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**REFORM OF FISCAL POLICIES IN THE CONTEXT OF  
NATIONAL FOREST PROGRAMMES IN AFRICA**

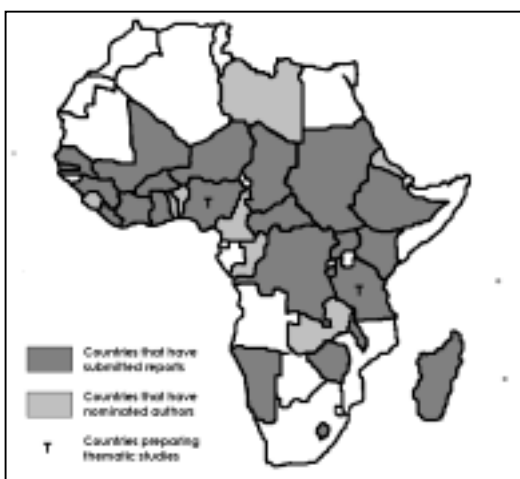
**Regional forestry meeting: Abuja, Nigeria: 13-16 November 2001**

**SYNTHESIS OF COUNTRY REPORTS**

## INTRODUCTION

This paper summarises the information presented in the country reports on forest revenue systems and government expenditure on the forestry sector in Africa. It compares and contrasts the many different ways in which forest revenue systems are designed and implemented in different countries and presents some estimates of the total financial flows between government and the forestry sector. Thirty-five countries have agreed to produce country reports on their fiscal policies in the forestry sector and this paper is based on the 26 country reports produced by the beginning of September 2001 (see Figure 1). The information and statistics presented in this paper are preliminary and will be checked and finalised in collaboration with countries during the remainder of the project.

**Figure 1 Countries producing reports on their forest revenue systems**



The structure of the paper is as follows. The following two sections present information about the structure of forest revenue systems currently used in Africa and trends in the level of charges collected. These are followed by a section describing the implementation of forest revenue systems, including the methods used to set and revise forest charges and the processes used to collect and monitor charge collection. The last section on charge collection then presents information about total forest charge collection in countries.

Three sections examine government expenditure on the forestry sector, including: the sources of funds used in the sector; the types of activities supported; the types of expenditure in countries; and trends in total expenditure on the sector.

Two final sections present the main results and conclusions from the analysis of the country reports. The first examines the total financial flows between the government and the forestry sector. The last section presents some preliminary conclusions about the impact of current fiscal policies on

sustainable forest management and some suggestions about how the current situation might be improved.

## **THE STRUCTURE OF FOREST REVENUE SYSTEMS IN AFRICA**

Revenue can be collected in the forestry sector in many ways. Charges can be levied on the volume of outputs produced, the area of forest used, income or profits from forest operations or specific activities. Charges can vary by type of forest, types of outputs produced or type of producer. In countries that have specific funds for different aspects of forest management, charges can also be collected for different purposes.

Although many forest revenue studies focus on the level of charges, the types of charges used, or the structure of the forest revenue system, can also have a major impact on the efficiency of the revenue system and the way that forests are managed. This section describes the different types of forest charges that are currently in use in the forestry sector in Africa.

### ***Forest charges by type of forest***

Most countries in Africa have many different types of forest. Apart from the distinction between natural forest and forest plantations, the main factor that is recognised in most forest revenue systems is the distinction between different types of forest ownership or control. In very broad terms, three different types of forest ownership are generally recognised in most forest revenue systems: public ownership; community ownership; and private ownership.

**Public ownership.** Forests owned by the Government are referred to by a number of different names in different countries, including: forest reserves; gazetted forests; demarcated forests; national forests; forest parks; and state forests. In most countries, only one level of government owns forests. This is usually the national government but, in countries with a high degree of decentralisation, state governments may own forests (e.g. Nigeria and Ethiopia). In a few countries, more than one level of Government (i.e. national, state and local government) may own forests (e.g. Kenya, Uganda and Zimbabwe). All countries collect revenues from production in publicly owned forests, although charges may only apply to some types of products.

**Community ownership.** Forests owned by communities are also referred to by a number of different names, including: community forests; community forest reserves; village forests; co-operative forests; and joint forest management areas. Community ownership or, at least, community management of forests has become much more common in countries in recent years. In most countries, the Government collects some revenues from production in community forests. In many cases, community forests have been created by transferring ownership or control of publicly owned forests to local communities and revenues are collected and shared between the Government and communities.

**Private ownership.** Private ownership of forests is not common in Africa and only a few countries reported having significant areas of privately owned forests. Privately owned forest plantations are more common than privately owned natural forests and only a few countries reported having

privately owned natural forests. Governments do not generally collect revenues from production in privately owned forest plantations although they sometimes do in privately owned natural forests.

