INTERNATIONAL TROPICAL TIMBER ORGANIZATION

COLLECTE AND COMPUTER PROCESSING OF THE FORESTRY
STATISTICS FOR THE EFFICIENT MANAGEMENT
OF FOREST RESOURCES OF GABON.

REPORT ON THE SITUATION OF FORESTRY OF THE
SUB-REGIONAL COUNTRIES:
CAMEROON, CONGO, COTE D’IVOIRE, GABON, GHANA AND TOGO

Presented by:
Direction of the Forest Inventory, Management and Regeneration.
Direction General of Water Resources and Forestry

Ministry of Water Resources; Forestry and Environment, Postes and
Telecommunications.

REPUBLIC OF GABON.

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REPORT ON THE SITUATION OF FORESTRY
FOR THE SUB-REGIONAL COUNTRIES

Synthesis Report
INTRODUCTION

This report constitutes a synthesis report from the reports related to forestry statistics of the sub-regional countries and examines, in skilled way, the forestry situation of the sub-regional member countries of the I.T.T.O. and, in particular, the problems related to forestry statistics and the stake-issues that are representing for the International Tropical Timber Organisation (I.T.T.O.) and for the concerned countries¹.

Concerning the forestry statistics in each country visited, the following different aspects (data collection, stockage, compilation, analysis, dissemination, sources, information transfer etc.) for the forestry statistical system at national level have been reviewed.

This first section is a synthesis of the main observations and conclusions resulted from the visit carried out in each country of the sub-region.

Data collection and compilation

In the visited countries, the data are generally collected on statistical sheets by forest industry operators, such data are then sent to the National Administration Headquarters through the local Districts and Regional offices.

¹ Cameroon, Congo, Côte d'Ivoire, Gabon, Ghana, Togo.
The data acquired are sometimes collected punctually through means of questionnaires.

Generally, the data collection and compilation, the same way that in most of the other operations are usually done manually. The almost total lack of the computer tools is manifested in all concerned countries. Some exceptions at this rule are Cote d'Ivoire, Cameroon and Gabon which possess some computer units at the administration headquarter level and/or the State societies which have the management of a portion of the public forests. In all cases, the region are totally lack of computer tools.

LEVEL OF FORESTRY STATISTICS DATA AVAILABILITY

The availability of forestry statistics data is variable according to each type of data:

• The inventory data and those data regarding of forest resources do exist in many countries of the sub-region in which some are however involved in the important vast programme of forest inventory. It is noted however that with respect to the inventory data, the sampling intensity is low, can not thereby allow in consequence to obtain reliable results. Moreover, the biophysics data are sometimes undertaken on several years therefore making difficult to acquire updated Statistics.
The statistics related to plantation establishments and agroforestry activities are available somehow very partial. Some data mostly those regarding reforested areas, have been collected. The agroforestry statistics tend to be well organised at certain level especially in the African countries having agricultural as an essential based economy.

The data related to land use are in practice non-exist and the few available information is may be out of date.

The forest timber production statistics are well recorded in countries with a well organised forestry headquarter (Forestry Department) and having the forest officers present within the local production areas. The important delay are however revealed at the dissemination level. In addition, the information is generally lacking for timber production of the smaller forest industry operators.

The forest industry statistics are generally limited. In particular, the information with regard to mill production of secondary and tertiary processing is almost non-exist. When the industry wood production is well developed, the production data on primary wood products is more easily available, it is also more complete and best quality.

The timber export statistics are definitely the more complete in all visited countries. This can be explained no doubt by significant revenue drawn from exports by applying of varied fixed rates (taxation) and duties on the exported products (goods).
The custom Services constitute always a major source of information on the timber trade statistics.

- The date related to flora, fauna and forest destructions (fire, insectes, etc.) and non-woody forest products are generally non-existing. In some cases, the financed studies by international organizations allow to obtain the specific data on certain of this aspects, but nothing is collected and recorded on regular basis.

It is to be noted that statistics related to timber home trade are particularly hard to obtain due to the peculiar nature of tax systems applied in many countries. It is also observed a very low level qualification of responsibles in charge of collecting data in all these countries. The smaller forest industry operators are most of them reticent to provide non reliable informations or to keep a proper accountancy of their transactions.

**CONSTRAINTS AND PROBLEMS**

The existing systems in this place concerning the forestry statistics for visited countries of sub-region are facing to the following main problems:

- The financial and logistics constraints of the institutions and public agencies in charge for forestry Statistics can not allow them to undertake any meaningful and
Effective operation of data collection. This situation may be attributed to present poor state of economies of these concerned countries. In most of these sub-regional countries, the public services in charge of forestry management and administration lack the necessary means of transport, tools and office equipments to enable them to work effectively.

**The human resources** of the institutions in charge of collecting, compiling, processing and disseminating forestry statistics do not possess except in rare cases, the necessary required qualification and competences for this type of activities. The personnel in charge of forestry Statistics lack of motivation and are faced to daily frustrations in carrying out of their duties due to absence of logistic, low remuneration and poor working conditions.

**The attitude of forest industry operators** in relation to data submissions to the State administration is a major constraint in good working order of forestry statistics systems. There is in general a negative attitude or at least certain reticence to submit the expected data by administrative institutions. Many timber industry operators do not perceive the necessity and utility of data collection, or do not simply accept it because as having brought more human resources and more time to be devoted.
The forestry industry operators do exert one's influence on continual distrust in relation to data production statistics submission to the governmental administrations because of the possible fiscal/tax implication this gesture could involve. For this reason, the reliability of data received from timber industrial operators is sometimes put to challenge or doubt for falsification of data.

- **The lack of will of governmental administrations** in the application of legislation related to statistics is also a non-negligible reason explaining the inefficiency of national Forestry Statistics Systems. In most countries, a worked out legislation is often sufficient/ enough to determine the obligations of forestry industry operators with regard to data collection and statistics supplying to the public administrations. Penalties are even in advance elaborated in case of non-respect of obligations. Unfortunately, regulation is usually ignored by private operators if the government do not react.

- **The communication difficulties** exist in most sub-regional countries hinder data collection and statistics dissemination. The inadequate and under-developed communication network and road works added up to isolation and remoteness forest field sites and/or the mills do make to face to obstacles at the submission of statistics informations to the headquater administrations.
Recommendations and conclusions

-The funding of forestry statistics services should be raised in order to provide to these involved National agencies and institutions the necessary physical and logistical means to carry out adequately their activities.

In consideration of that, the sub-regional countries should make all possible efforts in order to benefit of funding programs of the international organisations, such as the I.T.T.O, F.A.O., in favour to development projects involved in information systems for forestry statistics. The big projects on large scale can be realised with the provided assistance by these types of international organizations.

-The education of all producers of forestry statistics (industrial operators) at the necessity of compiling and submitting accurate and concise statistics data is very essential because these operators are first suppliers of the basic data information of forestry products. This education could be done through conference, lectures, workshops, symposiums and seminars. A best education will help to change the attitude of the operators and help to reduce ignorance, distrust, willingness facicitation of statistical data and help the reductions delays in the submission of customs declaration and export returns or questionnaires related to production, processing and export activities.

Direction general of water Resources and Forestry
**The goodwill of public administrations** to apply the exiting regulations (or if necessary to improve it) on statistic is essential at the obtaining of necessary data, at the achieving sustainable forest management.

The forestry statistics constitute the basic components informations indispensable for the appropriate forest resources planning as part of the sustainable management. The general situation of collecting, compiling, processing, analysing and disseminating of statistics within visited countries of the sub-regional members of I.T.T.O. is not very satisfactory.

The efforts should therefore be intensified by forestry service administrations concerned in order to improve the forestry statistics situation by strengthening these forestry statistics services through adequate funding and training. For these reasons, the effective participation and commitment of governments are keenly recommended.

In the visited countries, some development projects of information systems on forestry statistics are actually in growing or still on project level. These initiatives should be extended at all concerned countries and the efforts in training and educations should be followed in long term in order to assure a continuous improvement of data systems on forestry statistics.

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*Direction general of water Resources and Forestry*
FORESTRY SITUATION REPORT OF THE SUB REGIONAL COUNTRIES
CAMEROON

summary report on the forestry statistics of Cameroon

forestry statistics I.T.T.O.projet(PD - 36/92-M)
PREAMBULE

This report is an integral part of second result as expected outcome for the I.T.T.O. projet N° P_0 -36/92(M) entitled: collection and computer processing of forestry statistics in order to improve forestry resources management of Gabon.

It has for purpose to proceed at a brief review of forestry activities of Cameroon, a sub-regional african country of I.T.T.O. It follows a visit carried out in this country, during the period from 30 January to 5 February 1995, by an international expert in forest economics assigned to the project.

The project aims to improve the capacities of Gabon’s Government to master and to orientate the various activities of the forestry resources management at development aid and the setting up a side board sufficiently precised of forestry activities of country. The project agrees directly with the fundamental strategies of the I.T.T.O. as defined in the action plan of its permanent committee of economic information and of marketing.
SUMMARY REPORT ON FORESTRY SITUATION OF CAMEROON

INTRODUCTION

The Cameroon, hinged country between the west Africa and the Central Africa, covers an area of 475,000 km$^2$. It is extended between the second and 13$^{th}$ degree of North latitude and the 6$^{th}$ and 13$^{th}$ degree of the East longitude.

The Cameroon counts a population of about 12 millions of inhabitants. The average population density is approximating of 24 inhabitants at km$^2$, its distribution varies however considerably from one region to another, from 5 inhabitants at km$^2$ eastwards, at more than 100 inhabitants at km$^2$ westwards.

It can be distinguished in three great ecological zones:

- The dry savannah of North which covers 22% of the territory, where the pluviometry varies between 1000 mm at South and at least of 300 mm at North with dry season taking from six to nine mounths;

- The humid savannah or the altitude of Adamoua and of the west (20% of the territory) situated between 1000 and 2000 m of altitude and where the pluviometry varies within 1000 and 2000 mm/year;

- The moist closed forest (58% of the territory) which includes sempervirens forests at South and semi-decidious at north.
ADMINISTRATIVE ORGANIZATION

GENERALITIES

The founding of the Ministry of the Environment and Forests (MINEF) in April 1992 released the forestry sector from tutelage of the Ministry of Agriculture. A partial framework of MEF institution is presented in the annex 1 for something about detailed role description and the different structure administratively involved in the forestry sector of Cameroon.

The central administration of Cameroon is actually assured on the territory by a group of organizations (acting in concert as a body) controlled by the Ministry of territorial Administration. The country counts 273 administrative units divided into: 10 provinces, 49 departments, 182 borourphs and 32 districts as well as 197 communes.

FORESTS MANAGEMENT

The responsibilities in applying forest policy and technical aspects are shared between the three central directions (Environment, Forestry and Fauna) and the External services (see annex 1). The Direction of forestry is in charge of management and forests protection.

It includes:

- Two assistant-directions
- A unit of studies and planning
- A brigade of control of forest harvesting and forestry industrial production
- 49 external services
- 49 forestry sections at each department level that held by conservators and comprise more than 100 of forestry postes antenna.

Direction of Inventories, of Managements and of Forests Regeneration
It is to note the particular role of the External Services of the Ministry compared to the direction of forestry. The External Services of MEF comprise the following:

- The provincial delegations;
  - The forestry service delegations;
  - The Environmental Service Delegations.
  - The Fauna and protected Areas Service Delegations;
- The Departmental Delegations;
- The forestry posts (at the low basis scale).

Set under the authority of a provincial deleguated having rank and prerogatives of Assistant-Director of the central Administration, the Provincial Delegation is in charge to coordinate the activities of the whole Services of Ministry of the Environment and forests in the Province. It comprises a forestry service, and Environmental service and a service of Fauna and protected Areas.

