in long term utilization contracts.

The stumpage appraisal method will be discussed in the next section of this chapter.

It could be in the interest of the grantor to dispose of forest produce by different methods such as stumpage sales and short-term contracts with public bidding, which will indicate price levels for standing timber that may serve as a yardstick for stumpage determination in negotiating long-term contracts.

The negotiation of stumpage rates will be difficult if, as may sometimes occur, only the company is interested in a particular long-term contract. In this case stumpage payments for the initial contract period cannot be determined by competitive bidding ^{1/}. Unless reliable data on selling prices and production costs are available, for a reliable stumpage appraisal, the forest owner may be compelled to negotiate more or less arbitrarily according to previous experience or information from other countries. It is of particular importance under these conditions that the agreement should provide for a renegotiation of the rates after a first trial period, say 2-3 years. The bargaining position of the forest owner may by then be strengthened by having the information on which to base a realistic stumpage appraisal. A renegotiation provision is particularly important if the grantor and the company have agreed to keep the price for the raw material low during the first period of operation in order to facilitate the establishment or expansion of a forest industry.

9.6 STUMPAGE APPRAISAL

9.6.1 Principles of stumpage appraisal

The expression "stumpage appraisal" is commonly understood to cover the estimation of the unit residual value to a prospective purchaser of standing timber, as derived from the prices and costs of production of processed products. It is necessary to distinguish clearly between "stumpage determination" and "stumpage appraisal". Stumpage determination is the act of fixing the rates to be paid by the grantee, be it through a unilateral decision of the forest owner, through negotiation or through auction. Stumpage appraisal, on the other hand, is a method of evaluation of the residual value of standing timber (i.e. the amount that could be paid per unit quantity). The result of a stumpage appraisal may then be used for the actual determination of stumpage rates or for fixing the reserve price in a timber auction or negotiated sale. Appraised stumpage rates and stumpage fees actually determined may thus be different.

One of the theoretical weaknesses of stumpage appraisal is that it usually considers only the costs incurred by the buyer in his production activities and takes no account of the cost structure on the seller's side. This point can be of importance if the expenditure for forest administration and management by the forest owner has reached a high level. In spite of this shortcoming, stumpage appraisal is an important element in any forest utilization contract, and the financial situation of the forest owner could be considerably improved in many countries if the prices for the raw material were assessed on the basis of such a calculation ^{2/}.

^{1/} The forest owner can only apply the auctioning principle for the determination of the stumpage rates for the first period of the contract (3-5 years) if at least two companies, equally acceptable to the grantor from a general point of view of forest policy - establishment of forest industries and responsibility for forest management - are interested in the long-term contract.

^{2/} In the context of this chapter it is not possible to discuss all problems of this method in detail. A more detailed examination is to be found in the chapter "Appraising National Forest Timber" (2) of the U.S. Forest Service Handbook. Its basic features are also described in the Forestry Handbook for British Columbia "Stumpage Appraisal by the B.C.F.S. Method", pp. 478-484.

The calculation of the residual value of standing timber takes as the point of departure known market prices of roundwood, or of specific processed forest products, at a selected point, for instance at roadside or factory sale. From these prices, the production costs (costs of manufacturing, transport and logging) are deducted. If no allowance for profit and risk is included in the manufacturer's production costs, then the difference between selling price and total operational costs gives what is usually called "conversion return" or "conversion value". A basis for dividing the conversion return between the buyer and the seller has then to be devised; one part to the buyer for profit and risk and the other part to the seller as the fee or the minimum negotiating price for determining the fee for standing timber. If the allowance is made for profit and risk in calculating the total production costs - and there are several ways of doing this -, then the difference between selling price and total production costs represents the margin available for stumpage. The main elements which have to be known for this sort of calculation, are the selling price of roundwood or of the manufactured products, the production costs, the recovery percentage from the raw material and the profit margin of the company ^{1/}.

The appropriate selling price of logs is comparatively easy to find if the company concerned sells logs to another operator, provided that the price is not fixed at an artificial level. This danger can be practically excluded if there is a considerable open log market in the country or if the individual sale prices can be checked against prices in the log export markets. If no reliable selling prices for logs can be found, it would be preferable to base the appraisal on the selling price of manufactured products. The higher the level of manufacture and the further along the processing chain products lie, the more complicated will be the calculations. This is particularly true if the production consists of pulp and paper or of plywood and particle board. In some cases it will be difficult for the forest owner to determine in detail the manufacturing costs of the company, especially where large integrated forest industries are concerned. One possibility for reducing this problem is to take as the point of reference internationally known manufacturing costs.

The evaluation of the costs which have to be deducted from the selling prices may also present certain problems. First, the different types of jobs which arise in the production process have to be identified and costed. The most common groups of jobs which occur are :

- a. forest administration and management (other than logging)
- b. logging, extraction and transport of wood,
- c. manufacturing the product,
- d. transport and marketing of the product.

The cost examination has to separate the variable and the fixed costs of the operations. The variable costs comprise all current expenditure, as for wages and salaries, supply, maintenance and repair. The fixed costs are those which arise from the existence of the enterprise and include such items as depreciation of machinery, equipment and buildings, insurance and capital charges. Since the depreciation of machinery, permanent installations and

^{1/} The principal elements of stumpage appraisal have been reviewed by Leslie in "Economic Problems in Tropical Forestry" (58bis), and by Walker in "Manual of Forest Valuation" (87). The factors which influence the conversion return have been discussed in detail by Chapman and Mayer in "Forest Valuation" (18).

buildings will considerably influence the costs, the method and period of depreciation for the main items must be examined in detail.

The amount of a given products that can or will be produced from a given quantity of raw material is sometimes expressed as a conversion rate in terms of the amount of raw material required to produce a given quantity of processed product. The recovery or conversion rate has a considerable influence on the cost/price relationship and, consequently, on the conversion return. It has to be determined for different products. The extent to which recovery or conversion rates vary within the same species also needs to be examined. As a result, the stumpage fees may be given in a differential table by species.

One of the important points in stumpage appraisal is the determination of an adequate allowance for profit for the entrepreneur ^{1/}. The profit may be assessed in various ways: first, as a percentage on the invested capital of the company so that the "profit" allowance implies a certain return on the investment. This solution may be suitable for large forest industries with heavy capital investment, but a great amount of operational information is necessary for this method to be applied reliably. Secondly, profit can, as in British Columbia, be assessed as a percentage of the total operating costs ^{2/}. The equivalent profit allowance per unit is subtracted from the selling price and the remainder then covers the total operational costs of the operator and the appraised stumpage for the raw material. This method necessitates a close scrutiny of the costs presented by the grantee, since his profit will be directly related to them. If the selling price is determined on the roundwood level, and if the entrepreneurs operate with a comparatively low capital investment, this method may work satisfactorily. Thirdly, as used for example in Sarawak, the conversion return can be divided according to a fixed proportion between profit for the company and stumpage for the grantor. This solution does not actually solve the problem, since some criteria have to be found to settle the proportion. It has, however, the advantage of being cost neutral and it is not biased in favour of either heavy or low capital investment.

In spite of the long time during which stumpage appraisals have been in use, the crucial question as to how the conversion return should be divided between the company and the forest owner has not yet been answered in a mutually satisfactory manner. In fact, it probably cannot be answered by any general formula, since it involves reconciling differing opinions: this is the essence of negotiation.

In trying to establish a "reasonable" or "acceptable basis for the division of the conversion return, the following points could be worth considering:

- a. The profit expectations and risk evaluation in relation to the level of capital investment evident in other industries and countries.
- b. The profit plus risk allowance that buyers have revealed as their objectives in open log market sales or by bids in timber sales.

In the end, the settlement is likely to reflect the relative bargaining strength of the company and the forest owner.

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- ^{1/} In several countries in which the stumpage appraisal method is used, a special margin for risk is accepted besides the profit. It seems, however, reasonable to assume that, normally, the profit itself includes also an allowance for risk of the entrepreneur and that, therefore, a special risk does not have to be included in stumpage calculation. The problem of the profit margins is discussed in detail in the U.S. Forest Service Handbook (Section 2423/62).
 - ^{2/} As an example of actual stumpage appraisal, the method used in British Columbia can be mentioned. (See "Forestry Handbook for British Columbia" (5), p. 470.) The formula used is: $\text{Stumpage} = \text{S.P.} - (\text{C} + \text{P} + \text{R})$; S.P. is the selling price for roundwood as periodically determined for the major regions, C is the total operating cost for logging and transport, and P+R the allowance for profit and risk. The latter is measured in a so-called profit ratio, which is the quotient of profit plus risk divided by total operational costs. For practical purposes, the selling price will be reduced in proportion to the profit ratio, giving the so-called discount value from which the total operational costs are subtracted. The remaining amount will have to be paid as stumpage.

9.6.2 The application of a stumpage appraisal formula

Since an individual stumpage appraisal for each long term unit demands a considerable amount of work and a highly trained and experienced staff, some countries have tried to apply a general formula for the assessment of the stumpage fee ^{1/}. The principle of any general stumpage formula is that the payments are calculated on the basis of average selling prices and simplified standard costs for manufacturing, transport and logging. Its effectiveness depends mainly on the extent to which the important factors, such as transport distances, recovery rate from different species, grades or qualities, the selling prices for sawn timber or logging difficulties which influence the price/cost situation in a particular country or in a region, are adequately represented. If the relevant conditions are properly defined, evaluated and adequately represented, even a comparatively simple formula may be a considerable help in stumpage determination. A simple but soundly based formula which can be applied on a large scale is more useful than an elaborated and complicated method of individual stumpage appraisal.

One simple general formula would be to adjust the stumpage rates of different species according to their respective selling prices. In this way, the grantor would at least profit from any general increase in the price of the raw material or the processed products and be partially protected from the effects of inflation. This system would also help to avoid the danger of the stumpage rate of a particular species, which becomes of greater commercial interest, remaining unchanged. One shortcoming is that neither the actual exploitation costs nor the recovery percentage are considered. If these vary widely between the species, the profit may differ greatly and the formula could encourage selective logging methods. Another disadvantage is that the general stumpage level adopted as a base may not be closely related to the true level so that the revenue received by the grantor may be appreciably less than he would get under some other system of stumpage determination.

A more refined approach would be to adjust the stumpage rate to the selling price and take account of the factors influencing the operational costs and the recovery percentage. Differences in logging and transport conditions, and of recovery percentages, could be dealt with by a system of rebates on the basic rates ^{2/}.

If the relevant cost and recovery variables are included, and if the rebates are differentiated sufficiently, this type of formula may produce quite satisfactory results. Its main advantages are that it does not favour selective logging nor discriminate against logging in remote areas. However, it still leaves the question of the base stumpage rate and its relationship to the price of the end products unresolved. Thus, while it could reduce anomalies between species and areas, it could still result in stumpages lower than the true level.

^{1/} Experience with the application of a formula has, for example, been gained in Kenya. The method used in that country has been described by Loweley (60). Farquhar (38) has proposed another formula for Tanzania. Gallant (42) has described the method which has been used in Sarawak for Ramin (*Genystylus* spp.). There the formula uses the value of sawn timber free port from which the manufacturing costs (logging and saw milling costs) and the transport costs from the sawmill to the shipping port are deducted. The residual conversion value is divided equally, 50% being left to the company for profit and the other 50% being assessed as stumpage.

^{2/} Rebates, which take account of transport distance and recovery percentage, are used at present in Tanzania. A rebate is given for all species if unusually low recovery grades have to be expected due to a high percentage of cull or defective trees. The rebate for long haulage distances exists for most of the important species. The maximum reduction which amounts to about 40% of the basic stumpage value is reached at a transport distance of about 200 miles.

A formula that will satisfy all requirements for a sound stumpage appraisal would therefore involve a simplified residual value calculation based on standard selling prices and standard production costs established for the whole country. Such a formula should work with a system of deductions and premiums, expressed as a percentage of the basic rates, and assembled in a tariff for the important species or for groups of comparable species. The transport costs, for example, might be increased by a given percentage for every additional 50 km of haulage above a basic distance and a corresponding rebate applied, and skidding distance, changes in slopes and other factors similarly provided for. Once the initial framework for dealing with the main factors has been worked out, the formula and the connected table of standard rebates or premiums can be applied with comparatively little administrative difficulty. The variables in the formula should be adjusted from time to time, say every 3-5 years, in line with the changing market and cost situation of the country.

One of the main problems in the application of any formula is what cost figures should be used. Two companies working under the same external conditions may perform at different cost levels due to differences in efficiency or merely in accounting methods. If standard costs are to be used, it must be decided what degree of efficiency and what accounting practices will be taken as the standard for the cost calculation. It may therefore be helpful to take the cost situation of an average company as the point of reference. This will discriminate against the less efficient companies and favour the companies whose efficiency is above the average level which, all other things being equal, would be in the financial interest of the forest owner. In addition it would be unwise to reduce the incentives for the better than average companies, since they may be the spearhead of new progressive developments in the forest industry of the country.

9.7 THE POSSIBILITY OF AN INDEPENDENT AGENCY DOING STUMPAGE APPRAISAL

To carry out a detailed stumpage appraisal or to develop a general stumpage formula which allows the company to make an adequate profit whilst the forest owner receives as much as possible for stumpage requires a large quantity of detailed information on selling prices of roundwood or forest products and on cost figures for the different stages of production. The required information may be obtained mainly from two sources:

- i. from operations conducted directly by the national forest service. The possibility of obtaining at least part of the required information from this source may be an important argument for organizing the state forest service as an operational unit as well as an administrative unit; and
- ii. from contracts already operating. Since the grantees may be reluctant to disclose this type of information, it is desirable to provide in the agreements that the grantor has the right to inspect the books or to arrange inspection by an independent accountant, if reliable data for a realistic stumpage appraisal cannot be obtained otherwise. In the interest of the grantee it should, however, be guaranteed that information obtained in such a manner will only be used in connection with stumpage appraisal and not for any other purpose.

In view of the difficulties and objections that can arise under these circumstances, it may be useful to pass the responsibility for the preparation of the framework for stumpage appraisal to a research organization or to an independent commission ^{1/}. Such an agency could collect the cost and production data and propose the level of stumpage rates. It would also be concerned with the preparation of a periodic census of production prices and a series of index numbers for the main cost elements and could give advice on new rates when stumpage revision comes due. An independent agency would be in a better position than the grantor himself to collect this type of information from private companies.

^{1/} Such an independent authority has, for example, been proposed by MacGregor (68).

Chapter 10

THE CONTROL OF FOREST UTILISATION CONTRACTS

10.1 MEASURES OF CONTROL

The forest owner must check periodically or at irregular intervals the operations of the company, to verify whether the grantee has fulfilled all his obligations under the forest utilisation contract. If the results of these checks show that the obligations of the agreement have not been carried out satisfactorily, then the grantor may impose sanctions. It is therefore necessary to provide a legal basis for measures of control in the legislation on forest utilization contracts. Provision should be made that the forest owner may check all operations of the company and that his representatives may at reasonable hours of the day visit the granted area and carry out inspection tours in the forests, and to the extent that is deemed necessary, in wood conversion plants and other installations. It may also be convenient to provide that the grantee furnish transportation and accommodation for a reasonable number of inspecting staff, for a reasonable time, and that he give all relevant information to the duly authorized representatives of the grantor.

In order to exercise efficient control, the grantor needs a sufficient number of trained staff. Nothing would therefore be more erroneous than to assume that by granting forest utilization contracts the government is freed from maintaining an efficient, technically competent and adequately staffed forest service. The national forest service may not need to be large if the actual forest management in the granted area is done by the grantee, but a high professional standard is essential. It will clearly be more satisfactory all round for the company to discuss technical matters with competent forest officers than with purely administrative officers.

Control by the forest owner must be exercised in such a way that it will not unnecessarily complicate, or delay, or even render impossible the progress of work by the company. The following kinds of difficulties arise:

- i. Delay because the company has to wait for certain decisions (such as approval of the management plan or of the annual budget for management) which must be taken by the grantor before logging or other operations may proceed. To obviate such delays, it may be desirable for the agreement to provide that approval may be assumed if no objections have been raised by the grantor within a specified relatively short period.
- ii. Slowness in the determination of the extraction volume, which results in considerable interference with the progress of the grantee's work.
- iii. Interruptions in logging through the need to obtain a special "Transport Permit" for the removal of wood. This requirement should be relaxed unless such a permit would also be in the interest of the grantee, for instance where there is illegal cutting by third parties or theft.

10.1.1 Technical control

Control has to be exercised in the planning stage as well as at the operational stage. With respect to the planning stage it should be required that all plans for whose preparation the grantee is responsible must be drawn up in conformity with standard procedures laid down by the forest owner in advance and be submitted for approval to him in accordance with a time schedule. Before approval is given, it may be necessary for the grantor to carry out field checks to verify the information submitted by the grantee. Control at this stage may be concerned with the following operations :

- i. The forest inventory.
- ii. Preparation and revision of a forest management plan.
- iii. Planning a road network and other communication lines.
- iv. Determination of standards for road construction and maintenance.
- v. Preparation of the yearly budget for forest management.

At the operational level, the control has mainly to be done by field checks. These will be simplified if it has been laid down that the granted forests have to be worked in felling units according to a "Coupe System".

Efficient field control depends largely on inspection of the cut over area. During such an inspection, the following points should be checked against the conditions in the agreement :

- i. The satisfactory exploitation of the felling unit.
- ii. The observance of tree marking rules.
- iii. The observance of minimum diameter rules.
- iv. The application of the silvicultural requirements.
- v. The proper utilization of all species and grades to be removed under the existing market conditions as specified in the agreement.
- vi. The removal of all felled timber except excessively defective logs.
- vii. Wasteful logging methods (stump height, minimum diameter of logs, breakage).
- viii. Extraction methods such as location and width of skidding trails or location and size of landings in the case of high-lead logging .
- ix. Damage to the residual stand.

Other field inspections may check, where appropriate, the effectiveness of nursery work, reforestation and other silvicultural measures such as cleaning and thinning.

An effective means of control is marking of the trees to be cut. ^{1/} If this is enforced, it will help to improve the standard of utilization and to protect the residual stand from unnecessary damage. Tree marking is a necessity if logging is practised under a selection system.

In long term contracts, the forest owner should be informed regularly that all operations will progress as determined by the management plan. It is also desirable that the grantee submit an "annual report" in which all operations carried out in the granted unit during the past year are described. The following points may have to be covered in such a report ^{2/}:

- i. Progress on the preparation of the management plan.
- ii. Forest protection (i.e. prevention and suppression of forest fires, control of grazing, control of insects and fungi).
- iii. Production of trees in nurseries and established area of plantations.
- iv. Quantity of wood removed for processing in the forest industry or for local consumption.
- v. Construction of roads, observation towers, ranger stations and other buildings and installations.
- vi. Proposed budget for forest management.
- vii. Social development activities for the local population.
- viii. Other matters related to the agreement which may be indicated.

10.1.2 Control of volume removed

The grantor must obtain exact data on the quantity, species and grades of wood removed annually from the granted area. This information is commonly the basis on which the stumpage fee is calculated. Measurement of the volume removed is also necessary where yield regulation is by volume in order to check actual against allowable cut. The information is important too for the preparation of regional and national statistical records on roundwood production.

The following three methods are commonly used to determine the roundwood volume :

- i. The felled trees are measured before removal by the forest service. Every log must be measured and then marked near the stump by a forest guard with an official hammer. Only marked logs may be removed. This system demands good cooperation between the representatives of the forest service and the grantee if friction and delays in working are to be avoided.
- or ii. All logs removed are measured by the forest service at one or several central checking points, and marked with an official brand. This method is currently used in large units where all wood transport can be controlled at a few points.

^{1/} Tree marking may be the responsibility of the forest owner or of the grantee. The grantor must supervise this operation closely.

^{2/} For a detailed list of items on which the grantee has to report annually see, for instance, Art. 13 of the Mexican agreement, which is attached as Appendix A.

- or iii. The volume removed is recorded by the grantee. Every log must be marked with a serial number and by a special hammer bearing an identification mark. Log volume, species, grade and serial number must be recorded in a special control book which has to be presented regularly (say monthly) to the grantor.

The forest service is only concerned with sample field checks to verify that felled trees have been marked, measured and noted correctly.

The determination of the volume removed is very labour intensive. Since the forest service is frequently short of staff and money, it should be carefully considered whether, in large forest contracts at least, this responsibility could be left to the grantee. Staff would thus be released for more urgent activities such as field inspections in the granted area ^{1/}.

The methods described above are suitable for relatively large and/or valuable logs when it is easy or worth-while to measure and mark each individual log. But for wood of low value and in small sizes, such as pulp wood or fuel wood, these methods are financially and physically impracticable - they cost too much money and manpower in relation to the value of the produce. An alternative method for this material is to weigh each truck load by passing it over a weigh bridge. The weight can be converted to volume by a formula, devised by measuring and weighing each 10th or 20th load, to obtain a weight/volume ratio which is then applied to all other loads. If it is considered necessary - and it seldom is - to know the volume of different species, this can also be derived from the same sample loads. If it is intended to use this method, it must be laid down in the agreement that the grantee provides the weigh bridge, and the procedure for weighing and measuring must be given in detail.

10.1.3 Control of wood transport

Some governments control the transport of wood through special transport permits. Wood may only be transported on a public road if such a permit specifying the species and the log volumes of each load has been issued by the forest service. The permit has to be taken along with the transported material and may be checked at certain control points. Such transport control is basically a method for reducing illegal cutting and transport of stolen timber. In a long term contract, the issue of a transport permit is usually not necessary.

10.1.4 Yearly cutting permits

The yearly cutting permit can have an important control function. The right of exploitation is, in principle, granted by the long term agreement, but one of its provisions may be that logging can continue only if a cutting permit is issued at the beginning of every year. The issue of such a permit can be subject to the fulfillment of certain conditions and thus safeguard the forest owner's interests. The permit may, for example, be refused if the following circumstances occur :

- i. The grantee has not paid all forest fees of the preceding year.
- ii. The management plan has not been prepared and duly submitted to the forest owner.

^{1/} A survey in the major granted areas of the tropics shows that this problem is handled quite differently in the various countries. The responsibility for the determination of the removed trees is, for example in the French-speaking countries of West Africa, almost exclusively given to the grantee, whilst in English-speaking countries it is usually left to the national forest service.

- iii. The annual budget for forest management has not been accepted by the grantor.

In order to make the cutting permit an effective instrument, the agreement should provide that operating without a valid permit will be a reason for immediate suspension of all activities in the granted area.

It is, however, necessary to avoid injury to the grantee which may result from an unjustified refusal of a permit. The agreement should therefore specify:

- i. In what circumstances the grantor may exercise the right to refuse a cutting permit;
- ii. that the permit will be issued quickly, say within one week of the due date, if the company has fulfilled its obligations or corrected shortcomings.

10.2 PENALTIES AND SANCTIONS

The legal provisions related to penalties for any infringement of the national forest law or any other relevant legislation are frequently very general. It may therefore be necessary for the agreement to include provisions concerned with enforcement. One such measure could be penalty payments and, if these are to be applied, the agreement should specify the penalty that will be incurred in each case of breach of the conditions. Another possibility is for the company to lodge a surety bond which could be forfeit if certain obligations are not fulfilled. The possibility of withholding the annual cutting permit under certain conditions has already been mentioned. If serious offences against the forest regulations or breaches of the agreement occur, the suspension of all activities in the granted area may follow. The final sanction is the withdrawal of the granted rights. In addition to the application of penalty payments, forfeiture of surety bond or other sanctions, it may be necessary to provide for the payment of compensation for damages to the forest owner or to third parties.

It is important that the application of the various sanctions is governed by principles which will avoid penalizing the grantee unfairly or arbitrarily. The following points should especially be considered:

- i. Which authorities are to decide whether one of the sanctions is to be applied. In the case of sanctions of minor importance, such as payments of penalties or forfeit of a surety bond, the authority usually lies with the state or national forest service. The decision to suspend or withdraw the granted rights, however, is normally left to a higher authority, such as the minister or one of the legal courts of the country ^{1/}.
- ii. The cases in which a certain sanction may be applied must be specified in detail. The principle of equal values has to be respected in order to avoid sanctions which are completely out of proportion to the importance of the alleged fault of the company. It is particularly

^{1/} In some countries, this decision is left to the highest administrative authority whose decision is final. In other countries, the company may then appeal to a court or to a special arbitration commission if it does not accept the decision. If the agreement has more the aspects of contractual law, the suspension or withdrawal of the rights may have to be decided by the courts at once.

necessary to define precisely the reasons which may lead either to suspension or withdrawal of the rights ^{1/}.

- iii. Notice of the intention to apply penalties or sanctions should be forwarded to the grantee in some formal and defined way, such as by registered mail to its official address.
- iv. Any sanction should only be applied after a reasonable lapse of time after the serving of notice, during which time the grantee may be expected to amend shortcomings or to furnish required information.
- v. The refused cutting permit should be issued or the suspension of granted rights should be revoked within a given time, say 3 weeks or 3 months, if the grantee has amended the shortcomings in a satisfactory manner.
- vi. The grantee should have the right to appeal to an impartial body such as an arbitration tribunal if he does not agree with the application of sanctions or penalties.

10.3 ARBITRATION

10.3.1 The necessity for arbitration

Although the interests of the forest owner and of the grantee are closely linked, dispute can still arise. Even the most elaborate regulations cannot foresee or provide solutions for all possible difficulties and points of dispute. Both parties depend on each other and it would be contrary to the aim of having effective wood disposal arrangements to allow to one of them to make it impossible to reach the goal of rational utilization of the forest resources in the interest of the country. An impartial arbitration system is therefore a means to safeguard the interest of both parties. Without the possibility of appeal to arbitration both parties may feel driven to apply measures of resistance or deceit. ^{2/}

The fact that arbitration procedure exists does not mean that the parties should use it frequently. It should, on the contrary, be an established principle that the usual difficulties should be settled directly by the two parties, and that arbitration should be used only as "the last resort". Conditions under which arbitration could become necessary may, for example, arise for the following reasons :

1. Disagreement with regard to stumpage appraisal. The function of arbitration should not be confused with that of an independent commission set up to advise the government on appraisal methods and stumpage rates. Arbitration will become necessary if the forest owner has fixed the stumpage fees with or without advice and the company disputes them.

^{1/} A list of infractions for which certain penalties may be applied and the main reasons which may justify the suspension or withdrawal of the rights are given in the list in Part III.

^{2/} The necessity for impartial arbitration does not only occur in long term forest contracts. It is a common problem for all industries to which long term utilization rights on national resources have been granted by the government. Similar problems exist, for example, in the mining or oil industry and for private electricity companies which exploit the water resources of a country. It may therefore be useful to consider the national legislation on arbitration in these sectors before arbitration for forest contracts is determined in detail.

- ii. Disagreement on the transfer of more obligations of forest management to the grantee in connection with a revision of the management plan.
- iii. Disputes on area and boundaries of the unit.
- iv. The suspension or withdrawal of the granted rights.
- v. Disagreement over the interpretation of clauses of the agreement.
- vi. Disagreement over the application of sanctions or penalties.

10.3.2 Methods of providing for arbitration ^{1/}

In some countries, special arbitration legislation exists which can be applied in forest contracts. In this case it is sufficient for the relevant clauses of the agreement to refer to this legislation. Where no general arbitration legislation exists or its provisions may not be conveniently applied to forest contracts, the agreement must determine in detail the procedure for arbitration. It must be made clear whether arbitration is voluntary, which means that both parties have to agree to refer certain matters to it, or whether it will be applicable automatically, if certain disagreements occur.

Basically, disputes which the parties cannot resolve between themselves may be settled by reference to a special Arbitration Tribunal. The agreement should lay down the procedure applicable to all unresolved complaints and disagreements as follows: Both parties must accept the decision as final, and no application may be made to a legal court to vary the result of this arbitration. The usual way in which the tribunal is set up is that both parties appoint one representative each and the two representatives choose a third member, who becomes the chairman. This three-man team constitutes the Arbitration Tribunal and its decision is final.

^{1/} See also paragraph 12.5 (Chapter 12).

Chapter 11

PREPARATIONS FOR GRANTING A CONTRACT

11.1 DETERMINATION OF GRANTING PROCEDURE

The arranging of a long term contract should be based on careful preparation and usually involves intensive negotiation between the parties. The forest owner should be aware of the different steps in the processes leading to the signature of the final agreement and should formalise the procedure for the processing of applications.

Once the general policy relating to forest utilisation contracts has been established and the legal framework to grant such contracts exists, it is first necessary to determine which authorities will be responsible for the preparation and negotiation of the agreement and which agencies or committees have to be consulted, informed or should give their approval to it. The specific responsibility of each of these agencies has to be defined and the point at which each of them will have to intervene or be consulted during the preparation and negotiation period identified. The following list indicates some of the institutions that may be connected at some stage with the preparations :

- i. The head of State, the Cabinet or the National Assembly, if the approval of one or more of these is required for the establishment of a long-term contract.
- ii. The Minister or Ministers responsible for forestry and forest utilisation.
- iii. Institutions concerned with the overall planning for economic development such as a National Development Council.
- iv. The Ministries of Economics and Finance and/or national investment boards, if special investment incentives are to be granted, and Ministries of Transport, Communications, Power, Industry, Water Supply, Lands, Labour, Education, in relation to infrastructural requirements or development.
- v. Special boards such as foreign capital investment boards.
- vi. The Provincial or State Governments, in the jurisdiction of which the area to be granted is situated.
- vii. Institutions representing the interests of the local population such as Native Authority Councils.
- viii. The state forest service, and/or the technical agency that is in charge of forest contract matters.
- ix. The sections of the forest service which are responsible for the preparation of the agreement.
- x. Representatives of established forest industry.
- xi. A special working commission concerned with the selection of a possible grantee.