The above discussion has referred to ownership of forests, but it should be noted that ownership is a complicated subject and is often related to other issues such as rights to access and harvest forest products and rights to control the use and management of the forest. Thus, for example, it is quite common to find that an individual may own a forest, but that they do not have all of the rights that would normally be associated with ownership. Furthermore, others may have the right to take some products from a forest, such as non-wood forest products (NWFPs), although they do not own the forest.

In addition to this, in some countries the ownership of land (which may, in itself, be a complicated matter) can be separated from the ownership of the trees or forests growing on the land. For example, it is quite common to find forest laws stating that the government owns all trees or, at least, all indigenous trees in a country irrespectively of who owns the land. Thus, the situation may arise where land is owned by an individual or community, but that they do not own the trees growing on it

One last point to note is that the areas of land designated as different types of forest may not actually match the areas of land in a country that contain trees. For example, in many countries, areas designated as forest reserves are only partly covered with trees. In addition, when the total area of forest in various legally recognised ownership categories is calculated, this is often much less than the total area of forest in a country. Most of the country reports on forest revenue systems do not explain whether charges are collected from production in areas that are not formally designated as “forests”, nor do they explain whether charges are collected from the cutting of trees outside forests.

**Table 1 Areas of forest under different types of ownership or control**

Type of ownership or control	Area of forest	
	in '000 ha	in %
Public	33,129	9.67
Community	2,398	0.70
Private	121	0.04
Unspecified	307,040	89.60
<b>Total</b>	<b>342,688</b>	<b>100.00</b>

In general, most of the country reports on forest revenue systems are not very clear about which charges apply to each different type of forest. Nor are they very clear about the areas of forest in different ownership categories. For example, Table 1 compares the ownership information given in the country reports (for the 25 countries reviewed here) with the total forest area in these countries estimated in the Global Forest Resource Assessment (FAO, 2001). It

appears that only ten percent of the total forest area is formally classified as being owned or controlled by the state, communities or private sector.

If there is uncertainty in countries about the types of forest where charges will be collected, this will reduce the incentive for private individuals and communities to invest in forest management on their land and this could be one of the obstacles to improved forest management.

### **Forest charges by activity**

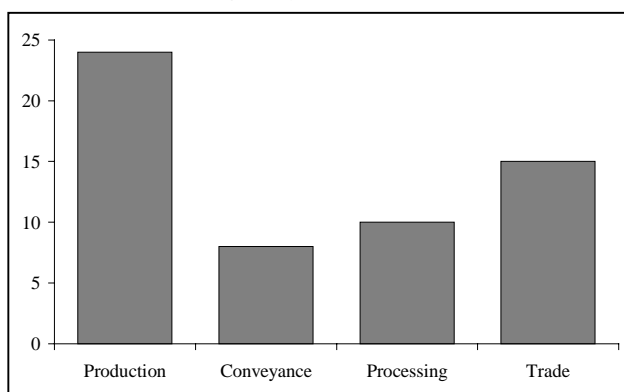
The production of most forest products involves several different stages, from the harvesting of raw materials in the forest to the sale of the finished product. Forest revenue can be collected at one or

more of the different stages during this process. This is a second way in which forest revenue systems currently vary considerably between different African countries.

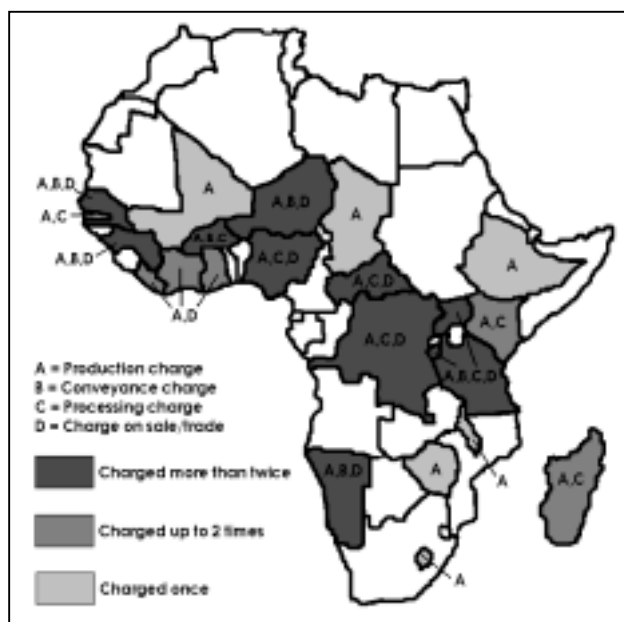
During the production process, the four main activities where forest charges are usually levied are as follows:

**Production or harvesting of raw materials.** The first stage in the production process is the production or harvesting of raw materials (i.e. roundwood or unprocessed NWFPs). All countries collect revenues from charges on production and these charges can be in the form of charges based on the volume or value of output, charges based on the areas of forest used or fixed charges that are collected when permits are issued to collect products for a fixed period of time.