Therefore, under the authority of a chief of service, each provincial service is in charge to execute local programmes of the Central Direction which it is dependant on the technical level. The Central Direction of forestry do not really have direct hierarchical authority on the provincial forestry services. The Direction of forestry do make only functional authority on the provincial services which have however the implementation of forestry programmes developed by central Direction.

The forestry provincial services are charged the following:

- The National forestry management and especially what is concerning the documents of (files) instruction related to forestry exploitation (harvesting) and a control of assigned activities;

- The forest management, the forest protection of National private of the State for the aim of production; they initiate and instruct the files of listed forestry areas and or unlisted forestry areas; they supervise and control the programmes of inventory, management, regeneration and plantation established for state.
It is to note that each forestry service comprises an office of planning and statistics keeping. For more, the protection of protected areas and the realization of management activities of protected areas and hunting zones are administrated by Provincial Service of Fauna and protected Areas.

Starting the 20 January 1994, Cameroon set up a new forestry law in which the principal objective is to provide perennial and to develop the functions of those forests, in order to assure sustainable and durable management, conservation and utilisation of forestry resources.

For these reasons, this forecast creating of permanent National Forestry constituted by State forests and communals, supported in particular on the plan of land use or delineated zones between 1989 and 1992 by the Direction of forestry with support aid of ACDI (Canada). At this day, the delineated zone plan covers the major part of the forestry zone of southern Cameroon, equivalent to an area of 14 millions of hectares.

**FORESTRY RESOURCES**

The Cameroonian forests are well representatives to the whole forestry ecosystems of the subsaharian africa. On the whole of these forests constitute the one of the most important of the african sub-region in triplicate plan by its extensive area, its diversity and the potentials of the forest. It constitutes nowadays the one of the principals economic and social development support of Cameroon. The forestry areas of Cameroon are distributed as follow:

<table>
<thead>
<tr>
<th>Forestry resources</th>
<th>100 ha</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Moist closed forest areas</td>
<td>17500</td>
</tr>
<tr>
<td>- Degraded closed forest areas</td>
<td>4550</td>
</tr>
<tr>
<td>- Savannah areas</td>
<td>4000</td>
</tr>
<tr>
<td>- Forestry plantations</td>
<td>20</td>
</tr>
<tr>
<td>- Savannah plantations</td>
<td>8</td>
</tr>
</tbody>
</table>

During the ten last years, Cameroon has started a vast programme of National inventory and resources management. The assessment of realization in these matters is presented as follow:
National Inventory: 14 millions of hectares have been surveyed, that means A zones from 7. The results of the first fourth zones have shown an immediate exploitable potential of about 1.200 millions m$^3$ on which 350 millions m$^3$ of secondary species and main species, this represents at least hundred years of exploitation (harvesting) at the actual rythm of annual cut. Sixties species are actually subjected to industrial exploitation.

Management Inventories. They are carried out in the permanent forest estate, or in other words, in forest reserves which in term should cover five millions hectares. Its ultimate objective is the preparation of management plans. At this day, 14 reserves have been surveyed for an area of about 400000 hectares.

Other pre-investment inventories and of timber harvesting have been also done on of the important areas. The forestry inventory (particulary National inventory) do necessitate stable institutional structures for its better management. In the case of cameroon, The National Development office of forestry (ONADEF) is charged to assure this.

The rate of forest cut of Cameroon can be estimated to about 100000 ha per year. In surveyed zones, the averages potentialities have been evaluated at a stand volume of 14,9 m$^3$/ha in forests non degraded.

STATUS OF FORESTRY SECTOR

The status of forestry sector of Cameroon comprises:

- The private forest operators without industrial units of transformation; these operators harvest timber within allocated permits and trade them (primary production) to exporters or to industrials in the country.

- The private forest operators with industrial unit of transformation (secondary production) these operators transform their own logs from their own permits of harvesting or use logs bought from the operators without industrial transformation. The secondary production elaborated are (sawmilling, plymilling, veneering).
- The manufacturers of wood logs from the primary production (for tertiary production) are formed essentially by small units to produce (furniture, furniture parts, mouldings, floorings, etc.).

**Forestry harvesting**

The forest harvesting is done on about 9 millions hectares by licencee (area covering upto 200000 ha) allocated for a period of 5 years renewable, or by trade cut (area of 2500 ha). The harvesting of wood timber is reserved to nationals. However, other private operators owner a forestry exploitation permit and ownership of industrial local transformation can get the same privilege, at the condition of transforming locally 60% of timber harvested.

**Production and timber trading**

The timber production has been maintained at 2 millions m$^3$ during the last ten years. For 1993 and 1994, the productions have reached about 2.5 millions m$^3$. To the sixties commercialised species, three species represent 60% of the production namely Ayous (30%), Sapelli (20%) and Azobe (10%).

The timber represent approximately 75% of exported in volume of wood products. The remaining being constituted by sawmilling (18% or 185000 m$^3$ in 1991), round veneer (4% or 36000 m$^3$), structural veneer (2% or 20000 m$^3$) and plywood (9000 m$^3$ or 1%). The European Economic Community countries (EEC) receive since many years the essential of timber exported by Cameroon. Italie, France, Spain and Germany receive themselves more than 60% of these exportation.

These forestry production of the order of 2 millions m$^3$ represents hardly 0.2% of the world production of timber for industrial use, that is to say 12.3% of african timber production or again 1.0% of the tropical countries timber production. The position of Cameroon at the international senario has stayed relatively stable at this level since 1979.
For the very rare exceptions, the Cameroonean industrial wood transformation have been developed mainly to meet the requirements national government at the matter of transformation coefficient. At this reason, the transformation quota is fixed at 60% of production for foreign enterprises do not respected by all forestry enterprises.

According to the Direction of Forestry, there are in Cameroon 68mills established, transforming (working) in timber wood.

These mills are distributed as follow:

- 59 sawmills;
- 4 veneer factories or of plywood
- 1 Slicing wood factory
- 2 wood panalled factories
- 1 matchwood factory

In general manner, the Camerooneans sawmills are obsolete (out-of-date) and produce average quality of sawmilling products, at the exception of the units established during these last years and which production is essentially aimed to exportation markets. The Camerooneans mills transform mainly the timber of low quality not reaching the requirements of exportation markets. The recovery in mill is low and the production of the second transformation products very limited and mostly assured at small-scale production by craftsmen.

STATISTICS OF FORESTRY SECTOR

The formal sector

The statistics needs are based on the adopted strategies for the implementing the forestry policy which aim is:

- The establishing, in all ecological zones of the country, a permanent forestry domain for conservation and production of biological national inheritance.
The more national exploitation and more possible profitable of forestry resources in order to assure the production and conservation of resources and of ecosystems in the way of sustainable return.

The great lines of this strategies are as follows:

- Space structurating and forest management
- Growing of added value
- Rural population involved in forest management
- Organization and integration of main functions of forest, structuring of forestry administration and the other involved activities to the environment (livestock, agriculture).

Sources and statistics availability

The forestry statistics data collection is done essentially by:

- The Direction of Forestry by its different Assistant Directions an services using the forests inventory results, using varied permits delivered for forestry harvesting (exploitation), transformation and other forestry connected activities;

- The Direction of Customs (Ministry of Finance) using the customs declarations and by the yards lumber of Exploitation Society (SEPBC) for volumes, values and public revenues of wood generated intended to exportation;

- The National statistics services for socio-economic data and internal fiscal.

In summary, the data are available in regular manner concerning forestry harvesting, the secondary transformation products and the volumes (including their values) intended to exportation. The inventory data are accessibles for the surveyed zones of southern Cameroon.

The collection system for tertiary transformation products do not exist and by this reason, there is very few available information for this sector.
The informal sector.

It does not exist any systematic collection data on products of informal sector. It is distinguished products of informal sector between two, the woody products (mainly the firewood and wood charcoal) and the non-woody products. Very few information is therefore available in this domain. The statistics concerning firewood and wood charcoal are elaborated either by using of estimates data obtained from other countries, either from of sporadic inquests (investigation) carried out in the big urban centres of the country.

The statistics collection concerning the non woody products is made from fixed quotas in the collection permit of these products and in the sheet paper required at the exportation of these products. The statistics of local transformation are provided from reports activities presented at the forestry administration at the end of every each exercise. These statistics are not however published on regular basis.

FORESTRY ACTIVITIES CONTROL SYSTEM

The Cameroon worked out in 1992 a software having for aim to compile statistics and to offer a precised image of forestry harvesting activities of the country. This software is entitled "control system of forestry activities (SCAF). It is as part of this support aid forest project, phase II, that this software have been elaborated and put in the place, on account of the Canadian International Development Agency Funds. (ACDI).

The system SCAF have been conceived to function in the IBM compatible environment and in this network, at the same way to be able to process data simultaneously on several postes, the informations should constitute the data basis.
The system SCAF includes three main modulus written in DBASE IV language. These modulus comprise the following statistics:

- Forestry statistics
- Statistics on timber export
- Statistics on wood transformation

The basic institutional framework (organigramme) of each of these modulus are presented at the annexe II.

**Forestry statistics modulus**

This part of software has for aim to constitute data basis allowing to process and manage the following informations:

- list and locating the forestry exploitation (harvesting);
- forestry land tenure destined to exploitation (licence, trade cut)
- number of delivered yield cut permit;
- hardwood exploitation at the national and provincial level, by species, by licence, etc.;
- recovery of taxes, situation of running into dept of private operators to the state (government).

**Timber export modulus**

This part of the system has essentially for aim to produce of statistics on the non-transformed exportation and the income of forestry taxes that state should have drawn.

This part of the system aim to constitute data basis ought to bring up available the following informations:

- list of the agreed having exported the timber and the related volumes;
- exported volumes by species and by expedition harbour;
- calculating of statistical taxes ought being perceived by species.
Transformed wood modulus

This part of the system has for aim to constitute a data basis ought to bring up available the following informations:

- list of industrials units established, their location and their transformation capacity;
- summary of transformation activities by province, in term of volume;
- estimating of return rate of primary matter for the whole country, by type of transformation;
- utilising of varied species in function of type of transformation.

Comments

The system SCAF is good enough to offert to the managers of cameroonean forests, the basic forestry statistics informations. As and when needs required are identified, it is possible to improve the existing system and to add it the new component.

It is to note that a computer unit have been set up in order to coordinate data collecting, processing, analysing and disseminating of statistics data of Cameroonean forestry sector at the support of SCAF system. Some difficulties were however manifested during the implementing the system. The main problems met are:

- the administrative structure of the country does not allow the good functioning of centralised organisation such as the computer unit; in fact, the Direction of Forestry does only functional anuthority on the local forest services; so, it can impose a line of management as for instance the obliged transfert of informations of these local services to central Direction;

- The lack of cooperation by the provincial services; the provincial services are not at all having computer network and have not even been consulted in the processus of computerizing of forestry statistics by the central Direction, these services do not even fill to be involved in the functioning of this processus.
- The computer unit could not computerize and process rapidly data which have been sent by the provincial services; many computer break down have been declared affecting negatively then the credibility of the system.

- The procedures of data collecting have not been modified at local level; the data are difficult to obtain at field level, because the human resources and the logistic means indispensable for efficient data collecting leave much to be desired;

CONCLUSIONS

Analyising Cameroonean situation in relation to forestry statistics revealed the following:

- The products statistics of formal sector (wood channel) are relatively reliable and could be obtained in regular manner;

- The other products statistics (informal sector) are difficult to obtain, incomplete and little reliable;

- The statistics obtained do not allow to respond to all needs of the international and national users;

- Well good that computerized system of forestry activities control (SCAF) have been developed and set up by the central Direction of Forestry, its functioning leave much more to be desired;

- The difficulties remain at local level concerning the data collecting because the necessary human resources and logistic means are always missing.
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BIBLIOGRAPHICAL REFERENCES CONSULTED


Partial organisation chart of the Ministry of Environment and Forestry
Forestry Situation Report of the Sub-regional Countries.