The following steps may be required for the preparation of a specific agreement :

- i. Determination of the aims to be reached by granting a certain forest area in a long term contract and the interest of third parties to be considered.
- ii. Publication of the proposed project and analysis of the public reaction.
- iii. Invitation to private firms to apply for a contract.
- iv. Analysis of applications and selection of a suitable company.
- v. Discussion with the selected company and settling the studies, documents and information to be submitted before the final decision is made.
- vi. Analysis of submitted material, drafting, final negotiation and signature of the agreement.
- vii. Negotiation of the clauses of the long term agreement.

The different steps in the preparation period and the points at which the various institutions have to participate may be summarized in a flow sheet. As an example, the flow sheet for processing contract applications, as prepared in Indonesia, is shown in Table 6. This diagram would of course be modified according to the situation in a particular country. It could also be much more detailed showing, for instance, the various technical operations required during the preparation period.

11.2 APPLICATIONS

11.2.1 Invitation for application

In many countries, the initiative to apply for a long term contract is left completely to individuals or private companies. From the provisions of the forest legislation, private entrepreneurs know that such contracts may be granted and apply for the areas in which they are interested. In other countries, the government advertises the forest areas for which contracts are to be granted, and invites application ^{1/}. This approach has certain advantages, the forest owner can choose the time and the areas of forest land that he thinks most appropriate. The public invitation to apply may attract a larger number of companies from which the forest owner can select the one or ones that he considers most promising. This is of particular importance if foreign companies with large industrialization possibilities and connections with foreign markets are to be attracted. In addition, the public offer of the area will inform the established forest industry of the project, which may result in a common effort of these industries to apply.

11.2.2 Documents and information to be submitted with application

The application for a forest contract should be made in writing (letter of intent) and furnish detailed information relating to the applicant's qualifications so that the grantor may evaluate the applicant's suitability or potential. The following type of information is usually required :

^{1/} Thus the Government of Venezuela advertised areas for several large management contracts in 1965 in a special "Boletín Informativo para la Oferta de Areas" (3).

- i. Personal or business details of the applicant such as name, nationality, profession and residence; in the case of an application by a company, its legal status, registered address, list of shareholders, names of directors and managers, etc.
- ii. In the case of the initiative coming from the applicant, information on the area requested, such as location, boundaries, approximate area. A map of prescribed scale which shows the boundaries of the proposed unit may also be needed.
- iii. The present and past operations of the applicant, such as description of industrial operations, balance sheet showing invested capital and audited accounts, tables indicating development of production during the last years, information on market experience, inventory of available machinery and equipment, etc.
- iv. Utilization proposals relating to the forest resources applied for, such as the establishment of a forest conversion unit (sawmill, plywood plant, pulp and paper industry) of specified size within a certain period, the quantity of raw material to be processed annually, sources of finance nationally and abroad, detailed time-table of operations.
- v. Proof that the applicant is capable of lodging the required deposit or that a surety bond will be issued by a specific bank.
- vi. Receipts proving that any prescribed application fees have been paid.

Information regarding utilization proposals can, of course, only be tentative, since the applicant probably does not yet have detailed figures on the type and quantity of the available raw material. Hence, the more information that the forest owner can make available on the nature of the resources on the contract area, the more specific the proposals of the applicants are likely to be, and the easier it will be to make a qualified selection among the various applications.

Foot notes to Table 6 :

- 1/ From "Technical Guide for Foreign Capital Investment in Forestry", August 1968, Jakehutan Ditusa, Appendix 16. 75.
- 2/ The foreign capital investment board has to give its approval if the contract is to be granted to a company financed with foreign capital.
- 3/ The provincial government, in the jurisdiction of which the area to be granted is situated, has to give its approval.
- 4/ The sub-team on area will check whether the area applied for is still free to be granted.
- 5/ The forest development board represents the different departments of the forest service.
- 6/ The preliminary agreement is comparable to a forest exploration contract.

11.2.3 Analysis of selection between applications

Different methods have been applied in the past to decide which applicant should be selected. The easiest way is to choose the applicant on the basis of first come, first served. The main advantage of this method is that any subjective element regarding the choice is excluded. This procedure has usually been applied in countries where the forest legislation has already determined in detail the conditions under which a company may operate. It may be a suitable solution for short term or middle term timber harvesting contracts. In the case of long term contracts this method is less satisfactory, since too much is at stake for the grantor to leave the decision to chance.

The second method is selection by bidding : the applicant offering the highest stumpage is chosen. Again, this solution may be convenient for short term contracts. But for long term contracts, the principal consideration of the forest owner should be the choice of a company that will utilize the forest resources efficiently and manage the forest satisfactorily, rather than the highest possible revenue ^{1/}. If, however, several companies, which are comparable from the point of view of wood utilization potential, are interested in a certain area, the highest bid may then be an appropriate criterion for the selection in long term contracts as well.

The third way to choose among the applications is by a careful comparison of their relative merits with regard to offers of stumpage, proposed capital investment, proposed type of utilization, experience in forestry operations present reputation of the company, etc. The responsibility of selection under this method is frequently left to a special commission. In connection with long term contracts this procedure is the one that has mainly been used in the past. Its main disadvantage is the extent to which subjective judgement must influence the final choice.

11.3 PRECONDITIONS FOR A UTILIZATION CONTRACT

11.3.1 General information on the potential of the forest resources.

Information on the potential of the forest resources to be utilised under long term contracts is needed for the forest owner to determine the aim of such contracts. Regional or countrywide forest reconnaissance, indicating what kind of raw material (hardwood or softwood species, veneer logs, saw logs or pulp wood) is available and approximately what quantities of wood can be harvested each year, provide a basis for overall planning of forest industrialization. Forest reconnaissance surveys carried out during the last two decades by national and international organizations have increased considerably the knowledge of forest resources and provided valuable information for this purpose, but several countries still do not have sufficient basic knowledge for the making of satisfactory forest utilization contracts. In addition, information on wood properties will be useful, particularly for tropical forests where the potential uses of many species are still little known. Information on present and possible future markets for those forest products which can be produced from the available raw material is also required, and for this studies of trends in national consumption and potential export markets may be necessary.

^{1/} This is the reason why in countries in which forest contracts are granted according to this method, the forest owner usually reserves the right to refuse the company with the highest offer and to accept another one with a lower bid, if the latter will give a better guarantee for a rational utilization of the forest resources.

Based on the findings of forest reconnaissance surveys and preinvestment studies, the forest owner may then determine in an appropriate manner what type of forest industry should be established in order to utilize the available raw material to the fullest possible extent. This decision will strongly influence the type of utilization contract to be granted, as well as duration, size of area, type of material to be harvested, and annual logging volume of a particular unit. The result of such studies may also show that it could be advisable to give two different types of contracts in the same area, e.g. several contracts concerned exclusively with sawmilling and peeler logs to units of the sawmilling and plywood industry, and one large contract for pulp and paper harvesting for a pulp and paper industry ^{1/}. Or it may be necessary to stipulate that certain companies (e.g. sawmills and peeling plants) have to supply a certain type of raw material which cannot be used in their own conversion facilities, e.g. pulp logs or pulp chips, to another industrial unit in the country or for export ^{2/}.

11.3.2 Forest inventory for area to be granted

The negotiation of a long term contract should be based on the results of a detailed forest inventory. The inventory furnishes the data on which the annual allowable cut estimates are made and enables to judge what type of raw material can be removed. It should cover the following points:

- i. The total area of the unit which is covered by forests.
- ii. Pattern of ownership.
- iii. Permanent and non-permanent forest land.
- iv. Exploitable and non-exploitable forests.
- v. Protection forests or other forests where cutting restrictions will be needed.
- vi. Main forest types according to species composition or stocking volume per ha.
- vii. Total exploitable volume for each important species or for groups of comparable species.
- viii. Information on increment and diameter distribution.
- ix. Information on quality of timber (sawlogs, veneer and plywood logs, pulp wood).
- x. Information on defects of standing timber.

11.3.3 Feasibility study on proposed utilization of raw material

If a long term contract is to be granted under the condition that a forest industry is to be established, or that the facilities of an existing conversion unit are to be established, or that the facilities of an existing conversion unit are to be expanded, the grantor should insist on inspecting a careful feasibility study of the project before the final agreement is signed. As part of the study, the applicant should be required to specify the type of industrial development that is proposed, with a time schedule indicating when the different stages will become operational.

11.3.4 Preparation of the forest management plan

The importance of the forest management plan and the principles according to which it should be prepared are explained in Chapter 8.

^{1/} In British Columbia, the grant of special "pulp harvesting licences" may offer an example for this type of forest resource allocation. These contracts may be granted in the same areas in which the saw logs are harvested by other companies.

^{2/} The export of pulp chips produced from wood which cannot be utilized in the grantee's conversion unit has, for example, been strongly advocated in the Philippines.

11.4 THE PERIOD OF PREPARATION AND NEGOTIATION

The main difficulty which faces the forest owner who has to analyze different applications and select one of the companies with which to negotiate stems from the fact that in the early stages not all the details of the future unit are known. The forest inventory of the area may not be available and the management plan and the feasibility study for the proposed forest industry certainly not.

Two solutions have been adopted to deal with this difficulty. The first is for the agreement to be negotiated and signed as soon as one of the applications has been accepted, with the stipulation in the agreement that the grantee must carry out a forest inventory, prepare a management plan and establish the prescribed wood processing facilities. This procedure is not really a solution to the problem either for the forest owner, who still has to make the choice while information is scarce, nor for the company, which may have to accept obligations that in the light of further data may be found to be difficult to fulfill. The second solution is to allow a long period of preparation and negotiation during which the necessary information is collected, following acceptance of the application. Only when all information is available will the agreement be finalized. In this case, the forest owner usually issues an "exploration contract" or a preliminary permit which allows the company to collect all necessary data and then to apply for the long term contract if it still wishes to do so.

The preliminary permit gives the company the right to carry out all operations in connection with the exploration of the utilization possibilities. It is usually issued for a limited period of 1-3 years during which the company has to carry out the forest inventory, prepare a forest management plan and the feasibility study. The limitation of the duration of the permit to a few years is necessary in order to prevent the company using the permit for speculative purposes. Preliminary permits are, for example, issued in Indonesia and Venezuela ^{1/}. A somewhat exceptional case exists in the Philippines, where the government has granted a 4 year timber harvesting contract which may eventually be turned into a long term management contract, if the company presents the necessary documents before the 4 year contract has expired.

Similar to an exploration contract, the preliminary permit gives a strong safeguard to the future grantee. The preparation of a forest inventory, a management plan and a feasibility study is expensive, technically exacting and time-consuming. The permit protects the company at least from the possibility that the area will be granted to one of its competitors during the period of negotiation. It does, however, not exclude the risk that the expenditure may be in vain if no final agreement can be reached between the two parties ^{2/}. The preliminary permit is also in the interest of the forest owner, since it enables him to negotiate the conditions of the final agreement on the basis of detailed and substantial information.

Once all necessary information on the project is available, the two parties may enter into the final negotiation. The list which is given as Part III of the handbook indicates the kinds of clauses to be included in an agreement. It is important that the representatives of the forest owner are well aware of the limits within which the different requirements are negotiable. Detailed knowledge of the value of the raw material, of prices of the manufactured products and of costs is essential.

^{1/} In Indonesia, a preliminary permit is issued, but its duration is not specified. In Venezuela, the permission for exploration is given and the management plan has to be presented within two years. See "Reglamento Parcial", Art. 19 and Art. 24 (206).

^{2/} Some countries have adopted the solution that the expenditure for the forest inventory and for preparation of a management plan will have to be paid for by the successful applicant if the long term unit is not granted to the company which has carried out these operations.

Chapter 12

NATIONAL INVESTMENT CODES AND THEIR RELEVANCE TO FOREIGN INVESTMENT
IN FORESTRY AND FOREST INDUSTRIES

12.1 THE APPLICATION OF INVESTMENT LAWS TO FOREST UTILIZATION CONTRACTS

Many governments have found it necessary or desirable to turn to foreign investors who alone may have the necessary capital and technical and commercial experience to operate a large integrated forest unit and to organize the export and marketing of raw or processed forest products. The decision to seek and use foreign investment in the development of a state's natural resources entails several problems: problems, broadly speaking, of attracting the necessary capital in the first place and of controlling the use of that capital to the best advantage of the receiving country. The problem of achieving a satisfactory balance between these two aims is, of course, not limited to investment in forestry and forest industry, but is part only of the overall problem of the promotion of public and private investments, both domestic and foreign, and indeed of the general development of the national economy. As such, the relevant provisions are often to be found not only in the legislation concerned exclusively with foreign capital investments, but also in general investment promotion legislation and, to some extent, in the general development plans laying down overall development aims and priority sectors of the company.

The aim of this chapter, therefore, is not to lay down guidelines for drafting comprehensive investment promotion legislation. It is rather to indicate some of the ways in which investment laws as they exist today may affect foreign investment in forest utilization contracts and to outline briefly the sort of legal and institutional background which both parties will need to keep in mind when negotiating and, later, operating under a forest utilization contract where foreign capital is involved.

Broadly speaking, legislation for the promotion of foreign investment may affect foreign investment in forest utilization agreements, as in other sectors of the economy, in two ways, i.e. by according benefits and incentives for that investment and/or by placing restrictions and conditions on it.

Whether or not incentives should be granted under national foreign investment promotion legislation for investment in the forestry sector of the economy is a question that each state must determine for itself on the basis of its own economic and development priorities. In practice, however, several countries have included forestry or forest products industries among those activities which qualify for special benefits. In Gabon, for example, where forest revenue from the "okoumé" species is of major importance to the national economy and export trade, a special annex to the investment code ^{1/} is devoted to inland forest utilization contracts and the special guarantees and benefits which may be accorded to both foreign and domestic investment in such concessions. More usually, however, forest activities are not given such specialized treatment, although they may be listed as promoted activities in the general investment promotion legislation, either specifically or under broader designations. In some cases, these broader designations of promoted activities may still be specific enough to cover with some certainty forest activities. But in other countries, the designations of promoted activities are much more generalized, referring, for example, to "productive activities in industry, mining, agriculture and transport"^{2/} or even "any

^{1/} Annex to Ordinance No. 21/67 of 23 March 1967.

^{2/} Iran: Law of 29 November 1955 concerning the attraction and protection of foreign investments in Iran, Art. 1.

other activity classified as being of interest to the national economy ^{1/}n. Such provisions are, of course, broad enough to cover forest utilization contracts. Whether they do, in practice, will depend on the interpretation given to them in each particular case in the individual countries concerned.

Foreign investment legislation may often lay down certain conditions that foreign investment must fulfil in order to qualify for investment benefits, either in addition to lists of promoted activities or in place of them. Such conditions may include, for example, that the investment will provide employment opportunities for the local population, that the productive capacity of the national economy will thereby be developed, that the investment will be in priority areas in the national economy, that the investment objectives will coincide with the overall objectives of the national development plan, or that the investment will improve the country's balance of payments position ^{2/}. Whether a particular foreign investment in a forest concession would meet these conditions and thus qualify for special benefits, again depends on the terms of the investment and utilization agreement, and on the situation in the particular country concerned.

Foreign investment laws may operate not only to encourage foreign investment in certain sectors of the economy, but also to restrict such investment in other sectors. However, forestry is normally not included within the scope of specific prohibitions which are reserved more for investments in such fields as national defence or public utilities.

Where forest utilization agreements are not referred to at all in the foreign investment promotion legislation, foreign investment may still be allowed, although without special benefits, under other legislation or through other channels. If, on the other hand, no other channels but the investment legislation exist, then the effect may well be to prohibit such investment.

12.2 MACHINERY FOR THE REGULATION OF FOREIGN INVESTMENTS

The machinery and procedures for the selection and regulation of promoted investments are normally set out in the general investment legislation and may not be correlated with the machinery and procedures for the negotiation of forest utilization agreements. An exception in this respect is Indonesia, where both the Investment Code and the general forestry legislation have been revised recently and the various procedures rationalized ^{3/}.

To implement a policy of promoting investment in particular sectors of the economy, a government must have not only full information on the proposed investment, but also a sound machinery for evaluation of the investment in terms of its effect on the particular sector concerned and in terms of its effect on the national economy as a whole. Where long term utilization agreements are concerned, the effect of the foreign investment on the forestry sector will, of course, already be the object of the utilization contract negotiations between the investing company and the national authorities responsible for the forestry sector. In evaluating the proposed investment in terms of the national

^{1/} Chile: Decree with force of Law No. 258 of 30 March 1960, the Foreign Investment Decree, Art. 1.

^{2/} With reference to this chapter see, generally, J. Henderson, Foreign Investment Laws and Agriculture (54).

^{3/} The relevant provisions of both sets of legislation and the combined procedures to be followed where foreign investment is involved are now set out in a comprehensive and comprehensible publication (13) called "Technical Guide for Foreign Capital Investment in Forestry" (Jahutan Ditusa, August 1968). Such a publication will obviously facilitate the tasks of both forestry authorities and foreign investors at all stages of application, negotiation and operation of forest utilization agreements.

economy as a whole, however, more independent or inter-departmental machinery is required. To provide such machinery, most of the countries which have taken measures to promote foreign private investment have established independent investment boards or committees, functioning normally at ministerial level. It may happen that forest interests are directly and automatically represented on these boards 1/.

Again, such special treatment for forestry is the exception rather than the rule. In several countries, the protection of forestry interests will be left to the Minister of Agriculture, where that Minister is an automatic member of the investment board; he often is in countries where agriculture forms an important sector of the national economy, and a sector to which foreign investment is directed. Even where forestry interests have not automatic voice on the investment board, provision may be made for the ad hoc representation of other government departments or concerned parties at board deliberations specially concerning their sectors. Whatever the way, however, it is important for forestry interests that their voice be heard during the board's deliberations where forest utilization contracts are concerned.

The main functions of such investment boards are normally concerned with the processing of investment applications, examination of the terms of the application and recommendations for its approval or rejection. But the national investment board may sometimes be given other functions, such as ensuring the compliance of foreign investors with the conditions of their investments.

The procedure of application to the investment board may be necessary either for the initial authorization of the investment, or merely for the designation of that particular investment as a promoted investment qualifying for special benefits under the investment promotion legislation. In both cases, the prospective investor will normally be required to produce fairly detailed information on himself and his proposed investment. This will generally include detailed information on the foreign entrepreneur, including his present and past financial state, on the proposed investment, on the proposed financing of the project, and on the economic and social advantages that the country may expect to gain from the investment 2/. Sometimes additional information is required from foreign enterprises wishing to invest in certain particular sectors of the economy. Investment in the processing of forest products in Turkey is an example. There, the foreign investor must fill in an additional questionnaire giving further information on the subject of the investment, estimates of production and costs, and of raw material, facilities, manpower and fuel requirements, and time-tables for the various phases of investment and production, etc.

Foreign investment in forest utilization contracts, as has been mentioned above, involves two distinct elements: its evaluation in terms of its effect on the forestry sector, and its evaluation in terms of its impact on the economy as a whole. These elements necessitate consideration by different bodies. The order in which these elements should be considered is not generally specified in the forestry investment legislation. In Indonesia, however, the order of application and consideration of applications from the standpoints of the forestry interest and the foreign investment interests is set out in the policy statement of 1967 on investment in the sector of agriculture and more generally in the Technical Guide for Foreign Capital Investment in Forestry referred to above (13).

12.3 BENEFITS GRANTED UNDER FOREIGN INVESTMENT LEGISLATION

Special benefits or guarantees to foreign investment to attract capital into priority areas of the economy are normally concerned with taxation, import and export duties,

1/ This is so, for example, in Gabon.

2/ See Henderson op. cit. pp. 61-64 for a more detailed account of the sort of information often required.

and exchange control regulations with respect to the repatriation of profits and capital. But they may extend to other matters such as guarantees against expropriation or guarantees relating to the stability of legal, economic and financial conditions, for example. It is, of course, not necessary to accord the same treatment and benefits to all foreign investment, and the degree of benefit - the degree of attraction in fact - is often graded according to the degree of importance of the proposed investment for the development of the country's economy.

This gradation may be made by differentiated treatment within the investment legislation itself or it may be achieved by reserving the foreign investment code and its special benefits for investments of special importance to the country, while allowing less important foreign investment to be made outside the context of the investment code, without formalities and, of course, without special benefits.

The gradation itself may be in terms of the type of benefit granted or the duration for which it is granted. But in most countries it has been deemed advisable to place an overall limit on the period for which special benefits may be accorded to foreign investment.

12.3.1 Taxation

The majority of foreign investment promotion laws rely to some extent on tax benefits. These may consist of total exemptions or mere reductions, or a combination of both, and are normally accorded for a definite period only. They may apply to normal direct business taxes such as company tax, turnover tax, profit tax and the like, or to indirect taxes such as stamp taxes and import and export duties. Foreign investment promotion laws may also allow qualifying enterprises to apply accelerated depreciation rates for tax purposes on their capital equipment, thus permitting the enterprise to reduce declared profits and, consequently, the tax liability on those profits.

Special benefits are also sometimes related, not to exemption or reduction of taxes, but to their continued stability at the rate established as payable at the time of initial investment. This rate, then, is guaranteed as continuing in force for that investor during the whole period that he enjoys benefits, and any subsequent legislation increasing generally the rate of any given tax would not be applicable to him. The guarantee may apply not only to the tax rebates, but also to tax bases, or the method of calculation of taxes.

12.3.2 Exchange control and the repatriation of capital and profits

A large number of developing countries apply exchange control restrictions, and thus any special regulation waiving these restrictions for foreign investors are likely to be of paramount importance to those investors. The regulations waiving or lessening the effects of exchange control restrictions may affect remittance of profits or the repatriation of capital.

Profit remittances of approved foreign investments are sometimes allowed either free of control or at least subject only to the filing of reports and payment of taxes, or reservation of the right of the government to impose controls in the future if these should become necessary as a result of a deterioration in the country's balance of payments position. Alternatively, the foreign investment legislation may set a maximum limit on the percentage of profits in relation to the total investment made that can be repatriated in any one year, any amount over that stated percentage being blocked or subject to special conditions.

The sudden outflow from a developing country of large amounts of foreign capital may create serious problems, not only from the balance of payments point of view, but also from its effect on the economic development of the country and the employment of its population. Thus, on the whole, restrictions on the repatriation of capital tend to be harsher than those on profits, particularly in the initial period of the investment.

Although there are, it is true, countries where any foreign capital may be repatriated freely at any time ^{1/}, these are much the exception. It is more usual to find that only approved foreign investments may qualify for repatriation privileges and these subject to certain conditions as to amount, timing or currency.

In some countries, the time limits for the repatriation of capital may be combined with the depreciation period allowed, calculated in such a way that, once the whole investment has been amortized, the investor will have been able to repatriate all his original capital.

Sometimes, all capital repatriation may be forbidden for so long as tax concessions are in effect, although exceptions may be made where the repatriation involves the repatriation of any amounts representing compensation of nationalization.

12.3.3 Other benefits and guarantees

Although taxation and repatriation benefits and guarantees are the methods more often used in legislation to attract foreign investment, other benefits or guarantees may be used as well.

Guarantees against expropriation or nationalization are, for example, to be found in the legislation or constitutions of a number of countries; such guarantees may, however, be of limited interest to investors operating under forest utilization contracts.

Other benefits and guarantees may be expressed in specific terms in the investment promotion legislation ^{2/}. In Indonesia, for example, additional facilities not specified in the legislation may be granted to foreign capital enterprises which are vital to the economic growth of the country.

12.4 CONDITIONS AND OBLIGATIONS IMPOSED ON FOREIGN INVESTORS

Specific or implicit restrictions on the investment of foreign capital in certain sectors of the economy have already been mentioned in connection with the general question of the application of foreign investment promotion laws to forest utilization contracts. So have also some of the general conditions that governments may require the investment to meet before it may qualify for benefits. The present section then will indicate some of the other conditions and obligations imposed on foreign investors by the foreign investment promotion legislation.

^{1/} See, generally, Henderson, op. cit., pp. 98-101.

^{2/} For details see Henderson (54), Chapter 9.

The legislation of Gabon, for example, provides for:

- guarantees as to stable legal, economic and financial conditions, in particular with regard to non-discrimination in company legislation and regulations;
- guarantees as to stable marketing conditions;
- guarantees concerning freedom of choice of suppliers of goods and services;
- guarantees of priority for the supply of raw materials and any other items needed for operating the enterprise;
- guarantees of facilities for bringing goods to market;
- guarantees as to the evaluation of products and the use of facilities at the place of evaluation;
- guarantees as to the use of water and electricity supplies and other public utilities needed for the operation of the enterprise.

12.4.1 Status and organization of foreign enterprises

Some countries have sought to ensure governmental control over foreign investment by making certain requirements with respect to the status and organization of companies with capital originating from abroad. Thus the legislation may require that the investment be operated by a company established under the local law and domiciled in the country, or it may seek in some other way to ensure that the operating company is in a real sense subject to the jurisdiction of the local government and courts.

As a consequence of their concern about the possible dangers of foreign control over their national economy as a result of foreign investment, several countries have prohibited the participation of foreign governments in foreign private investment or have provided for compulsory participation of local capital with foreign capital in joint ventures or incentives for voluntary participation. A similar concern on the part of many countries in Latin America stimulated the adoption of the principle of the so-called "Calvo Clause" which requires foreign nationals and companies to submit to the exclusive jurisdiction of the local courts and renounce all claims to diplomatic protection from their own governments.

Some of these requirements will, of course, probably be of less consequence where activities involving long term forest utilization contracts are concerned than they would where less permanent commercial activities are involved.

12.4.2 Provisions related to the keeping and auditing of accounts

To allow for a degree of governmental control over the operation of the foreign capital enterprise and over the qualification for an enjoyment of benefits under the investment legislation, some countries also include provisions in their legislation relating to the keeping and auditing of accounts and the production and submission of these accounts to the relative government authorities. Government control may also be provided for more generally by a requirement that the enterprise cooperate fully with government authorities in supplying these authorities with any information that they may require regarding their activities or in allowing inspection of their premises and working conditions by authorized officials.

12.4.3 Provisions related to employment

Mention has already been made of provisions which may be negotiated in the utilization agreement itself, requiring the employment and sometimes training of local personnel. This may also be provided for in more or less general terms in the foreign investment promotion legislation. Thus, on the one hand, many countries specify as one of the basic conditions that the foreign investment must fulfil, in order to qualify as an approved investment, the provision of employment opportunities for the local population. More specific obligations may then be included in the terms of the agreement or document approving the investment, or in the forest utilization agreement itself, where the investment approval merely consists of approval of the concession agreement. Some legislation, on the other hand, lays down more definite obligations in the legislation itself. In Indonesia, for example, the general rule is that foreign capital enterprises are required to meet their needs for labour by employing Indonesian nationals, although temporary exceptions may be allowed for technical and managerial staff where no skilled labour force is available. In any event, enterprises are required to organize training and education facilities for Indonesian nationals ^{1/}. Where such provisions are already

^{1/} Indonesia: Law concerning investment of foreign capital (143) - Art. 10-12. More rigid provisions are sometimes found, as for example in Guatemala, where employers are prohibited from hiring less than 90% of Guatemala workers, and these workers must receive at least 85% of the payroll. Any enterprise applying for benefits under the investment promotion legislation must provide permanent remunerated employment for a minimum of 30 workers. Guatemala: Decree No. 1317 of 30.9.1959, the Industrial Promotion Law, Art. 4.

in force, both the government authorities and the foreign investor seeking a forest utilization agreement should, of course, take these provisions into account in the negotiation of the terms of the agreement.

12.5 PENALTIES AND SETTLEMENT OF DISPUTES

Some mention has already been made of provisions for penalties and settlement of disputes which should appear in the forest utilization agreement. These provisions refer normally to situations which may arise in the operation of the utilization agreement and which are related to the question of the fulfilment or non-fulfilment of the technical or general provisions of that agreement. However, where a forest utilization agreement is to be operated by a foreign investor, other difficulties and disagreements may arise, concerned specifically with the conditions of the investment and the enjoyment of benefits under the relevant foreign promotion legislation. For this second type of situation, different forms of penalties may be called for. So far as the settlement of disputes is concerned, where the utilization agreement operator is a foreign investor, special procedures and machinery may also be provided for in the investment code which may apply to disputes arising out of the interpretation and application of the investment code and indeed out of the operation of the utilization agreement itself.

12.5.1 Penalties

Broadly speaking, penalties invoked against foreign investors who fail to observe the provisions of the relevant investment promotion laws may take two forms. Either they may be sanctions applied against the person of the investor, whether they be fines, terms of imprisonment, deportation or the like, or they may take the form of the suspension or cancellation of the rights conferred by the investment legislation. In the latter case, this may involve merely loss of special tax benefits or it may, in the last resort, involve the withdrawal of approval for the whole investment.

Exactly how violations are determined and penalties imposed varies from country to country, depending on the nature of the political and legal system in the country. It may take the form of an administrative decision from which there is no appeal, an administrative decision which can be appealed to other administrative or ministerial bodies or to the courts, or it may be a judicial decision which can be appealed to other administrative or ministerial bodies or to the courts, or it may be a judicial decision taken by the courts in the first place.

12.5.2 Settlement of disputes

The most obvious machinery for the settlement of disputes at the national level is the court system of the country where the utilization agreement is held and worked. Alternatively, the foreign investor may be accorded the right of appeal to a further administrative agency or tribunal or to an appropriate minister or ministers. Foreign investors, however, may be chary of investing large sums of capital where they foresee risks of being involved in complex litigation before courts whose procedures may be unfamiliar to them and which, fundamentally, will be bound to apply laws drafted by the other party to any potential dispute, and even more so where their only right of appeal is to a further administrative or government body. In recognition of this reluctance, many countries have introduced into their foreign investment promotion legislation further guarantees for the impartial settlement, outside the normal legal system, of disputes between the foreign investor and the host government, by the procedure of arbitration, either at the national or at the international level. At the national level, the procedure normally follows a set pattern: each of the parties to the dispute chooses one arbitrator and a third is then appointed by the other two, or by an authority designated in the establishment agreement, and the decision of the arbitrators which is taken by a majority vote is final and binding on both parties.