**Figure 2 The number of countries collecting charges by different activities**



**Figure 3 The different charges collected in countries**



**Conveyance.** The next stage is the conveyance or movement of forest products to processing facilities or the market. Conveyance charges are usually levied on the movement of unprocessed products (e.g. firewood and industrial roundwood) although they may also be levied on processed products such as charcoal and sawnwood. Charges may be based on the volume or weight of products being moved or on the type of transport used.

**Processing.** A number of countries regulate the forest processing industry by issuing licences to produce certain products or to use certain types of machinery. Charges are sometimes collected when these licences are issued. Most of these charges are flat-rate monthly or annual charges and these charges are sometimes based on the capacity of the processing facility.

**Trade.** The last point where forest charges are sometimes collected is when finished products are either sold on the domestic market or exported. Many countries in Africa collect charges from trade in forest products. Again, charges are usually collected as part of a licensing system, but the types of charges used usually depends on whether the trade is domestic or international. Charges on domestic trade are usually collected as flat-rate charges by the week, month or year. Charges collected on international trade are usually based on the volume or value of products exported.

Figure 2 shows the number of countries collecting charges by each of the different activities. As the figure shows, all countries use production charges except the Seychelles (which do not really have a forest revenue system). The next most common type of charges are charges on trade, then charges on processing and conveyance. Figure 3 shows the charges (by activity) in countries. This figure shows that most countries collect charges at two or three different stages of the production process.

A few countries have very simple systems and just collect production charges (e.g. Lesotho), while three countries (Tanzania, Burundi and Uganda) collect charges at all four stages during the production process.

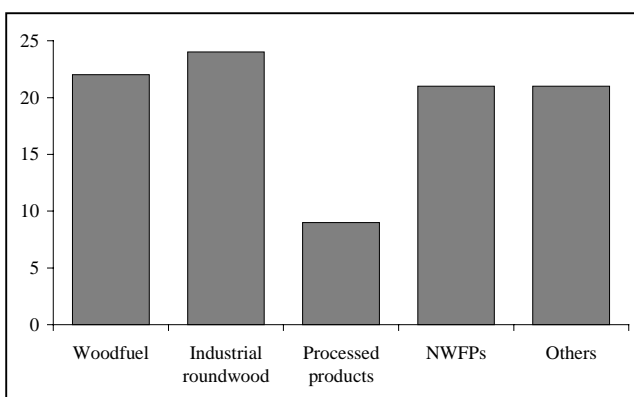
It should also be noted that the charges shown here are only those charges that are specific to the forestry sector. In addition to these, producers in most countries also have to pay a number of more general taxes and it is quite common for them to have to pay ten or more different taxes in total.

## Forest charges by type of product

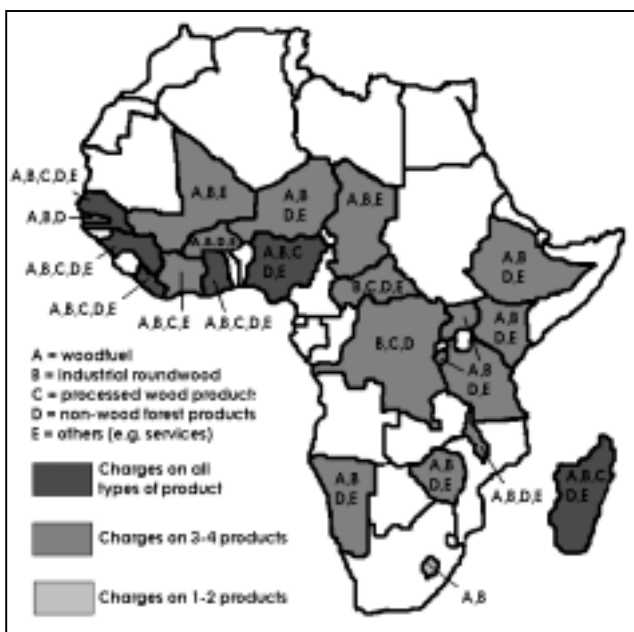
Broadly speaking, forest charges are collected on five different types of product:

**Woodfuel.** Most countries collect charges from the production and/or conveyance of woodfuel (i.e. fuelwood and charcoal). These charges are usually based on the volume or weight of woodfuel (sometimes, conveyance charges are based on the type of transport used). In a few countries, specific areas of forest are set-aside for woodfuel production and area-based charges are collected.