CONGO
PREAMBLE

This report is made of the second output result under this framework of the I.T.T.O project No PD-36/92 (M) entitled: Collecting and Computer Processing of Forestry Statistics in view of to improve the management of forestry resources of Gabon. Well that the essential of this project are taking place in Gabon, the visits are provided in the sub-regional member countries of I.T.T.O. This report has for particular aim to proceed at a brief review of forestry activities of Congo. It is following up a visit done in this country, during the period from 18 to 23 June 1995, by an International Expert in forest economy assigned to the Project. Many intervening in Congolese Forestry sector have been met.
FORESTRY SITUATION REPORT OF CONGO

GENERAL INFORMATIONS

Crossed by the equator, Congo is situated between the 4th degree of North latitude and the 5th degree of south latitude. It covers an area of 342000 km² for a population level relatively low about 2 millions of persons.

The economic situation of Congo, after a fast period extended between 1979 and 1982 due to the simultaneous increase of production and petroleum prices, knows since 1983 continuous difficulties shackling its development. The revenue per capita of Congo, well that decreasing, has been for long time one of the most higher in black Africa. It oscillates even today a round of 1000 us dollar at the 5th rank (1993) of all the countries of this last zone.

Unfortunatly, Congo is one of the african countries which the expansion possibilities stays good and mostly taking in account its petroleum which assure more than 85% of its exportation returns. The development of other industrial sectors, particularly the natural resources such as wood, is However necessary.

since the starting of the present decade, Congo is placed under the Structural Adjustment Programme by International Monetary Fund (FMI) and the World Bank. The reduction of petroleum returns has lead to the government to take drastic measures in consideration of its budget expenditures, especially those concerning the investments for setting down of infrastructures aiming to disenclave enclose the north of the country.

The wood product is the second source of exportation returns (15%) after the petroleum but represents the main products in term of trasported volume by waterway. the forestry sector takes an important growing place in the economy of the country because it represented 1% in 1982, then 4% in 1986 and about 5% today.

In the future regional market, Congo should play principally a role of wood producer because of its low population ought not allow to absorb a significant part of the potential timber production.
FOREST MANAGEMENT

Since 1974, the forest law provides the establishment of forest management units (UFA) which aims are:

i) to warrant the permanent forestry activities by introducing an idea of exploitation rotation obliging the enterprises to extend their activities in manner of leaving enough time at the regeneration to reach its potential yield.

ii) to regularise the production at national level by preserving more valuable species of an over exploitation and,

iii) to favour a well distributed transformation of wood over the whole territory.

The country is divided into three great administrative sectors (North, Centre and South) corresponding to great geographic characteristics and forestry of the country. Twenty seven forestry management units are distributed in three sectors. However, the North and South sectors comprise the essential of forestry areas and by this statement, the most of the UFA.

Theoretically, each UFA would dispose a management and harvesting precising particularly the annual volume to be exploited and sylvicultural and management activities to be carried out after harvesting a given area. In reality, least of 20% of productive forests process this management plan.

Judicial Basis.

The basic judicial (legal) text surrounding forestry sector is the forest law "(law 04/74) for 4th January 1974. The forest law is theoretically revised at each period of five years as it is foreseen by an article of the same law.

An other important legislative text is the law 05/74 on the forestry dues and its application Decree (74/198). This last law has been modified by the law 16/83 related to fascality. The Decree 84/910 of 19 October 1994 come to modify for the second time the law 05/74. The law should be modified in 1987 such as foreseen by law, but no any change has been reported.

A technical commission has been set up in 1994 for proceeding a revision of the law (code). A consultation document was circulating through concerned Ministries and other varied Institutions (syndicalists, municipalities, industrials, etc.) at the moment of the meeting with the congolese responsible foresters.
Forestry Concession

The forest code (law) define three types of forestry permits (concessions):

- Special permits
- Hardwood permits
- Permit by contract

The special permits are applied to wood harvesting of the public lands allocated at the products of domestic use or accessories such as firewood, charcoal, etc. This type of permit is delivered by the Direction General of Forestry and Water (DGEF) at regional level. These permits can be delivered at two different matters either for title of using rights for home consuming (none tax requested), or for trading matters (with tax).

The hardwood permits give the right to harvest a determined number of trees (between 100 and 400). This type of permit is prepared by regions but require the signature of Director General of Forestry and Water (DGEF). The permit is valid for six months.

The permit by contract is given to individuals or commercial firms specialising in exploitation and/or local transformation of wood. Two types of contracts exist:

- The contracts for forestry exploitation subjected to yield and trade of timber intended for exporting.
- The contracts of industrial transformation which leading at the same time for yielding and wood transformation.

During the allocating permit by contract, the Ministry of Water, Forestry and Fisheries (MEFP) will make a public take over bid, the MEFP establish a forestry commission which appreciate the demands submitted. It is possible that many accepted demands concern growing trees on the same territory.

FORESTRY RESOURCES

Congo is generally divided in three great forest zones:

1- The forest zone of Kouilou-Mayombe (1.4 millions ha) located in cost area of Pointe-Noire;

2- The forest zone of Chaillu-Niari (3.5 millions ha) along the boundary of Gabon;

3- The forest zone of North Congo which is extending to 15.0 millions ha.

The two first forest zones are harvested since decades and the growing potential of forestry exploitation is there limited. The North sector, of recent exploitation, offers up to now the possibility of intensive harvesting in spite of a very difficult topography for wood harvesting.
The knowledge of forestry resources of Congo is limited. The major part of Forestry Territory has never been surveyed. The areas which have been already surveyed are many years dated (ago) and were done sometimes partially on a number of limited species with a low sampling rate. In consequence, the data concerning resource are oftentimes approximated and of low precision.

**Forest Inventories**

The total forest cover in inventory is about five millions of hectares on a forest area globally approximated to more less of 20 millions ha. The first important inventories realised at CONGO was carried out by the Centre Technique Forestier Tropical (Tropical Technical Forestry Centre) (CTFT) during the years 1970:

- 1971-72 Sector Citibi-Zanaga;
- 1972-73 Zone of Ouesso at North of the country;
- 1979 Sector Ibenga-Motaba.

Two other major projects have contributed to improving the inventories:

1- The preliminary project FAO/PNUD PRC 77/001 of Planning and of Developing of South Congo;

An essential component of this project has consisted at the general survey of south sector and at partial cartography at scale of 1/200 000 of forest vegetation of about 55% of the territory of this sector.

2- The project of "Forestry Development of South Congo" FAO/PNUD-PRC 80/005.

This last project has ended in 1988. Put aside the management activities, the project has proceeded at the cartography at 1/200,000 of forest vegetation of about 11000 km² and at the inventory of the UFA N°2, 5 and 6 of a total estimated area of 810000 ha (sampling rate of 0,45%).

Relatively at the already realised inventories at Congo, the discussions done with the forestry responsibles who are identifying the following problems:

- The ¾ of forestry domain have never been surveyed;
- At the exception of seven millions of hectares are on disposal of economic forestry operators in which about 40% have never been surveyed;
- The majority of inventories have been realised there are about 10 to 20 years ago, the passed periode since the inventory taken grows again more their imprecision;
For many forestry permits, the inventories do only cover a part of the areas; the information is then incomplete and insufficient; Any up to dating, taking account of the forest exploitation impacts, has done reducing in this considerably the value of the inventories in the allocated zones;

**Stand Volume**

The timber volume estimating on stand vary considerably according to the source of information. Some estimations take account of all main forest species what ever commercials or not; others limit themselves solely on the commercial species the more utilised. These considerations edded to the normal imprecision the existing inventories explain the differences of appreciation concerning the timber volume on stand at Congo.

A very warden estimation of the DGEF establish the exploitable and commercial stand timber volume of Congo between 120 and 130 millions m$^3$ per year. The same, the forest possibility is evaluated at one million m$^3$.

A progressive forests Development of North Congo could allow to achieve a production of two millions m$^3$ of timber per annum, volume much lower to the realising biological volume which could be obtained in applying at Congolese forests a minimum level of management.

**FOREST MANAGEMENT**

The action in matter of forest management at Congo have been essentially realised as part of these two projects FAO/PNUD mentionned above.

The project **FAO of Planning and Development of South Congo (1978)** has developed the propositions of management for pilot unit of Tsiguidi in the UFA 7. The aims of the management proposed were:

1. The maximum valorized of exploitable forestry potential in the forest;
2. The distributing of production allowing sustainable forestry activities.
3. The improving of growing conditions and enrichment of harvested forests with valuable species.

At the exception of forest inventories, the project of **Forestry Development of South Congo** was in particular interested at the elaborating of management plans for the UFA surveyed.
The Plantations

Two structures mainly intervene in the artificial forestry regeneration: The National Reafforestation Service (SNR) and the Industrial Reafforestation Unit of Congo (UAIC).

The National Reafforestation Service is a public organism of technical and scientific character. It is set up under the tutelage of the Ministry of Forestry Economy and has for function the following up, the coordinating and executing of the national policy on reafforestation matter. The reafforested areas from 1947 to 1990 are actually supervised by the SNR reach about 20 000 ha distributed mainly in the south of the country (Kouilou, Niari, Lekoumou, Bouenza and Pool).

The main planted species are the Limba (Terminalia, Superba) in the moist closed forests zones, the Eucalyptus 12 ABL and Citrioidoa, and the pinus caribea and oocarpa in the savannah zones.

The whole of the plantations suffer of lack of the follow up and the maintenace because of financial problems of SNR, at the decayed of it material and of lack of qualified personnel. Any forest plantation has been subjected to the management plan, the durable management and the commercialising of products these operations are not bearing at the competence of SNR.

The Industrial Reafforestation Unit of Congo created in 1978 and is actually an anonym mixed society of congoles right financed at 25% by the foreign capitals. Its initial aim consisted to set up 25000 ha of the eucalyptus clonal plantations of high performance in view of to supply necessary matter at a pulp and paper mill.

These plantations are strictly limited at the sandy savannah areas, which allows to valorise an unutilised potential by respecting the natural forests and to protect these last ones in reducing the pressure for wood production. Up to day, the UAIC has realised more than 33 000 ha of plantation in which 8 000 ha in collaboration with the Congolese Forestry Development (CDF) which capitals are of 50% Shell and 50% UAIC. The objective was to reach 50 000 ha in 1995.

Since 1987, the UAIC has started the exportating of its products mainly as matter of form of pulp wood. Its production has evaluated of 230 000 m$^3$ in 1987 at 500 000 m$^3$ in 1988 and 1989. In 1990, it fallen at 400 000 m$^3$ due to the breaking down of price of the pulp of paper and was always in fall in 1991 reaching 220 000m$^3$. The statistics for 1992 and 1993 are presented at the list table 1.

The UAIC produce also the electric and telephonic poles impregnated for the exportating in association with the Congolese impregnated wood (CBI) which it is also an important shareholder (50%). The annual production should no go beyond 50 000 poles. A certain quantity of firewood is also recovered from wasts of cuttings for saling at Pointe-Noire.
FORESTRY INDUSTRY

Historically the exploiting of resources and the industries of transformation are located in the south of the country to the reason of the approximity of the maritime facade and of lack of the infrastructures allowing the means of transport in the rest of the country. Today, the exploiting was moved in majority towards the north to the reason of the exhausting of forestry resources in the south. The transport of the primary raw material is done, in this case, by the shanga river, as for the south-east of Cameroon or for the central African Republic.

The timber production is maintained at the average between 600,000 and 700,000 m$^3$ during the last years. It is globally in high position since the end of the years 1970 but has never recovered the higher historical level of the years 1969 to 1971 where the timber production has overcome the 800,000 m$^3$.