At the international level, arbitration may be provided for by bilateral agreements between states dealing specifically with the settlement of disputes between the nationals of the investing country and the government of the country where the investment is made. A number of industrialized capital supplying countries have already concluded bilateral agreements with developing countries dealing generally with foreign private investment and containing provisions for arbitration ^{1/}. On the other hand, reference may be made to the arbitration and conciliation facilities provided by the International Centre for Settlement of Investment Disputes (ICSID) set up under the International Convention for the Settlement of Investment Disputes between States and Nationals of Other States of 1965. Under the Convention, either investor or contracting state may submit their dispute, provided they both agree in writing to the Centre for conciliation and/or arbitration. The Centre maintains panels of specially qualified persons to which each state may designate a certain number of persons, and it is from these panels that the conciliators and arbitrators are drawn for each case. Awards are final and binding on the parties. As of 1 May 1970, the Convention had been signed by 63 states and ratified by fifty-five ^{2/}. Other similar facilities for arbitration at the international level are offered by the Arbitration Tribunal of the International Chamber of Commerce.

12.5.3 Other relevant measures related to investment

In conclusion, it may be useful to mention, as part of the general background against which forest utilization agreements with foreign investors will be negotiated and drawn up, other relevant forms of provisions to be found in international instruments or, sometimes, in the legislation of the foreign investor's own country.

There are many bilateral treaties to be found whose provisions may affect foreign private investment in some way or another. These may be double taxation agreements designed to avoid or reduce taxation on an enterprise from one country working in another or agreements concluded specifically for the promotion and protection of private capital from one country invested in another. The Federal Republic of Germany, Switzerland, and the United States, have, in particular, entered into this latter type of agreement with many developing countries.

^{1/} See, generally, Henderson, op. cit., pp. 207-212.

^{2/} The 52 states which had ratified the Convention as of 29 September 1969 are:

Afghanistan	Guyana	Niger
Cameroon	Iceland	Nigeria
Central African Republic	Indonesia	Norway
Ceylon	Ivory Coast	Pakistan
Chad	Jamaica	Senegal
China (Taiwan)	Japan	Sierra Leone
Congo (Brazzaville)	Kenya	Singapore
Cyprus	Korea	Somalia
Dahomey	Lesotho	Sweden
Denmark	Madagascar	Switzerland
Finland	Malawi	Togo
France	Malaysia	Trinidad and Tobago
Gabon	Mauritania	Tunisia
Germany (Fed. Rep. of)	Mauritius	Uganda
Ghana	Morocco	United Kingdom
Greece	Nepal	United States of America
Guinea	Netherlands	Upper Volta
		Yugoslavia

In addition, some capital exporting countries take unilateral measures which affect, to a greater or lesser degree, foreign private investment. These may be fiscal measures relieving nationals who invest abroad from all or part of the tax burden on their overseas operation. Thus, in some cases, a complete tax exemption may be granted to a domestic corporation from dividends received from the foreign subsidiary, or tax may be levied on those dividends only after the foreign tax liability has been deducted.

Finally, several countries, including Australia, Denmark, the Federal Republic of Germany, Japan, Norway, and the United States, operate investment guarantees schemes which allow national enterprises to insure their investments in developing countries against such risks as expropriation, the tying-down of profits or capital because of non-convertibility of currency or damage from acts of war.

PART III

CLAUSES AND PROVISIONS FOR LONG TERM FOREST UTILIZATION CONTRACTS 1/

1. Relevant Legislation

- Law decrees and regulations in accordance with which the agreement is granted.

2. Conditions fulfilled

- Verification that the land which has been applied for can be granted by a long term contract (ownership, extension of other agreements, land-use programmes).
- Verification that the grantee has duly applied for the land.
- Previous studies related to the proposed industrial unit (e.g. feasibility study, land-use survey, forest inventories).
- Payments required in connection with the application.
- Guarantee payment or surety bond paid to or put at the disposal of the grantor.

3. Definitions

- Definition of technical terms used in the agreement.

4. Parties concerned

- | | |
|-----------------|--|
| Name of parties | - Name, legal status and business address of the grantor (responsible government agency) and of the grantee. |
| | - Abbreviation under which the two parties will be referred to in the text of the agreement. |
| Signature | - Signature and seal of the parties concerned. |
| | - Date and place of signatures. |
| | - Date from which the agreement becomes valid (for instance publication in the official gazette). |

1/ The items given in the following list are of course not all appropriate for inclusion in all agreements or in the relevant legislation of all countries. The list is given to help those drafting agreements or appropriate legislation to make sure that no important matters are omitted. The wording of the list is not the phraseology to be used in the actual text - this must follow the practice of individual countries. The reasons for the items are not discussed - this is done in Parts I and II of this handbook.

5. Extension of area

- Boundaries and extension**
- Exact description and size of the area which is to be granted.
 - Exact location and definition of the boundaries.
 - Map which shows the boundaries (usually attached as annex).
- Demarcation and maintenance of boundaries**
- Demarcation of boundaries to be carried out and paid for by the grantor.
 - or Demarcation to be carried out by grantor but all costs to be paid by the grantee.
 - or Grantee to demarcate and maintain boundaries in a manner determined by the grantor. If grantee fails to demarcate within the prescribed period, the forest service or another government agency may do the demarcation at grantee's expense.
 - Date for completion of demarcation.
 - Method of demarcation and provisions concerning maintenance of the boundaries.
- Land tenure**
- Land at the full disposal of the grantor and special provisions related to such land.
 - Other public or private land included in the granted area and special provisions related to such land.
 - Private land of the grantee or land granted under previous contracts to be included in the new unit and special provisions related to such land.
- Permanent forest land**
- Granted land to remain permanently under forest cover and special provisions to be applied on this category of land.
- Protection forests**
- Granted land on which the forests have been declared protected forests and special provisions and restrictions to be applied on this category of land.
- Non-permanent forest land**
- Granted land to be eventually turned over to non-forest purposes and special provisions such as clearing scheme to be applied on this category of land.
- Other forest land**
- Granted land of which the ultimate status has not yet been decided and special provisions to be applied on this category of land.
- Reduction of area**
- Boundaries of the granted area to be considered as definite and to be changed only by mutual consent of both parties.
 - or Part of the granted area, urgently required for other purposes, may be excluded from the unit, provided that a substantial reduction of the annual allowable cut is not necessary or that the grantor will compensate the grantee for the reduction from other timber resources, or that the grantee agrees to the reduction for other reasons.

- Proposal to exclude certain parts of the granted area to be referred for decision to a specified land-use authority if decision cannot be made by mutual consent of the two parties.
- Forest land to be excluded from the granted area shall be logged by the grantee within a specified period.

6. Contract duration

- Years for which the contract is granted.
 - Date from which the contract duration will be calculated.
- Start of operations
- Right to start operation from a specified date.
 - Obligation to start operation before a given date.
- Renewal of contract
- Possibility to renew the agreement if the grantee has fulfilled his obligations and both parties agree to such renewal.
 - Period during which the grantee must apply for renewal.

7. Rights granted

- Forest utilization
- Exclusive (or non-exclusive) right to harvest, utilize, process, transport and market timber and forest products from the granted area.
 - Right to make timber surveys, to construct and operate logging roads, bridges, landing strips for aircraft, logging camps, houses for employees, office facilities etc.
- Wood processing
- Right to establish a wood processing unit or units, and all facilities which are required to operate it.
- Forest management
- Right to carry out operations of forest management as specified in the management plan or as authorized by the grantor from time to time.
- Special legal status
- Declaration of a specific legal status for certain land, if this is required by law, in order to give rights to the grantee on forest land not owned by the grantor but which is included in the granted area.

8. Rights withheld

- Restriction of exploitation
- Restrictions on exploitation with regard to particular species, particular qualities such as pulp wood, saw logs and veneer logs, particular areas, for instance near local communities, and specified quantities.

- Other forest produce**
- Right of the grantor to issue permits or licences for the collection and removal of forest produce not granted to the grantee, provided that such operations do not interfere with the operations of the grantee.
 - Grantee to be informed that such permits or licences have been issued.
- Mining rights**
- All mining and drilling rights reserved to the grantor.
 - Part or the whole of the area may be granted for prospecting for oil or minerals with prior notification to the grantee.
 - Part of all the area may be included in any form of mining concession granted to third parties.
 - Holder of a mining concession to compensate for any damage or loss caused to the grantee.
 - Government to give a final decision if disagreements between a mining company and the holder of the forest utilization contract cannot be settled mutually.
- Hunting and fishing rights**
- Hunting and fishing to be undertaken only according to the laws and regulations and with a valid permit.
 - Hunting and fishing for supply of local labour force may be allowed by special government permission.
- Right of way**
- Right of way for the general public on certain roads in the granted area, for example for touristic reasons.
 - Right of way for a limited circle of people such as government officials and those authorized by the grantor in writing.
 - Right of way for the local population on all or certain roads.
 - Right of neighbouring logging companies to construct their own logging roads through the granted unit, if the government has issued a special permit (timber path permit) to do so.
 - Right of other companies to use under specified circumstances the logging roads of the grantee subject to compensation.
 - Grantor to decide in case of disagreement between the grantee and other logging companies.
 - Right of way for other private companies such as mining firms.

9. Rights of the local population

- Exercise of customary rights - Exercise of customary rights in the granted area, or provision that local population may only exercise its rights in such a manner that they do not interfere with the principal aims of the long term contract.
- Activities, such as the use of fire to gain pasture land, which may not be exercised in parts or all of the granted area.
- Free access - Free access to the granted area.
- Local use of timber - Right to extract timber for local uses such as construction purposes and for firewood.
- Right to use logging residues.
- Minor forest produce - Right to collect minor forest produce such as latex, gum, resin, fruits, nuts, medicinal plants, etc..
- Constructions - Right to construct permanent or temporary dwellings, camps, stables etc..
- Settlement of disputes - Disagreements between the local population and the grantee to be settled by the local forest authorities or by any other specified authority.

10. Social Improvement

- Works of public interest - Grantee to carry out specified activities or finance operations such as construction of community roads, school buildings, hospitals or improvement of medical and social services and facilities.
- Details of these activities in a schedule or determination of the amount of money to be spent annually for this purpose.

11. Local demand for wood and wood products

- Grantee to supply specified products of specified qualities such as sawn wood of secondary species in specified quantities to meet domestic demand.
- Prices to be charged for these products.

12. Interest of established forest industries

- Grantee to supply certain qualities and quantities of roundwood to specified firms in the existing forest industry.
- Grantee to employ existing logging companies as sub-contractors.

13. Employees and labour force

- Compensation and insurance - Grantee to effect and maintain insurance to cover adequate compensation for death or injury by accident for the labour force and other employees, and third party liability.
- Social Legislation - Grantee to comply with the existing social legislation.
- Special facilities - Grantee to establish special facilities for his employees and labour force such as housing schemes and medical services.
- Instruction and training - Grantee to provide appropriate instruction and training with proper facilities for forest workers, forest guards and other employees.
- Special groups - Employment to be offered to specified groups of people, for instance preference of employment for the population in or near the granted area.

14. Special clauses in the case of a foreign grantee

- National company - Grantee to operate like a national company under the law of the country.
- National capital - Percentage of capital to be contributed by national investors within specified time.
- Foreign investment incentives - Special benefits and facilities to be granted for a specified period.
- Employment of national personnel - Grantee to employ a specified minimum percentage of nationals in technical, non-technical and managerial positions.
- Employment of foreign specialists - Grantee may fill posts with foreign specialists for which no equivalently trained nationals are available, provided that government has previously given its approval.
- Training of national personnel - Grantee to set up a training scheme to increase the percentage of national labourers and other employees in a specified time, subject to approval by the government.
- National employees of the grantee to be sent abroad for training, or foreign instructors to be brought in to give local training for an agreed period of time, subject to government approval.

15. Establishment or expansion of wood conversion facilities

Local processing - All wood removed from the granted area to be used in the wood processing facilities of the grantee.

or After a specified lapse of time, a specified percentage of the total exploitation volume to be processed in the grantee's factories.

or Grantee may cooperate with other companies willing to establish jointly an integrated forest industry.

Establishment of industry - Grantee to establish a forest industry of a stated capacity in accordance with a detailed time schedule which is part of the agreement.

Expansion of industry - Grantee to expand the existing facilities of a forest industry to a determined capacity in accordance with a previous feasibility study and a detailed time schedule.

Total investment - Total amount of investment for forest operations and wood conversion to be made in a specified period of time according to a previous feasibility study and a detailed working schedule.

or Grantee to submit an investment plan within a specified time.

Regular reports on industrialization - Grantee to submit regularly a report to the grantor, say every 6 months or annually, on the progress of work of installation of logging or wood conversion facilities.

Enforcement - Bond or cash guarantee to be deposited by the grantee, and to be returned when the specified wood conversion facilities have been successfully established.

or Stumpage to be increased by a specified percentage after a certain lapse of time for all wood that is not processed in the country.

or Granted area to be reduced if grantee is unable to process the specified percentage of the raw material in his own factories.

16. Forest management

Responsibility - Grantee to be entirely responsible for all forest management operations.

or Grantee to be responsible only for certain specified operations such as forest protection, and specified silvicultural measures.

- Forest inventory** - Grantee to prepare a forest inventory of a specified standard within a specified time.
- Aerial photographs** - Grantee to make available aerial photographs of a specified scale within a fixed time.
- Management plan** - Grantee to submit a management plan within a fixed time for approval by the grantor.
- Prescriptions of the management plan to be binding on the grantee, provided that the plan has been duly approved.
- or Grantee to operate strictly according to a management plan prepared by the grantor or his agent.
- Prescriptions of the management plan to be part of the agreement.
- Period for which the management plan is to be in force.
- Preparation of management plan** - Management plan to be prepared according to regulations and instructions of the grantor.
- or Management plan to follow an outline prepared by the grantor.
- or Management plan to be based on the findings of a forest inventory, to contain a division of the forest area into compartments and to prescribe the annual felling area, the methods and standards of utilization and extraction ways, the requirements for forest protection and the silvicultural measures to be applied ^{1/}
- Revision of plan** - Revision of the management plan to be submitted by a specified date for approval if the revision is to be done by the grantee.
- Approval of revised plan** - Approval to be deemed as given if the plan has been duly submitted and no action has been taken by the grantor by a specified date or at the beginning of the new management period.
- Collected data** - All data collected by the grantee, on which the management plan is based, to be made available to the grantor.
- Results of all forest research and experiments by the grantee to be made available to the grantor.

1/ If the grantee is to operate according to a comprehensive management plan prepared either by himself or the grantor, most of the matters such as cutting regulations, utilization, road construction, etc. will be included in this plan. Consequently, these points will not have to be specifically mentioned in the agreement.

- Annual budget for forest management
- Grantee to submit an annual budget for approval by the grantor which specifies in detail the amount of money to be spent for the various management operations.
 - Budget to be binding on the grantee if duly approved.
 - Budget to be taken as approved if the grantor does not make any comments by a specified time.
 - Budget to be set up in accordance with a specified outline agreed by both parties.
 - Grantor to specify annually the amount of money to be paid by the grantee per unit of volume of wood removed, to be used for financing the budget.
- Management fee
- Grantee to pay a specified sum of money per unit of volume extracted as management fee or as special fee for a stated purpose (protection, silviculture) if part or all of the forest management operations are in the charge of the grantor.
 - Method of fixing this management fee or special fee.
- Regular report
- Grantee to report regularly (monthly, every 6 months, annually) on all forestry operations (such as inventory and preparation of management plan, infractions of third parties within the granted area, protection, nurseries, total volume removed, road construction, etc.) and on all matters of importance as specified by the grantor.
- Equipment and installations
- Grantee to provide such equipment, buildings or other installations for forest management purposes, such as forest nurseries, dwellings for forest guards, as provided in the management plan or in a special schedule attached to the agreement.

17. Employment of Technical Personnel

- Technical forest administration
- Grantee to establish his own professional and technical forest administration which will be concerned with logging and forest management in the granted area:
 - This forest administration to be responsible for the execution of the annual budget for forest management.
- Forest engineer in charge of forestry operations
- Grantee to employ a professional forester of approved qualifications to be in charge of all forestry operations.
 - Appointment of this forest officer to be approved by the grantor and his special legal status in the state forest administration to be arranged.

- Rights and obligations of this forest officer concerning nomination and supervision of other forestry personnel employed by the grantee.
- Other technical personnel
 - Grantee to employ a specified minimum number of professional forest officers, rangers and forest guards in order to fulfil his responsibility for forest management.
 - Responsibilities and positions of these employees.
- Representatives of the grantor.
 - Grantor to employ a specified minimum number of professional, technical and other staff in order to fulfill his responsibilities for forest management.

18. Regulation of annual cut

- Minimum volume
 - Minimum quantity in total or for certain species to be extracted per year (according to a table if logging is to be increased during the next years).
 - Reduction of granted area in proportion to actual level of production if company fails to reach the annual minimum without acceptable reasons and cannot adjust the volume in subsequent years.
 - Grantee to pay the stumpage fee for the whole minimum volume even if only part of it is extracted.
- Annual allowable cut
 - Volume to be removed in one year (annual allowable cut) for each species or important group of species.
- Method of determination
 - Method (inventory data, management formulas) to be applied in order to determine the annual cut.
- Revision of allowable cut
 - Annual allowable cut to be revised either after a specified number of years or together with the revision of the management plan.
 - Right of either party to require the revision of the annual allowable cut if the basic factors of wood supply have changed.
- Enforcement of allowable cut
 - Grantee to harvest the allowable annual cut with a tolerance above or below this volume of a specified percentage, say 20%.
 - Overcutting or undercutting in one year to be balanced within a specified period, say 3-5 years.
 - Grantee to pay an increased stumpage rate (double or triple stumpage) if the annual volume removed does not stay within the specified limits of the allowable cut.
 - Payment for over or undercutting in one year may be repaid to the grantee if he can balance the excess or deficiency within a specified period.

Emergency case - Grantee may reduce his cutting substantially, say to 50% of allowable cut, in the event of a serious recession of prices of wood or wood products which may be considered as an emergency, and is so agreed by the grantor in writing.

Security of supply - Grantor to supply the grantee with wood from other areas if a reduction of the annual allowable cut in the granted unit should become necessary.
or Reduction of granted area leading to a reduction of annual allowable cut of more than, say, 5% to be effected only by mutual consent of both parties.

Reduction of area - Right of grantor to reduce granted area if annual allowable cut can be increased due to better utilization practice and/or more intensive forest management.

- Right of grantee to match highest offer of other parties for additional annual cut from that area.

Salvage logging - Details of volume to be harvested under a salvage logging scheme within a specified period from land which is not to remain permanently under forest cover or from any other land declared a salvage area.

Combined cutting regulation - Details of species (or group of species) of which a maximum volume to be cut annually is fixed, details of species (or group of species) which may be cut in varying quantities annually, and details of species of which a minimum volume must be removed every year.

19. Felling and extraction

Management plan - Logging to be carried out in accordance with the management plan.

Annual logging plan - Grantee to submit an annual logging plan and receive approval of the grantor before logging operations of a new year may start: approval to be assumed if grantee receives no comment before a specified date.

Coupe system - Grantee to work the area in successive coupes as determined in the management plan or in a special felling plan.
- Grantee to mark the individual coupes appropriately.
- No new coupe to be started before the old one has been completely logged.
- Each coupe to be inspected by a representative of the grantor and clearance certificate issued.
- No felling to take place after a coupe clearance certificate has been issued.

- Felling restrictions** - Felling and extraction may be restricted or special logging and skidding methods may be prescribed if this is necessary in order to ensure proper soil and water conservation.
- Tree marking** - Trees to be marked prior to felling in accordance with silvicultural requirements by representatives either of the grantor or the grantee ^{1/}.
- Prescribed direction of felling to be respected.
- Salvage areas** - Tree marking or other silvicultural measures not to be applied in salvage areas if such areas have been designated by the grantor in writing.
- Utilization standard** - All marketable trees of commercial species to be used to their fullest extent.
- Schedule of species to be considered as commercial grades, of trees to be considered marketable, and minimum diameters (in case of clear-cutting) to be utilized.
- Standards of marketability and the minimum requirements of utilization to be revised from time to time by mutual agreement.
- Species which do not belong to the commercial category may be utilized if this is not prohibited by the management plan or by law.
- Minimum diameter** - No tree with diameter below the minimum fixed for each species to be cut ; (minimum cutting diameters in schedule or management plan attached).
- Minimum diameter to be measured at breast height or above buttresses.
- Maximum stump height** - Maximum stump height to be measured from the ground.
- Removal of trees** - All marketable trees which have been felled to be removed from the area within a given period.
- Stumpage fee to be charged for all commercial logs which are left in the forest thereafter.
- Extraction methods** - Location and width of tractor trails and cable lines.
- Location of settings and the angle of cable ways (in case of high lead logging).

^{1/} A clause to this effect is essential in the case of selective cutting, desirable but optional in other cases.

Felling and extraction damages

- Unnecessary damage to remaining trees - especially to trees that have been marked as future crop trees or seed trees - to be avoided in felling and extraction operations.
- Unnecessary breakage to be avoided.
- Stumpage fee to be charged for all standing trees and for logs damaged or broken by careless felling and logging.

Slash disposal

- Slash to be disposed of and dead trees to be felled (snag felling) to prevent fire hazard and damage from insects or fungi.
- All roads, other communication lines and boundary lines to be cleared of fallen trees and branches immediately after felling and thereafter kept clear.

Clearance near roads

- Grantee to remove all trees within a specified distance of buildings, logging camps etc., roads, railways and bridges.

20. Wood transport outside the granted area

Log marking

- All logs to be marked and measured by a representative of the grantor at place where felled or at a determined checking point or points.
- or All felled trees to be marked and measured by the grantee at place where felled or at a determined checking point or points. No unmeasured or unmarked tree to be removed from the granted area or beyond a weighing point without a weigh ticket (for pulpwood and fuel wood).

Proprietary rights

- Grantee to acquire property rights to each piece of felled timber when it has been duly marked and measured or weighed according to the specified procedure, and after payment of the stumpage fee.

Special hammer marks

- Trees to be marked by the grantee with authorized hammer marks only.

Measurement

- Method of volume measurements with reference to particular tables.
- Regular checks (or remeasurements) of removed wood by representative of the grantor.

Felling list

- If grantee is responsible for log measuring, all measurement or weights to be noted in an official felling list which must be submitted regularly to the grantor. The felling list (with a specified number of copies) has to indicate serial number, species, mid-girth length and volume of each tree or log that has been removed (except for pulpwood or fuelwood) when truck numbers would be recorded.

- Removal permit - Special removal permit to be provided by grantor from granted area to conversion plant or other destination (only in exceptional situations).
- Regular report - Grantee to report regularly, say monthly or every 3 months, on the total volume species and grades extracted and on the production from his wood conversion facilities.

21. Road construction

- Classification of roads - Classification of roads to be constructed in the granted area, such as public highways, primary forest access roads, logging roads, spur roads and forest penetration roads.

- Specifications for road construction. - Specifications such as width, slopes and maximum loads for bridges, and road standards, such as construction material, surfacing, minimum radius for road curves, to apply to the different categories.

- Standard of maintenance to apply for the different road categories.

- Traffic regulations - National traffic regulations, specially related to dimension and tonnage of logging trucks, to apply or not to apply to the different road categories.

- Responsibility for construction and maintenance - Categories of roads to be constructed and maintained by the highway department, by the national forest service and by the grantee.

- Roads constructed by highway department - Grantee to contribute to the maintenance of certain public roads by special payments or actual maintenance work if such roads are used to a considerable extent by his logging trucks.

- Roads constructed by national forest service - Grantee to contribute to financing of logging roads in the granted area, which are to be constructed by the national forest service.

- Grantee to contribute to the maintenance of such roads or carry out maintenance completely himself.

- Roads constructed by the grantee - Determination of those roads to be constructed by the grantee.

- All road constructions to be in accordance with a special communication plan or with the management plan.

- Minimum quantity of all-weather roads and of secondary roads to be constructed each year.

- Right of access - Details of the categories of roads to be open to the general public, to certain groups of people and to the grantee exclusively.

- Certain logging companies or other private companies, of the mining or oil industry, to contribute to finance construction and maintenance of certain roads if they use them to a considerable extent 1/.
- Use by third parties of logging roads which have not been declared public highways not to interfere with the operations of the grantee.
- Disagreement between the grantee and others using roads in the granted area to be referred for decision to the national forest service or other specified agency.
- A third party may construct its own logging road through the granted area if a special "timber path permit" has been issued by the grantor.

22. Forest protection

Cooperation with national forest service

- Grantee to cooperate in all aspects of forest protection with national forest service.

Report of illegal acts

- Grantee to report all illegal acts of third parties such as illegal felling, forest destruction by shifting cultivation, burning of forest, to the national forest service or other specified authorities.

Fire prevention

- Grantee to take specified measures to avoid the risk of forest fires.

Fire fighting (education programme)

- Grantee to cooperate with the national forest service or carry out himself an education programme for the local population on dangers of forest fires.

Organization of fire fighting

- Grantee to take all practicable steps to prevent and fight forest fires.
- Technical measures concerned with fire fighting and detection, such as division of the granted area in fire control sections, construction of jeep roads and trails for rapid access, construction of fire lookouts and landing strips for small aircraft and establishments of a radio communication system.
- Details of trained personnel and equipment to be available during the main fire season.

Control of shifting cultivation

- Grantee to make every effort to offer an alternative way of life to that part of the local population which otherwise would have to practise shifting cultivation.
- Grantee to give preference of employment to people engaged in shifting cultivation.

1/ Obviously, a separate agreement must also be made with these companies.

- Grantee to carry out special education and agricultural improvement programmes, such as distribution of fertilizers, introduction of better livestock and cash crops in order to reduce the intensity of shifting cultivation.
- Grantee to carry out a special programme to combine shifting cultivation with the establishment of forest plantations (taungya system or agro-forestry).

23. Silvicultural treatment

- Grantee to submit annual plans for regeneration of logged-over or understocked areas indicating the species to be planted and the methods to be used.
- Grantee to maintain an adequate nursery with a prescribed annual output of seedlings.
- Determination of the minimum forest area to be re-stocked annually.
- Determination of the minimum area on which enrichment planting and improvement cutting is to be carried out annually.

24. Forest fees

Different types of fees

- Fees in connection with the granting procedure.
- Fees related to extent of area, to be paid annually or in a lump sum for the whole contract duration.
- Fees for specified purposes, such as forest protection, silviculture or management.
- Fees for the raw material (stumpage).

Revision of fees

- Readjustment of fees after specified periods of time.

Determination of fees

- Methods and regulations according to which the different fees are to be determined.

Form of payment

- Procedure for the payment of the different fees, and time limits within which such payment are to be effected.

25. Stumpage fee

Type of stumpage

- Stumpage to be paid per tree as determined for the various species.
or Stumpage to be paid per unit of removed volume.
or Stumpage to be paid as set out in attached schedule.
or Stumpage rates to be paid according to a formula.

- Stumpage assessment to be based on the results of a stumpage appraisal.
- Stumpage appraisal
 - Stumpage appraisal method : details of costs, prices, recovery returns and the acceptable allowances for profit and risk to be considered in such an appraisal.
 - Grantee's expenditure for forest management or the payment of a management fee to be considered in stumpage appraisal as part of the operational costs.
- Revision of appraisal
 - Regular stumpage adjustment after a specified period of time reflecting changes in market prices and in production costs.
- Independent commission
 - Creation of an independent commission to which the stumpage appraisal problems may be referred.
- Assessment
 - Measurements for stumpage to be based on roundwood volume using a specified measure such as cubic metre (m³) or cubic feet (c.ft) over or under bark.
 - Assessment to be based on measurements by the national forest service or on the felling list to be kept by the grantee.
 - Details of methods of measurement and tables to be used.
- Payment
 - Payment of stumpage to be made regularly as specified, say every 1-3 months.
 - Additional charges if payment is delayed.
- Utilized wood
 - Payment (or no payment) to be made for timber and other forest produce used in construction of roads and buildings or other facilities which are required for operations of the grantee.
- Salvage areas
 - No stumpage (or reduction of stumpage) for wood removed from salvage areas, if such areas have been declared so by the grantor in writing.

26. Control and supervision

- Rights of inspection
 - Right of the grantor to inspect all activities of the grantee and to verify that these are in accordance with the agreement and with the relevant laws and regulations.
 - Right of grantor to inspect the granted area and the premises of the company at reasonable times of the day.
 - Grantee to provide transportation and living accommodation for a reasonable number of the grantor's inspectors, for a reasonable length of time.

- Grantee to make available log production records and all other information regarding forest operations to duly authorized representatives of the grantor.
- Grantee to make available all records and information concerning wood processing if these are required for the calculation and revision of conversion factors and for the assessment and revision of stumpage rates.
- Grantee's books may be inspected, if judged necessary by the grantor, by an authorized government agency or by an independent auditor, in order to determine actual operating costs for stumpage appraisal.

Records and documents to be submitted by the grantee

- Data of forest inventory and aerial photographs.
- Management plan and its revision.
- Report on progress of installation of logging and wood utilization facilities, say every 6 months or yearly.
- Annual budget for forest management.
- Annual report on all forest operations and on the respective expenditures.
- Regular compilation of extracted volumes, monthly or quarterly, for stumpage assessment purposes.
- Annual logging plan.