**Figure 4 The number of countries collecting charges by type of product**



**Figure 5 The number of products where charges are collected in countries**



**Industrial roundwood.** All countries collect charges from the production of industrial roundwood. Charges are usually based on the volume of production or number of trees cut, with the level of charges varying according to the species and/or quality of roundwood produced. Many countries with more developed forest concession systems (e.g. in West and Central Africa) also collect charges based on the area of concessions.

**Processed wood products.** In most of the countries where charges are collected on trade in forest products, these charges are applied to processed wood products (i.e. sawnwood and wood-based panels) as well as roundwood. These charges are usually based on the volume of trade, with charges varying according to the species and/or quality of product.

**Non-wood forest products.** Many countries collect charges on the production of non-wood forest products (NWFPs). In most cases, these charges are collected on just one or two products (often bamboo and rattan), but a few countries collect charges on a wide range of NWFPs (e.g. in some states in Nigeria). In countries where hunting is a major activity, charges per animal are often collected (e.g. in many of the Sahelian countries).

**Other products and services.** Many countries also collect charges on a number of other miscellaneous products and services. Examples include: charges for hunting licences; charges for ecotourism permits; and charges to take soil, stones and minerals from the forest.

In general, most countries in Africa collect charges from a full range of forest products and services (see Figures 4 and 5). However, there may still be scope to introduce some new charges, particularly for new and innovative types of forest services.

## ***Forest charges by type of producer***

The last major difference in the structure of forest revenue systems in countries is the way that they treat different types of producer. Broadly speaking, most national forestry policies seem to explicitly (or, sometimes, implicitly) make a distinction between commercial production and subsistence production (or production for the producers own use), particularly with reference to the production of NWFPs. These differences are usually reflected in the forest revenue systems in countries. A few countries also make some distinctions between different scales of production (i.e. large forest concessionaires as opposed to pitsawyers and smaller producers). These differences can be summarised as follows:

**Charges for commercial roundwood production.** Forest charges are collected from commercial roundwood production in all countries. In most countries, the levels of charges are the same, except in the following cases:

- DR Congo; Malawi; Uganda; Tanzania; and Zambia, all recognise pitsawing as a separate production activity and some forest charges are lower for pitsawyers.
- Senegal has a separate set of production charges for artisans, who are allowed to harvest certain types of wood for their activities.
- Some of the forest charges used in some states in Nigeria are varied by the scale of production.

**Charges for subsistence roundwood production.** Most countries are not very clear about whether forest charges should be collected on subsistence roundwood production. Central African Republic and DR Congo state explicitly that a small amount of roundwood may be used for personal use without the payment of any forest charges. A few other countries (e.g. Burundi; Ethiopia; Kenya and Lesotho) are also quite clear that roundwood production charges should be paid on all roundwood produced. In most other countries, it seems likely that subsistence production might be allowed, but that this is not clear in the laws and regulations describing forest revenue collection.

**Charges on the production of NWFPs.** About half of the countries in Africa state quite clearly that forest charges are only collected on the commercial production of NWFPs. In addition, in most of these countries, charges are only collected on the NWFPs that are mostly used commercially (e.g. bamboo and rattan as opposed to fruits, nuts and berries). In the other countries, it is unclear whether any distinction is made between NWFP production for commercial or subsistence use, although it seems likely that charges would not be collected on subsistence use of NWFPs.

## TRENDS IN FOREST CHARGES

In a few countries in Africa, forest charges are determined by market mechanisms or procedures based on market prices. However, in the majority of cases, forest charges are fixed using an administrative procedure (e.g. Ministerial Decree or Regulation). In the latter case, it is often difficult to revise forest charges regularly either because of the time that it takes to consider, agree and implement a new regulation or because external forces (e.g. the forest industry) attempt to slow down or stop the revision of forest charges.