Transformation

Since many years the Congo counts between 30 and 40 enterprises mainly involved in sawmilling. The country process also some units of wood peeling and plywood established at Pointe-Noire. The congolese private units are very few numbers and of small size. At the opposite, the mixed units or joint-ventures are few of numbers but are controlling an important part of the market. The statistics of 1994 concerning the enterprises of forestry harvesting and the industries of transformation were as follow.

Enterprises of forestry harvesting (exportation) (public and parapublic societies).

37 Societies

Industries of transformation:

26 Sawmillings.
4 Peeling units.
2 Plywood units.
1 Slicing units.
1 Impregnated wood unit.

It is to note that some of societies of forestry exploitation are technically in failure. An other thing is that, many different units of transformation can belong to the same society.

The industries of second transformation are; as for them, very few numbers. It exists some semi-industrial units which sale solely on the local market and of hundreds workshops which sale the furnitures of low quality at the demand.
THE FORESTRY STATISTICS

The forestry statistics situation of the country is not well organised. The collecting, the processing and compiling, and the dissemination of forestry data are hindered at varied levels.

Structure of collecting data

The collecting statistics data on forestry sector is carried out by:

- The Administration of mater and Forestry collects data from the production areas of the operators and wood manufactures;
- The Administration of Customs from the sheets of specification of wood exportation;
- The Direction of Studies and Planning (DEP) at the Ministry of Water and Forestry.
- The Congolese Office of Wood (OCB) which enjoys still the monopoly of timber-wood commercialisation;
- The Congolese Society of Handling (SOCOMAB) which enjoys the monopoly of wood handling at the exporting harbour of Pointe-Noire;
- The national direction of statistics and economics studies.

These data are collected through questionnaires and field visits. They are conveyed by forestry operators and wood transformers to the Direction General of water and forestry passing through the Regional Direction of each region of the country.

Data analysis and dissemination.

The Direction of Studies and Planning is in charge to process, to analyse, to publish and disseminate of forestry statistics. These operations are made manually. The lack of fast data processing equipments at the DEP level has very often resulted in hampering the timely dissemination of statistical information.

Constraints related to forestry statistics.

The economic difficulties of the Contry by their impacts on the state revenues have imposed the constraints of data collecting, processing, analysing, stocking; and disseminating.

1- Financial and logistics constraints.

The precarious of logistics and financial (means of transport; office equipments, etc.) of the DEP in charge of forestry statistics do not allow this institution to carry out the necessary operations of efficient collecting data. At the local level, the situation is identical for the Regional Directions of Water and Forestry.
2- **Deficiency of communication means.**

The means of telecommunication in the country are oftenly not existing or inadequate. The lack of efficient postal services and other means of communication both internally and externally is a supplementary of delay in diffusing of statistics either at national level as that of international level.

3- **Insufficiency of human resources**

The Regional Directions which are in charge to collect forestry statistics lack the requisite personnel with the right skills. The same, the personnel in charge of statistics at the DEP do not have adequate training or have insufficient training in statistics.

In summary, several constraints related to equipments, financials and human resources limit actually the possibility for the Congolese government to obtain necessary forestry statistics for its proper needs of planning statistics.

In order to improve its capacities in forestry statistics, the government of Congo has submitted a project at ITTO aiming the creating of a national system for collecting and processing of forestry statistics of Congo. The ITTO has accepted to finance a pre-project in this sense at its last general meeting in last May at Accra-Ghana.

**CONCLUSIONS.**

Concerning the system of collecting processing and disseminating of forestry statistics of Congo, the review of forestry situation has brought out the following points:

- The responsibility to produce forestry statistics reports is scattered and disorganised inside the institutional framework of the governmental administration of the country;

- The Direction of Studies and Planning is supported by the Regional Studies Offices to collect the statistics; it does not exist however any precise directive to coordinate the whole of these activities;

- Each region produce the important reports of different informations collected according to the methodology which is not standardised, or normalised;

- The services in charge to collecte and to process the data do not process the adequate financial and logistic means to fulfill of their activities within the allocated time.
### SUMMARY STATISTICS OF PRODUCTION AND EXPORTATION (1992-1993)

<table>
<thead>
<tr>
<th></th>
<th>1992</th>
<th>1993</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PRODUCTION</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Timber</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For sawing, veneer and plywood (m³)</td>
<td>634968</td>
<td>517658</td>
</tr>
<tr>
<td>Industrial wood—eucalyptus (metric ton)</td>
<td>355500</td>
<td>183214</td>
</tr>
<tr>
<td>Saving, beat, and sleepers (m³)</td>
<td>53419</td>
<td></td>
</tr>
<tr>
<td><strong>Transformed products</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Veneer (m³)</td>
<td>39545</td>
<td>43498</td>
</tr>
<tr>
<td>Plywood (m³)</td>
<td>1052</td>
<td>3850</td>
</tr>
<tr>
<td><strong>EXPORTATION</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Timber (m³)</td>
<td>308253</td>
<td>239914</td>
</tr>
<tr>
<td>Sawing (m³)</td>
<td>28401</td>
<td>17765</td>
</tr>
<tr>
<td>Veneer (m³)</td>
<td>37001</td>
<td>37865</td>
</tr>
<tr>
<td>Rolls of eucalyptus (metric ton)</td>
<td>326600</td>
<td>178590</td>
</tr>
<tr>
<td>Impregnated poles (units)</td>
<td>14400</td>
<td>3260</td>
</tr>
</tbody>
</table>

**N.B:** The eucalyptus wood is mainly destined at the expotating under matter of timber for production of pulp and paper.
DISTRIBUTION (%) OF EXPORTATED VOLUME BY SPECIES AND PRODUCTS (1992)

<table>
<thead>
<tr>
<th>Species</th>
<th>Timber % vol total timber</th>
<th>Species</th>
<th>Sawing % vol total sawing</th>
<th>Species</th>
<th>Veneer % vol total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sapelli</td>
<td>46,6</td>
<td>Sapelli</td>
<td>38,6</td>
<td>Okoume</td>
<td>71,5</td>
</tr>
<tr>
<td>Okoume</td>
<td>15,0</td>
<td>Niove</td>
<td>16,7</td>
<td>Limba</td>
<td>28,4</td>
</tr>
<tr>
<td>Sipo</td>
<td>7,4</td>
<td>Ayous</td>
<td>10,4</td>
<td>Others</td>
<td>0,1</td>
</tr>
<tr>
<td>Longhi</td>
<td>7,2</td>
<td>Bilinga</td>
<td>8,7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limba</td>
<td>6,3</td>
<td>Sipo</td>
<td>5,4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bahia</td>
<td>4,2</td>
<td>Okoume</td>
<td>3,8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Iroko</td>
<td>1,6</td>
<td>Limba</td>
<td>3,2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tiama</td>
<td>1,4</td>
<td>Iroko</td>
<td>2,7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agba</td>
<td>1,0</td>
<td>Others</td>
<td>10,7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moabi</td>
<td>1,0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td>8,2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Direction of Production and of Forestry Exploitation, Direction General of Water and Forestry

Forestry species the same of the most exploitated for the periode 1989 to 1993:

<table>
<thead>
<tr>
<th>Species</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sapelli</td>
<td>12%</td>
</tr>
<tr>
<td>Okoume</td>
<td>20%</td>
</tr>
<tr>
<td>Sipo</td>
<td>6%</td>
</tr>
<tr>
<td>Limba</td>
<td>5%</td>
</tr>
<tr>
<td>Niove</td>
<td>5%</td>
</tr>
<tr>
<td>Ayous</td>
<td>4%</td>
</tr>
<tr>
<td>Longhi</td>
<td>2%</td>
</tr>
<tr>
<td>Others</td>
<td>16%</td>
</tr>
</tbody>
</table>

During the same above periode, the average annual Production was raised at: 668472m3.
PERSONS MET OR CONSULTED

EBONZO; Rigobert
Directeur Général des Eaux et Forêts.
Ministères des Eaux et Forêts et de la Pêche.

KASSA , Richard
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Directeur de l'Exploitation et des Industries Forestières
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NGASSEMBO , Adolphe
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ONKAGUI , Julien
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Direction Générale des Eaux et Forêts

BOUETOU , Victor
Ingénieur
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REFERENCES BIBLIOGRAPHIQUES CONSULTEES


FORESTRY SITUATION REPORT OF THE SUB-REGIONAL COUNTRIES

COTE D'IVOIRE
This report is integral part of the second output expected under this framework of the ITTO project NOPD-36-192 (M) entitled:
Collecting and computer processing of forestry statistics in view of to improve the management of forestry resources of Gabon.
It has for aim to proceed at a brief review of forestry activities of the côte d'Ivoire, African member country of the Sub-region of the Sub-region of the I.T.T.O it is following up at a visit in this country, during the period from 21 May to 30 June 1995, by an International Expert in Forest Economy assigned to the project.
FORESTRY SITUATION REPORT OF COTE D'IVOIRE

GENERAL INFORMATIONS

The COTE D'IVOIRE is one of the Guinea Gulf countries in the region of west Africa and located, grossomodo, between the second and the eleventh north parallele. It rovers an area of 322 500 km$^2$. The population today is about 12.5 millions of persons. The urbanization is very high with 50% the population leaving in town.

The forest has been however, longtime, an essental element of the Ivoirian landscape and also on of its most important trump by its variety and its economic importance. Then, in 1900, it was covering about 16 millions of hectares, what means about 50% of the area of the country. However, under the whole effect factors playing in the same a negative sense, the forests of the Côte d'Ivoire have known an important reduce. The closed fovert does no longer covers today that least of three millions of hectares.

This degradation has been based on the functioning during the decades founded of a system on the particular interest:

- Itinerant agriculture;
- Development, at the mercy of markets, of food provision exportation (cacao, coffee, hevea, banana ect.)
- Forest fire of human origin for varied motivations of South and North of the country.

The forest is extended on two great ecological roues: at south, the forest zone which the annual precipitations vary from 1400 to 2000mm, occupied by the closed forest, at north, the savannah zone (open forest, reafforested savannah; woody, bush and shruls) where the precipitation is 1000-1400mm, with a dry season which the importance and the effect on vegetation grow from south to north.

It is note that a pre-forest zone of transition is sometimes distinguished between there two zones mentionned.

The relative part of the industrials timber in Ivoirian economy has broken down regulary since the end of the years 1970. Then in 1982, the industrial timber contributed for more 9% at the added value manufacturer, while in 1986 and 1991, they contributed for only 2%. For the correspondante periode, the part of forestry industry in the interior primary products (PIB) passed from 2 to 1%. Well that in real regression, the forestry sector represents still a non negligible aspect of economy of Côte d'Ivoire with a part of 5 to 6% of the total amount of exportation, means the third source of revenues after coffee an cacao.
The yielded volume (only closed forest) have declined drastically since 1980 while 4.85 millions m³ have been yielded, comparatively at 2.15 millions in 1990 and about 1.9 millions in 1994. A sectorial forestry project (PSF) financed by the World Bank and by Ivorian state has been set up in 1988. The action programme elaborated by the sectorial forestry project aim essentially. The protection and management of reserved forests of the country.

FOREST RESOURCES

Forest area

Today, the areas of the humid closed forests are estimated at 2.8 millions of hectares. From these total, only 2.1 millions of hectares are however reserved forests belonging to domain forest of the state. If all total areas are know with enough precision, an uncertainty subsist as the areas actually recupied by agricultural plantations. In fact, a great part of forests of reserved domain of the state are allocated by an intinerant agriculture at point where only 1.4 millions ha did not subsist that of purposes strictly to forestry.

The efforts of reforestation have been made by the Côte d'Ivoire since several tenth years. Around 93000 ha of plantations have been then realised. The vast majority of plantations (83800 ha) have been made by the forestry development society (SODEFOR) between 1966 and 1993. The main species planted are the teack; the Gmelina, the framire and the frake.