Annual cutting permit

- Cutting in a new year not to be started until the annual cutting permit has been issued by the grantor.
- Annual cutting permit to be issued by the grantor, say 3 months prior to the beginning of the new year.
- Permit may be refused in specified cases, for instance non-submission of annual budget for forest management, non-payment of forest fees, non-submission of statement of the removed volume.
- Cutting permit to be issued without delay, say within 1-3 weeks, if the grantee corrects shortcomings.

Responsible representative

- Grantee to inform the grantor of the name and business address of his representative in charge of all operations in the granted area.

27. Liability of the grantee

- Grantee to have complete responsibility for his activities and transactions; grantor to accept no liability towards third parties for any action of the grantee, his representatives, employees and labour force.

- All buildings, private roads, bridges, logging camps etc., to be maintained in good order by the grantee.

28. Transfer of rights

- Grantee not to transfer in any way his rights under the agreement to any third party without grantor's prior consent in writing.
- Such consent not to be unreasonably withheld if the transfer of rights takes place in order to allow for an economical and financially justified reorganization or amalgamation of the business of the grantee and if the transferee is prepared to enter into an agreement with the same conditions that bind the grantee.
- Contract to become void if the grantee transfers his industrial interests, thus separating the granted forest area from the wood conversion unit, without the grantor's approval.

29. Surety bond

- Grantee to deposit a specified sum of money, all or part of which shall become the property of the grantor if the grantee falls behind schedule with regard to establishment or expansion of the wood conversion facilities, or in case of other specified delay or shortcoming, provided that the grantee cannot give good reasons for such a delay or shortcoming.
- Forfeiture of the surety bond not to exclude other penalties or sanctions provided in the agreement.
- No logging to be undertaken before the bond has been deposited with the grantor.
- Grantee to furnish a new bond within a specified period, say 30 days, if the first bond becomes insufficient or if a portion of the surety has been legally forfeited for breach of the agreement.

30. Sanctions

Penalty payment

- Penalties for specified breaches or shortcomings set out in a special list attached to and part of the agreement.

Indicative list of reasons for penalty

- Failure to respect the rights of the local population.
- Failure to comply with the social legislation (minimum wages, insurance, security regulations).
- Failure to respect the prescriptions of the management plan or any other plan, such as the annual felling plan.

- Failure to demarcate or maintain the boundaries as specified.
 - Annual exploitation volume above or below the acceptable limits of the annual allowable cut.
 - Failure to respect the fire prevention regulations or to provide the specified equipment for fire fighting and detection.
 - Failure to respect specifications and standards laid down for road construction or failure to maintain the existing roads as specified.
 - Failure to measure and mark logs or weigh wood in accordance with the regulations.
 - Wasteful logging methods such as high stumps, unnecessary breakage.
 - Logging and skidding damage to the residual stand.
 - Failure to carry out tree marking.
 - Failure to respect the minimum diameter.
 - Failure to establish the specified forest nurseries and to plant the minimum area per year.
 - Failure to carry out other required measures of silviculture.
 - Failure to submit the annual budget on forest management or other regular reports.
 - Failure to comply with other clauses of the agreement.
- Compensation**
- Payment of compensation for damage to be as determined by the grantor.
- Enforcement of operations**
- Operations for which the grantee is responsible in accordance with legal requirements or conditions of the agreement, and which have not been carried out after due notice from the grantor, may be carried out by the grantor at the cost of the grantee.
- Suspension of operations**
- Power of the grantor to suspend all operations of the grantee if the latter has committed specified breaches of the agreement or recurrent infringements of laws and regulations.

Indicative list of reasons for suspension

- Non-payment of forest fees.
- Non-payment of penalties and compensation or failure to reimburse costs for operations which have been carried out by the grantor.
- Serious breaches of the forest law or the forest regulations.
- Failure to submit the required surety bond.
- Failure to submit the management plan or its revision by the required date.
- Failure to employ the required minimum number of professional and technical staff of specified standing.
- Failure to provide the specified facilities for social improvement.
- Failure to respect the restrictions on logging and extraction in such forest areas which have been expressly classified as protection forests for soil conservation and watershed management purposes.
- Continuation of logging without valid annual cutting permit.
- Failure of grantee to comply within a specified period, say 3 months or 30 days after due notice of the grantor, with other clauses of the agreement or with requirements of laws and regulations, or failure to repair damage or make reasonable compensation for damage after having received due notice from the grantor to his registered address.
- Persistent breaches of any condition or obligation imposed on the grantee by the agreement or legislation.

Suspension after announcement

- Before suspension of operations, the grantee to be informed that this measure is imminent and that a period, say 3 weeks or 3 months, during which he may correct the shortcomings will be accorded before the suspension is applied.
- If shortcomings have not been corrected within this period, the contract to be automatically suspended.

Immediate suspension

- In specified cases, for instance logging without valid cutting permit, suspension of operations to take place immediately.

Lifting of suspension

- Suspension to be lifted rapidly, say within 3 days or 3 weeks, if the grantee corrects the shortcomings.

- Registered mail - Decision of the grantor that a certain sanction shall be applied to be announced by registered mail sent or delivered to the registered address of the company.
- Invocation of arbitration - Grantee to have the right to apply for arbitration if he judges that suspension of operations, or a penalty, or a payment for compensation, or the reimbursement of costs for operations carried out by the grantor, are unjustified or out of proportion.
- Invocation of arbitration not to defer any such payment nor suspension.

31. Cancellation of contract

- Failure to start operations - Failure to start operations within a specified period of time without the grantee being able to give good reasons.
- Failure to increase wood processing - Failure to construct a forest industry or to expand the wood processing facilities as specified in the agreement without good reasons.
- Follow-up action of suspension - Failure to correct a shortcoming within a certain period, say 6 months, of suspension of the granted rights.
- Insolvency of company - Insolvency or liquidation of business of the grantee.
- Renunciation of granted rights - Renunciation of the granted rights, in writing, by the grantee after payment of compensation for damages as agreed upon by the two parties or by arbitration.
- Effectiveness of cancellation - Cancellation to become effective when the notice of cancellation has been duly conveyed to the grantee in writing.

32. Arbitration

- Names of existing institutions to which problems that cannot be settled by mutual agreement shall be referred and details of the legal procedure and the relevant law on arbitration.
- or Special arbitration tribunal, whose decision shall be final, to be appointed when disputes need settling ; and procedure for appointing tribunal.

33. Final provisions

- Present legislation - Legislation pertaining to forest utilization contracts and general forest legislation to be respected by the grantee as part of the contract.
- Changes or additions to the agreement to be made only by mutual consent, by a document in writing duly signed by both parties.

- Appendices to agreement - Appendices to the agreement to be part of the agreement itself.
- Other items - Communications or agreements, either oral or written, which are previous to the contract agreement, to be void.
- Grantee to be free of liability for failure to perform his obligations under the agreement if default is caused by acts of the grantor or third parties.
- Choice of law and jurisdiction - Determination of law and jurisdiction to be applied in case of foreign grantee.
- Property after cancellation or termination of agreement - Buildings and fixed installations which have been constructed or established by the grantee to become property of the grantor without (or with specified) compensation.
- Specific items to be excluded from this cause.
- or Grantee may remove all machinery and equipment which have been used in forestry operations within a specified time, say 3 months, after the cancellation or expiry of the contract.
- or All fixed constructions such as roads, bridges, logging camps, office buildings, nursery facilities, etc. to be left as in use prior to cancellation or expiry and to become property of the grantor.
- or Grantee to dismantle certain installations within a specified time, say 3 months after cancellation or expiry of the contract, if so advised by the grantor.
- or All installations, equipment, vehicles and records which have been used for forest management to become property of the grantor after cancellation or expiry.
- Transitory provisions - Until the full management plan has been prepared and approved, logging to be undertaken in accordance with a preliminary felling or working plan as approved by the grantor and attached as part of the agreement.

PART IV

FOREST UTILIZATION CONTRACTS ON PUBLIC LAND
IN THE HUMID TROPICS: EXPERIENCES, PROBLEMS AND TRENDS

The purpose of this section of the handbook ^{1/} is:

- to demonstrate the great importance of forest utilization contracts for timber harvesting in the humid tropics;
- to examine recent developments and improvements in the legal framework for granting such contracts;
- to discuss some of the problems which at present limit the efficient implementation of national concession policies; and
- to indicate certain trends which are likely to be expected with this form of forest resource allocation in the future.

UTILIZATION CONTRACTS AS THE MAJOR INSTRUMENT FOR TIMBER ALLOCATION IN THE HUMID TROPICS

Forest utilization contracts - frequently also referred to as forest concessions - comprise all forms of legal arrangements such as permits, licences, leases, agreements and contracts which convey to an individual or a company the right to explore the forest potential (exploration contracts), to cut and remove commercial timber (timber harvesting contracts), and/or to manage forest land for a continuous raw material supply (forest management contracts). Utilization contracts may also include the right to construct and maintain forest roads and other traffic installations, to build logging camps and to establish wood-processing industries.

Most utilization contracts are granted by governments or autonomous government agencies on state-owned and other public land, e.g. communally or customarily owned forests; governments may also grant contracts on land, the ultimate ownership of which has not yet been decided upon, but over which the State may exercise some form of control. Such a combination of public land ownership and private or semi-private utilization of the raw material thereon may lead to a partial or complete integration between forestry production and wood transformation without affecting the ownership and management of the land itself.

^{1/} Some aspects discussed herein are based on a comparative review of concession agreements prepared by Dr. S.I. Somberg in 1975 on behalf of FAO.

From 1962 to 1973, total production of non-coniferous logs in developing countries rose from 723 to 951 Million m³ ^{1/}. Total export earnings from forest products of these countries rose from US\$ 544 Million to US\$ 3,423 Million during the same period; particular steep increases occurred in the Far East and in the African Regions, where total export values increased from US\$ 257 Million to US\$ 2,314 Million, and from US\$ 191 Million to US\$ 692 Million. Most of this production comes from the tropical forest belt, the wood resources of which have become of increasing importance on world markets. In several countries of the tropical zone, forest utilization thus proved to be a major incentive for economic growth, offering a substantial contribution to the increase of export earnings, employment, industrial investment and government revenues. This mobilization of tropical forest resources was coupled with the allocation of very large forest areas under utilization contracts. A rough estimate indicates that during the last two decades approximately 100 Million ha. of tropical forest land have been granted to the industry for timber harvesting; an additional 20-25 Million ha. is presently under request or offered by governments for new allocation ^{2/}. The most spectacular developments have taken place in South-East Asia and West Africa which account at present for more than two-thirds of the estimated forest concession area in tropical countries (see TABLE 7).

In South-East Asia, the three main producers of tropical hardwood logs, Indonesia, Philippines and Malaysia, have granted until now a total forest area of ca. 26 Million ha. In the Philippines, the distribution of large forest areas occurred mainly during the early sixties and it can be assumed that the presently allocated 8.5 Million ha. cover most of the country's commercially exploitable forests. The total area granted under permits, licences and agreements in Malaysia can be estimated at around 5.5 Million ha.; a considerable part of this area is allocated under annual permits or short-term licences with a duration of less than 10 years. Indonesia reported in 1973 a total forest area of 12.5 Million ha. granted under final contractual agreements and licensed to operate; an additional 4 Million ha. were covered by forestry agreements but not yet definitely granted, and ca. 10 Million ha. more were being surveyed and are at various stages of request. Considering that the total area classified at present as operable forest is around 40 Million ha., these figures indicate that a substantial part of the areas of commercial interest for timber harvesting has now either been granted already or is under application for granting. Another country in which utilization contracts have been granted on a large scale is Papua New Guinea. The actually allocated area can be estimated at around 1 Million ha. The Government has acquired an additional area of 1 Million ha., to be granted eventually for new timber harvesting operations. Utilization contracts of various kinds exist also in most other countries of South-East Asia, e.g. in Thailand ^{3/}, the Solomon Islands and in Fiji.

In West Africa, the total area of tropical high forest already under exploitation, or possibly of commercial interest according to present logging standards, may be estimated roughly at 75 Million ha; slightly more than half of this area (ca. 40 Million ha.) is already covered by utilization contracts. The most striking feature in the West African region is the fact that more than two-thirds of the forests actually granted have been allocated during the last 5 to 10 years. A particularly rapid distribution of contracts has occurred in Ivory Coast (1965/68), Cameroon (1968/71), Gabon (1968/72), C.A.R. (1967/70) and Liberia (since 1967). At present, an additional area of ca. 6 Million ha. is under request or ready to be offered by the Government for additional granting. This leaves for the future ca. 30 Million ha. of forests in which more utilization contracts may be issued. The bulk of the land not yet allocated or earmarked for immediate development planning is clearly situated in the Equatorial part (Congo, Gabon, and part of Southern Cameroon). The figure of 30 Million ha. for additional contract-granting does not take existing infrastructural constraints into consideration, nor does it include such areas which may be rendered in the future prior to complete exploitation and which, consequently, will be available for realloc-

^{1/} Yearbook of Forest Products 1973; Review 1962-1973. FAO, Rome, 1975.

^{2/} These figures are based on the most recent country figures available, usually dating from 1972-1974; in the meantime, additional concession areas may have been granted in several countries.

^{3/} In Thailand, ca. 300 licences and permits are granted at present, covering the greater part of all exploitable forests in the country.

Table 7

ANNUAL LOG PRODUCTION, EXPORT VALUES OF FOREST PRODUCTS
AND ESTIMATED FOREST AREAS UNDER WOOD UTILIZATION CONTRACTS
IN MAJOR TROPICAL REGIONS

Year 1973

	Total annual log production (industrial roundwood) ^{1/} Million m ³	Export value of forest products ^{2/} Million \$ US	Estimated area under utilization contracts Million ha.
FAR EAST	93	2,314	≈ 40
Indonesia	27.3	633	12.5
Malaysia	26.4	642	5.5 ^{3/}
Papua New Guinea	0.8	16	1.1
Philippines	13.8	406	8.5
AFRICA	43	693	≈ 50
Cameroon	1.3	38	9.0
C.A.R.	0.5		1.2
Congo	0.7	49	1.7
Gabon	2.4	105	7.0
Ghana	1.9	111	2.9
Ivory Coast	5.7	278	6.7
Liberia	0.5	14	4.8
SOUTH AMERICA	42	377	≈ 10
Colombia	4.9	8	0.5
Ecuador	1.9	6	0.3
French Guyana		0.5	0.1
Guyana	0.2	2	0.9
Peru	0.8	4	0.6
Surinam	0.2	4.7	1.5

^{1/} Yearbook of Forest Products 1973, pp. 40-41.

^{2/} " " " " 1973, pp. 322-323.

^{3/} Additional substantial log flow from agricultural conversion areas not under formal contracts.

ation. No detailed figures were available with regard to forest areas allocated under utilization contracts in other African regions. However, commercial forest utilization is carried out in most African countries exclusively or to a very large extent under various forms of permits and licences. It can be assumed that these allocated areas amount to another 5 to 10 Million ha. of forest land.

In Latin America, practically all industrial wood harvested on public land is cut under various forms of permits, licences and concessions, but the total area granted under utilization contracts is considerably smaller. According to available information, the total amount of forest land presently allocated may be estimated at around 10 Million ha. Some countries in which the forest area granted through utilization contracts varies between 0.5 and 2.0 Million ha. are Colombia, Guyana, Peru, Surinam and Venezuela. In Brazil, forest utilization contracts are granted in the forest production reserves, and the forest administration tries to control cutting on other unclassified and vacant land.

A review of forest utilization practices in tropical forests thus reveals that the wood harvesting is at present almost entirely carried out through the granting of utilization contracts. The reason for this situation is mainly twofold: (i) in many tropical countries, especially in the Far East and in Africa, commercially exploitable forests are either exclusively or to a large extent publicly owned. In Latin America, private forest tenure appears to be more frequent, but even there the tropical low land forests of the Amazon basin and along the coastal belts are mostly under public ownership ^{1/}; and (ii) forestry in tropical countries is generally still at an early stage of development. Governments may find it difficult to bring the available forest resources into use, because the infrastructure of the countries is not sufficiently developed and the forest administration lacks the technical staff and operational funds to open up the forests and carry out large-scale logging activities. State-operated logging (exploitation en régie) or other forms of wood allocation procedures such as stumpage sales - in spite of the fact that provisions are made for these in most forest laws - are either non-existent or occur only on a rather limited scale.

Under these circumstances, the easiest - and often the only possible - solution for a government is to organize the exploitation of the unworked forests by granting utilization contracts to private companies which offer the required skills and capital for timber extraction and pay in exchange for the granted rights forest fees linked with the contracts and the timber purchased. Forest utilization contracts are thus the major element of any wood utilization policy in the humid tropics. All measures related to timber harvesting, establishment of new forest industries, and improvement of management methods have to take into account the inherent mechanisms, possibilities and limitations of such contracts.

2. IMPROVEMENT OF THE LEGAL FRAMEWORK FOR CONTRACT-GRANTING

With the increasing value of tropical forest resources, many governments have made a substantial effort to define more clearly the conditions under which they are prepared to grant timber harvesting rights on public forest land. This process has by no means already come to an end, and further improvement of the institutional requirements for concession-granting is required, either through appropriate legislation or well formulated and comprehensive agreements. The growing awareness among policy-makers, forestry professionals and representatives of the industry, that utilization contracts can only be acceptable to both parties concerned if they keep a realistic balance between transferred rights and obligations,

^{1/} This situation could, however, change in the future, at least in the Brazilian Amazon region, in view of the present government's policy to allocate substantial areas of presently unclassified forest land (tierras devolutas) under private tenure, which may possibly favour the creation of private forest estates. This refers in particular to areas along the newly constructed federal highways, where the National Institute for Colonization and Agrarian Reform (INCRA) offers land to private interests. (See "Amazonian Forestry; present situation and perspectives for its development", pp. 1-8.)

will speed up this development. It is to be hoped that the experience of such nations which have been seriously concerned with improving the legal and contractual machinery for concession-granting will encourage other countries in the tropical regions, where present arrangements must be considered insufficient, inconsistent or obsolete to take similar actions.

General Forest Legislation and Contractual Arrangements

The rights and obligations of both partners in a utilization contract are defined by the general forest legislation (law and implementing decrees) and/or by contractual arrangements. In English-speaking countries, the forest legislation usually contains only a few provisions which determine the type of contract to be issued and the application procedures; the actual rights and responsibilities attached to a particular contract are largely settled by individual agreements. In most French- and Spanish-speaking countries, the general forest legislation regulates in much more detail the conditions under which the granted timber harvesting rights may be exercised, whereas the actual concession title includes mainly a description of the allocated area. There is, however, a recent tendency to choose more flexible solutions and to settle the specific exploitation and wood-processing requirements through individual governmental decisions (arrêtés) or contractual agreements; this refers in particular to long-term utilization contracts, the conditions of which may vary considerably in each case.

It is beyond the scope of this paper to present a detailed and systematic list of all relevant clauses and provisions which would have to be considered when granting utilization contracts ^{1/}. The following points to be covered by appropriate legislation and agreements illustrate the basic institutional requirements for a modern, well balanced and comprehensive forest concession policy:

(a) Categories of contracts, application and granting procedure

Minimum requirements and obligations related to a certain type of contract; public announcement of new concession areas; documents and information to be submitted with the application; government services and committees to be concerned with the selection of candidates.

(b) Concerned parties and object of the contract

Responsible agency issuing the contract; name, address and legal status of the grantee; description of allocated areas; contract duration; date from which the contract becomes valid; official registration of granted contracts; renewal of expired contracts.

(c) Rights granted and rights withheld

Exclusive or non-exclusive right to harvest timber; right to construct and operate logging roads; right to establish and operate logging camps; office buildings and wood-processing facilities; hunting and fishing rights; rights of access; customary rights of the local population.

(d) Establishment or expansion of local wood-processing units

Minimum percentage of raw material to be processed; type of conversion unit to be established; investment to be effected; time-schedule for commencement of operations.

^{1/} Such a list is presented as Part III of FAO's "Handbook on Forest Utilization Contracts on Public Land". It has proved to be sufficiently comprehensive and no major addition appears to be necessary for the time being.

(e) Felling, wood extraction and transport

Minimum and maximum volume to be harvested annually; annual allowable cut by species or groups of species; submission of felling programmes; working of area in subsequent coupes; felling restrictions and minimum diameter for cutting.

(f) Road construction and improvement of infrastructure

Minimum construction standards for forest roads; responsibility for maintenance; legal status of roads constructed by the grantee; works of public interest to be constructed (e.g. community roads, school buildings and hospitals).

(g) Forest management and reforestation

Preparation and revision of forest inventories, forest maps, and management plans; minimum tasks to be performed by the grantee with regard to forest protection and silviculture; annual reforestation programme; employment of technically qualified personnel.

(h) Forest taxes, stumpage and other fees

Categories of taxes and fees to be levied in exchange for the granted harvesting rights; methods of assessment (stumpage appraisal); collection procedures.

(i) Control, supervision and sanctions

Inspection of granted areas and premises thereon; control inventories by forest officers; records and documents to be regularly submitted by the grantee; annual cutting permit; deposit of surety bond; penalty payments; suspension of operations; cancellation of contract.

(j) Other general provisions

Applicable arbitration procedures; applicable law and jurisdiction; removals of equipment and machinery after cancellation or termination of contract; continuation of wood-processing units linked to a particular concession area.

Applicable legislation and contractual provisions related to timber allocation and utilization contracts in the humid tropics have changed substantially from the time when concessions were granted without any particular requirements and technical specifications, to sophisticated legal documents which define the grantee's obligations in great detail. Only 10 years ago it was not uncommon to find concession documents which merely determined the boundaries of the granted area and transferred the logging rights to a company against payment of what seems today a rather modest exploitation fee. In some countries, the companies were even free to choose the particular logging site themselves after having acquired the exploitation rights for a certain number of hectares. Some of the most typical defects of many utilization contracts were:

- Lack of provisions concerning local wood-processing, minimum logging and road construction standards, annual exploitation volumes, commercial species to be harvested, and silvicultural or reforestation obligations;
- lack of provisions concerning an adequate control of the actual performance of the concessionaires;
- inadequate provisions concerning the assessment and collection of forest taxes or royalties;
- ill-defined or vaguely formulated obligations and technical terms.

These and other shortcomings, which still today can be found in the concession legislation or in current agreements of several countries, resulted principally from over-emphasis on immediate revenues from concession-granting and inadequate consideration of the long-term objectives and benefits which can be derived from planned and rationally organized forest operations on the basis of comprehensive and well-defined utilization contracts. However, many governments have realised in the meantime that a policy of giving away the country's forest resources without determining in detail the rights and obligations of the concessionaires seriously impairs the rational utilization of the forest potential and contributes little or nothing to a balanced social and economic development of the nation. New legal provisions related to the granting and operating of forest utilization contracts have consequently been adopted with the aim of:

- adjusting the size and duration of the contract to the particular situation of the operators;
- providing new types of long-term contracts for large wood-processing industries, and establishing clearly defined processing rules;
- planning and controlling the wood harvesting in the contracted areas more efficiently;
- determining specific requirements related to road construction, infrastructural improvements, participation of national investment and training of national personnel.

In countries where concession-granting is mainly based on contractual arrangements, certain elements of already existing concessions have been renegotiated and standard agreements prepared which can serve as a model for new concessions, and possible revisions of agreements made during an earlier period.

Examples of countries in which important modifications of the institutional framework for wood allocation under utilization contracts have been adopted during the last 10 years, or in which the governments now consider introducing such measures, can be found in South-East Asia (e.g. Indonesia, Papua New Guinea and Philippines), in the West African region (e.g. Cameroon, Congo and Ivory Coast) and in South and Central America (e.g. Bolivia, Colombia, Ecuador, Honduras, Peru, Surinam and Venezuela) ^{1/}. In spite of the fact that the newly adopted measures are perhaps not entirely sufficient and many need further improvement, the substantial number of countries that have amended their forest legislation indicates clearly the dynamic development of the concession policy and the determination of many governments to plan and control more actively the utilization of their forest resources. The following sections summarize the major issues and present tendencies towards more specific regulations.

Adjustment of Contract Duration and Size of Granted Area to Various Types of Operators

The duration of utilization contracts should be related to the size of capital investment and limited to the anticipated amortization period of such investments. The size of the granted area can then be determined for each operator by taking into account such factors as the long-term resource potential, the accepted contract duration, the projected annual raw material requirements of the operational unit and the amount of wood which under prevailing utilization standards can be removed per hectare of forest land. In principle, three types of utilization contracts may be distinguished:

- Short-term permits, usually issued for a period of 1 to 3 years to small-scale operators; in some cases, permits may be issued for six months only and be restricted to the removal of a certain number of trees for local wood supply;

^{1/} Some important reports and legislative texts which indicate present developments are listed in the bibliography presented as annex to this paper.

- medium-term contracts for logging companies or companies operating sawmills only. The duration of the concession is usually within a range of 5 to 10 years; the concession document should indicate the maximum volume of timber to be removed annually;
- long-term contracts to be granted to large integrated forest industries for a duration of 15-25 years subject to detailed provisions concerning the establishment or expansion of large wood-processing units and in accordance with specific management plans.

In many tropical areas, the existing categories of utilization contracts did not allow a flexible adjustment of wood allocation policies to the requirements of forestry and forest industries development. Thus forest administrations did not have the possibility to issue long-term utilization contracts in order to attract new large integrated wood-processing industries. In other cases, the duration of the contracts was unnecessarily long and not related to the grantee's size of operation. Or, for example, as is presently the case in Venezuela, legislation provides only for long-term contracts and short-term (annual) permits, with the result that one group of operators - i.e. the existing sawmill industry, for which a one-year arrangement is insufficient, but which, on the other hand, does not qualify for long-term contracts - cannot improve and expand its production units. Several countries have therefore changed their forest legislation either by introducing new arrangements or by modifying already existing permits in such a way that it allows the granting of short-term, medium-term and long-term contracts. A clear distinction of these three categories makes it possible to modify the objectives of a particular contract according to the importance of the allocated resource, to define more precisely what obligations are to be accepted by a particular operator, and to reduce the number of existing permits and licences. The latter point is of special interest, since the proliferation of various types of contracts (in Gabon, for instance, there are at present seven different types of permits in existence) has proved to be a serious obstacle to the formulation and implementation of a coherent forest concession policy.

Long-Term Contracts as a Major Incentive for Local Wood-Processing

One of the most important aspects of forest resources allocation on public land is the granting of long-term contracts to companies which are prepared to establish an integrated wood conversion unit. The security of raw material supply obtained through such concessions has proved to be a strong incentive for the expansion of local wood-processing and the establishment of large industrial units which contribute considerably to the economic and social development of a particular region. The allocation of long-term contracts over large forest areas, usually 100-200,000 ha., represents an important liability for both the granting government and the interested company. Both parties must therefore insist that the granting procedure, the nature of the rights to be granted, as well as the obligations and restrictions to be accepted by the concessionnaires, be defined in a clear and comprehensive manner.

In South-East Asia, all major producers of tropical hardwood (e.g. Indonesia, Malaysia, Philippines) use at present long-term utilization contracts. In the West African region, Ghana and Nigeria had already granted such contracts during the period 1945-1955, but in the French-speaking countries, long-term contracts were introduced at a much later stage. Thus Ivory Coast started to vary concession duration according to the type of operation during 1965/1968; 5-year permits were given to mere logging companies, 10-year permits to companies operating a sawmill, and 15-year permits to integrated wood-processing units. This policy, however, was stopped in 1969, and expiring permits are now reallocated for 5 years only. Congo issued a first series of larger concessions for 10 years' duration in the Okoumé region in 1967; the forest law of 1974 has replaced the so-called industrial permits by long-term wood transformation contracts with annual production volumes of about 100,000 m³ roundwood. In Gabon, industrial permits (maximum possible duration of 30 years) were introduced in 1968, and several large units were granted subsequently in the second exploitation zone; additional permits covering unexploited forests along the newly constructed railway line Owendo-Booué were issued in 1972 through specific contractual arrangements. Large-scale contracts were also given in Cameroon during the period 1968/73. The duration of these exploitation licences is limited to a 5-year period; but the forest decree of 1974 provides for a simplified renewal procedure after the first 5 years, provided that the concessionnaire has fulfilled

his obligations. In C.A.R., large concession units have been granted during the last decade, with a duration of 15 years. Long-term contracts with a duration of 20-25 years exist also in Liberia. In the countries of Latin America, long-term contracts have become a common feature during the last 10 years. In several cases, forest legislation has been modified in order to allow this form of timber allocation, but only a limited number of contracts has been granted so far.

Past experience indicates that long-term contracts have in general encouraged local wood-processing; companies having obtained such contracts convert on an average a higher percentage of the raw material within the country than other operators. In some countries log exports continued, however, to rise even faster than local wood transformation, and one of the main reasons for this unsatisfactory development has been the lack of clearly defined wood-processing obligations in the concession agreements. Clauses such as "the grantee will make all possible efforts to process the harvested material in his own plants", or "the concessionaire will utilize such material in his unit which can be economically processed within the country", will hardly help to foster the creation of a national wood-processing industry. Nevertheless, if properly negotiated and technically defined, long-term utilization contracts can still be regarded as one of the most efficient instruments to attract new integrated wood-processing units.

General Processing Rules, Log Supply Quota and Ban on Log Exports

A number of countries - mainly in the regions of South-East Asia and West Africa - have recently introduced additional measures, such as general processing rules, individual or general supply quota or a complete ban on log exports, which clearly show the governments' determination to increase the percentage of local wood transformation. These measures are of particular importance if large forest areas have already been allocated previously to companies mainly engaged in log exports, and governments find it difficult to ensure an adequate raw material supply for already existing or newly projected forest industries.