**Figure 6 The number of countries reviewing or revising their forest charges over different time periods**

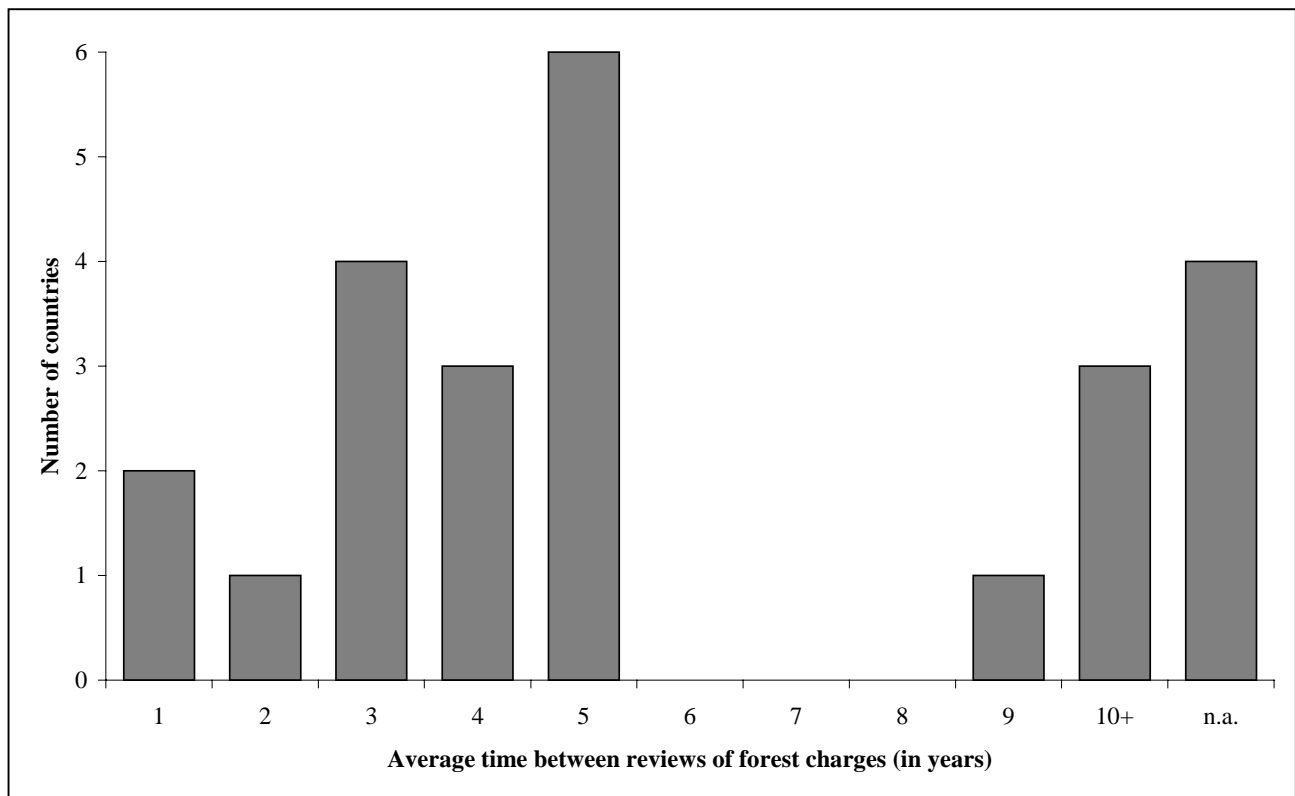
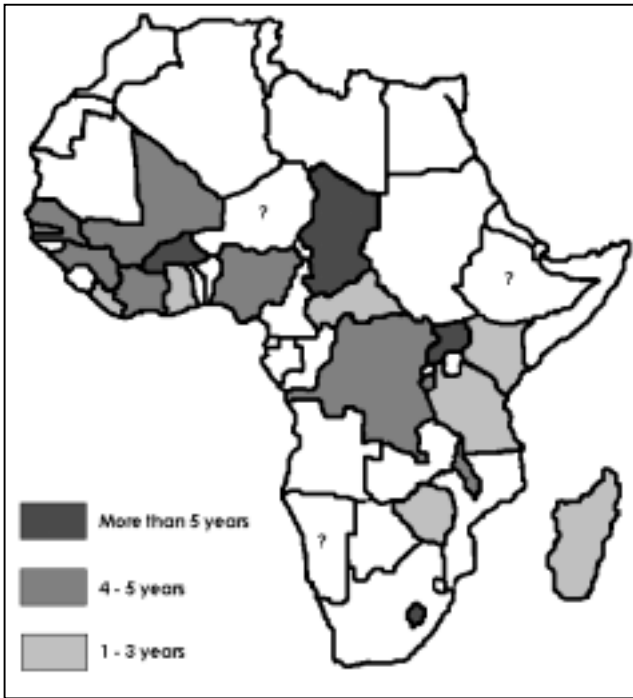


Figure 6 shows how regularly countries have revised their forest charges in recent years. This figure is based mainly on the revision of roundwood production charges. In some countries, if the revision of other charges (e.g. charges for NWFPs) is taken into account, then revisions have been more frequent. In addition, in some countries, forest charges are not revised very often, but new charges have been introduced in recent years. Where possible, these have been taken into account in this figure.