Possibility volume produce

The potential of Ivorian humid closed forest is comprised, according to different estimations, between 0.7 and 1.1 millions of m³ per year in the hypothesis of sustainable production. The forests out of the domain reserved forest are an annual yield possibility of 0.5 million m³ in coming years. No one think on the other if the old hevea plantations could furnish good quality of timber, where they will be renewed.

The possible volume to be produced, closed forests and plantations complise, will be of order of 2 millions m³.
FORESTRY INDUSTRY

The forestry exploitation history of côte d’Ivoire originates at the end of last century while only the African Mahogany timber of exceptional quality was harvested not far from water ways. The exportation of timber of Côte d’Ivoire grown up rapidly going to 13,000 tous in 1901 to 45,000 tous in 1918. The African mahogany constitute always the main specie of these commerce (trade). Starting of 1921, the efforts of diversifying of trading other species are slowly undergone, niore and wore different species do the object of exportation.

As well as some sawmills have been set up at the beginning of the century, the timber transformation in Côte d’Ivoire will really start at the end of the second world war. The first wuit of veneer will be starting in 1952 and it will wait 1964 and 1971 to see the operations of slicing and plywood wuits.

From 1970 to 1979, the volume of hard wood yields from Ivoirian forests has known a constant increasing going from 3,5 to 5 millions m³ starting of 1979, it regress at a rate of 280,000 m³ per year. The same manner, it is observed the changes in species quality. It is observed a break down of red timber, a preponderance reducne of samba, either at the exportation or at the transformation and an increasing of exportated volume of species producing veneers.

Political of industrialization

Up to 1970, the development of forestry industries did not take place at the same rythm of that the Forests harvesting. The mills transformed hardly the quarter of the timber wood production and it would be observed even some mills to cease their activities because of lack at supplying; situation in a country producet of timber.

Since the starting of the decade 1970, the Ivoirian government has pursued a political of incitement to industrialization aiming the growing of transformation of wood locally. varied statutory measures were taken in this sense examples are:

- The obligation to the agreed timber exporting to assure the supplying of local mills (decree n° 72-543 of 28/08/1972);

- The controlling supplying conditions in timber of industries and the wood products (Decree n° 82-70 of 13 january 1982);

- Since 1981, the government have taken the decision to forbid of expertating wi thin form timber of two species usually transformed by local industries which are Iroko and kondroti;

- In 1982 and in 1983 will be taken subsquently the mesurers to forbiol forestry harvesting the pre-foret zone and to keep some forestry concessions solely at supplying of mills. These mesure, amongst others, have known a certain succes. Then twenty will be created in 1978 and 1985. In the same time, the transformation of timbers by the local will go from 24% to 57%.
**Actual situation of timber industry**

At this day, the state has authorised the importing on the national territory of 101 mills of primary transformation of timber which have known the varied fortunes during the last ten years. So the average of mills in activity has situated around of 70 on 1985 to 1990 meaning about 68% of agreed mills.

The national monetary devaluation (Franc CFA) intervened in january 1994 has generated a renewal of activities of timber enterprises which have benefited a contribution of capital due to in one hand to rediscovered competition on the international market and to another hand to the coming of foreign partners.

Today, 84mills are in activities, which it is suit to add a tenth of small enterpreses of milling under contracting With the firts ones.

In general, the actually units in activities are distributed as follow:

- 81 sawmilling units
- 12 veneer milling units
- 7 shice milling units
- 8 plywood milling unit
- 5 wooden flooring units
- 13 moulding wood unit
- 6 will work units

The geographical distribution of the timber tranformation plants (mills) has well often obeyed at regional disponibilities in wood raw material and at the quality of existing infrastructures.
**Industrial production**

The theoretical capacity of all industrial fabric of primary wood timber transformation reaches 2.8 millions m$^3$ of timber per year. However, the capacity of the mills in activity are closer to 2.2 millions m$^3$ per year. The volume obtained by the whole of mills in 1994 is about 1.9 millions m$^3$ for a production of 1.05 millions m$^3$ spread as follow:

- Green sawing 680000m$^3$
- Round veneers 189000m$^3$
- Sliced veneers 15000m$^3$
- Plywood 41000m$^3$
- Wooden floorings 13000m$^3$
- Mouldings 48000m$^3$

The average yield return has been for the period of 50%.

**Socio economic Contribution**

The mills (plants) of timber transformation realise annually between 60 and 90 millions fcfa of turnover. About 90% of added value of timber industry. These added value represents about 2% of the whole of industries meaning about 9% of interior primary product (PIB).

The industry of timber provide actually near of 23000 employments of the indirects employments added meaning 9 to 10% of salaried employments of the whole industries of the Côte d'Ivoire.

The annual wage mass is about 12 millions fcfa. As the returns, the contribution of timber industry (TVA, taxis of rustoms, FNI, BIC) reaches about 70 billions fcfa with the exportations. As for the cutting tax, it is reached in 1994 at three billions fcfa.

**THE FORESTRY STATISTICS**

The principal organization in charge to collecte, to stockage, to process and disseminate the forestry statistics is the section of forestry statistics of the Ministry of Agriculture and livestock resouces (MINAGRA). The mission of the section of forestry statistics consists of obligatory gathering material of all documents established by the economic operators in order to allow at the administration to assure of the respect of regulations by these operators and obtain a complete knowledge of statistics of the official channel of wood production.
The results of the statistics activities are first utilised in permanent and in priority by the direction and technical services concerned. They are next subjected to privileged dissemination close to a certain number of administrative services and of public organisms and national para publics such as the ministry of finances and economy; the ministry of commerce, the professional syndicats. This dissemination is done also, at their demand, at the address of African timber organization (ATO) and of International tropical timber organisation (ITTO). They are next published in the synthesis document entitled: Year book of agriculture and forestry statistics.

The principal tasks devolved at the section of forestry statistics are:

- The reception of documents established by the forestry operators, the industrials of timber, the exporters and the transsitional.
- The data compiling on computer assisted by using micro-computer system;
- The establishment of statistics concerning the harvesting of secondary forest products;
- The establishment of statistics of reforestation and managed forests.

System of data Collecting and Processing

In accordance to the forestry regulations being into effect in Côte d’Ivoire, obligation is done at every economic operator of the official channel of timber production to produce for the section of forestry statistics of the direction of the programming and of the direction of forestry industries and production, the documents related to their activities. These documents should be fulfilled in good order and submitted to the concerned services not longer than 15 days after the month of activities. The sanctions are given to the violation of the law with respect to that.

The section of forestry statistics of the direction of programming is specialised in the computer processing of declarations done by operators. On the other hand the direction of production look more into the problem on the control of different documents as well in the services as on the field, where these documents are elaborated. Then, the complementary informations are or can be given by this direction from the investigations carried out on the field (harbours, brigades, harvesting, yards, mills).

The elaboration of statistics situation is done daily or monthly according to the type of activities and in fonction of the related documents and according to the stage of activities progress. At each component of official channel of wood production, from harvesting to exportating, many types of documents.
REFERENCES BIBLIOGRAPHIQUES CONSULTÉES.


FORESTRY SITUATION REPORT OF THE SUB-REGIONAL COUNTRIES

GABON
PREAMBLE

This report is an integral part of the second output expected under this framework of the ITTO project no. PD-36/92 (M) entitled: Collecting and computer processing of forestry statistics in view of improving the management of forestry resources of Gabon.

The present section is a summary of the forestry situation report of Gabon elaborated during the autumn 1994 under this framework of the ITTO project mentioned above. The detailed report constituted the first output result expected of the information project of the forestry statistics of Gabon and was submitted to the Direction General of Water and Forestry of Gabonese Government in January 1995. Its inclusion in this present global report aims to present, in the same document, a general view of forestry situation of the great number of the sub-regional countries which the Gabon is being part of them.
FORESTRY SITUATION REPORT OF GABON.

GENERAL INFORMATION.

The Gabon is located both sides of the equator between 2 degrees of north latitude and 4 degrees of South latitude, and between the 8th and the 15th degree of East longitude. It has a total area of 26.7 millions of between and is limited at North by the Equatorial Guinea and the Cameroon, and at the East and at South by the Congo.

About 85% of the total surface of the country, means about 23 millions ha, are recovered of forests. The population of Gabon is estimated at 1.1 million of inhabitants which more than 50% leave in the urban zones. The density of the population by surface unit being low, it is subsequently that the pressure of human activities on the forests. Resources is more less important than the surrounding countries.

The Gabonese hydrographic network is essentially dominated by the Ogooue River (1200 km) which the basin is extended on more than half of the country. During the long years, the Ogooue river and some other water ways navigable of Gabon have been utilised for the floating timber. More recently however, the timber transportors and the transgabonese raily way assure a prominent part of timber transport to the cost.

Economy

Three great industrial sectors dominate the economic activities of Gabon. These sectors are: the petroleum, the forestry exploitation and the timber industry, and the minerals. The petroleum part in the Interior primary production (PIB) of the country is major, otherwise Crucial, reaching 30% in 1992.

The added value of Gabonese economy by the official channels - timber constitutes about 7% of the added value by all sociéties out of petroleum of the country equal to 30 billions of FCFA. The part of the salaried payments of the official channels reach for its part 9% of the remuneration of the societies out of petroleum being equivalent of 19 billions of FCFA.

FORESTRY RESOURCES

The Gabonese forests is distributed in three zones, called forestry exploitation zones:

- The first zone covers about five millions hectares and is extended on the cost basin, formerly very rich in okoumea species. The proximity of the zone 1 of the transformation centres has made that the familial cuttings have emerged on the systematic harvesting of trees not being reached the legal required diameter of the exploitation. This zone preserve however a very high potentiality because of the facility with which the okoumea is regenerated itself in holes of the area.
The second zone comprises all the remaining of Gabonese forest. It is characterised by a topography more marked. It covers the cristal mountains, the Haut - Ogooue basin, the Ngounié and the Nyanga. Its reserves in okoumea are important although this specie disappearing completely in the part East of the zone. It is of most difficult to harvest and to evacuate.

To these two forests zones, it is generally superposing a third zone, commonly called the attraction zone of rally way (ZACF) which includes the forerts plots along tansgabonese rallyway on which the exploitation permits have been issued.

Estimated volumes of commercial timber

The estimated timber reserves on stand commecially available vary according to the source of information between 200 and 300 millions m³. The forestry resources of Gabon can be divided into two great categories: the complex okoumea - ozigo and together the other species designed commonly in the country under the name of « other timbers ».

The results of different inventories allow to establish the following estimations Relades to timber reserves by species in Gabon:

<table>
<thead>
<tr>
<th>Species</th>
<th>Estimated volumes (millions m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Okoumé (Aucoumea klaineana)</td>
<td>70 - 80</td>
</tr>
<tr>
<td>Andoung (Monopetalanthus and Tetraberlinia spp)</td>
<td>30 - 60</td>
</tr>
<tr>
<td>Ozigo (Dacrydres buettneri)</td>
<td>25 - 35</td>
</tr>
<tr>
<td>Ilimba (Pycnathus angolensis)</td>
<td>20 - 30</td>
</tr>
<tr>
<td>Tali (Erythrophleum ivorense)</td>
<td>15 - 25</td>
</tr>
<tr>
<td>Azobe (Lophira alata)</td>
<td>15 - 20</td>
</tr>
<tr>
<td>Limba (Terminalia superba)</td>
<td>10 - 20</td>
</tr>
<tr>
<td>padouk (Pterocarpus soyauxii)</td>
<td>10 - 20</td>
</tr>
<tr>
<td>Bahia (Mitragyna spp.)</td>
<td>6 - 10</td>
</tr>
<tr>
<td>Others</td>
<td>27 - 68</td>
</tr>
</tbody>
</table>

The okoumea itself represents about the third of estimated reserves, the remaining going to other timbers. For the some 400 species of forests, only a fifty are well knom of utilisers and are commercials to the actual markets.