It has thus been the policy in Peninsular Malaysia to guarantee priority raw material supply to the local industry and to allow only surplus logs to be exported; as a consequence, the export of the so-called "preferred species" was terminated and the log export share fell from 21% in 1972 to 15% in 1973. In Sarawak, 30% of the annual cut is permitted to be exported during the first 5 year build-up of a large-scale industry so as to produce revenue to ease the initial heavy burden of capital outlay. In the Philippines, the new forestry reform code of 1974 provides for a complete stop of all log exports by the beginning of 1976, but some indications exist that such a measure cannot be fully implemented by that date. Among the West African countries, the measures adopted in Ivory Coast appear to be of particular interest. By 1970 some of the established wood-processing units could not get sufficient timber, since large concession areas had been allocated to companies mainly engaged in log exports. This artificial shortage of raw material has been stopped by a system of log supply quota obliging all concessionaires to process a determined part of their log production in their own units or to deliver the raw material to other forest industries in the country. The minimum quota applies only to the 19 major export species; other species not yet firmly established on the market may be exported in unlimited quantities. By the end of 1973 the quota to be processed locally had been generally established at 66% of total log export volumes (major species only), and at 100% of log export volumes in the case of companies with particularly large concession areas. On the whole, the new policy of the Ivorian Government has proved to be successful so far; sawnwood exports alone rose from ca. 126,000 tons in 1972 to 194,000 tons in 1973, and to approximately 240,000 tons in 1974. The new forest utilization contracts of Liberia provide that companies have to process a minimum volume, starting at 20% during the first year and increasing by 20% every following year. If the companies fail to comply with these regulations, government may deny the delivery of log export permits. Ghana introduced in 1973 a ban on log exports for the 5 largest wood-processing companies. In Nigeria, log exports of major redwood species were prohibited, but other species may presently still be exported. In Cameroon, the forest regulations of 1974 stipulate that at least 60% of all wood out in concessions have to be transformed locally. A similar provision has been introduced by the new forest legislation of Congo, providing that wood transformation contracts may only be granted if a minimum of 40% is processed.

The offers of new forest areas (1974) in the Southern sector of the country provided for 100% local transformation of Okoumé logs and a minimum of 50% for other species. In Latin America, roundwood exports are less important, but some countries (e.g. export ban in Brazil for certain high value species, ban on Virola exports in Surinam) have introduced certain log export restrictions.

This review indicates that most of the important exporters of tropical hardwood logs have now adopted some global measures to reduce the export share of unprocessed timber to less than 50% of total production. The only major log exporting country where no such measures have been reported so far is Indonesia, which is at the moment the largest producer and exporter of tropical hardwood logs. This fact merits particular attention, since it may considerably influence the competitive position of other countries which have already introduced, or are at present considering, limitations of the log export trade.

The implementation of general wood-processing rules may be difficult in countries where exploitation is still almost exclusively geared to roundwood exports, since a too rapid enforcement may slow down the activity of the forest sector as a whole. The possible impact of such rules needs therefore careful investigation in each particular case. For this reason, new log export restrictions should be planned a few years ahead and possibly be discussed with the forest industry in advance in order to allow a build-up of wood-processing facilities. It could also be considered to apply processing rules and other log export restrictions - at least during the initial period - to major export species only, so as to avoid the risk of a severe breakdown in total log production. Such a practice will equally facilitate the introduction of lesser used species in the overseas markets. Once these species have become familiar to the industry in log form, they may eventually also be exported as processed products.

Other Incentives for Local Wood-Processing

Many countries provide additional incentives, such as income tax exemption or reduction of import duties on logging and wood-processing equipment, for companies that are prepared to establish new wood transformation industries. General incentives of this kind are usually settled by national investment legislation. In exceptional cases, however, forest utilization contracts include specific investment incentives. As an example, the principal exemptions provided by the Liberian timber utilization agreement of 1973 (standard form) may be mentioned:

- Income tax not to exceed 50% of total net income in any one year;
- full income tax exemption during the first 5 years if profits are used for the expansion of operations or investment in Liberia, and no income tax exemption of up to 20% on annual profits (if reinvested within the country) after the first 5-year period;
- exemption from import duties on equipment, machinery and similar items with a useful life of 5 years and more; moreover, no import duties are levied on tires and spare parts for trucks, trailers and heavy equipment used in forest exploitation;
- exemption from customs and other duties (but not royalties) on logs exported in accordance with the general log-processing rules during the first 5-year period.

Forest Roads

The concessionaires have in general the right to construct forest roads in the granted area. They may also construct roads through areas of other grantees at their own expense or use the logging roads of such concessionaires, provided that they pay an appropriate share of the construction and maintenance costs. The companies usually settle these problems among themselves without government intervention, but in some cases, the construction of forest roads outside concession areas may be subjected to a special permit. Forest roads constructed by the grantee have frequently (e.g. in most West African countries) the legal

status of public roads which may be used freely by the population; access may only be restricted if it interferes seriously with concession operations under way. In countries where forest roads constructed by the concessionaires are deemed to be private, some legal provisions are required which determine that such roads may be declared to become part of the general road network for reasons of public interest. The maintenance of the forest roads used by the grantee and the general public may be settled as part of the obligations in a particular agreement.

Under the present logging and extraction conditions in tropical forests, the skidding distance of an efficient operation varies in general between 400 and 700 m; this amounts to a density of 10 m/ha. of major logging roads. Forest exploitation thus comprises an important infrastructural investment which should be used as much as possible for the development of the country's general road network. However, present concession legislation or agreements frequently do not include adequate provisions related to planning and construction of logging roads. This is a serious shortcoming and more attention will have to be given to this problem in the future. In order to avoid that important road investments of the concessionaires become subsequently of little use to the national road system, the location of logging roads of possible public interest needs to be identified. Minimum construction standards, compatible with those of the general traffic regulations, should be applicable for these roads. The whole question of public sector infrastructure investment requires, however, careful study, as it has an important bearing on investment cost and profitability calculations of the logging companies.

Forest Utilization

In the early stages of concession-granting, the selection of the trees to be removed, the determination of the annual production volume, and the choice of current exploitation methods were largely left to the concessionaires. Minimum utilization standards were either badly defined or not imposed at all. Important institutional improvements in this respect have been achieved during recent years. The present standard pattern, as can be found in the more recent legislation and agreements of the major log-producing countries in South-East Asia (e.g. Philippines, Indonesia and the new draft legislation for Papua New Guinea), is that the grantees have to operate under a management or harvesting plan, and that they have to submit annual felling programmes. There is also a general tendency to stipulate that the log production of major commercial species in any one year may not exceed the annual allowable cut as established by the management or harvesting plan. Similar principles have recently been adopted in some West African countries. Ivory Coast (1972), Congo (1974), and to a certain extent also Cameroon (1974), have introduced provisions requesting the concessionaires to submit logging and road construction programmes and to report annually on their past operations. Additional logging requirements (removal of obligatory species, utilization of low-grade material, working of areas by subsequent annual coupes) may be imposed on the companies by means of special concession clauses (*cahier des charges particulières*). In the forest reserves of Ghana and Nigeria, logging and extraction have already been subject to detailed management prescriptions for much longer periods. The preparation of management plans and the submission of annual exploitation programmes is also stipulated in the more recent forest legislation of Latin American countries (e.g. Honduras, Peru and Venezuela, and draft legislation of Surinam). On the whole, the institutional improvements in all three regions represent an important step towards enforcing a more rational utilization of the forest resources under stronger technical supervision.

Forest legislation and agreements generally provide minimum diameter or girth cutting limits for most species of commercial interest. Minimum cutting limits vary for particular species, depending on their growth pattern; the point of measurement is usually fixed at breast height (BH) or above buttresses. The objective of minimum diameter or girth limits for forest exploitation is to prevent trees of smaller dimensions being cut before they reach their full growth level. Therefore, in areas that are to remain under forest cover in the future, minimum cutting limits should remain in force until the forests can be treated by more elaborate management and silvicultural practices. The shortcoming of existing regulations is that minimum diameter limits are prescribed indiscriminately for all forests. In areas where the forest is to be cleared for other land-use purposes, or where forest plantations are to be established, an exemption clause should be applicable.

In certain forest types of South-East Asia - especially in the Dipterocarp forests of the Philippines and Malaysia -, logging is or was carried out according to silvicultural selection systems. Tree-marking prior to felling, either by the concessionnaires or by the forest service, is usually prescribed. The present exploitation of West African dense tropical forests is mainly based on logging of an average of 1-3 trees per ha; concession requirements do not include provisions related to the practice of a special silvicultural selection system. Exceptions to this rule only exist in the reserved forests of Ghana and Nigeria, where trees are selected and marked by the forest services prior to exploitation. In Latin America, tree-marking is sometimes obligatory, but implementation is difficult due to the lack of an adequate number of trained field staff.

Under the conditions prevailing in dense tropical forests, regeneration techniques are not so well known that they could be successfully applied by the concessionnaires on large areas. The future production from the natural forests, especially the harvest of the second logging cycle, depends exclusively on the increment of commercial trees of lower diameter classes remaining in the forest after the first exploitation, and on natural regeneration occurring without additional intervention. For this type of extensive forestry use, the prescription of minimum diameter limits and the prohibition to return to the over-logged area before the start of the second logging cycle are usually the only practical requirements to be imposed on the concessionnaires. However, at a later stage, when the forest service has been strengthened sufficiently to engage in more intensive forest management operations, the concessionnaires could be obliged to undertake, or cooperate in, silvicultural post-logging treatment such as the cutting of tree climbers.

Reforestation

The problem of renewing the national forest resources is of growing concern to many governments in tropical areas; various clauses which oblige the concessionnaires to participate in reforestation have been included in the utilization contracts. Two different kinds of arrangements are currently in use to ensure such participation:

- (a) Provisions which oblige the concessionnaires to carry out reforestation projects in their granted areas; and
- (b) provisions which stipulate payment of a reforestation fee that is subsequently used by the forest service or an autonomous government agency for large-scale reforestation programmes.

Reforestation by the concessionnaires themselves has in many cases not proved to be successful, the main reason being ill-defined contract requirements and technical targets, lack of silvicultural and operational experience, and inadequate supervision by the public forest administration. Especially smaller and medium-sized operators have generally neither the necessary facilities and qualified staff nor any sufficiently long-term interest in the future crop that would induce them to engage actively in reforestation. If compelled to do so as part of their obligations, they tend to do the very minimum necessary to keep their concession. Forest plantations, if established at all, are badly looked after and inadequately protected. Moreover, the established plantations tend to be scattered all over the country. This makes the future management and utilization of the new crop extremely difficult.

If one considers the limited experience of most concessionnaires in reforestation work, and the difficulties of forest administrations in supervising many small-scale plantation projects, it can be concluded that individual reforestation obligations may not be the most suitable instrument at present for ensuring future forest production. The levy of a reforestation fee - possibly as part of, or combined with, a general forest management tax - is a more appropriate method to make the companies participate in forest plantation work. The revenues from this fee can be used by the forest administration for large-scale reforestation projects planned at a national or regional level, as is now a well established practice in Peninsular Malaysia, for instance. Another typical case - which is rather representative of most of the West African region and of many Latin American countries as well - is that of Liberia. The utilization contracts issued in that country included a formal obligation to

reforest the part of the concession area which would be required for a continuous wood supply from the granted forests. This provision has not proved to be successful; concessionnaires have either failed to establish forest plantations or did not have sufficient experience to carry out efficient operations. It has now been proposed to create an independent reforestation agency which would carry out large-scale plantation programmes on behalf of the concessionnaires against payment of a reforestation fee. A similar procedure has already been adopted in several French-speaking countries (Cameroon, Congo, Gabon, Ivory Coast), where reforestation is carried out by specialized government agencies; operational expenses are met by reforestation and management taxes levied on the concessionnaires.

There are, however, a few examples, such as Mexico and the Philippines, where logging and wood-processing companies, with investments covering several million dollars and annual harvesting volumes of more than 100,000 m³, have become actively engaged in successful plantation programmes within the granted concession areas. With new, large and integrated forest industries planned in several countries, the number of such concessionnaires may increase in the future. This refers in particular to projected pulp and paper units which require large-scale plantation schemes in order to assure their future raw material supply. The long-term production outlook of these companies implies consequently greater and more immediate interest in reforestation work.

The alternative of individual reforestation obligations versus the levy of general reforestation fees has to be examined in the context of each country. Responsibility for reforestation should only be given to companies from which efficient establishment and protection of plantations can be expected; such companies, if they can show that their annual expenditure amounts to at least the equivalent of general reforestation payments, should be exempt from reforestation fees. All other concessionnaires should not be required to carry out plantation or other silvicultural work, but logging should be subject to the levy of a reforestation or forest management fee.

Training of Technical and Managerial Personnel and Participation of National Capital

Concession legislation and individual agreements contain very little concerning training requirements of qualified national personnel that could eventually replace expatriates in technical and managerial positions. This point should be of special concern when long-term contracts for large areas of forest land are granted. Some noteworthy exceptions are to be found in the West Africa region. Thus the new standard agreement in Liberia provides that the concessionnaire has to train Liberians specifically for technical or administrative posts. Within five years after the beginning of operations under the concession agreement, at least 75% of the total number of all persons employed in such positions shall be Liberian citizens; ten years after the beginning of the concession, 95% of all posts have to be filled by nationals. The concessionnaire shall also provide training for supervisory and managerial posts, and 10 years after the commencement of concession operations at least 90% of these posts shall be held by Liberians. In Congo, the concessionnaires have to prepare training programmes and must report regularly on the progress of each trainee. Special training requirements are also part of all new large-scale harvesting agreements issued in Malaysia.

Capital participation of foreign investors and private national entrepreneurs, or joint ventures with government, are usually settled by general investment legislation, but some forest laws or utilization agreements include specific provisions on this subject. Joint venture partnerships, with the State holding a majority of equity on behalf of local citizens until these are in a position to participate, are increasingly influencing the investment scene in some timber-producing countries. Malaysia, in particular, has considerable experience in this field. Another solution has been adopted in the Liberian standard agreement, where it is stipulated that not less than 25% of the original shares, and of each successive issue of shares, are kept available for subscription and/or purchase by Liberian citizens; a quarter, but not less than two, of the directors of the company shall be Liberian nationals. In Ghana, the Timber Operations (Government Participation) Decree has established a government majority participation in the five largest forest concessions. The Congolese Forest Law of 1974 provides that companies held or managed by foreign investors

shall pass gradually under national control, subject to contractual arrangements. Moreover, the present timber allocation policy has established a priority for concession-granting in favour of logging companies and government joint ventures.

Forest Taxation

The principle that the combined charges of all forest taxes should be related to the actual raw material value of standing timber, and that tax rates should regularly be adjusted to changes of the price and production cost level of a given species and log quality, has become more and more accepted during recent years. New provisions have been incorporated in forest legislation or individual utilization contracts, which establish that tax assessment is based on appropriate stumpage appraisal methods. Tax rates are to be determined by regulations and not by the law itself and should be revised at regular intervals. The following examples of recent legislative changes may be cited:

(a) The Forestry Reform Code of the Philippines (1974) stipulates:

Sec. 25(3): "The estimated volume and value of timber available from commercial sale shall be determined through an appraisal system by the Bureau."

Sec. 26(1): "The Director shall institute a system of timber appraisal for all public forest areas or forested alienable and disposable lands, whether vacant or covered by existing concessions."

(2): "In the case of timber licence agreements, existing as of the effective date of this Code, the first appraisal shall take place two (2) years following such effectivity; and in those that may be issued thereafter, said appraisal be made every five (5) years, reckoned from the original issuance thereof."

(4): "The Director, with the approval of the Department Head, shall promulgate the implementing rules and regulations to carry into effect the purposes of this section."

Sec. 27(1): "In addition to the taxes, fees and charges imposed under existing laws and regulations, the Department Head is hereby authorized to impose, upon recommendation of the Director and in consultation with representatives of the industry affected, such fees, or require special deposits, for the privilege to occupy or use a portion of the public forest, or harvest or utilize forest products."

(b) The Forestry Code of Congo provides:

Art. 25(1): "Les taxes domaniales et forestières seront fondées sur des critères économiques de manière à épouser la valeur des produits sans interrompre ni freiner l'expansion et la permanence de l'économie forestière dans les régions."

(3): "La fiscalité demeurera stable par période quinquennale et ne pourra être révisée que tous les cinq ans."

A special law on forest taxation complements these provisions and establishes a tax assessment procedure based on a general stumpage appraisal.

(c) In Bolivia, the new forest law (1974) stipulates that payments for raw material are to be considered as a timber price.

Art. 87: "Los derechos de monte son el precio estipulado por el aprovechamiento de los bosques del Estado, y no constituyen impuesto alguno."

(d) Similar provisions have been inserted in the draft legislation prepared for Surinam and Papua New Guinea.

Considering the dynamic development of world market prices of tropical forest products, especially where high-quality export logs are involved, the provision included both in Philippine and Congolese legislation that forest taxes should only be revised every five years does not appear to be in the interest of these countries. A more appropriate regulation would be to stipulate that "the rates of fees shall be revised regularly, at least every five years", a formula which, for instance, has been chosen in the Surinam draft law. In spite of such shortcomings it is important to note that a new concept of forest taxation is becoming more widespread in tropical areas, resulting in modifications to the forest legislation.

3. IMPLEMENTATION OF NATIONAL FOREST CONCESSION POLICIES

Strengthening of Public Forest Administrations

While improvements to the institutional basis for granting utilization contracts have been achieved, the most urgent problems arise at present from inadequate implementation of national forest concession policies. Coherent legal provisions and well formulated agreements will fail to show any practical effect - and this is the experience in many areas - if the allocation of forest resources and their subsequent utilization is not planned and supervised in a comprehensive manner. The granting of utilization contracts should consequently not be considered as a legal issue only, as has been done sometimes in the past, but also as a problem of forest development planning, forest management and timber harvesting organization. The strong impact of technical forestry aspects on all timber allocation systems is in fact the main reason why in most countries of the tropical belt utilization contracts are granted by, or on the advice of, the competent national forest administration. If, however, other government agencies are responsible for timber allocation, it will be essential to insist on effective coordination with the existing forest administration in order to ensure the successful implementation of national forest concession policies. It may even be useful to reconsider the organizational structure with the aim of improving the feedback between forest management and concession-granting.

Some of the most obvious constraints that limit at present a coherent system of timber allocation through utilization contracts are:

- (a) Lack of well-defined national land-use programmes which could help determine long-term forest land use, management standards and concession requirements;
- (b) lack of adequate resource information when negotiating new utilization contracts. Without this information it is impossible to decide what the best use of the raw material should be, what type of forest industries would be feasible, and what stipulations with regard to local wood-processing could be included in a particular agreement;
- (c) lack of management information which would allow an adjustment of the annual logging volume to the long-term production potential of a certain forest area and a definition of the minimum requirements with regard to logging and skidding practices, removal of commercial species, and construction of forest roads;
- (d) inadequate knowledge of the possible range of companies, either at the national level or from abroad, that may be interested in a particular contract. It is thus impossible to select companies with experience in wood-processing and access to international markets;
- (e) lack of experience in negotiating individual concession agreements;
- (f) inadequate information about the price/cost relationship in logging (e.g. accessibility of the resource) and wood-processing as required for a consistent assessment of forest taxes.

These constraints result of course mainly from the chronic weakness of public forest administrations in most tropical countries. Ineffective forest administrations, suffering from shortage of professional and technical staff, scarcity of operational funds and inadequate organizational structures, are certainly among the main obstacles in implementing national forest concession policies. This refers in particular to the field organization of national forest departments; in some countries, the territorial structure is still almost non-existent or so little developed that the planning of forest utilization as well as the control and supervision of concession operations in the forest are virtually impossible. In several cases, forest officers do not even possess transport vehicles and consequently must rely on the concessionnaires when they are on field duty. Such a situation can make the forest administration dependent on the logging companies, which cannot be in the interest of a proper management of the forest resources. If national forest concession policies are to be implemented more adequately in tropical forest areas, a major effort will be required to strengthen the public forest administrations.

There is little doubt that the increased expenditure connected with improving the forest administration will be counterbalanced by additional benefits resulting from a more rational utilization of the forest resource. In qualitative terms, the benefit of a strong and efficient forest administration consists in the implementation of a coherent national forest policy and the application of appropriate management methods which safeguard and develop the forest potential. This would, for example, include: the planning of wood-processing and timber allocation at the national level; a more detailed evaluation of the forest resource potential; appropriate selection of suitable candidates for new concessions; an adequate supervision of the operations of the concessionnaires in the field; and a more realistic assessment of forest taxes. Some of these factors can be quantified at least partially; for instance by evaluating the additional raw material output and tax revenues if the encroachment on forest land is reduced or if the prevailing utilization standards can be improved through more efficient planning and supervision of timber harvesting operations. It is also possible to quantify the additional raw material supply, as well as the social and economic benefits resulting from increased local wood-processing, through appropriate methods of concession-granting. Future increases of government revenues due to the implementation of coherent forest taxation policies will equally indicate that the strengthening of forest administrations is in the immediate interest of tropical countries.

Public Announcement of Forest Areas and Negotiation of Contracts

In the past, the initiative to apply for new utilization contracts for timber harvesting was frequently left to private entrepreneurs; the public forest administrations reacted merely to a rising demand for new concession areas. This situation has not helped national forest development. Governments should take an active part in forest resource allocation by indicating publicly in what particular areas of the country new concessions may be granted. In principle, such areas should have been covered previously by a forest inventory and a management or timber harvesting plan. Applications for forest land not publicly identified should not be acceptable. If long-term utilization contracts are to be granted, governments will be in a better bargaining position if they request a range of national, and possibly international, investors to submit industrial projects. In this case, the announcements should: (i) include a summary of the inventory results; (ii) indicate the expected annual logging volume and the type of wood-processing industry envisaged; (iii) state the technical requirements for logging and road construction; and (iv) describe the special conditions (contract with private companies, joint venture with government agency or private national investors) under which a possible foreign investor may have to operate.

Once the offers have been received from the interested investors, a certain period of time is required in order to examine the technical aspects of the proposals and to prepare a short list of the most promising candidates for preliminary negotiations. Selected candidates should have an opportunity to review the available information on inventory and management plans, to carry out field investigations, and to collect data that are relevant to the proposed project. In a number of countries, the selection of the candidates and the decision as to which project ought to be retained are subject to the advice or appraisal of an interministerial committee in which all Services interested in the economic, social and financial aspects of the proposed contract are represented.

The granting of utilization contracts thus becomes increasingly a problem of individual negotiation, especially when long-term contracts covering large forest areas are to be issued. For negotiations to be successful from the granting nation's point of view, comprehensive knowledge will be required of the value of the resource and its possible uses for industrialization, of the social and economic potential involved, and of the eventual groups of investors that might be interested in the resource. Such information can only be obtained from serious feasibility studies prepared prior to the start of the negotiation period. It is the quality of these studies which will to a large extent determine the success of future national forest concession policies.

Supervision of Forest Utilization

Regular and competent supervision of the grantee's operation in the forest is an essential complementary element of more intensive planning of timber allocation and more specific concession obligations. The control and supervision of the concessionaire's operations constitute the necessary feedback for national concession policies and forest management regulations. In fact, both become meaningful only after the public forest owner has clearly defined his strategy for resource utilization. To have no management plans and no forest inventories meant in the past to have little or no control over forest resource utilization; increased management planning and better defined concession obligations will imply more control and supervision for the forest owner.

An examination of the present situation in tropical countries reveals, in general, a proliferation of reports, tables, maps and other documents to be submitted by the grantees at regular intervals. This mass of information tends to accumulate in the offices of the regional forestry officers and then percolates to the central unit of the Forest Service. None of the various organizational levels has sufficient staff to use - and synthesize - this information; on the contrary, the accumulated paper succeeds in using up most of the time the technical personnel has available. Moreover, it gives the false impression that everything is - at least statistically - under control, and that the supervision of the forest owner is more than adequate. This situation seriously impedes national forest development. What is essentially needed for successful concession-granting is:

- (a) Strong supervision in the forest based on regular field inspections by competent forest officers, control inventories and updated management or timber harvesting plans. The aim of this supervision is to assess whether the provisions referring to annual allowable cut, timber harvesting standards, road construction, forest protection and other technical requirements are respected by the concessionaire;
- (b) limiting the information submitted by the concessionaire to a few key figures such as production volumes by species and grades, quantity of logs processed locally, extension of annual logging areas, constructed roads. Such information should be submitted regularly, i.e. on a yearly basis. In countries with large concession areas and many concession units, this information will have to be aggregated by regions and at the national level; the reorganization of data-processing, including the use of computer programmes, will need further investigation.

Reorganization of Existing Utilization Contracts

In areas where utilization contracts - especially mere logging contracts - have already been allocated, a reorganization of the existing pattern may become necessary in order to allow the establishment of new integrated transformation units or to improve the structure of the existing industry. Possible solutions are the regrouping of smaller companies in some cooperative arrangement or contractual agreements between the companies with supply obligations towards the forest industry located in the vicinity. The implementation of such arrangements will, however, in most cases be rather difficult. A more effective procedure could be the official identification of forest zones with already allocated concessions which, in view of their still remaining forest potential, could support large wood-processing units. As a consequence, no new logging concessions would be issued and existing ones only be renewed up to a certain time limit; after this period, the whole area will become available and be allocated to integrated forest industries through new long-term contracts.

Control of Subcontractual Logging

The term "subcontractual logging" is used for companies which do not exploit their own concessions but have acquired by some private arrangement the right to harvest forest areas granted to third parties. Subcontracting is usually prohibited by legislation, but some countries have legal provisions which allow this practice under certain conditions. In English-speaking countries, the utilization contracts usually have a special clause forbidding subleasing without official approval. Whether officially admitted or not, subcontracting has become of increasing importance during the last decade. The main reason has been the allocation of concession areas to individuals who are not actively engaged in timber harvesting and do not have the interest nor the managerial experience to organize such operations. Subcontracting of utilization contracts, if not authorized for very specific reasons and properly supervised by a competent forest administration, tends to favour creaming operations in the forests, creates additional difficulties for the establishment of large wood-processing units, and may lead to speculation with concession areas by allowing substantial profits for middlemen which are difficult to justify socially and economically. As such practices cannot be considered in the interests of the granting nations, governments should closely examine this particular problem and take appropriate measures either to put a stop to subcontracting or to control the already established pattern, i.e. through supervision and official registration of subcontractors and subcontractual agreements. One of the most efficient tools to avoid subcontractual logging is a coherent forest taxation policy which does not allow excessively high logging profits, out of which sub-letting charges can be paid to the middlemen.

In the past, subcontracting has sometimes developed in connection with concession policies aimed at a greater participation of nationals in logging and wood-processing. Concessions were granted to nationals without ascertaining whether they really intended to take up businesses in forestry and had sufficient capital and experience to start an efficient logging operation; the granted areas were then frequently subcontracted to foreign-based logging companies. Such a policy does not attain its main objective, but rather leads to a shadow participation of nationals in the forestry sector. This experience clearly indicates that increased national participation cannot be encouraged by indiscriminate concession-granting, but will rather require a series of well-planned measures such as:

- Priority of concession-granting to national companies already engaged in forest exploitation or willing to be involved in the future;
- credit facilities for logging, road construction and transport equipment for these grantees; national development banks should investigate more closely the possibilities of such financial arrangements;
- technical assistance from national government agencies; this formula has been adopted, for instance in Gabon in 1965, where small-scale loggers can be assisted in exploitation planning (stock mapping, tree-marking prior to exploitation) and logging operations (loan of logging and transport equipment);
- participation of nationals in capital investment of foreign-based companies (as for instance required in Liberia);
- joint ventures between government and local enterprise or foreign-based companies.

Introduction of Additional Wood Allocation Procedures

The granting of long-term utilization contracts to large integrated wood conversion units under appropriate terms will be in the future a major option of forest resource allocation in tropical countries. On the other hand, certain categories of contracts, e.g. short- and medium-term cutting permits, may eventually be replaced by other forms of timber allocation, in particular by stumpage sales. Whereas a contract transfers a general cutting right, the object of a stumpage sale is a defined quantity of wood of determined species and grades to be harvested within a specific forest area. The conditions of such a sale and the price

for the raw material are settled by negotiation between seller and buyer. The advantages of stumpage sales are mainly threefold:

- (1) The Forest Service may exercise a stronger control over forest utilization; trees to be harvested may be marked prior to the start of logging operations.
- (2) The price level for the raw material can be determined through timber-auctioning procedures.
- (3) The fact that the buyer may choose different companies in subsequent sales facilitates the creation of an open log market.

The introduction of stumpage sales is, however, only feasible in countries where the forest administration has been strengthened sufficiently to be able to provide adequate resource and management information. Under the prevailing circumstances, stumpage sales could be considered in the presently reserved forests, but at a later stage they will become of general importance as an alternative wood allocation procedure.

4. FOREST RESOURCE PLANNING AND MANAGEMENT

Legislation on utilization contracts and individual concession agreements tend to be vaguely formulated and faulty because there is no clear understanding of what the forest can yield, how it should be managed, how the available raw material can be processed within the country, and what responsibilities should consequently be given to the concessionaires. The problem of concession-granting is therefore intimately linked to the central issues of national forest policies and general forest management concepts. Aspects such as land-use classification, inventories, management plans and planning of wood-processing industries, which in fact determine the scope of a particular utilization contract, have not been sufficiently examined in the past, and this is the very reason why new concessions may have contributed less to long-term economic and social development than the granting governments had expected. This situation can only be improved if the issues related to forest resource management in its broadest sense are considered to be an indispensable prerequisite for successful national forest concession policies and of equal importance to the formulation of appropriate legislation or agreements.