As the figure shows, a few countries revise their charges quite regularly (e.g. every one or two years). These tend to be the countries where forest charges are set using market mechanisms or are based on market prices in some way (e.g. Kenya, Madagascar, Zimbabwe). The majority of countries have revised their charges less frequently, with most countries revising their charges every three to five years on average. In a small minority of countries, forest charges have been revised very rarely. The average time between reviews of forest charges is also shown in Figure 7.



**Figure 7 The average number of years between reviews of forest charges**



In countries where inflation is quite high, the effect of infrequent revisions of forest charges is that the real level of forest charges falls over time as the fixed amounts specified in schedules of forest charges are eroded by inflation. Furthermore, when charges are revised, large increases are often required to compensate for these losses.

Information about trends in forest charges over the last ten years was available for 11 countries and is presented here. The rate of inflation in these countries has been quite high, between 4 percent and 10 percent per year in most countries. One exception is Liberia, which has had a relatively low level of inflation (an average of 2.7 percent over the period 1990 to 1999) due to the widespread use of the US\$ in this country. On the other hand, the average rates of inflation in Ghana, Kenya and Nigeria over the last ten years have been much higher, at 25 percent, 15 percent and nearly 40 percent respectively.

**Figure 8 Indicative trends in roundwood production charges from 1990 to 1999 in Guinea, Kenya, Lesotho, Burkina Faso and Côte d'Ivoire (in US\$ per cubic metre at 1999 prices and exchange rates)**