Potential, Possibility and timber harvesting.

The total timber volume of required dimensions to be commercial including all species, actually utilized or not, is evaluated to 1,5 billions m³.
The timber harvesting for commercial purpose reach today at least 2 millions m$^3$ per year, all species mixed up. In another way, the forestry possibility of harvesting is situated, according to the evaluations the more conservators, at more of tree millions m$^3$ per year. Although the whole rate of timber harvesting of all species being very lower than the potential of production, the deforestation is common in the cast zone overexploited. In the other zones, by the reason of the low population density and also the lack of the xagriculture encroachment, the degradation of the environment and the ecology is almost no-existent. The rate of deforestation is very low being estimated at least of 1% per year.

**Forest management**

Several protection and conservation forests activities, which many are undergoing up to day, have been realised during the years. Among the most important are:

- **Concerning reafforestation**, more than 30,000 ha have been planted, in okoumea principally.

- **The improving activities** on more than 120,000 ha of natural forests of okoumea, for the imajority in forests management units of the first zone of exploitation.

- **The inventory activities** in each of the forests zones have been completed under this frame work of the Gabonese Forestry Development Project (PDFG) from 1970 to 1979 (financed) by PNUD / FAO / GABON).

**FORESTRY INDUSTRY**

The analysis of economic operators of the official channels of timber is limited here to these working at the harvesting, transformation and exportation of wood in timbers.

**Forestry Harvesting**

At the level of forestry harvesting, the following groups are distinguished:

- The societies and,
- The national individual operators.

The group of societies is constituted of:

- Two integrated enterprises, filial of foreign groups,
- A public enterprise, the Gabonese Forestry aCompany (CFG) which up to the beginning of the present decade has possessed the most great of veneer mill units of the country;
- A thinty of societies of basic foreign registered capital and managed by the expatriates.
The veneer mills transformed all timbers coming from the suited harvesting fields belonging to sociéties which are make part of them. The utilised species is essentially the okoumea.

An important economic caracteristic among the forestry operators is the high concentration of production within this group. In fact, in 1990, the first five societies cover all 52% of the total production in value of forestry operators of Gabon.

**Mills of primary transformation**

The transformation units operation in this sector of activities are limited to:

- Three veneer mills.
- A fifteen of sawrmills.

The production of sawmills is low concentrated. The major part of timbers transformed in veneering come from the suited harvesting fields of enterprises. The complement is obtained from the SNBG or from small individual entreprises.

For their part, the sawmills are supplied in general on the local market. The production is principally destinated to internal market although since the depreciation of FCFA, at the begining of 1994, the mills search to reorientate their production to the external markets.

**Mills of second transformation.**

The societies working in this sector are few in numbers and of low size. They are confronted to a real competition either of imported products either to craftsmen products. This domain is in declining market. The craftsmen production looks active. It is difficult however to obtain a precise image.

**Marketing of wood in timbers**

It exists two separate ways of marketing according to considared species:

- The National society of Timber of Gabon (SNBG) has the monopoly of marketing Gabonese timbers. In reality this measure is only applied to the okoumea and ozigo species. while thArt of marketing of other species is free, the same to all concerning of products of local mills destinated to their proper needs.
The marketing of other timbers to the exporting is assured directly by the forestry operators the most important. In another hand, under this framework of small and medium enterprises of production, a ten of commercial enterprises (brokers) are in charged to the exporting of their products.

Two others intervening are the important actors of the official channels of timber in Gabon: the office of transgabonese raily way (OCTRA) and the society of exploitation of park yards Timber of Gabon (SEPBG).

The network road of Gabon is very limited. In consequence, since many years, about of 60% of exploitated timber in Gabon are transported by the OCTRA to the harbours of timber of Port-Gentil or of Owendo.

The SEPBG, for its part, has been constituted in 1983 in order to assure handling activities and to put on hoist of timbers in under-contract for the SNBG. This last society assure the handling of the to taly of timbers exported of Gabon as much for this concerning the group okoumea - ozigo as well for the other timber.

Production and timber exportation

The average total annual production of wood in timbers is self maintained around of 1,6 million m3 for the period extended between 1988 - 1992 to reach two millions m3 in 1993. More than 80% of produced timbers have been exported while the group okoumea- ozigo represented more than 70% of the total production.

SITUATION/ RELATIVE/ FORESTRY/ STATISTICS

Types and sources of statistical information in Gabon.

It is necessary to recall that the more detailed indentification of data for future forestry information system of Gabon is the next step of the project in which the present forestry reviewr is inscribed.

However, the main types of fondamental data of forestry sector to include in an information system the same that of their general sources are presented on the following figures: the detailed component have been described more abundanthy along the text.
The different Directions depending on the Direction General of water and Forestry of Gabon are traditionally in charge to collect the statistics related to the resource itself and the management associated activities of exploitation and, of regeneration of the resource. When the financial implications intervene (for instance recovery of dues, of taxes) the Financial Directions of ministries concerned (Domain, Customs, etc.) then interfere. Collecting this information would not normally constitute one of the customary requirements of their daily tasks, which is not always the case.

The collecting data related to investments in the infrastructures, the industry development, the silvicultural treatments to be applied, the training programmes to be conceived, the marketing of new products on analysis of markets require sometimes the information depending on the direct responsibility of more than one authority.

This level involves therefore that of the collecting of information should go out of this framework of usual habits operations. In fact it will be necessary to turn to other statistics sources such as the special inquests, the data banks of other ministries or to the associations or enterprises of the private sector or industrial groups of the official channel of wood timber which can have on their possession the only data on forestry domain.
Types of information related to the central political information on the forestry sector.

<table>
<thead>
<tr>
<th>Type of information</th>
<th>Indicators</th>
<th>General sources of the information on Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aggregates macroeconomics</td>
<td>Interior primatry product, Added valve, Payments balance Investments Exportations value Importations value</td>
<td>• Direction General of the Statistics and of the Economics Studies</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Direction of Economy</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Direction of Customs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Direction of budget</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Direction of Customs</td>
</tr>
<tr>
<td>Socio-economic</td>
<td>Man power effective, Remuneration value Individual taxes</td>
<td></td>
</tr>
<tr>
<td>Fiscality</td>
<td>Society taxes forestry dues taxes on turnover Exportation taxes</td>
<td></td>
</tr>
</tbody>
</table>

Note: the indicators distinguishing specifically the forestry sector can be identified in most of the cases.
CONCLUSIONS AND RECOMMENDATIONS

The present review of forestry sector of Gabon has made every effort to identify and to describe by using as support of statistics, the specificities of official timber channel and the privates and publics institutions which it is composed. Along this whole report, the pertinent implications related to the forestry information system have been put in prominent position. It will be only summarised here the principal conclusions and recommendations resulted to the analysis.

Conclusions

- It does not exist within the Ministry responsible of Forestry a centered unit responsible of collecting, of stockage, of processing, of analysing and of disseminating of the information on the forestry sector.

- The data are scattered in different privates and publics institutions which sometimes do not possess structured or basic or data, even manual, to manage them, a serious problem of coordination is posed.

The data even when available are often incomplete or inconsistent; the information concerning the knowledge of forestry resources as much of the woody matter as of the other vegetation resources is marginal due to the lack of inventory on the more large part of the forestry territory, the statistics do not cover all the products of primary transformation while that of the statistics being the direct financial implications are the most completes and the most easily accessible particularly by virtue of monopoly exercised on the major part of exporting timber traded to outside.

- In spite enough clear and detailed regulation obliging the legal transfer of data to public institutions, the collecting of data of primary production is set up in practical matter on the goodwill of forestry operators. These ones, at the exceptions of some few and in spite of legal obligation made in their required activities, do not submit the informations excepted by the public institutions.

- The different Directions of the Direction General of Water and Forestry the same of the provincial Inspections do not possess of the necessary equipments and materials to inspect and to control, at the same time, of the forestry intervenings realised by the operators and the data transmitted by these operators. The validity of data ultimately furnished is not sufficiently verified.

- It is existing a lack of coordination and of communication between the different intervening in forestry domain including the different Ministries implicated and their Directions.
**Recommendations**

- To constitute a centralized unit responsible of the management of forestry statistics; a best coordination of efforts to collecte, to stock, to process and to disseminate of data is evident. The Direction General of Water and Forestry should be able to possess of an autonomous computer system at level of the entrance points and of the going out of information for processing all the flux related to the sector.

- This statistical unit should comprise a qualified man power and well trained at the contemporary requirements at the matter of collecting and processing of the information.

- To assure maintaining of active role for the specialists of the statistical unit; these personnels should have the responsibility to enter in direct contact, on a basic regulary with their different suppliers of statistics in order to warrant a continuous transfer of information.

- To strengthen central and provincial forestry structures in materiales and equipments in order to assure a best control of all the types of intervenings on field.

- To coordinate the activities of different projects of forestry development and of assistance actually Undertaken in Gabon in order to assure the complementarity and the compatibilty of equipments, of programmes set up and to avoid potentials duplicated plicated; the competence of man power should in priority taken on account.

- To apply the existing regulations related to information transfert particularly between the private organisations towards the public sector.

- To promote by single organisim while possible the coordination and the harmonization of international demands on matter of forestry statistics in the aim of simplifying for all concerned parts.

- The collecting and the processing of statistics should be initiated at the level of provinces at least assuring an initial processing of data before their submitting towards the central Administration.

The planning of development action of forestry domain is based obligatory on the knowlege of resource, its evolution and the structure of the economic production system which is there associated.

The obligatory conditions to succeed this plan is based on the setting up a computer system allowing to collecte the reliable data, maintained up to date and rapidly available.
FORESTY SITUATION REPORT
OF THE SUB-REGIONAL COUNTRIES

GHANA
PREAMBLE

This report is integral part of the second out-put expected under this frame work of the I.T.T.O project n° PD-36/92 (M) entitled: collecting and computer processing of forestry statistics in view of to improve the management of the forestry resources of Gabon.
It has for aim to proceed at a brief review of forestry activities of Ghana, african member country of the sub-region of the I.T.T.O. It is made a follow up of a visit in this country at the beginning of the month of December 1994 by an International Expert in this type of information system assigned to the project.
FORESTY SITUATION REPORT OF GHANA

GENERAL INFORMATIONS

Geographical Situation and Population

The Ghana belongs to Gulf Guinea Countries. It is located between the 5th and 11th parallel North and the premier and 3rd meridian West. It is surrounded by the Côte d’Ivoire at the West, the Burkina Faso at the North, the Togo at the East and of the Atlantic Ocean at South.

The country covers an area of 238 500 Km² for a population about of 15 millions of personnels with an annual rate growth of 2.6%. This growth rate is considered as very high and the government pursue a political of intensive familial planning to reduce the growth rate of population. More than 30% of Ghanians leave in urban area.

Economy.

The cocoa is the basic pillar of the Ghanian’s economy, followed by gold and timber. The timber wood represents about 6% of the interior primary product (PIB). The Forestry sector employs more than 85 000 personnels and more than two millions of individuals depend in one way or to another, of forestry sector for their subsistence.

FORESTRY RESOURCE

The Ghana is divided into two ecologically different parts: the savannah at North and the humid closed forest at South.

- The closed forest zone covers nearest 8 millions of hectares, being the third of the national territory, but more than two third of the population depends on it. The pluviometry is variable, comprises between 1300 and 2100 mm per year. The greater part of economic activities of the country (The cocoa, palm oil, caoutchouc, Timber and mineral production) is concentrated in this mentioned zone.
• The savannah is extented on the two third of the total area of the country (16 millions of hectares). It comprises three types of vegetation: the derived savannah, the south Guinea Savannah and the Soudanian Savannah. The soils are relatively poor. The mains economic activities of this zone are agriculture cash crops, peanut/groundnut coton and livestock.