On the other hand, it sometimes appears as if the issues of "forest management" have received until now a somewhat theoretical treatment in tropical countries. It must be realized that in tropical forestry, management on a large scale means today above all implementation of timber allocation policies, since such policies give in practice access to resource utilization. Forest management, if it does not take into consideration the mechanism of utilization contracts with its inherent possibilities and limitations, risks in many countries being restricted to a few research plots.

Forest Management and Timber Harvesting Plans

At the present stage of forestry development in most developing countries, forest management should generally be understood as a concept of forest resource planning in a particular area; it is used in a much broader sense than the one usually given to it in countries where the permanent forest estate is clearly defined and the term restricted to mean sustained yield control in reserved forests. Any rational allocation of forest resources on a regional and local level will thus have to be supported by specific plans which determine how the forest potential can be used in the interest of the country. When discussing the issue of "management" and "management plans" in the context of tropical forests, the following could be useful in order to avoid some wide-spread confusion:

- (a) Unfortunately, very little knowledge exists at present of how tropical forests can be used on a long-term basis; more definite criteria for management cannot be established until results from large-scale applied silvicultural research become available.

- (b) In the immediate future, "management plans" - or "timber harvesting plans" as they can also be called in the early stage of forest resource planning - can only attempt to regulate the flow of logs and the manner of their extraction in accordance with some basic assumptions on resource utilization, considering for example: the likely future land-use pattern; the composition of the commercially usable timber resource; the likely increment pattern of main species before and after cutting intervention; and the minimum supply period (usually 20-30 years) required for establishing viable forest industries and stable community development ^{1/}.
- (c) The lack of detailed information on inventory and increment should not obscure the fact that resource planning can and must be done at any stage of forest development, and that it is an essential element for the implementation of national forest resource allocation policies in all countries.
- (d) It should also be realized that log flows and harvesting techniques, for instance, cannot be regulated without effective supervision, and that plans of any kind are quite meaningless unless they can be put into practice. Management - both at the planning and implementation level - is therefore intimately related to the problem of institutional strengthening of public forest administrations.
- (e) Considering the dynamic development of land-use patterns and forest utilization possibilities in the tropical zone, forest resource planning is bound to be modified in the future and possibly even after comparatively short periods of time; consequently, management plans must be revised at regular intervals, e.g. every five or ten years.
- (f) In view of the limited staff of forestry departments, management should not be directed to too small units during the first stages of forestry. The first priority is clearly to cover the entire timber harvesting zone, and in addition those forests which in the near future are bound to be opened up to exploitation.

The formulation of management rules and concession requirements for the rational harvest of timber resources depends - at least at an early development stage - to a very large extent on the established land use and the anticipated future changes of the land-use pattern. In accordance with the general principles of national land-use planning, forest management plans have to determine specific utilization strategies that are realistically related to the present status of forest land and the foreseeable changes. Three broad categories with different management implications may usually be distinguished:

- Areas which will be required for agricultural development projects and other non-forestry purposes, or areas in which the forests are to be cleared for an expanding shifting cultivation. Such forests are to be classified as salvage logging areas and their exploitation should have priority. Concessionnaires should be obliged to remove all commercially usable timber.
- Areas which have been classified and demarcated as permanent forests, either for long-term wood production purposes or for yielding other, e.g. protection or recreational benefits. Part of the permanent forest may have to be managed under a special regime (e.g. as protection forests) which restricts or even excludes timber harvesting. Silvicultural operations and reforestation should be concentrated in this part of the forest land.

^{1/} There is at present no generally applied terminology on what should be called a management plan. Some countries use this term in a rather restrictive manner, whereas others refer to it even if only some general exploitation rules are prescribed. In view of the broad management concept referred to above, the term "management plan" will be used here in a general sense for all resource utilization planning at regional or local level.

- Areas for which no definite land-use decision has been taken yet and which for the time being should be preserved under forest cover. Areas with a large number of trees of desirable species in smaller diameter classes, or with sufficient natural regeneration indicating a high production potential, or being of importance for environmental protection purposes, should be earmarked and proposed for future reservation as permanent forest land.

After such a classification of the available forest areas and the inventory results obtained, it will be possible to evaluate the total log production volume (or allowable cut) that may be harvested every year in a certain area in view of a chosen strategy. At an advanced stage of forestry development, the annual allowable cut is generally related to the renewable production capacity of the forest and determined in accordance with the principle of sustained yield. In many countries, however, major land-use changes are still to be expected, very little knowledge and experience on natural regeneration is available, and funds for the establishment of forest plantations are limited. Under these circumstances, the annual allowable cut may frequently only be determined by what could be described as a controlled felling cycle. The basic idea underlying this approach is to spread the available stock of commercially usable timber over a period sufficiently long so as to:

- ensure the long-term raw material supply for large integrated wood-processing units;
- stabilize forest exploitation and allow for the development of stable communities in the forest regions;
- leave the smaller diameter classes to grow until the trees become exploitable under a second cutting cycle;
- increase gradually the output from lower grades and secondary species by improved marketing and better timber harvesting methods.

The determination of the annual allowable cut by main species or groups of species is a valuable indication for forest industry planning and concession allocation. The planning of a continuous log flow helps to attract new wood-processing companies or to reorganize the structure of already existing logging and wood transformation units. Annual logging volumes should be calculated for each important commercial species or for groups of species; during the initial period, no restrictions will be necessary for species which are of limited commercial interest. Considering that utilization standards may be improving (harvesting of lower-grade material and additional species), the annual allowable cut should be adjusted through periodical revisions of the management plan. Forest land in the vicinity of expanding zones of shifting cultivation or officially earmarked for conversion to other land uses (salvage logging areas) should also be considered when determining the annual production volumes. Production and marketing needs of the industry require that the level of annual removals should be subject to a reasonable fluctuation; an average 3-5 year target, together with an acceptable margin (10-20%) for yearly fluctuations, may be an appropriate solution, reconciling forest resource planning and the industry's need for flexibility. The application of longer term cutting regimes along the described lines represents a first step towards a long-term management strategy; in a subsequent phase - once a national land-use policy has determined which areas should be demarcated and managed permanently under tree cover - the annual production volume from this part of the forest could be related to sustained yield principles based on natural regeneration and/or reforestation.

A review of some management plans which have been prepared by some tropical countries indicates that these plans tend to be very comprehensive and bulky documents which contain much background information on forest conditions in general, but little on actual operational issues. The rather traditional approach of an elaborate and time-consuming preparation is not geared to the pressing needs for an improved resource utilization. What is needed is a clear concept focusing on the key problems of timber harvesting in a particular area and specific regulations that can be implemented in concession-granting. It is certainly not the number of pages nor some learned explanation of geology and precipitation which will determine the value of such a plan, but the relevancy of the utilization requirements. The following points seem to be of particular importance:

- Forest land-use pattern in the management unit and obligations (salvage logging, logging restrictions) for the concessionnaire which derive from this pattern;
- determination of annual production level and applicable timber harvesting methods;
- determination of log flows by location (e.g. sequence of annual logging coupes), volume (e.g. species, size and log quality) and time;
- distribution of log flows to existing industries based on transport minimization;
- potential for new forest industries;
- basic road network and other necessary infrastructural facilities;
- regeneration (natural and/or artificial) and required silvicultural operations;
- provisions related to forest production, supervision and logging control.

Forest Management Units

The first step towards any form of rational resource utilization is the subdivision of the forest area into management units for which a regional inventory and a management plan can be prepared. The size of the units should normally be determined so as to allow the establishment of larger integrated wood-processing units. Utilization planning by regional units is also an essential requirement for a coherent concession policy. Once the resource potential is known, the government can decide more easily what types of utilization contracts are to be envisaged in a particular unit and what sort of timber harvesting conditions can reasonably be imposed on the concessionnaires to ensure an optimum use of the raw material.

The total area of a management unit can either be granted in one long-term concession or be split up into several short- and medium-term concessions. If an entire management unit is granted under a long-term contract, the provisions of the management plan are directly applicable to the company. If a management unit includes several short- or medium-term concessions, additional logging plans for each concession, compatible with the management plan itself, will have to be prepared. Management or logging plans should be referred to in the document transferring the utilization rights, or be attached as an annex or special schedule to such a document. In management units with already allocated areas, existing concessions may either be regrouped or gradually consolidated into larger lots.

Regional Forest Inventories

Regional forest inventories are an important aspect of resource utilization and are required in particular when dealing with such issues as land use, forest industry planning, timber harvesting regulations, distribution of concession areas and negotiation of individual agreements. Such inventories, to be prepared for each management unit, have to be management- and industry-oriented. Both the forest owner and the industry may need to know details about species by marketing groups, distribution of size classes within these groups as well as details about log quality (e.g. peeler and sawlog grades) and current defects. Raw material stock estimates should be related to net volumes which can be used for feasibility calculations. The following points illustrate the type of information to be extracted from current regional inventories for tropical forest zones in West Africa:

- Total volume (gross volume and actual merchantable volume) of trees above exploitable diameter limits (usually between 60 and 80 cm DBH) and its distribution by inventoried species. Presently exploitable species may then be grouped according to their commercial value and uses (e.g. main redwood species, main peeling and sawwood species, other species acceptable to the market); species not yet marketable but with identified potential may be grouped according to their eventual utilization possibilities.

- total volume (gross volume and actual merchantable volume) and number of trees by diameter classes 60/80 and 40/60 cm DBH of main groups of species; these figures indicate roughly the utilization possibilities of a second cutting cycle;
- number of trees of diameter classes 10/40 cm DBH and distribution by main groups of species; this information is needed in order to determine the areas with a higher frequency of young trees of commercial species to be left under forest cover for future production;
- maps indicating the geographic pattern of forest types and showing the frequency of commercial species or groups of species; this will give a first indication of the distribution of exploitable volumes;
- maps indicating the penetration zones of shifting cultivation.

In other circumstances (e.g. specific pulp wood inventories) additional information on a wider range of species and on the volume distribution of smaller diameters may be required.

Preparation of Inventories and Management Plans

It seems appropriate to distinguish clearly between:

- (a) The need for inventory and management information required as a basis for strategy formulation at the national level and for the identification of those specific areas which are available for major industrial investment. This information has generally to be provided by government agencies;
- (b) the need for an evaluation of investment possibilities in a particular area and for minimum management requirements; this should also be carried out by the public administration in order to protect the interest of the forest owner;
- (c) the need for detailed inventory and operational cruising in order to produce a sound basis for feasibility studies and ongoing operations. This could either be done in a joint undertaking or under the responsibility of the investor.

In several countries in South-East Asia and Latin America (e.g. Colombia, Ecuador, Indonesia, Philippines and Venezuela), private companies applying for new contracts are made directly responsible for the preparation of inventories and management plans. This solution has usually been adopted in view of the heavy staff and budgetary limitations of the public forest administration; it may provide an immediate answer to the rapidly increasing demand for new concession areas in these countries. In principle, it is doubtful, however, whether such an approach is ultimately in the best interest of the granting nations. The results of forest inventories should enable the governments to define a global development strategy for a certain unit, to attract the most suitable investors, and to strengthen their position when negotiating new contracts. It is difficult to see how these objectives can be reached when the inventories are prepared by the applicants. Similar considerations concern the preparation of management plans. The forest owner's objective of adjusting the rate of annual timber harvesting to the production potential of the resource is not essentially identical with the immediate business interests of private companies acquiring timber rights, and it may be difficult to settle conflicts in the long-term interest of the country. In view of these considerations, the preparation of inventories and management plans by the public forest administration representing the forest owner should rather be the rule than the exception.

If for some specific reason (i.e. lack of staff and funds of the administration, or the granting of contracts to very large integrated units with greater interest in coordinating timber harvesting with long-term forest development) the preparation of inventories and management plans is left to the grantee, the following rules should be applied:

- The inventory standards and the subjects to be covered in management planning should be specified in advance;
- The inventory results and the proposals of management plans should be carefully checked and approved by the national forest administration.
- The executing company should be required to submit all information received during the preparation of inventories and plans, irrespective of whether a contract will be granted or not.

The salient point is of course that a satisfactory solution can only be found by a closer and more effective working relationship between public forest administrations and the industry. Unless the industry cooperates fully with the government in a spirit of understanding for long-term resource utilization, it will never be possible to guarantee a successful implementation of management plans. Improvements of this kind require a substantial amount of good will both on the side of the forestry officers responsible for resource management and the industry managers concerned with its use.

National Land-Use Programmes as the General Framework for Resource Allocation under Utilization Contracts

As has been stressed previously, one of the main problems with forestry and timber allocation systems in many tropical countries is at present the need for a general forest land-use policy which, within the framework of national development planning, defines:

- what forest land should be released for other uses such as expansion of the agricultural sector;
- what forest land can be retained as a resource basis for future raw material supply to wood-processing industries since no alternative land use offering a greater contribution to national economic growth can be expected;
- what land should be kept permanently under forest cover for purposes of soil conservation, erosion control or water resource management;
- what forest land should be classified as national parks, game reserves, nature sanctuaries, etc.;
- what areas presently not under forest cover will be required or be available in the future for additional raw material production.

Land-use planning is an important prerequisite for any coherent policy of resource allocation through utilization contracts, since the status of forest land will directly affect the conditions under which the grantees should operate. On land to be turned over to non-forestry uses (salvage logging areas), provisions other than those on land permanently reserved for forestry or on land with special protection functions are to be imposed. It should, however, be kept in mind that under prevailing conditions land-use decisions can hardly be based on static assumptions; but it may be feasible to think, for instance, in terms of 25 years, a period that would at least justify substantial investment in forest industry development.

5. ASSESSMENT OF FOREST TAXES

Shortcomings of Present Forest Taxation Policies

Forest taxes in the present context may be so defined that they comprise all fiscal payments specific to forest utilization and which have to be paid by the companies in exchange for wood-cutting rights on public land. They include in particular export duties on logs and

processed timber and payments related to the granting of utilization contracts. They do not encompass taxes and fees not specifically applicable to the logging and wood-processing industry, for instance, general business taxes, profit and income taxes, import duties on machinery, equipment and spare parts. Forest taxes may be classified into export taxes usually collected by the Customs Service and internal taxes assessed and collected by the Forest Service and/or Internal Revenue Office. The notion that payments of the grantee in exchange for utilization contracts are referred to as "forest tax" is particular to most French-speaking West African countries and to some countries in Latin America and South-East Asia. In English-speaking countries, these payments are usually referred to as stumpage, timber royalties and forest fees.

Three major shortcomings of forest taxation experienced in many tropical countries should be mentioned:

- (a) Payments are fixed at uniform rates and do not consider the economic value of the harvested raw material. This practice generally discourages utilization of lesser known species or low-grade material and favours over-exploitation in areas close to the main lines of communication.
- (b) Rates are fixed in the forest law itself and can only be changed with great difficulties; substantial losses of revenue, due to an inadequate adaptation to changing raw material prices and production cost levels, may result from such an arrangement.
- (c) Tax rates are determined by individual contractual arrangements not including tax revision clauses.

These difficulties arise from misinterpreting the nature of forest taxes which in many countries have been considered as a mere device for revenue collection purposes. Forest taxes should, however, be understood as payments corresponding to raw material values - usually the value of standing trees - paid by the grantee of a utilization contract in exchange for the harvesting rights. For this reason, the payments of the concessionnaires are in some countries explicitly referred to as "stumpage", meaning the value of the trees on the stump prior to the harvest that is to be paid to the forest owner ^{1/}.

Stumpage Appraisal

The assessment of forest taxes should be based on a stumpage appraisal of the harvested material. Such an appraisal determines the value of the harvested raw material (stumpage value) by subtracting the total exploitation and transport costs and a reasonable profit margin for the entrepreneur from the price obtainable for exported or locally processed logs. The remainder represents the reimbursement or wood costs which is expected from the concessionnaire either in the form of a direct stumpage payment or the aggregate payment resulting from the various forest taxes. Under the prevailing conditions of forest exploitation it is of course not always practical to make such calculations for particular exploitation units; stumpage appraisals should rather give a broad indication of an estimate for the combined forest tax burden which can be assessed on the important commercial species, log grades, and in the main forest regions of a country. The principle and usefulness of stumpage appraisals can easily be understood. But the major difficulty of tax assessment arises from the fact that many governments have at present insufficient information about timber prices and production costs; for this reason they are unable to put such a system into practice.

^{1/} In spite of the fact that the term "stumpage" or "wood costs" appears to be more appropriate, we continue to use the term "forest taxes", since many countries in the tropics refer to concession payments in this manner. For a review of current nomenclature of the various terms, see "Handbook on Forest Utilization Contracts on Public Land", pp. 62-64.

There are, of course, at least in principle, other possibilities to capture the resource rent of the raw material. The main alternative would be to rely entirely on non-forestry taxes (e.g. business and profit taxes); however, due to practical obstacles in assessing and collecting such taxes, such an alternative may not yield the highest possible revenue from forestry under the prevailing circumstances. Moreover, forest taxes are not only a fiscal device for revenue collection, but, if assessed in an appropriate manner, they have important effects on timber harvesting practices. On the other hand it should be understood that the argument in favour of forest tax assessment as related to raw material value does not mean a plea for cumbersome collection procedures still used by some forest departments. Adequate forest tax assessment procedures are mainly a conceptual issue and do not necessarily imply the use of a substantial part of the field staff for revenue collection. It would thus be advisable to concentrate in the future on the determination of realistic tax rates and fewer payment categories which could, for instance, be collected at the entrance of processing units or, in the case of exported logs, at central checking points or the ports.

Application of more coherent taxation policies implies a definite need to examine more closely the economic aspects of forest utilization and stumpage appraisal than has been done so far. It can be assumed that such an activity will show rapidly some results and may lead - at least in some major log-producing countries - to substantial additional government revenues. Appropriate tax evaluation requires in particular a regular analysis of timber price developments and related production costs in reasonably efficient operational units. As an indicative price level for stumpage appraisals, actual FOB prices for species and grades, or prices at mill site for logs processed locally, may be used. From these prices, the following costs will have to be deducted:

- (a) Exploitation costs, comprising exploration and logging inventory costs, construction and maintenance of forest roads, felling and skidding, bucking and wood-handling in log yards, loading on trucks, and general overheads of the logging camp;
- (b) transport costs to port or mill site;
- (c) port handling costs, excluding forest taxes;
- (d) overheads of central services;
- (e) costs of export and marketing agencies; and
- (f) a reasonable profit margin for the concessionaire.

These data make it possible to calculate the unit value of a certain species, of a certain quality and at a certain location, and the margin which might possibly be collected in the form of taxes. For lower quality logs, wood cut in a salvage area and species to be introduced on the market, rebates could be considered in order to encourage a more intensive use of the resources.

The present division of responsibilities for forest tax assessment among various government agencies - as it exists in certain countries - does not encourage improvements in this field. Changes in forest taxation may be decided in the Ministry of Finance, whereas the technical administration has little or nothing to say in this matter. A clearer understanding of the nature of forest taxes and closer cooperation between all government agencies concerned would certainly contribute to design and implement more appropriate tax collection procedures.

Possible Modifications of Forest Taxation Policies

It is usually not possible to change established forest taxation methods overnight so as to reflect completely the principle of economic value. However, substantial modifications can be made which are in line with the advocated principle of stumpage appraisal; a policy of gradual revision is also more realistic. Furthermore, in view of the somewhat different conditions and the prevailing patterns of forest taxes, it is not possible to advocate the same tax assessment system for all countries. The following considerations are, however, of general relevance in countries with large concession areas:

- (a) Tax assessment should mainly focus on area tax, volume tax and export tax; the possibility of reducing the number of other forest taxes should be examined.
- (b) The assessment of export taxes, and possibly also volume taxes, should be based on current FOB prices or local mill site prices; if officially determined tax values are still retained for some reason, such values should be adjusted frequently, e.g. every six months, to FOB price developments.
- (c) The tax rates of export and volume taxes should be increased more rapidly on high value species than on low value species; tax rate adjustments should be based on an analysis of the combined effect of the FOB price and production cost level on the expected profit margin.
- (d) Area tax, roundwood tax or export taxes should be varied in such a way that the total forestry tax burden per m³ reflects differences in transport costs.
- (e) The combined forestry tax burden on species to be introduced on the market may be reduced below the average tax burden; forest taxes could even be waived completely during the promotion period.
- (f) Taxation policies which assess lower taxes on locally processed wood may be justified during an initial period in order to encourage the expansion of forest industries. Taxes should preferably be levied on roundwood entering the transformation units and not on processed products.
- (g) Strong and independent supervision in the forest, at the production units, railway stations and ports is required in order to ensure that origin, species and grades declared for taxation purposes correspond to reality.
- (h) Forest tax revenues collected by the Customs Services should be indicated separately from other export tax revenues and the annual reports of forest services or other government agencies should indicate the combined revenue from all forest taxes.
- (i) The major producers of tropical hardwood logs should consider the creation of a special forest economics section within the forest administration, or, if appropriate, in other government services which could regularly deal with forest taxation problems. The main tasks of this section would be (i) to follow price developments, (ii) to collect information on logging, transport and wood-processing costs, and (iii) to evaluate the effect of tax rates on general forest policy objectives.
- (j) Applied forest research in countries with substantial forest resources should be more concerned with studies related to the economics of forest exploitation and wood-processing, the results of which can be used for tax assessment purposes.

6. FOREST UTILIZATION CONTRACTS - A FORESTRY DEVELOPMENT PROBLEM IN MANY COUNTRIES

Exchange of Information on Concession-Granting and Forest Taxation

The exchange of information between countries with rather comparable tropical forest resources with regard to the conditions under which utilization contracts may be granted and the requirements which the concessionnaires have to fulfil, will help to improve national concession policies. In many cases, investors are interested in acquiring utilization contracts in more than one country, and a comparison of concessions in other countries will improve the negotiation position of the governments concerned. Exchange of information appears to be particular relevant in the field of forest taxation. The prices for logs and processed forest products are closely linked, at least in some of the major tropical regions; changes of the taxation level, if introduced in one country only, may consequently influence

its competitive position. At present, considerable differences in taxation levels may exist within neighbouring countries; it would help if each of them were able to evaluate its position within the regional context and could then decide whether modifications of forestry tax policies should be made. The regular exchange of information on assessment and collection procedures, price developments and production costs will thus be of common interest at the regional level.

FAO's Future Contribution

Through its involvement both in general forest development activities as well as in specific studies on forest utilization contracts, FAO has acquired substantial knowledge of problems related to national forest concession policies. Thanks to a continuous feedback from forestry projects, the Organization will be able to widen its experience gradually. It is thus in a position to continue this work, and its possible future role in this field could mainly be to:

- examine the basic problems related to this form of forest resource allocation in view of further changes of national forest policies and improvements of public forest administrations. This will imply a regular exchange of experience with and between the countries that have granted utilization contracts;
- provide an objective assessment of feasibility studies for integrated wood-processing units if a government intends to grant long-term utilization contracts in a particular area;
- provide advice on negotiation procedures between government agencies and large-scale investors;
- evaluate the manpower needs of public forest administrations for an adequate implementation of national concession policies and to advise on organizational and administrative issues related to concession-granting;
- carry out comparative studies on forest taxation procedures, indicating the categories of existing taxes, the applicable tax rates, the assessment and collection procedures and the total tax burden per unit of harvested raw material. In view of the considerable importance of forest tax revenue in many tropical countries as a source for government budgets and for financing operational activities of public forest administrations, such studies seem to be of particular urgency in the immediate future.

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PRESIDENTIAL DECREE ESTABLISHING A LONG TERM FORESTRY
UNIT IN MEXICO ^{2/}

Preliminary Considerations (omitted)

Location and extension of area **Artículo Primero.** Se declara de utilidad pública la constitución de una unidad industrial de explotación forestal en favor de la empresa denominada HN., sobre dos fracciones con superficie total de 462,984 Hs. (cuatrocientas sesenta y dos mil novecientas ochenta y cuatro hectáreas) de terrenos nacionales y ejidales enclavados en la zona Sur del Territorio de Quintana Roo, conforme al croquis anexo.

Authorisation **Artículo Segundo.** Se autoriza a HN. para llevar a cabo el aprovechamiento de los bosques existentes en los terrenos denominados... y en los demás predios propiedad de la nación que se encuentran dentro del área concesionada.

Schedule of stumpage payments in these forests La concesionaria deberá pagar las correspondientes cuotas de acuerdo con lo que dispongan los decretos que fijan las tarifas para el pago de productos por explotaciones forestales realizadas en montes de propiedad de la nación.

^{1/} Appendices A, B and C reproduce three agreements chosen as typical examples for long term utilization contracts. In accordance with the particular requirements of the country, each of them embodies certain aspects of the national utilization policy. Each agreement has certain merits but also some shortcomings and none of them should be taken as a model. However, these documents offer a good cross-section of the provisions of long term utilization contracts generally applied in most tropical areas.

^{2/} This Mexican decree includes many good provisions for a long term management contract. It is particularly remarkable that a preliminary management plan is to be prepared before the unit is established, that a forest professional has to be employed, that an annual budget for forest management is to be prepared and that the grantor shall be informed regularly on progress of forestry operations. The grantee has to accept considerable responsibility for works of public interest, and wood processing in the new forest industry is determined in detail.

Authorization
for logging
in communal
forests

Artículo Tercero. También se autoriza a EN. para llevar a cabo la explotación forestal de los predios denominados ... y demás terrenos ejidales o particulares existentes dentro del área que comprende esta unidad.

Method of price
determination
for wood from
these areas

La explotación de los recursos forestales ejidales queda condicionada a la aprobación por la Secretaría de Agricultura y Ganadería, de los contratos que en cada caso deban otorgarse, en los cuales se fijarán precios justos con apoyo en los estudios que sobre costes de producción y precio de los productos elaborados formulen los expertos que para tal efecto se comisionen.

Logging in
accordance with
preliminary
management plan

Artículo Cuarto. En todo caso, la explotación forestal deberá ajustarse a los términos del estudio económico preliminar o a los del Proyecto Definitivo de Ordenación que se formula para regir los aprovechamientos, quedando la autoridad forestal facultada para graduar proporcionalmente los volúmenes que anualmente deban explotarse, en la medida en que vayan instalándose las diversas industrias proyectadas, hasta autorizar la posibilidad propuesta en el Proyecto Definitivo de Ordenación, una vez que la industria esté totalmente establecida.

Start of
operation

Artículo Quinto. EN. podrá a partir de la fecha de publicación de este decreto en el "Diario Oficial" de la Federación, iniciar los trabajos de explotación en los predios concesionados, hasta por los volúmenes que gradualmente vaya autorizando la Secretaría de Agricultura y Ganadería, de acuerdo con lo dispuesto por el artículo anterior.

Preparation
of definite
management plan
within a period
of 3 years

Artículo Sexto. La empresa se obliga a realizar los trabajos necesarios para elaborar el Proyecto Definitivo de Ordenación, el cual deberá quedar terminado en un lapso de tres años contados a partir de la fecha de publicación de este decreto. El Proyecto Definitivo de Ordenación contendrá el inventario de los montes, la división de los mismos en cuarteles de explotación, los métodos de tratamiento, el plan de cortas y, en general, todos los demás datos que sean necesarios para regular su racional aprovechamiento y determinar los volúmenes que en forma definitiva deberán autorizarse de acuerdo con la capacidad productiva de los montes.

Demarcation of
boundaries and
compartment
lines

Queda también obligada a efectuar, exclusivamente para fines forestales, el mejoramiento necesario para delimitar el área de la unidad y los deslindes de los predios incluidos en ella, así como a señalar claramente los cuarteles de explotación en que sea dividida.

Wood processing
in accordance
with established
plan

Artículo Séptimo. NN. queda obligada a elaborar madera aserrada, chapas y triplay y a utilizar los residuos dentro de un plan progresivo de industrialización.

Establishment
of sawmill
within
one year

Artículo Octavo. Queda también obligada a instalar, en un plazo improrrogable de un año, contado a partir de la fecha de publicación de este decreto, el aserradero de sierra banda con industrialización de las maderas aserradas de cortas dimensiones; en un plazo improrrogable de dos años, la estufa para el secado de maderas; y en un plazo improrrogable de tres años, contados a partir de la fecha indicada en primer término, la fábrica de chapa y triplay y la demás maquinaria que se cita en el considerando octavo de este decreto, así como a terminar las construcciones a que se alude en el mismo. Igualmente dará aviso a las autoridades forestales de la terminación de dichos trabajos a fin de que éstas comprueben que la concesionaria ha cumplido con los compromisos que adquirió en materia de inversiones o instalaciones.

Establishment of
plywood plant
within 3 years

Progress report
on establishment
of processing
facilities
every 3 months

La propia concesionaria queda obligada a informar trimestralmente a las autoridades forestales por lo que toca al desarrollo de los trabajos de instalación de la industria y mensualmente por lo que respecta a la producción forestal y a los procesos de transformación industrial que lleve a cabo.

Guarantee for
industrialization

Artículo Noveno. Para garantizar el cumplimiento de sus obligaciones relativas a la instalación de la industria, a que se refiere el artículo anterior, la concesionaria otorgará una fianza por la cantidad de \$ 100,000.00 (cien mil pesos). En caso de no efectuar las instalaciones proyectadas dentro de los plazos fijados, la fianza se hará efectiva por las autoridades forestales, sin perjuicio de cancelar la unidad industrial de explotación forestal, salvo caso fortuito o de fuerza mayor que justifique el incumplimiento.

Formation of
technical
forest service
for the unit

Artículo Décimo. NN. en un plazo de dos meses contados a partir de la vigencia de este decreto, deberá otorgar la fianza a integrar la Dirección Técnica Forestal de los servicios de la unidad que se encargará de planear, dirigir y realizar los trabajos dasocráticos, de vigilar los aprovechamientos para que se hagan de conformidad con los estudios aprobados, de efectuar los trabajos de repoblación artificial de acuerdo con los planes de reforestación aprobados de combatir y erradicar las plagas y

las enfermedades forestales, de prevenir y combatir los incendios, de controlar el pastoreo, de vigilar el transporte de los productos, de rendir los informes sobre producción y en general de las funciones que conforme a la ley y reglamentos forestales le correspondan.