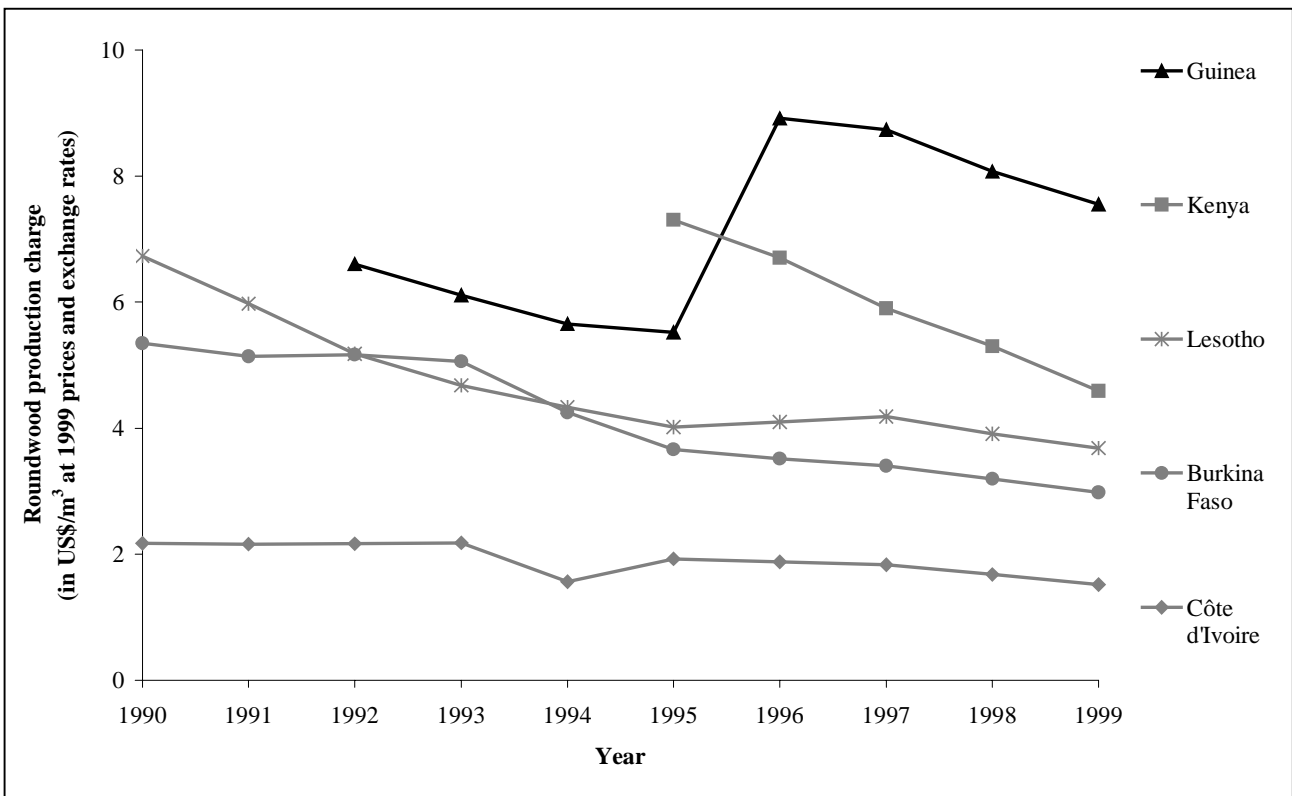


Figure 8 shows trends in roundwood production charges over the last ten years in a number of countries where roundwood production charges are less than US\$ 10 per cubic metre. For each country, these figures present the average level of roundwood production charges for the main species groups used for industrial roundwood production in the country. They have been adjusted for inflation by dividing the charge levels in each year by the GDP deflator for each country and then they have been converted to US\$ using the market exchange rate in 1999.

It should be noted that, in a number of cases, the total amount of charges collected from industrial roundwood production is higher than the figures shown here, because additional charges are also collected in the form of area-based charges or charges on international trade (e.g. in Côte d'Ivoire). However, in most cases, the trends in these other charges are more or less the same as the trends shown here.

The effect of inflation on the real level of forest charges is shown most clearly in Lesotho and Burkina Faso, neither of which have revised their forest charges during the period. In both countries, the real level of charges has fallen by almost 50 percent due to inflation. Roundwood production charges have increased slightly in Kenya and Côte d'Ivoire, but have not kept up with inflation (particularly in the case of Kenya, where inflation has been very high). Only in Guinea has the real level of forest charges increased over the period, due to the very large increase in forest charges implemented in 1995. However, even here, the effect of inflation can be seen and it will not be long before this increase is eroded if charges are not increased again.

**Figure 9** Indicative trends in roundwood production charges from 1990 to 1999 in Ethiopia, Gambia, Ghana, Liberia, Niger and Nigeria (in US\$ per cubic metre at 1999 prices and exchange rates)