The government of Ghana, under the framework of World Bank Project, has undertaken the forestry resources inventory of the country in 1989.

**The Forests areas.**

The territorial classification of Ghana is distributed as follow:

<table>
<thead>
<tr>
<th>Surface (million ha)</th>
<th>(% of Surface)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Closed forest of South</td>
<td>8,2</td>
</tr>
<tr>
<td>Reafforested Region of North Savannah</td>
<td>15,7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>23,9</strong></td>
</tr>
<tr>
<td>Permanent Forests reserves</td>
<td>2,6</td>
</tr>
<tr>
<td>Conservation Zones of fauna</td>
<td>1,2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3,8</strong></td>
</tr>
<tr>
<td>Agricultural land</td>
<td>13,6</td>
</tr>
<tr>
<td>Interior water</td>
<td>1,2</td>
</tr>
<tr>
<td>Other land (inhabitants, fallow land, etc.)</td>
<td>5,3</td>
</tr>
<tr>
<td><strong>Great total</strong></td>
<td><strong>23,9</strong></td>
</tr>
</tbody>
</table>

The Closed forest distribution is interpreted as fallow:

<table>
<thead>
<tr>
<th>Surface area (million ha)</th>
<th>% of Closed forest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forest reserve</td>
<td>1,68</td>
</tr>
<tr>
<td>Non-reserved forest</td>
<td>0,37</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2,05</strong></td>
</tr>
</tbody>
</table>
The agricultural land surface areas grow principally by the rapid increasing of population. Other factors contribute at the expansion of agricultural land. In fact, the declining of lands productivity under shifting cultivation (fallow period very short) the same as the improving of sale price of cocoa accentuate of forests conversion for other means.

**Stand volume**

The stand volume of forests reserves of Ghana is estimated at 188 millions m$^3$ which 90 millions m$^3$ actually with commercial species (more than of 70 cm at DBH). This volume at maturity
equal to 77 m³/ha. It is estimated however that the volume of 15 to 20 main commercial species do not go beyond 50 millions m³.

**Forestry possibility.**

The 1,68 million of hectares of closed forest of Ghana, the production surface area is estimated at 1,16 million of hectares. The average rate growth of mains species of these forests is of 4m³ per ha per year equal to a total of 4,64 millions m³. In taking account of incurred normal losses while forest harvesting, it is estimated, in wardenning manner, a forest possibility of about 1,2 million m³ distributed among sixties commercial species.

**Forests species**

The Ghanean forest comprises several certain species. About 190 species reach of diameters allowing an effective marketing. Amongst these last species, only a forty are effectively harvested at great scale which a tenth represent, them selves, 75% of commercialised volume.

This noting illustrate a major problem of Ghanean’s forests. The yielding is concentrated, infact, solely on some species prized of importers and do not reflect the real potentialities national forests of the country, at risk to exhaust the economic potential of some species.

The forests species the more important on basis of available volume are distributed as follow:
### Botanical name

<table>
<thead>
<tr>
<th>Botanical name</th>
<th>Pilote name</th>
<th>volume %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triplochiton Scleroxylon</td>
<td>Ayous/Samba</td>
<td>15</td>
</tr>
<tr>
<td>Celtis mildbraedii</td>
<td>Ohia</td>
<td>12</td>
</tr>
<tr>
<td>Ceiba pentandra</td>
<td>Fromager</td>
<td>8</td>
</tr>
<tr>
<td>Piptadeniastum africanum</td>
<td>Dabema</td>
<td>6</td>
</tr>
<tr>
<td>Terminalia superba</td>
<td>Limba</td>
<td>4</td>
</tr>
<tr>
<td>Entandrophragma Spp.</td>
<td>Tiama/Sapelli/Sipo</td>
<td>3</td>
</tr>
<tr>
<td>Antiaris toxicaria</td>
<td>Ako</td>
<td>3</td>
</tr>
<tr>
<td>Nesogordonia papavifera</td>
<td>Danta</td>
<td>3</td>
</tr>
<tr>
<td>Pycnanthus angolensis</td>
<td>Ilomba</td>
<td>3</td>
</tr>
<tr>
<td>Other Species</td>
<td></td>
<td>43</td>
</tr>
</tbody>
</table>

As these species exist in many African tropical countries, the yielding of trees in Ghana is regulated by a standard limiting the cutting at a minimum diameter of harvesting.

### Reafforestation

The purposes of planting programmes in Ghana aim:

- to assure the supplying at long term in wood timber to its forestry industry;
- to reduce the pressure on natural forests;
- to create an intermediary zone could be able to reduce the impact of fire and other effects destroying the Savannah borders.

Since 1987, the most reafforestation efforts have been concentrated in the sectors already reafforested.
Where the planted trees are unproductives. More than 76 500 ha have been established. The distribution of regenereted surfaces is the following by category of plantation:

- protection plantation 13,1%
- production plantation 68,6%
- reserves of fire wood, posts; poles etc... 18,3%

The principal planted species are: tectona grandis representing 50% of all reafforested species, Terminalia ivorensis (Emeri), Triplochiton scleroxylon (Ayous), Cedrella, Mansonia atissima.

FORESTRY INDUSTRY

The Forestry harvesting

The forestry harvesting has known considerable of variations particularly during the decade 1975 to 1985 corresponding at a period of great political instability. The production of timber has passed of 1,9 millions of m³ in 1975 to 600 000/m³ in 1982.

Since 1983, the forest production is on slow progression because of the introduction of varied legislations measures (no discussed here) aiming to increase the economic competivity of Ghana. Today, the yielding of timber is estimated to about 1,3 millions m³. The whole of forestry industry is also on restructuration.

The transformation of wood timber

The industry of wood timber in Ghana has developed
an integrated structure which, in terms of operations, can be classified into three categories:

- primary (yield);
- secondary (sawing, plywood, veneer);
- tertiary (furnitures, moulding, wooden flooring, doors, windows, etc.).

The profile of principal enterprises of wood channels in 1993 was established as follow:

<table>
<thead>
<tr>
<th>Enterprises</th>
<th>Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forest harvesting</td>
<td>250</td>
</tr>
<tr>
<td>Sawing</td>
<td>100</td>
</tr>
<tr>
<td>Plywood</td>
<td>9</td>
</tr>
<tr>
<td>veneer</td>
<td>13</td>
</tr>
<tr>
<td>board (particle and panel)</td>
<td>6</td>
</tr>
<tr>
<td>furnitures</td>
<td>200</td>
</tr>
<tr>
<td>Wooden flooring</td>
<td>4</td>
</tr>
<tr>
<td>Doors</td>
<td>6</td>
</tr>
<tr>
<td>Moulding</td>
<td>7</td>
</tr>
<tr>
<td>Toys</td>
<td>2</td>
</tr>
</tbody>
</table>

It exists of different considerables of structure, of technology and of size among the forestry enterprises and of transformation. There is on one hand, some integrated vertically enterprises, possessing their own proper material of exploitation and of transport, and transforming their wood timber on sawing, veneering, plywood, etc. On the other hand, there is plenty
of small enterprises of forestry exploitation which the equipements are obsoletes (out of date) and which sale the wood timber to the small mills or under locating their forests concessions.

The wood timber industry of Ghana is actually dominated by the private sector. At holding with the financials and continual logistic problems, the old state societies which were controlling of exploitation and transformation, have progressively given up of set at the privates enterprises either by direct sale or by aslant of "joint-ventures".

**Revenues of exporting**

The Ghana has set up, since several years, a national policy of increasing forestry revenues by favouring the realisation of products elaborated at high added value. The evolution of revenues of exporting of different forestry products is expressed as fallow for the periode 1990-1993:

<table>
<thead>
<tr>
<th>Year</th>
<th>Timber value</th>
<th>Sawsings value</th>
<th>Other product value</th>
<th>Total value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>m$^3$</td>
<td>46$</td>
<td>m$^3$</td>
<td>45$</td>
</tr>
<tr>
<td>1990</td>
<td>197,8</td>
<td>31859,8</td>
<td>200,5</td>
<td>80573,6</td>
</tr>
<tr>
<td>1991</td>
<td>215,4</td>
<td>31778,8</td>
<td>169,1</td>
<td>59859,8</td>
</tr>
<tr>
<td>1992</td>
<td>177,0</td>
<td>23100,3</td>
<td>232,4</td>
<td>67038,8</td>
</tr>
<tr>
<td>1993</td>
<td>496,0</td>
<td>54354,8</td>
<td>239,2</td>
<td>69648,8</td>
</tr>
</tbody>
</table>

It can be established that the total value of exporting of forestry products has constantly growing during the periode 1990-1993.
This show that government policy aiming the increasing the foreign exchange do
meet a certain success for wood timber products.

In other respects, the governmental polities aiming the increase of local
transformation in order to intensify the manufacturing of products at highest
added value do not seem to indicate a significant improving the prevalent
situation at the moment of its establishment. in fact, the value of sawing products
is rather stable while the demand for timber is an important increase.

THE FORESTRY STATISTICS.

The collecting, the processing and the dissemination of forestry data of Ghana are
done by several organizations:
- the Forestry Service of the Direction of Forestry;
- the Customs Services;
- the Timber Export Development Board;
- the Forest Products Inspection Bureau;
- the Direction of Fauna and Flora (Game and wild life);
- the Forestry Commission;
- the Forest Research Institute of Ghana;
- the Policy Planning Monitoring and evaluation Division of the Ministry
  of Lands and Forestry;
- the Ghana National Statistical Service.

The data are collected through questionnaires, personnal visits and by post. The
data are normally sent from districts.
trough regional offices to the national headquarters. The statutory regulations are also a means of collecting forestry statistics. In general manner, all processus of collecting, stocking, processing, analysing and disseminating are usually done manually.

**Problems of Forestry Statistics**

The forestry statistics system of Ghana is facing the following problems:

- poor of funding services and public organisms responsible of forestry statistics;
- limited of logistics means (transport means, material and office equipements etc.);
- qualified personnel insufficient in the comprehension of needs and the handling of statistics;
- lack of collaboration of forestry operators in relation of submission of forestry data;
- fiability limited of data (lack of data for certain sectors, voluntary or involuntary declaration of falsified and imprecised data, delays and defaults in the submission of returns, etc.)

**Possible solutions**

- Increase funding of services in charge of collecting, of compiling, of analysing, of publication and disseminating of forestry statistics;
- Strengthening of logistics and assistance on matter of training;
- Increasing the personnel motivation by supplying appropriates logistics and office equipments;
• To enlighten all producers and furnitures of forestry statistics the necessity to submit to officials organisms of accurate date on their operations;

• To strengthen the means and the processus of submitting and of communicating of data or informations from of sources towards the processing centres.

It is to note that the government of Ghana presently conducts an enquiry, under auspices of the I.T.T.O (International Tropical Timber Organisation), at development of information system on forestry statistics. This project aim to computerise the processus of collecting; processing and disseminating of statistical information of forestry sector of the country.
REFERENCES BIBLIOGRAPHHIQUES CONSULTEES


FORESTRY SITUATION REPORT OF THE
SUB-REGIONAL COUNTRIES

TOGO
PREAMBLE

This report is integral part of the second output expected under this framework of the I.T.T.O. project n° PD-36/92 (M) entitled: collecting and computer processing of forestry statistics in view of improving the management of forestry resources of Gabon. Even if the essential of this project is carried out in Gabon, some visits are planned in the member countries of the sub-region of the I.T.T.O.

This report has for particular purpose to proceed at a brief review of forestry activities of TOGO. It is made a follow up to a visit in this country, during the period of 4 to 8 April 1995, by an International Expert in forest economy assigned to the project. Many interventional meetings of Togolese forestry sector have been met followed by a forest harvesting in one Eucalyptus plantation of maritime region.