Professional forester in charge of technical forest service

Artículo Décimo Primero. La Dirección Técnica de los Servicios de la Unidad Industrial de Explotación Forestal estará a cargo de un ingeniero forestal nombrado por la empresa concesionaria, previa aprobación de la Secretaría de Agricultura y Ganadería, el Personal técnico, administrativo y de vigilancia será nombrado por el Director Técnico y normará sus actividades conforme al reglamento interior que deberá ser presentado a las autoridades forestales para su aprobación, dentro del lapso improrrogable de 6 (seis) meses contados a partir de la vigencia de este decreto.

Annual budget for forest management

Artículo Décimo Segundo. La Dirección Técnica formulará y presentará, a más tardar el día 10 de diciembre de cada año, un presupuesto anual que someterá a la revisión y aprobación de las autoridades forestales, el cual deberá ser suficiente para garantizar el adecuado trabajo del Servicio Técnico Forestal, teniendo en cuenta las tareas por realizar y la capacidad económica de la empresa.

Finance of annual budget for forest management

Para cubrir ese presupuesto, la autoridad forestal fijará cuotas por unidad de productos elaborados. Queda a cargo de la Dirección de los Servicios Técnicos el manejo y control de esas cuotas y el ejercicio del presupuesto, debiendo la concesionaria cubrir mensualmente las cuotas que corresponden a los productos forestales que elabore.

Report every 2 months on all operations and activities in granted area

Artículo Décimo Tercero. La Dirección de los Servicios Técnicos, informará bimestralmente a la autoridad forestal :

- I- Del estado de los trabajos relativos a los estudios forestales que se estén realizando ;
- II- De las labores de inspección y vigilancia, detención de productos y actas de infracción, las que deberán enviarse sin demora a la autoridad forestal competente para su trámite ;
- III- De los trabajos de protección forestal que se efectúen, tales como prevención y combate de incendios, control de pastoreo, combate y erradicación de plagas y enfermedades ; etc..
- IV- De la producción de árboles en viveros, de las plantaciones y siembras directas ;
- V- Del resultado de las explotaciones para el abastecimiento de las mencionadas industrias y el consumo local del área de la Unidad Industrial ;

- VI- De la colaboración de contratos sobre aprovechamientos forestales ;
VII- De las construcciones que realicen, principalmente de caminos, torres de observación, refugios de monte, brechas de control, corta-fuegos y otros semejantes ;
VIII- Del movimiento de fondos recaudados y de los gastos erogados al ejercer el presupuesto, y
IX- En general, sobre los asuntos que las autoridades les indiquen, relacionados con la producción, protección y repoblación forestales.

National forest service responsible for control and supervision

Artículo Décimo Cuarto. Las autoridades forestales vigilarán en forma permanente el desarrollo de los trabajos que efectúe la concesionaria en el área de la Unidad Industrial y el cumplimiento de todas sus obligaciones.

Power to construct forest roads and to exercise forest protection

Artículo Décimo Quinto. La Secretaría de Comunicaciones y Obras Públicas otorgara a la empresa concesionaria, de acuerdo con las disposiciones de la materia, todas las facilidades para construir y conservar los caminos y vías de saca indispensables, para resolver el problema de los transportes y para efectuar eficientemente los servicios de protección, explotación y fomento de la vegetación forestal dentro del área de la Unidad.

Social legislation and works of public interest

Artículo Décimo Sexto. NN. estará obligada a dar sus empleados y trabajadores las prestaciones y servicios sociales establecidos por las leyes vigentes ; les proporcionará servicios médicos y educativos y habitaciones adecuadas, con la tendencia a crear centros permanentes de población y prohibirá la venta y consumo de bebidas embriagantes dentro de los centros de trabajo.

Logging residues to be left to local population

Artículo Décimo Séptimo. Los residuos no aprovechados por la empresa concesionaria se destinarán a la satisfacción de las necesidades del consumo local.

La Secretaría de Agricultura y Ganadería queda facultada para, en caso necesario, señalar aquellos aprovechamientos diversos de los destinados a la industria, que demande el consumo dentro o fuera del área de la Unidad.

Company to prove that wood is processed in established industry

Artículo Décimo Octavo. NN. está obligada a comprobar ante la autoridad forestal, que la totalidad de los productos obtenidos en sus explotaciones forestales se destinen a los fines señalados en este decreto.

Contract duration for 29 years

Artículo Décimo Noveno. La Unidad Industrial de Explotación Forestal que se constituye tendrá una duración de 29 (veintinueve) años, contados a partir de la fecha de publicación de este decreto

en el "Diario Oficial" de la Federación, prorrogable en caso de que las industrias consumidoras continúen operando normalmente y dentro de la Ley, a juicio del Ejecutivo Federal.

No transference
of granted rights

Artículo Vigésimo. La empresa no podrá transmitir la concesión relativa a la Unidad Industrial de Explotación Forestal que en su favor se constituye ni entregar a otras industrias los productos forestales cuyo aprovechamiento se le autoriza.

No export of
wood if local
necessities are
not satisfied

Tampoco podrá exportar los productos que elabore mientras no estén satisfechas las necesidades del consumo nacional.

Reasons for
cancellation
of contract

Artículo Vigésimo Primero. Son causas de cancelación de la Unidad Industrial de Explotación Forestal :

- I- No cumplir, en sus puntos esenciales, con el programa relativo a las instalaciones industriales que deben establecerse ;
- II- No lograr el grado de aprovechamiento o industrialización de los recursos forestales a que está obligada ;
- III- Incurrir en graves violaciones por lo que toca a la forma de aprovechamiento de los bosques ;
- IV- No elaborar, dentro de los plazos señalados, el Proyecto de Ordenación Definitivo y no cumplir con el mismo en sus aspectos fundamentales ;
- V- No mantener el personal técnico, administrativo y de vigilancia indispensable para el servicio forestal de tal suerte que se abandone, de modo fundamental, el servicio de protección, control de explotación y vigilancia forestal ;
- VI- Faltas al cumplimiento de las prestaciones y obligaciones de carácter social que corresponda ;
- VII- Por vencimiento del plazo señalado en este decreto ;
- VIII- Por disolución o liquidación de la empresa concesionaria ;
- IX - Por usar sierras circulares después de un año de vigencia de este decreto, para el aserrío de las maderas, excepto cuando se trate de subproductos ;
- X- Por dejar de cumplir con las obligaciones que impone este decreto o cualesquiera otras que correspondan a la concesionaria o impliquen un daño o riesgo grave para la adecuada conservación y explotación de los bosques concesionados o una alteración esencial de los fines y de los trabajos industriales que justifican el otorgamiento de esta Unidad.

Equipment and
instruments for
forest management

Artículo Vigésimo Segundo. Los muebles, instrumental científico, vehículos, planos, estudios y demás objetos y útiles del servicio técnico de la Unidad y se destinarán al servicio forestal, al concluir o desaparecer la Unidad.

Transitory Clauses

Termination of
provisional
logging plan

Artículo Primero. Los aprovechamientos de madera podrán ejecutarse, desde luego, con cargo al estudio económico preliminar y a presentado y mientras se termina el Proyecto de Ordenación Definitivo.

No logging without
surety bond for
industrialization

Artículo Segundo. No se autorizará ningún aprovechamiento de madera mientras la empresa concesionaria no otorgue la fianza a que se refiere el artículo 9º y no se integre la Dirección de los Servicios técnicos de la Unidad.

Agreement in
force on day of
publication

Artículo Tercero. El presente decreto entrará en vigor a partir de la fecha de su publicación en el "Diario Oficial" de la Federación.

APPENDIX B

AGREEMENT FOR A LONG TERM UTILIZATION CONTRACT IN NIGERIA 1/

This Agreement made this day of between for Native Authority as the traditional authority on behalf of the communal owners of the land hereinafter referred to as the Grantor of the one part and NN. hereinafter referred to as the Company of the other part witnesseth that the parties hereto mutually covenant and agree as follows :

Rights granted

1. In consideration of the due fulfilment by the company of all the terms and conditions of this Agreement of the Grantor in exercise of the powers conferred by Regulation 40 of the Forestry Regulations made under the Forestry Ordinance Chapter 75 of the Laws of Nigeria 1948 hereby grants to the Company subject to the limitations and restrictions hereinafter contained and to the provisions of the Forestry Ordinance and the Forestry Regulations exclusive permission

**Felling and
extraction
Extension of area**

a. to enter for the purposes hereinafter stated upon the forest area described in Schedule I and shown on the map attached as Annexure B and hereinafter referred to as the Concession Area and to fell any trees to convert into logs, lumber or firewood any tree so felled or any naturally fallen tree and to extract such logs, lumber or firewood from the forest within an area not to exceed ... square miles of the Concession Area as allocated in clause 4.

**Felling and
extraction in
salvage area**

b. to enter upon the forest area described in Schedule II and shown on the map attached as Annexure B and hereinafter referred to as the Salvage Concession Area and to fell any tree to convert into logs, lumber or firewood any tree so felled and any naturally fallen tree and to extract such logs, lumber or firewood from the forest over the whole of the Salvage Concession Area.

1/ This agreement is an interesting example of a long term contract granted by local authorities on tribal forest land. Its clauses are particularly concerned with the preservation of the rights of the local population (Art. 1); with control of logging by area (Art.4-5), with the determination of stumpage payments (Art.9-10), with the specification of reasons for cancellation of the agreement and with the definition of exploitation standards. Wood removal in part of the concession area takes place under a salvage logging scheme.

Construction of roads, railways, bridges, buildings

c. to make such roads, railways and bridges and erect such buildings as are necessary within the Concession Area and the Salvage Concession Area for the felling conversion of all such logs, lumber or firewood.

PROVIDED

Rights of the local population

a. that nothing in this Agreement shall interfere with the right of any native under the jurisdiction of the Native Authority to take by permit any tree he may require for his own use or for sale or barter so long as it is converted into lumber or otherwise fashioned or hollowed out for any purpose by hand power only and is not exported from the lands under the jurisdiction of the Native Authority except by the Company.

Previous agreements

b. that nothing in this Agreement shall interfere with the right of any native under the jurisdiction of the Native Authority to any free grant of forest produce to which he may have been entitled previous to the signature of this agreement and subject to the provisions of the Forestry Ordinance and the Regulations made thereunder.

Timber for official uses

c. that the right is reserved to the Governor of Nigeria to take such logs, lumber or firewood as are required for the essential works of the Native Authority or the Government of Nigeria if the Company cannot supply these requirements on commercial terms, but the Governor of Nigeria shall only exercise this right in emergency.

Start and duration of agreement

2. This Agreement shall be deemed to come into force on the first day of April 195. and shall unless previously terminated under clause 14, clause 16, or clause 17, terminate on the thirty-first day of March 197. after the expiry of a period of twenty-five years.

Operations in accordance with forest management plan

3. The Company shall conform to the prescriptions of and to any working or silvicultural control required by a plan of forest management to be published as the Idanre Working Plan with a rotation of a hundred years divided into four periods of twenty-five years each with control to be exercised by the Chief Conservator of Forests over the Company's fellings by area felled and regeneration operations to be carried out by the Forest Department under the supervision of the Chief Conservator of Forests.

Annual coupes

4. The Company is allotted a felling area of square miles of the Concession Area to be known as the Felling Area being twenty-five annual coupes, one coupe for each year of the twenty-five years of the licence, and all exploitation operations in the Concession Area shall be confined to that area.

Location and demarcation of annual coupes

5. The Concession Area shall be divided nominally into a series of annual coupes each covering one hundredth part of the Concession Area but the locality of each of the twenty-five annual coupes comprising the Felling Area shall be decided, declared and demarcated by the Company subject to the approval of the Chief Conservator of Forests and in such a manner that felling logging and extraction operations may ordinarily commence in one new coupe annually but the first five of such annual coupes contiguously located may be declared and worked as a quinquennial coupe. The Company shall enter no annual coupe in its Felling Area until a full five years after its declaration and demarcation except in the case of the first five annual coupes which it may enter at any time after their declaration.

Utilization of all merchantable timber

6. The Company shall fell and extract all Merchantable Timber as defined in Annexure A to this Agreement in its Felling Area by intensive annual fellings during the period of twenty-five years covered by this Agreement but at no time shall the total area in which felling by the Company has ceased under clause 7 exceed the total area of one annual coupe multiplied by the number of years of the period of this Agreement which have elapsed at the time except in the last five years of the period of this Agreement.

Minimum annual extraction volume

PROVIDED that felling shall be commenced within twelve months from the date of commencement of this Agreement and that at the end of five years from that date five annual coupes shall have been felled and that, should the rate of working thereafter fall more than one year in arrear of the normal rate of one annual coupe, a year without the express permission of the Chief Conservator of Forests the Company shall be deemed to have broken the terms of this Clause requiring intensive annual fellings.

Stop of operations in annual coupes

7. The Company shall cease felling and abandon all work in each annual coupe of its Felling Area except as permitted or required by the Chief Conservator of Forests at the end of three years from the date on which it commenced work in that coupe or in the case of the first five annual coupes being worked as a quinquennial coupe at

the end of five years from the date on which it commenced work in that quinquennial coupe but all fellings and extraction shall cease on the termination of this Agreement. Any timber remaining in a coupe shall be at the disposal of the Chief Conservator of Forests.

Advanced fellings
by special
permissions

8. Permission to carry out advance fellings of overmature trees may be requested by the Company from the Chief Conservator of Forests but must be approved and marked by the Forest Officer in charge of the Working Plan operations before felling. Advance fellings may also be required by this Forest Officer for reasons of forest improvement and if not accepted by the Company shall be allocated by the Forest Officer at his discretion to other operators.

Stumpage charges

Reference to
stumpage schedule

9. The Company shall pay on demand to the Chief Conservator of Forests on behalf of the Government of Nigeria in the case of fees and on behalf of the owners in the case of royalties fees and royalties assessed at rates for the time being in force as laid down by the proper authority for the Forest Reserves in which the Concession Area is situated and for the area in which the Salvage Concession Area is situated on all trees logs, lumber or firewood which are defined as merchantable under Annexure A or which the Company extracts from the forest or sells or uses in the forest.

Payment for
not extracted
merchantable
timber

PROVIDED that at the end of each five-year period fees and royalties shall be paid upon the merchantable contents of any tree of those species defined as merchantable in Annexure A to this Agreement which is left standing or felled in the Felling Area but not extracted from the area when felling ceases under clause 7 in an annual coupe or the quinquennial coupe if the first five annual coupes are declared as a quinquennial coupe under clause 5.

Deposit for
annual payments

10. Whereas the Company has furnished to the Chief Conservator of Forests adequate security for the payment of sum of ... the following provisions shall have effect:

Minimum annual
stumpage payments

a. If at the end of five years from the date of commencement of this Agreement or at the end of any period of five years calculated from the conclusion of such original period of five years or any subsequent such period the total fees and royalties paid by the Company, trees, logs, lumber or firewood in the Concession Area and Salvage Concession Area shall fall short of an amount of ... multiplied by the number of square miles

worked in the Felling Area from the date of commencement of this Agreement to the end of that period of five years, the security shall be at once increased by the amount of such shortage but the security shall be increased once only for the same shortage.

Release of
deposit payments

b. If at the end of any subsequent period of five years the total fees and royalties paid as described above in this Clause exceed an amount of ... multiplied by the number of square miles worked in the Felling Area from the date of commencement of this Agreement to the end of that fifth year then so much of the security as exceeds the original £... up to but not exceeding the amount of such excess shall be released to the Company.

Final balance
of deposit payments

c. On the termination of this Agreement final adjustment shall be made and the equivalent of any shortage from an amount of £ ... multiplied by the number of square miles worked in the Felling Area during the term of this Agreement shall be paid by the Company to the Chief Conservator of Forests on behalf of the Government of Nigeria and the sureties shall be released in respect of any balance or the balance of any deposit refunded to the Company. If there is no such shortage the sureties shall be released in respect of any balance or the balance of any deposit refunded to the Company. If there is no such shortage the sureties shall be released in respect of the whole sum and any deposit made shall be refunded to the Company.

Arbitration
concerning
annual stumpage
payments

11. When the afore-mentioned minimum of £ ... for each square mile of forest of the Felling Area worked has not been realised but the Company alleges that it was only prevented from felling as much timber as would have produced such minimum sum by reason of the impoverishment of the forest by past fellings before the commencement of this Agreement or by the intrinsic poverty of the merchantable timber contents of the forest, the case shall be submitted to the Chief Conservator of Forests who will if satisfied authorise the reduction of the rate of £ ... to the square mile so that the Company is not penalised by circumstances beyond its control.

Surety bond
and reasons of
forfeiture

12. Whereas the Company has also furnished to the Chief Conservator of Forests adequate security for the payment of a sum of £ ... the following provisions shall have effect :

Abandoning
of timber
operations

a. If the Company abandons timber operations in the Felling Area before the expiry of this agreement it shall pay to the Chief Conservator of Forests on behalf of the Government of Nigeria by way of agreed damages the sum of £... for each remaining year of the term of this Agreement after the year of abandonment.

Partial release
of surety bond

b. At the end of each completed year of the term of this Agreement calculated from its commencement so long as the Company continues timber operations in its Felling Area within the terms of this Agreement and to the satisfaction of the Chief Conservator of Forests £... of the security shall be released to the Company.

Training and
employment of
technical assistants

13. The Company shall make provision for the training and employment of Idanre Technical Assistants in its work and shall do all in its power to foster co-operation with local industry.

Surrender of
contract

14. The Company shall surrender any existing timber licence held by it in the Concession and Salvage Concession Areas at the date of this Agreement :

PROVIDED

Surrender of
agreement before
its expiration

a. that if it is announced by notice in the Gazette with the approval of the Governor that the Idanre Working Plan has been or is to be abandoned before the expiry of the full term of the Agreement this Agreement shall terminate within three months after such announcement and no further rights or liabilities shall accrue under the terms of this Agreement after the date of such termination

Compensation with
other timber if
agreement is
surrendered before
expiration

b. that the Grantor shall within three months after such announcement grant a new timber licence to the Company for the areas described in Schedules I and II of this Agreement on the same terms as the timber licence by the Company which said new timber licence shall be conditioned to expire after the period of years for which the timber licence so surrendered would have remained in force at the time of surrender

Liabilities of
either parties
to be considered

PROVIDED also that the termination of this Agreement under this Clause shall be without prejudice to the right of the Company under Clause 18, or to any liabilities which either party may have incurred before such termination

No further rights
if agreement remains
in force for
25 years

PROVIDED also that should this Agreement remain in force for its full term of twenty-five years as provided for in clause 2, the Company shall have no further rights in the Concession or Salvage Areas except those which may be created by subsequent agreement.

Possibility of
renewal to be
announced by
the grantor

15. The Grantor shall advise the Company on ... or as soon as possible before that date of the allocation of forest if any which he may propose to offer to the Company for a further period commencing on the expiry of the full term of this Agreement and of the terms of such allocation.

Termination of
agreement by
the grantor

16. The Grantor with the approval of the Governor may terminate this Agreement excluding the provisions of clause 18, and without resumption by the Company of its rights under an individual timber licence as they exist at the date of this Agreement,

Failure to
respect clauses
of agreement

a. if the Company, its agents, servants or workmen, fail to observe any term or condition of this Agreement to an extent which in the opinion of the Governor with the advice of the Chief Conservator of Forests to whom the matter shall be submitted renders impossible the proper working of the Idanre Working Plan

PROVIDED that if the Grantor terminates this Agreement as herein provided on account of the failure of the Company to the extent hereinbefore mentioned to observe the terms of clause 6, requiring the Company to fell and extract all merchantable timber in the Felling Area by intensive annual fellings, the Company shall be deemed to have abandoned timber operations and the provisions of clause 12 shall thereupon have effect

Insolvency
of company

b. if the Company becomes insolvent or its business shall be wound up or go into liquidation.

Termination of
agreement by
the grantee

17. The Company may terminate this Agreement excluding the provisions of clause 18 at any time without resumption of its rights under an individual Timber Licence as they exist at the date of this Agreement by giving the Grantor six months' notice in writing of its intention to do so and by meeting all liabilities including the agreed damages payable under clause 12.

Disposal of buildings and installations after termination or expiration

18. On the conclusion of the period specified in clause 2, or on the termination of this Agreement under clause 16, or clause 17, as the case may be, the Company shall be given such reasonable time as in the opinion of the Chief Conservator of Forests is necessary to allow it to dispose of such buildings, mills, railways, wharfs or other structures erected for the purpose of its business under this Agreement as are standing on land at the disposal of the Native Authority. Any such buildings, mills, railways, wharfs or structures not disposed of by the Company within the reasonable time allowed under this Clause shall become the property of the Government of Nigeria.

No transference of rights without consent of the grantor

19. The rights conferred by this Agreement shall not be transferred by the Company wholly or in part for all or any part of the period of this Agreement except with the consent of the Grantor and the Chief Conservator of Forests first obtained.

Signature and seal of the two parties

(omitted)

Registration of contract

(omitted)

Approval of contract

(omitted)

Appendices to agreement

- Schedule I : Extension of granted area
- Schedule II : Extension of salvage area
- Annexure A : Definition of merchantable timber
- Annexure B : Map of granted area

STANDARD FORM FOR TIMBER LICENCE AGREEMENTS FOR LONG TERM

FOREST CONTRACTS IN THE PHILIPPINES 1/

This Agreement made and entered into by and between the Secretary of Agriculture and Natural Resources, for and on behalf of the Republic of the Philippines, hereinafter referred to as PARTY OF THE FIRST PART and NN. a Corporation duly organized and existing under and by virtue of the laws of the Philippines and duly licensed to transact business therein, with main Office at ... hereinafter referred to as PARTY OF THE SECOND PART.

Preliminary considerations

(omitted)

Granted rights

Now therefore, in consideration of the foregoing premises, and of the covenants and conditions stipulated the PARTY OF THE FIRST PART represented by the Secretary of Agriculture and Natural Resources, acting under authority vested by law, hereby issues to the PARTY OF THE SECOND PART an exclusive licence to cut, collect and remove timber, from the date of this licence agreement to ... from the part of the public forest in the Municipalities of ... described as follows :

Extension of area

(omitted)

This license is granted to the PARTY OF THE SECOND PART upon the following expressed conditions :

Final decision on location of boundaries

1. That the PARTY OF THE FIRST PART may amend or alter the descriptions of the boundaries of the area covered by this licence agreement to conform with official surveys or subsequent adjustments by the Bureau of Forestry and that the decision of the PARTY OF THE FIRST PART as to the exact location of the said boundaries shall be final.

2/ The clauses of this agreement are particularly concerned with the surveying and demarcation of concession boundaries (Art. 1-2) with the determination of the capital to be invested in operations (Art.3), with the employment of forest guards and forest professionals (Art.6 and 9), with the right of inspection and control (Art.10,20,21, and 22), and with the responsibility for forest protection. The agreement includes also detailed provisions on forest management (Art.11-13) and logging on a selective system (Part II of the Cutting Rules, see Appendix D).

Surveying and demarcation of boundaries by the grantee

2. That should the need arise for any further survey of the boundary, the PARTY OF THE SECOND PART shall undertake the surveying and laying on the ground the boundaries of the concession under the supervision of a competent forest officer, the survey of said boundaries shall be submitted to the Director of Forestry through the District Forester concerned, for approval.

Minimum investments for operations in granted area

3. That the PARTY OF THE SECOND PART shall provide a capital of at least ... for the immediate prosecution of the work authorized by this agreement, which capital shall, if necessary, be increased sufficiently to properly operate the said business in said forest tract under proper method of cutting, collecting and removing the forest product herein specified; and shall fulfil all other requirements hereinafter provided;

Payment of forest fees

4. That the PARTY OF THE SECOND PART shall pay to the Bureau of Forestry an annual licence fee of ... The amount may be amended or altered depending on the computation of said fee applicable to the year to which the fee is paid for.

Surety bond

5. As a guarantee for the faithful performance of the conditions of this licence agreement, the PARTY OF THE SECOND PART hereby delivers a bond in the sum of ... and agrees that the bond given in this licence agreement shall, upon failure on its part to perform all and singular conditions and requirements herein set forth or made part hereof, be retained by the Republic of the Philippines to be applied, as far as may be to the satisfaction of the obligations assumed thereunder; and the PARTY OF THE SECOND PART further agrees that should the sureties on the bond delivered therewith or any bond delivered hereafter in connection with this agreement become unsatisfactory to the PARTY OF THE FIRST PART, the PARTY OF THE SECOND PART shall within thirty (30) days of the receipt of demand, furnish a new bond with sureties solvent and satisfactory to the PARTY OF THE FIRST PART.

Augmentation of surety bond

Employment of forest guards

6. That the PARTY OF THE SECOND PART shall pay, in a manner designated by the Director of Forestry, the salaries of not less than six (6) concession guards who shall be deputized as forest guards by the PARTY OF THE FIRST PART and shall be employed under the direct supervision of the Director of Forestry or his representative. In preventing kaingin making ^{1/}, fires and other forest destruction within and contiguous to the area embraced by the licence agreement. The

1/ Kaingin : local expression for shifting cultivation.

salary of each concession guard shall, in no case, be lower than which is set by the Minimum Wage Law per annum.

Tree marking

7. That the PARTY OF THE SECOND PART shall leave undamaged, in the course of timber extractions, trees to be left for growing stock or fell only such trees that are selected to be out in permanent forest lands by duly authorized forest officers and shall cut, collect, and remove a minimum of ... cubic meters and a maximum of ... cubic meters of timber, government net scale, each year to be removed from the public forest for the regulated annual cut for sustained yield purposes; provided, however, that the PARTY OF THE SECOND PART shall not be required to comply with the said minimum in the event of recession of prices of logs and or wood products and the existence of other factors that may force the PARTY OF THE SECOND PART to limit its logging operations in the said forest; and in no case the annual maximum cut exceeds the sustained yield capacity of the forest by selective logging or approved timber management system as determined by the PARTY OF THE FIRST PART.

Minimum and maximum annual cut

Minimum volume suspended in times of recession

Maximum volume not to exceed sustained yield capacity

Processing of extracted material

8. That the PARTY OF THE SECOND PART shall dispose of its annual log production as scheduled in its timber management plan, duly approved. In this regard, the PARTY OF THE SECOND PART shall maintain its bandmill or ..., as may be required to utilize such portion of its annual allowable cut for local processing.

Technical forestry department

9. That the PARTY OF THE SECOND PART shall maintain a forestry department to take charge of timber management work in the concession under the conditions prescribed by the Bureau Forestry and in coordination with Timber Management Officers. The PARTY OF THE SECOND PART shall employ necessary number of tree markers to assure that all set-ups are tree marked. No unit or set-up marked to be logged shall be abandoned unless completely logged.

Employment of tree markers

Assistance and transportation facilities for the competent forest authorities

10. That the PARTY OF THE SECOND PART shall allow the entry of employees of the Bureau of Forestry or duly constituted authorities in the concession area and provide the necessary assistance such as transportation, equipment, supplies, labor materials, and so forth, solely for the implementation of or for other forestry work and inspection.

Operations in accordance with timber management plan

11. That carrying on the business authorized by this licence agreement in cutting, collecting and removing timber in said forest tract, the PARTY OF THE SECOND PART shall strictly comply

with its timber management plan and subsequent revisions thereof to attain sustained yield, the provisions of Act No. 2711, known as the Revised Administrative Code, the forest regulations and all other laws, rules and regulations now or hereafter to be in force governing the management and protection of the forest and the cutting, collecting, removing of forest products. Every fiscal year the report on the progress and development of and adherence to the logging plan shall be submitted for checking and appraisal by the Director of Forestry.

Annual progress report

12. That the PARTY OF THE SECOND PART shall pay three times the regular forest charges plus the regular forest and reforestation charges, information fund charges on trees needed for the future growing stock which are unnecessarily damaged in logging or injured through carelessness of the PARTY OF THE SECOND PART.

Penalty payments for damaged growing stock

13. That the PARTY OF THE SECOND PART shall undertake supplemental planting of species of trees in such portion of the forest tract that are designated by the Bureau of Forestry or his authorized representative as not capable of successful restocking by natural means. For this purpose, a planting plan shall be submitted by the PARTY OF THE SECOND PART for the approval of the Bureau of Forestry.

Tree planting and advice by the grantor

14. That the Director of Forestry or his duly authorized representative may suspend or stop the logging operation of the PARTY OF THE SECOND PART when there is a serious violation of rules and regulations which endanger the continuity and productivity of the forest.

Power to suspend operations

15. That the PARTY OF THE SECOND PART shall be responsible in protecting the area from illegal kaingin making or entry in any portion of its concession. It shall instruct its employees, agents or persons under its control to refrain from making illegal clearing in any portion of the concession. Any such employee, agent or persons violating this provision shall be subject to disciplinary action or dismissal for the employ or business of the PARTY OF THE SECOND PART after due process as provided for under its collective bargaining agreement and existing laws.

Protection against shifting cultivation

In this regard the PARTY OF THE FIRST PART shall place its employees at the disposal of forest officers in fighting forest fires and such other emergency cases when found necessary.

Fire protection

Volume measurement at determined check point

16. That the PARTY OF THE SECOND PART shall submit all timber for measurement and appraisal at such place or places in the woods or at the mill before disposal or processing as may be approved by the Bureau of Forestry.

List of investors joining the company

17. That the PARTY OF THE SECOND PART shall submit for approval by the PARTY OF THE FIRST PART the names of other persons or entities as well as their addresses, nationality and capital invested who may later join the PARTY OF THE SECOND PART.

Interests of already established entities

18. That the holdings or claims of any person or entity which may be found within the area granted under this licence shall be respected until the legal status of the area shall have been decided by proper authorities.

Classification of alienable lands

19. That the PARTY OF THE FIRST PART reserves the right, when public interest so requires, to designate from time to time such area or areas, within the territory covered by this licence agreement, to be classified and certified as alienable and disposable for disposition under the Public Land Law or for legal occupancy under Section 1838 of Act 2711; and that on such area or areas designated as alienable and disposable, all merchantable trees shall be cut and, insofar as practicable, logging shall be completed in such areas within specified periods of time, as may be required by the PARTY OF THE FIRST PART before it is begun on other areas.

Salvage logging on areas classified as alienable and disposable

Records to be opened for inspection

20. That all records of the PARTY OF THE SECOND PART pertaining to the logging and milling operation shall be opened to inspection at any time by a forest officer duly authorized by the Director of Forestry to make such inspection with the understanding that the information obtained shall be regarded as confidential.

Complaints against acts of inspecting personal

21. That the complaints by the PARTY OF THE SECOND PART as to any action taken by a Forest Officer inspecting this agreement shall not be considered unless made in writing within sixty (60) days from the date of such action to the PARTY OF THE FIRST PART whose decision shall be final.

Termination of agreement prior to expiration

22. That in the event of the violation by the PARTY OF THE SECOND PART, or its agent, employees or other persons operating under this licence agreement, act No. 2711, known as the Revised Administrative Code, forest regulations, other laws, regulations or instructions now or hereafter to be in force governing the management and protection of forests or of the terms of this

licence agreement, and in the event that after written warnings by the PARTY OF THE FIRST PART to the PARTY OF THE SECOND PART, and the PARTY OF THE SECOND PART fails to stop the violation referred to; or in the event that the PARTY OF THE SECOND PART or its agents or other persons operating under this licence agreement commit an act tending to influence or to induce a forest officer, directly or indirectly, to violate existing laws and regulations, the PARTY OF THE FIRST PART may declare this licence agreement null and void, or it may levy upon the bond in whole or in part, or both, as penalty for the violations as provided for by existing laws and regulations, and in such case, the conditions of the bond therein referred to may be declared broken, and the principal and sureties on said bond shall be liable within the amount of bond for any damage assessed by the PARTY OF THE FIRST PART occasioned by reasons of such violation.

Approval of material to be used in logging operations

23. That the PARTY OF THE SECOND PART shall limit the acquisition and use of logging machinery and equipment to those just sufficient to what the forest area can give in annual allowable cut and only those machinery and or equipment, the use or purchase of which shall have been previously approved in writing by the Director of Forestry. Further acquisition of logging machinery and or equipment including any replacement of any un-serviceable unit is hereby prohibited without the prior approval in writing of the Director of Forestry. This prohibition does not include acquisition of wire ropes, and other accessories and spare parts.

Reduction of granted area

24. That the PARTY OF THE FIRST PART may, at any time, reduce the area covered by this licence agreement in case the PARTY OF THE SECOND PART fails to comply with any of the provisions of Paragraphs, 2, 3, 7 and 8 of this licence agreement.

Cutting rules to be part of the agreement

25. That the cutting rules appended hereto and any subsequent amendment thereto and those amendments to this agreement, are part of this agreement and bind the PARTY OF THE SECOND PART to strictly comply with them.

Transference of granted rights

26. That this licence agreement is non-transferable and non-negotiable and shall terminate upon the date specified or at any earlier date for cause subject to renewal for another twenty-five (25) years under the option of the PARTY OF THE FIRST PART.

Signature and seal of the two parties

In witness thereof, the PARTY OF THE FIRST PART has hereunto set his hand at ... this day of ...

APPENDIX D

"DEFINITION OF MERCHANTABLE TIMBER" ^{1/}

- Periodical revision 1. The term of this Annexure may be amended from time to time by agreement between the Company and the Native Authority acting under the advice of the Chief Conservator.
- Definition of merchantability 2. Merchantable timber is defined as a straight log of any tree of the undernoted species not less than 12 feet long and not less in girth measured under bark at its small end than the girth which is shown below against its particular species
or
a straight log not less than 12 feet long and not less than 7 feet in girth measured under bark at its small end in the case of logs from any tree of a species not listed below when any such tree is felled by the company.

Species

Minimum Merchantable Girth at Small End

Entandrophragma cylindricum Sprague	6 Feet
Entandrophragma angolense var. macrophyllum (A.Chev.) Harms	6 "
Entandrophragma candollei Harms	6 "
Khaya ivorensis A.Chev.	5 "
Khaya grandifoliola C.DC.	5 "
Lovoa Klaineana Pierre ex Sprague	5 "
Chlorophora excelsa Benth. & Hook.f.	6 "
Sarcocephalus diderrichii De Wild.	5 "
Guarea thompeonii Sprague & Hutch.	6 "
Guarea cedrata (A.Chev.) Pellegrin	6 "
Cistanthera papaverifera A.Chev.	6 "
Terminalia ivorensis A.Chev.	5 "
Triplochiton scleroxylon K.Schum.	6 "
Gossweilerodendron balsamiferum Harms	7 "

PROVIDED

Definition of straight log i- That any log with the following or less than the following deviations from the straight shall be considered straight for the purposes of the above definition

- a. For logs below 8 feet midgirth under bark a maximum deviation of $\frac{1}{4}$ inch multiplied by the number of feet in length of the log.
- b. For logs from 8 feet to 10 feet midgirth under bark a maximum deviation of $\frac{1}{2}$ inch multiplied by the number of feet in length of the log.
- c. For logs from 10 feet 1 inch to 12 feet midgirth

^{1/} These provisions, attached to the Nigerian long term agreement presented in Appendix B, offer an excellent example of detailed definition of utilization standards.

under bark a maximum deviation of $\frac{3}{4}$ inch multiplied by the number of feet in length of the log.

d. For logs over 12 feet 1 inch midgirth under bark a maximum deviation of 1 inch multiplied by the number of feet in length of the log.

The above allowances refer to logs which deviate from the straight in one direction only. If a log deviates from the straight in two opposite directions, the log shall only be classed as straight if the sum of the maximum deviations from the straight in each direction is not greater than the allowances stated above.

Method of crosscutting

ii- That if a tree is not so crosscut as to ensure that as much merchantable timber as possible is obtained from it, its merchantable contents shall be assessed as if it had been so crosscut.

Major defects

iii- That a log shall not be classed as merchantable if in the case of a log less than 9 feet midgirth under bark more than one-third of its volume is subject to a major defect as defined in section 3 of this Annexure or in the case of a log more than 9 feet midgirth under bark more than half its volume is subject to the said major defects.

Volume of heartwood

iv- That a log shall not be classed as merchantable if the volume of its heartwood is less than two-thirds of the volume of the log under bark.

Branch knot decayed knot etc..

v- That a log shall not be classed as merchantable if the diameter of any Branch Knot, Decayed Knot or Hole or Decayed Burr or the sum of the diameters of such defects exceeds half the gross diameter of the log under bark at its small end. Pin Knots shall not be considered a defect.

Definition of major defects

3. Major defects for the purpose of Proviso (iii) to Section 2 of this Annexure are the following :

i- Heartshake, Heart decay, Holes, Splits, Shatters, Calcification, Dry-rot, Decay, and parasitic damage measured by the volume of timber affected by such defect.

ii- Ringshake measured by the volume of timber outside the Ringshake where the Ringshake is nearer the circumference of the log than the centre or within the Ringshake if the Ringshake is nearer the centre than the circumference of the log :

Accumulation of defects

PROVIDED that where a log has two or more defects none of which in itself would exclude a log from classification as merchantable under Section 2 (iii) of this Annexure, the log shall not be classified as merchantable if the total volume of timber subject to such various defects is greater than one-third of its gross volume in the case of logs less than 9 feet midgirth under bark or one-half of the gross volume in the case of logs more than 9 feet midgirth.

Determination
of
merchantable
volume

4. The volume of merchantable timber shall be assessed in cubic feet by multiplying the length of the log measured from end to end at its shortest length to the nearest foot by the square of the quarter girth measured under bark at the middle point between the two ends of the log in inches to the nearest inch, the quotient being divided by one hundred and forty-four. The girth of a log misshapen at its mid-point shall be the average of its girths on either side of the malformation. A fluted log may be trimmed so that its true girth can be measured :

Measurement of
unmerchantable
timber removed
by the grantee

PROVIDED that the volume of timber not classified as merchantable under this Annexure but nevertheless removed from the forest or sold in the forest by the Company shall be measured by the method described in paragraph 4 of this Annexure in the case of timber removed in the log but in all other cases as true volume of sound timber free from defects as defined in Section 3 and from Branch Knots, Decayed Knots, or Holes, or Decayed Burrs, but Sapwood shall not be classed as a defect for the purpose of this Proviso if the timber is removed from the forest or sold in the forest together with its sapwood.

APPENDIX E

CUTTING RULES AS APPLIED AT PRESENT IN THE PHILIPPINES 1/

I Definition of terms :

1. "Sustained Yield" by selective logging in accordance with the established policy, method and plan of forest management implies continuous production with the aim of achieving net growth and harvest.
2. "Selective Logging" is the removal of mature, over-mature and defective trees in such a manner as to leave uninjured an adequate number of trees and volume of healthy thrifty residual trees of the commercial species and other tree species necessary to assure a future crop of timber and forest cover for the protection and conservation of soil and water.
3. "Healthy Residual Tree" is a tree of the commercial species in vigorous stage of growth, free of disease and with a straight, clear bole.
4. "Competent Forest Officers" are forest officers trained and assigned in the practices of Selective Logging, such as timber management officers and timber management assistants and higher forest officers having responsibility and supervision over the implementation of selective logging and sustained yield.
5. Other Terms used in the licence agreement and these cutting rules not herein defined shall be interpreted by the Director of Forestry and such interpretation shall be considered final or as much as possible as defined in accepted forestry terminology.

II Silviculture

1. In public forests no cutting of any trees or logging operations shall be conducted unless the area is tree-marked by authorized forest officers.
2. Where tree marking is already practised in public forest :
 - a. No tree of any diameter marked by a forest officer within the limits of the minimum indicated in Paragraph b. below for residual growing stock seedling or protection purposes shall be cut, damaged or injured.
 - b. A minimum of 60% of the number of available residual trees of the Philippine Mahogany and other softer dipterocarps. Dipterocarps and Anisoptera species and other species commonly sawn, in the 20-50 centimeters diameter class group and 40% of the 60-80 centimeters diameter class group, shall be left standing and uninjured after logging except malformed and unsound trees.
 - c. No felling or yarding shall commence where tree marking has not been finished.

1/ These Cutting Rules apply to all agreements granted in the Philippines and are attached to the standard agreement presented in Appendix C.

3. The cutting of trees valuable for residual growing stock, seedling or protection purposes left standing in logged-over areas within permanent timberland is prohibited.
4. Runways for yarding cable shall be limited in width necessary for the passage of end-checked logs. Gullies, ravines and creeks are preferable for cable ways; therefore, no residual marking shall be practised in these areas.
5. No undersized trees shall be cut in areas that are still being logged or are to be logged for railroad ties, skids, telephone poles and piles and for building and other construction purposes, except on the road rights-of-way or in certified agricultural areas, and no residual trees will be marked in these excepted areas.
6. Felling wedges must be used for effective control or direction of fall to save trees desired to be left undamaged.
7. In rough country, logging roads shall be minimized by the use of the swinging system.
8. The "contract system" of felling and yarding operations shall not be employed.
9. Trees shall be felled away from reserved or marked trees and clumps of young growth and not into or across such clumps.
10. Big defective trees having 2/3 of their boles unmerchantable shall not be felled. They shall be killed standing either by girdling or other means except fire.
11. Donkey set-ups, roads and main skidding trails shall be carefully located and shall be restricted to the minimum necessary for operations. The safety radius around spar trees shall not exceed thirty (30) meters and no residuals will be marked in these roads, trails or safety areas.
12. Clearing for landing sites shall be reduced to the minimum necessary and indiscriminate and unnecessary swamping shall not be allowed.
13. Skidding tractors shall be confined to skidding trails and backstrip trails previously laid in going to and from the landing.
14. All guy lines from spar trees and gin poles, and cable rigging, shall be slung to stumps, and trees which are to be felled or trees of non-commercial value.
15. Total clearings in right-of-way for logging roads shall be limited to the roadway in permanent forest land. Selected residual trees, saplings, and other reproduction of softer Dipterocarps, Dipterocarps and Anisoptera species or fast growing commercial species in the remaining width of the rights-of-way shall be left standing and uninjured; all other trees including Apitong may be cut. For truck and railroads, the rights-of-way shall not exceed fifteen (15) meters from each sides of the center line of all the roads.
16. Undersized trees or trees designated to be left in accordance with the marking criteria which are cut or unnecessarily damaged or destroyed in the process of logging shall be paid for at four (4) times the regular forest charges and, in addition thereto, the regular reforestation charges.

17. Unless not authorized under special licence, the cutting of trees bearing edible fruits is prohibited (Art. 2911).
18. No almaciga trees shall be cut, except under expressed authorization by the Director of Forestry, previously granted.

III Utilization :

The following practices shall be observed in order to secure maximum utilization of timber.

1. To cut the trees at a height from the ground not exceeding its diameter at breast height. A buttressed tree should be cut not higher than the top of the main buttress.
2. The following shall be cut, or removed and utilized and paid for at the regular rate :
 - a. Merchantable tops to a diameter of 30 centimeters (twelve (12) inches, approx.).
 - b. All merchantable trees cut in the road rights-of-way allowed under Paragraph 18, Provision No. 11 of this rule.
 - c. Merchantable trees, not designated to be left where tree-marking is practised, each containing at least two (2) 5-meter logs still standing but so seriously injured or knocked down in logging as to make them useless for protection or seed trees.
 - d. All merchantable snags if found profitable to remove after felling.
3. No tree shall be left lodged in the process of felling.
4. To cut the logs into proper lengths so as to avoid waste of merchantable logs.
5. Logs less than 33 1/3% of their gross volume sound in the case of the First Group and less than 50% sound in the second Group and Lower Group may, however, be left in the woods as they are not to be charged for.
6. Insofar as practicable, to buck logs so as to avoid serious splits which may not be allowed for in scaling.
7. All felling and bucking shall be done with saws. Use of axe in making the under-cut may, however, be allowed.

IV Protection :

1. Protection of the licence area from unlawful entry and illegal cutting shall be the responsibility of the PARTY OF THE SECOND PART; to this effect, the PARTY OF THE SECOND PART shall employ an adequate number of permanent concession guards. Said PARTY OF THE SECOND PART is given authority to bring forest violations under Section 2751 of the Revised Administrative Code as amended directly to the proper prosecuting authorities. Its legal counsel shall be designated as special attorney pursuant to Section 1636 of the same code. Likewise, the concession area must be divided into patrol sectors to be manned by the above-mentioned concession guards duly deputised by the PARTY OF THE FIRST PART. These concession guards should reside in their assigned sectors and be provided with houses by the PARTY OF THE SECOND PART.

2. All precautions shall be exercised to prevent the start of spread of fire in the area.
3. During the fire season, a special patrol along the roads and other places in and around the concession where the fire risk is great shall be maintained, the end in view being to detect and suppress promptly any fire that may start from whatever cause.
4. Experimental plots established by the Bureau of Forestry in the concession shall be protected from any entry, occupation, kaingins and cutting whatsoever.

V Agricultural areas :

1. In agricultural areas, all merchantable timber regardless of size or species shall be cut and utilized under expressed authority of the Director of Forestry. "Merchantable" in this sense is understood to mean all timber which can be logged with profit.
2. As far as practicable, logging shall first be confined to agricultural areas before operations in absolute forest lands are begun.

VI Basement :

All permanent rails, rights-of-way or other easements which pass through or adjoin the logging areas shall be kept from obstruction of any kind for public use.

OUTLINE OF A MANAGEMENT PLAN FOR A LONG TERM CONTRACT

GRANTED IN VENEZUELA ^{1/}

INTRODUCTION

Chapter 1 : **General Aspects** : Name of granted area, location of boundaries, total area, ownership, history, altitude, topography, drainage, precipitation and temperature, soils, ecological classification, general vegetation, forest types, road system (present situation and future development).

Chapter 2 : **General Aspects of Forest Inventory.**

2.1 Objectives of inventory.

2.1.1 Quantity and quality definitions

2.1.2 Stratification

2.1.3 Volume of average tree

2.2 Inventory Method.

2.2.1 Available maps and aerial photographs

2.2.2 Sample plots

2.2.3 Data collected

2.3 Previous inventories.

2.3.1 Granted area

2.3.2 Adjacent areas

Chapter 3 : **Results of Inventory.**

3.1 Volumes.

3.1.1 Total coverage

3.1.2 Location of sample plots

3.1.3 Error calculation

3.1.4 Total average volume per hectare, volume per diameter class, volume per species for the whole unit.

3.2 Stratification according to economically important species :
Total area of distribution, average volume per hectare, sampling error for this volume, total exploitable volume in the unit.

^{1/} The management plan covers in particular forest inventory, the determination of the annual allowable cut, the determination of minimum silvicultural requirements, a detailed specification of the costs of forest management and the problems of control and protection in the granted area.

- 3.3 Stratification according to species which eventually may be utilized. (Same information as in section 3.2 for each of these species.

Chapter 4 : Silvicultural treatment.

- 4.1 Objective of management.
- 4.2 Species represented and distribution of diameter classes for each species.
- 4.3 General description of silvicultural conditions.
- 4.4 Aims of future silvicultural treatment.
- 4.5 Silvicultural methods to be applied.
- 4.6 Regeneration problems.

Chapter 5 : Exploitation operations.

- 5.1 Basic information.
 - 5.1.1 Average volume per ha for the most important species.
 - 5.1.2 Area of different forest types.
 - 5.1.3 Cutting cycle.
 - 5.1.4 Minimum cutting diameter for the different species.
- 5.2 Calculation of the annual exploitation volume for the different species.
- 5.3 Exploitation system.
- 5.4 Cutting rules.

Chapter 6 : Economical Aspects.

- 6.1 Markets.
- 6.2 Consumption centres.
- 6.3 Labour force.
- 6.4 Costs : technical studies for forest management, technical supervision and forest policy, forest administration, felling and bucking, road construction, tractors, nursery, regeneration and cleaning, transport to processing unit, stumpage payments.

Chapter 7 : Administration, Control and Protection.

- 7.1 Administration.
- 7.2 Control and Protection.

Chapter 8 : Summary of the most important data and requirements.

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1/ Abbreviations :

- WFC = World Forestry Congress
BCFC = British Commonwealth Forestry Conference

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B. LEGISLATION AND AGREEMENTS ON FOREST UTILIZATION CONTRACTS

Africa

Cameroon

- 98 Ordonnance N° 61-OF-14 du 16.11.1961, fixant le régime forestier sur le territoire du Cameroun Oriental.
- 99 Loi N° 68/1/COR du 11.7.1968, fixant le régime forestier de l'Etat Fédéré du Cameroun Oriental.
- 100 Décret N° 68/179/COR du 8.11.1968, portant application de la loi N° 68/1/COR fixant le régime forestier de l'Etat Fédéré du Cameroun Oriental.
- 101 Arrêté N° 32 du 9.4.1969, portant codification des cahiers des charges relatifs à l'exploitation forestière.
- 102 Décret N° 70-92 du 15.5.1970, réglémentant le régime des forêts soumises dans l'Etat Fédéré du Cameroun Oriental.
- 103 Décret N° 70-93 du 14.5.1970, réglémentant les restrictions, et la protection à l'intérieur des forêts non soumises dans l'Etat Fédéré du Cameroun.

Central African Republic

- 104 Loi N° 61-273 du 5.2.1962, portant création d'un code forestier centrafricain.
- 105 Cahier des charges concernant les permis temporaires d'exploitation de bois d'oeuvre.

Congo-Brazzaville

- 106 Loi N° 61/34 du 20.6.1961, fixant le régime forestier dans la République du Congo.
- 107 Décret N° 62-211 du 1.8.1962, réglémentant l'attribution des droits d'exploitation des produits forestiers dans la République du Congo.
- 108 Décret N° 62-212 du 1.8.1962, fixant le cahier des charges général des exploitations forestières dans la République du Congo.
- 109 Décret N° 63-344, ouvrant à l'exploitation une zone forestière, 1963.

Gabon

110 Code forestier du 1.5.1961.

Ghana

111 Concession Ordinance of 1900.

112 Land and Native Right Ordinance of 1927.

113 Forest Ordinance 1911-1957.

114 Protected Timber Lands Act of 1959.

115 Stool Lands Act of 1962.

116 Concession Act of 1962.

117 Lease made the 23rd day of October 1964 between the President of the Republic of Ghana in trust for the Stool of Tsease and NN.

118 Lease between NN. Chief of the Stool of Aiyinasi and NN. Chief of the Stool of Basaka (Lessors) and NN. (Lessees), 1959.

119 Lease between the Government of the Republic of Ghana in trust for the Stool of Sefwi Wiawso and NN., 1968.

Ivory Coast

120 Loi N° 65-425 du 20.12.1965, portant Code forestier.

121 Décret N° 62-128 du 22.4.1962, réglementant l'exploitation du bois d'oeuvre et ébénisterie.

122 Arrêté N° 547 du 15.5.1962, fixant les modalités d'application des permis temporaires d'exploitation forestière.

123 Arrêtés N° 1165 et N° 1166 du 26.9.1966, portant attribution des permis temporaires d'exploitation forestière.

124 Ordonnance N° 62-216 du 26.6.1962, remplaçant la majoration du droit unique de sortie sur les bois au titre de la Contribution Nationale par une majoration des taux et redevances forestières.

Liberia

125 An Act for the Conservation of the Forests of the Republic of Liberia, of 28.2.1957.

126 Permit for Forest Survey (standard form).

127 Forest Products Utilisation Contract (standard form).

128 Forest Products Utilisation Contract for Salvage Areas (standard form).

Nigeria

129 Forest Ordinance of 1948.

- 130 Forest Regulations.
- 131 Timber Revenue Collection (Native Authorities). Rules of 1948.
- 132 The (Eastern Region) Forest Law of 1955.
- 133 The (Eastern Region) Forest Regulations of 1956.
- 134 The (Western Region) Forest Law of 1960.
- 135 The Forestry (Southern Provinces Native Authorities) Rules.
- 136 The Forestry (Northern Provinces Native Authorities) Rules.
- 137 Agreement between the Benin Native Authority and NN. 1948.
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Senegal

- 139 Décret N° 65-078 du 10.2.1965, portant Code forestier.

Tanzania

- 140 Forest Ordinance of 1921 (as amended to 1958).
- 141 Exclusive Licence to take trees and timber or other forest produce (standard form).
- 142 Timber Sale Agreement (standard form).

Asia

Indonesia

- 143 Act No. 1 of 10.1.1967, referring to foreign capital investment.
- 144 Law No. 5 of 24.5.1967, Basic Law of Forestry.
- 145 Decree No. Kep 57/8/67 concerning the conditions and methods of settlement of the request of forest development concession, of 28.8.1967.
- 146 Decree No. 806/A-2/DD of the Director-General of Forestry concerning the Forest Development Concession Board, of 18.3.1968.
- 147 Government Regulation No. 22/67 of 30.12.1967 concerning licence fee for forest utilization, exploitation and royalties on forest products.
- 148 Decree of the Minister of Agriculture No. 2/1/68 concerning disposal of the amount of licence fee and royalties, of 20.1.1968.
- 149 Joint Decree No. 20/68 of the Minister of Internal Affairs and the Minister of Agriculture concerning proportionate division of the proceeds of licence fees and royalties between the Central Government and the Provincial Government.
- 150 Rights of forest utilization and cutting rights in the forests.
Government Regulation 21/1970.
- 151 Standard form for request for forest utilization concessions.

- 152 Standard form for preliminary agreement on forest development concessions.
- 153 Standard form for agreement on forest development concessions.
- 154 Decree of the Minister of Agriculture concerning the granting of a forest development concession.

Malaysia

- 155 Forest Ordinance (Sarawak) of 1953.
- 156 Forest Rules (Sabah) of 1958.

Philippines

- 157 Compilation of Laws, Orders, Rules and Regulations of the Bureau of Forestry, Reforestation Administration and Parks and Wildlife Office, Manila, 1968.
- 158 A compilation of the Presidential and CANR Directives on Forestry Matters and Implementing Orders, Manila, 1968.
- 159 Timber Licence Agreement (standard form).
- 160 Timber Licence Agreement of 24.5.1952 and amendments.

Latin America (Central)

British Honduras

- 161 Forest Ordinance as amended till 1.9.1962.
- 162 Forest Rules of 14.9.1957.

Costa Rica

- 163 Ley Forestal de 3.5.1959.
- 164 Decreto No. 1 de 19.3.1959, reglamentando las concesiones para explotación forestal en baldíos nacionales.

Guatemala

- 165 Decreto No. 170, Ley forestal de 1945.
- 166 Decreto No. 543 de 1956, ley para la explotación de los bosques nacionales mediante la creación de unidades industriales de explotación forestal.
- 167 Decreto No. 1286 de 22.7.1959, Ley de creación de la Empresa Nacional de Fomento y Desarrollo Económico de El Petén (FYDEP).
- 168 Proyecto de Acuerdo para la creación del Servicio Forestal de El Petén (SFP).
- 169 Proyecto de Acuerdo Gubernativo, reglamento para la explotación de bosques nacionales de El Petén.

Honduras

- 170 Decreto No. 184, ley forestal de 16.12.1955.
171 Decreto No. 117, ley forestal de 29.6.1961.
172 Decreto No. 93 de 19.6.1963 sobre concesiones forestales.

Mexico

- 173 Ley Forestal de 9.1.1960.
174 Reglamento de la Ley forestal de 1961.
175 Decreto de 30.7.1954 que establece una unidad de explotación forestal a favor de maderas industrializadas de Quintana Roo, S. de R.L., en bosques nacionales y ejidales ubicados en la zona sur del territorio de Quintana Roo. (This decree and other decrees for long-term concession units have been published in the official Government Gazette of the country.)

Nicaragua

- 176 Decree No. 316 of 20.3.1958 issuing the General Law on the Exploitation of Natural Resources.

Panama

- 177 Ley No. 37, Código Agrario, Capítulo 30 "Las Reservas Forestales", de 21.9.1962.
178 Proyecto de Contrato para Explotación de Bosques Nacionales entre la Comisión de Reforma Agraria y NN., 1963.

Latin America (South)

Bolivia

- 179 Decreto Supremo No. 40.574 de 1.2.1957.
180 Decreto Supremo No. 07.778 de 16.8.1967.

Chile

- 181 Decreto No. 373 de 13.5.1959. Reglamento de explotaciones madereras en bosques fiscales.
182 Decreto No. 950 de 27.10.1961, que modifica el Artículo 30 del Decreto Supremo No. 373.

Colombia

- 183 Ley No. 200 de 30.12.1936 sobre régimen de tierras.
184 Decreto No. 2921 de 7.10.1946 por el cual se dictan medidas sobre explotación de bosques.
185 Contracts between the Corporation de Valle del Magdalena and various land owners concerning the long-term lease of land for forest plantation purposes, 1962.

Ecuador

- 186 Ley Forestal de 14.3.1960.
187 Decreto No. 1211 de 27.10.1966, ley de concesiones forestales.

French Guiana

- 188 Décret du 29.9.1934 réglementant le régime forestier du territoire de l'Inini.
189 Cahier des charges pour l'exploitation des forêts domaniales en Guyane, du 18.4.1952.
190 Décret N° 68-449 du 15.5.1968 relatif à l'octroi de permis forestiers et aux ventes de coupes dans le Département de la Guyane.

Guyana

- 191 Forest Ordinance of 2.5.1953.
192 Forest Regulations of 24.12.1953.
193 Forest (Amendment) Regulations of 18.1.1961.
194 Lease of Crown forests for wood-cutting purposes, of 25.9.1955, issued under Section 7 of the Forest Ordinance.

Peru

- 195 Reglamento de Explotaciones Forestales de 1961.
196 Decreto Ley No. 14.552 de 1963.
197 Reglamento de Aprovechamiento e Industrias Forestales de 1967.
198 Proyecto para un contrato de venta de árboles dentro del Bosque Nacional Alexander von Humboldt, de 1967.
199 Proyecto para un contrato para aprovechamiento de madera en la región de Pucallpa.

Surinam

- 200 Houtverordening of 1947.
201 Besluit ter uitvoering van de artikelen 4, 5 en 15 van de houtverordening 1947.
202 Landsverordening betreffende het verleenen van een bijzondere concessie tot de exploitatie van hout aan de N.V. Surinaamsche Hout Maatschappij (in oprichting), of 1947.

Venezuela

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204 Ley Forestal de Suelos y de Aguas de 14.12.1965.
205 Reglamento de la Ley Forestal de Suelos y de Aguas de 14.12.1943.

- 206 Reglamento Parcial de la Ley Forestal de Suelos y de Aguas de 10.10.1964.
- 207 Decreto No. 1333, Reglamento de la Ley Forestal de Suelos y de Aguas, de 11.2.1969.
- 208 Proyecto de contrato para el aprovechamiento racional a largo plazo de la Unidad Forestal II de la Reserva Forestal de Ticoporo.

North America

Canada

- 209 Province of British Columbia, Forest Act (as amended till 1961).

Pacific Area

Australia (Eastern New Guinea)

- 210 Forestry Ordinance 1936-1951 (with amendments till 1960).
- 211 Forestry Regulations (with amendments till 1962).

British Solomon Islands

- 212 Agreement on behalf of the Government of the British Solomon Islands Protectorate and FN., 1964.

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