The project aims, in its whole, to improve the capacity of the Government of Gabon to master and to orient the activities related to the management of its forests resources by a development and a set up of board table sufficiently precised of forestry activities of the country. The project agrees directly with the fundamental strategies of the I.T.T.O. as it is defined in the action plan of its permanent comity economic information and of market.
SUMMARY REPORT ON FORESTRY SITUATION OF TOGO.

GENERAL INFORMATIONS

The Togo covers an area of 56,600km². Its population is about 3.5 millions of inhabitants. The country presents its seff under the form of a corridor connecting the Gulf Benin at south and the Burkina Faso at North. It is limited at the west by Ghana and at the East by the Benin.

Its geographical coordinates are extended between the 6th and the 11th degree North in latitude, and between the Greenwich meridian and 1040 of longitude East. It length is about 600 km and its wide varies of 50 km (Lome) to 150km (Kambole).

Biophysics aspects

The Togo is a country of plaines and plat forms. The plainnes are located at south and at North of the country while the centre is situated the platforms with the mountains ranges of the Atakora which crosses the country of south-west (Kpalime) at North-East (Kara-Kanté). The average altitude varies generally from 500m to 800m. The highest point is the Agou mountain with 986 meters.

The hydrographic network of Togo comprises two great rivers (the Oti at North and the Mono at south) and multitude of small rivers were or less important which feed these two big rivers. To emphasize also a network of lacs and of lagoon at south of the country centred especially around of the Togo lake as priweipal element.

Climate

The climate of Togo varies significatively from one region to another. The North is caracterized by alternance of two seasons: a dry season of November to May, and humid season of June to October. The south of the country has four seasons which are proper to this country, being two dry seasons and two rainy seasons of very unequal durations and rather disrupted.

The precipitations, although very variables, are situated between 800mm and with an anomaly for the maritime region which receive less than 1000mm of annual (which means between 600 and 800mm, being the half of the pluviometry of logos or of Abidjan, However situated at the same altitude).

At point of view of temperature, the minima are situated between 18,4°C and 22,8°C, and the maxima between 30,4°C and 34,4°C. It is to note that the distances apart very important in distribution, as spacial as temporal, the precipitations and of the temperature have strong incidence on the agroforestry production and the planning of activities which are selves linked.
**Population**

Estimated at 3.5 millions in 1990, the population is growing at a rate of 2.9% per year. Essentially rural at 75%, this population is urbanised rapidly at a rythm of 4.4% per year against an increasing of 2.4% for the inhabitants of ruval regions.

The density of population is also variable passing through of 21 inhab. /km$^2$ in central region at 163 inhab./km$^2$ in the maritime region.

The Togo count a fourty of athnic groups shared in six groups and which the three principal contitute about 87% of the population; corresponding at ethuics, a fourty of languages are utilised in the country.

**Economy**

The economy makes the object of structural adjsusment programmes (PAS) since 1982. It relies essentially on agriculture (38% of PIB) and the tertiary sector (45%). The exporting arise mainly of phosphates and agricultural income (coffee, cocoa, coton). The forestry products count abent 11% of interior primary production (PIB) (against 1% formally admitted), especially with the input of firewood and charcoal of wood. The revenue per inhabitant has been alwost stationary between 1984 and 1989.

**The Intitutions**

Since 1992, the principal forestry activities of Togo are managed by the Ministry of rural development, of the Evirnoment and of tourism. Five directions and office depend of this ministry:

- **The direction of forestry productions (DFP)** is in charge to assiste the private initiative and the secondary collectivities in the realizing of the reafforestation political programme by the state and to participate at the organization and at the promoting of forestry small scale production by craftsmen (the private plantations).

- **The office of development and Forests harve sting (ODEF)**, an autonomous public establish at industrial and commercial caracter has for aim the management, the equipment and the putting in value the National forestry domain (the state plantations);

- **The direction of protection and control of the flora exploitations (DPCEF)** has for role to fight against all form of forests destrcutions, to help at their improvenent and at their national management for a durable development;

- **The direction of National parks and the fauna and game reserves (DPNFRC)** is in echarge of the management of national park and of the faune and of police of the hunting;
The direction of General Ecology and the rehabilitation of the milieu (DEGRM) has for principal mission of safeguarding the forestry ecosystems in view to restore the ecological and biological equilibrium.

At the internal of the country, these forestry services have either the regional directions either the representatives or.

FORESTRY SECTOR

The general low of precipitations comparetly to the immediates neighbours of Togo at west (Ghana and Côte d’Ivoire), do not make naturally the Togo a Forestry country in the sens of Economic and industrial. At the exception of same closed forests vegetations in the middle south-west due to the crographic favorables conditions, it persists the galleries more or less wide of forests semi-deciduous in the south-Est and the centre, and the Gallerie of forests along the mains course of water. The remaining of territory is covered of savannah at variable degrees of degradation from one area to another.

Natural forest

The undertaken actions since the colonial periode have essentially consisted at the protection of same degraded or threatened of degradation perimeter and called "classified forests. It is counted actually about 800.000ha of protected areas which the mast out of these taken as Faune reswrves, are only reserves theorically because of diverse invasion (agricultural encroachment for instance).

Plantation

The total surfacesplanted between 1940 and surround 21000ha all categories identical, corresponding at a rate of annual reaforestation of little wore of 400ha. the mast of parcelles cover between one and 10 hectares in area and have larking of maintenance during longtime. Very few of the blocs are passing 100ha and two only have an area belonging to one tenure reaching 500ha.
**Deforestation**

The forestry resources of the country reduce at an alarming rhythm. In fact, the analysis of different available data on the resource show that the closed forest covered about 449,000ha in 1970 while it was reduced to 287,000ha in 1980 and estimated at only 140,000ha in 1990 with a rate of deforestation of the order of 15,000ha/year. In the same time, the productive savannah were reduced at a ryth of 6,000ha per year.

The principal causes of deforestation of forestry resources are:

- Forests harvesting for a purpose of energetic matter, meaning the fire wood and charcoal wood which constitute the principal source of energy for more than 80% of the population;

- Clear cutting for agriculture and the practice of itinerant agriculture on burning system;

- Political government of extending of cash crops (coffee, cocoa, cotton);

- Cuttings and yielding for diverse purposes: household utensils, tree fodder, medicinal plants, vegetal spongy, etc...

The classified forests and forests plantations, formerly known as state property, are either invaded or put in trouble. The entire perimeters of reforestation have completely disappeared and substituted by maize fields.

**Forestry industry**

It does not exist in Togo the forestry industry strictly by speaking. The forestry exploitation depend for great part of informal commercial channels. At the exception of one sawmill semi-industrial of the ODEF of a capacity of 6 to 8,000m³ timbers specialised the sawing of tectona spp of small and average dimensions, the sector-forestry is constituted of small sawmill craftsmen, carpentry, cabinet work, charcoal maker etc. The wood channels of each of product category and derived products are characterised by:

- Low professional knowledge at limited qualifications;

- An insufficient or a lack of organisation and of adequate regulations;

- An insufficient of the actions means as well technics as financials.

The situation do not favour the industrial development of forestry sector of Togo which financial authorities of the country do allow a very marginal role in the national economy (1% of interior primary products).
It is to underline however that, according to the informed intervenings of the forestry sector, the economic importance of this same sector would have constantly under-evaluated. In effect, the official figures did never take to account the utilisation of wood energy which represents 20% of budgets for more than 80% house hold of Togo which can be explained by the economic value of several dozen of billions of CFA francs.

So, taking to account of the production of lignuous woody combustibles, of sawings, of steaks and poles others diverse related forests products it is more than of 11% of PIB which would be suit to estimate the contribution of sector to a National economy.

Statistics of forestry sector

These ministries intervene in the collecting, the processing and the disseminating of statistics data:

- The Ministry of ewal development, of the environment and for tourism with its five directions mentionned above which can be added the direction of Enquests and Agricultural statistics (DESA);

- The Ministry of plan and the management of territory with the direction of statistics which produces a yearbook of statistics of Foreign trade of Togo in conslting the data of the direction of customs;

- The Ministry of finances and of the Economy with the direction General which record the data on the importations and the exporting.

Disponibility of data

The statistics data of Togolese forestry sector are incomplete, impricise and less reliables. Even the fundamental data are generally missing, as for example the data on:

- The forestry resources (surface, volume, potential, etc.);
- The yield of wood utilisation (Timbers, sawings, firewood,etc.);
- The national supply and demand for these products;
- The volumes and values of exported and imported products;
- The socio-economics data and financials of the sector.
It does not exist, actually, at national level of service which deals with essentially the collecting, the processing and the disseminating of forestry statistics. The statistics produced by the DESA do not cover still sufficiently the forestry sector.

The last service has provided its self in 1987 a unit in charge of forestry statistics, but, by lack of means (materials, logistics, financials and human resources) it is not operational. Any publication has been produced at this day. On the other hand, the enquests and ponctuals studies have taken place periodically but they are often incompletes.

Statistics of formal sector.

The production of this sector is represented essentially by those of the ODEF. The statistics data come from the monthly, end of terms, annuls activities reports of this state organism. It must to note that the ODEF produces also of fire wood and of charcoal wood (these products are not the exclusive of the informal sector).

Statistics of non formal sector.

The collecting of data in this sector is made by the DPCEF which produce an annual report. The forest harvesting in Togo was traditionnaly done by private enterprises:

- The pit sawers;
- The chain sawers;
- And same smallunits of tranformation.

In front of continuel reduction of available forestry reserves, the togolese state has suspended the forests harvesting in 1988. This suspension has led of reducing the activities of harvesting and the closing of wuits of transformation because of the breaking off suppling. A certain level of forestry harvesting could remain steady however again in spite of the legislative restrictions which have been applied.

Commentaries

Concerning the collecting, the stocking, the processing and the disseminating of forests data, the Togo suffers of general lack of organization and of means which do not allow it to responde at national and international needs in matter of statistics. The principal explanation of this statement are:
- The lack of political will aiming to award a more great importance to the products drawn from forest, this lack of will holds of the perception of the public authorities of low economic importance that represents the forestry products in the national economy;

- The lack of national service responsible of collecting and processing forestry data as it does exist one for the agriculture for example; the lack of such service explain in part the lack of organization surrounding the collecting data brought to light above;

- A limited competence of human resource in matter of statistics related to forests, and insufficient of financial and material means allowing to collect and to process the reliable data could respond to the minima needs as well at national as international.

**Ways of improving**

- The National Forestry Action Plan (PAFN) has been elaborates;
  It has for objectives to plan...

- The regrouping of Forestry services under the same tutelage with the fusion of the two ministerials departments which had legally responsibilities on the forestry questions;

- A projet of restructuration of the direction of forests resources within which could be created a division of research and information; this division will have the responsibility to collecte, to process and to disseminate of forestry statistics.
Conclusion

The setting up a service responsible of forestry statistics is a factor susceptible to improve greatly the availability and the reliability of forests data. The success of this action will depend of the continued assistance of the state which should have agreed to offer the appropriate financial and human resources.

At the International level, the supporting of concerned organization by improving of forestry statistics could manifest its self, one another, of the two ways:

- Participating at the identification of essential characteristics of a system to collect, to process and to disseminate the statistics adapted to the particular context of Togo; it is in fact necessary to know which are the priorities of data to collect, at which frequencies, which procedures of collecting should set up, which National organisations are the best situated to proceed at the collecting the informations and which are the human resources and minima financial required for these purpose;

In reinforcing the knowledge of non-formal sector by providing the expert appraisement and the financially of periodical inquerts and of complementaly researches; it is even likely that the realisation of periodical inquests (three year plan or quinquennials for examples) being the best approach to acquire a sufficient knowledge of the fullness of the particular activities of the sector and of its development in the time.
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