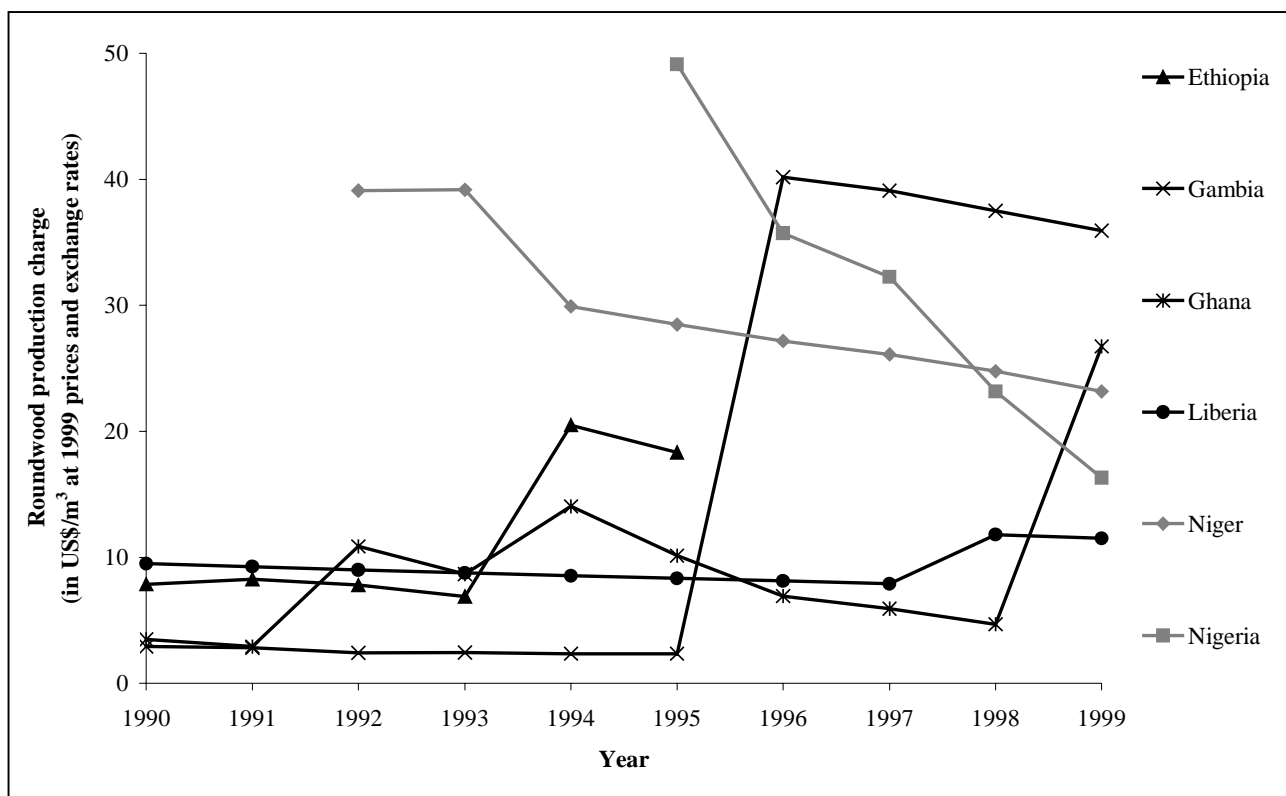


Figure 9 shows trends in roundwood production charges in countries where the average level of roundwood production charges is higher than US\$ 10 per cubic metre. In two countries, Niger and Nigeria, the real level of production charges has fallen because charges have not increased (Niger)

or have not increased enough to combat the effects of inflation (Nigeria). Again, the figure shows how increases in forest charges, when they are implemented, are often very large (e.g. Gambia in 1995 and Ghana in 1998). Roundwood production charges in Liberia have increased slightly in both absolute and real terms and, to some extent, the real value of forest charges has been maintained because these charges are set in US\$.

The figures for Ethiopia present, perhaps, the most interesting trend in forest charges. Forest charges in Ethiopia were revised in 1993 and, since 1995, individual states have been responsible for setting forest charges. Although it has not been possible to show more recent figures, because of the diversity of different charges now in place, Ethiopia has started to use competitive means of setting forest charges since 1995. For example, some states now use auctions to sell standing roundwood and use the prices established in the forest charge schedules as reserve prices for these auctions. In the states where these methods have been used, it is believed that the average level of forest charges collected has increased dramatically since 1995.

## **IMPLEMENTATION OF FOREST REVENUE SYSTEMS**

Two aspects of the implementation of forest revenue systems are most important and have been examined in this study. These are the processes used to set or fix the level of forest charges and the processes used to collect forest charges.

### ***Processes used to set the level of forest charges***

Countries in Africa use a number of different processes to determine the level of forest charges. Some countries set charges using market mechanisms or using calculations that are based on market information. These processes fall into three broad categories:

**Market-based charges.** A few countries use market mechanisms to determine forest charges. Market mechanisms include processes such as: auctions; sales by tender; and sales by negotiation. In many cases, these mechanisms are used for the sale of forest products from forest plantations. Countries using market-based charges include: Ethiopia; Zimbabwe; and Ghana. It is interesting to note that Ghana is considering using auctions to set some of the charges collected from forest concessions in the natural forest. Auctioning of forest concessions has also recently been introduced in Cameroon, although this development has attracted some criticism.

The main advantage of using market mechanisms to set forest charges is that they should, in theory, result in the highest possible price for the product. They should also reflect the conditions of each sale (e.g. quality of timber, accessibility, market conditions) without having to resort to complicated systems of charges that try to account for all of these variables. The main disadvantage of using market mechanisms is that they will only work where there is genuine competition in the market. If there is only a small number of buyers or buyers collude, they can act together to offer only low prices. Another challenge is that market mechanisms only tend to work well where the product being sold and the conditions of the sale are clearly identified and understood. This is why they tend to work well in forest plantations, but may be more difficult to use for selling products from the natural forest.

**Charges based on residual value.** Residual valuation or stumpage valuation is a method of estimating the value of standing trees, by subtracting all of the harvesting, extraction and processing costs from the value of forest products (i.e. roundwood or, in some cases, forest products such as sawnwood and wood-based panels). Many countries in the World base their forest charges on calculations of residual value and countries in Africa that have used this approach include: Ethiopia; Madagascar; and Uganda.

The advantage of the residual value approach is that it is also based on market information, but can be used in situations where it would be difficult to use market mechanisms completely. The disadvantages of the approach are that it requires a lot of information to calculate residual value, much of which has to come from producers (who may not be willing to co-operate). In addition, residual values should also vary with every sale, which can lead to very complicated schedules of charges if the forestry administration tries to accommodate every variation in circumstances in their charges.

**Charges based on replacement cost.** Another approach to setting forest charges is to try to calculate the cost of replacing the forest resources removed or damaged by producers. This approach is also based on market information (although, in this case, it is only information about costs rather than information about costs and prices). Countries that have used this approach include: Ethiopia; Kenya; and Malawi. Again, this approach has been mostly used to determine charges in forest plantations, where replacement costs can be calculated more easily.

The advantages and disadvantages of the replacement cost approach are more or less the same as for the residual value approach. It may, however, be a useful method to use for setting minimum prices in combination with market-based mechanisms (e.g. to set reserve prices in roundwood auctions).

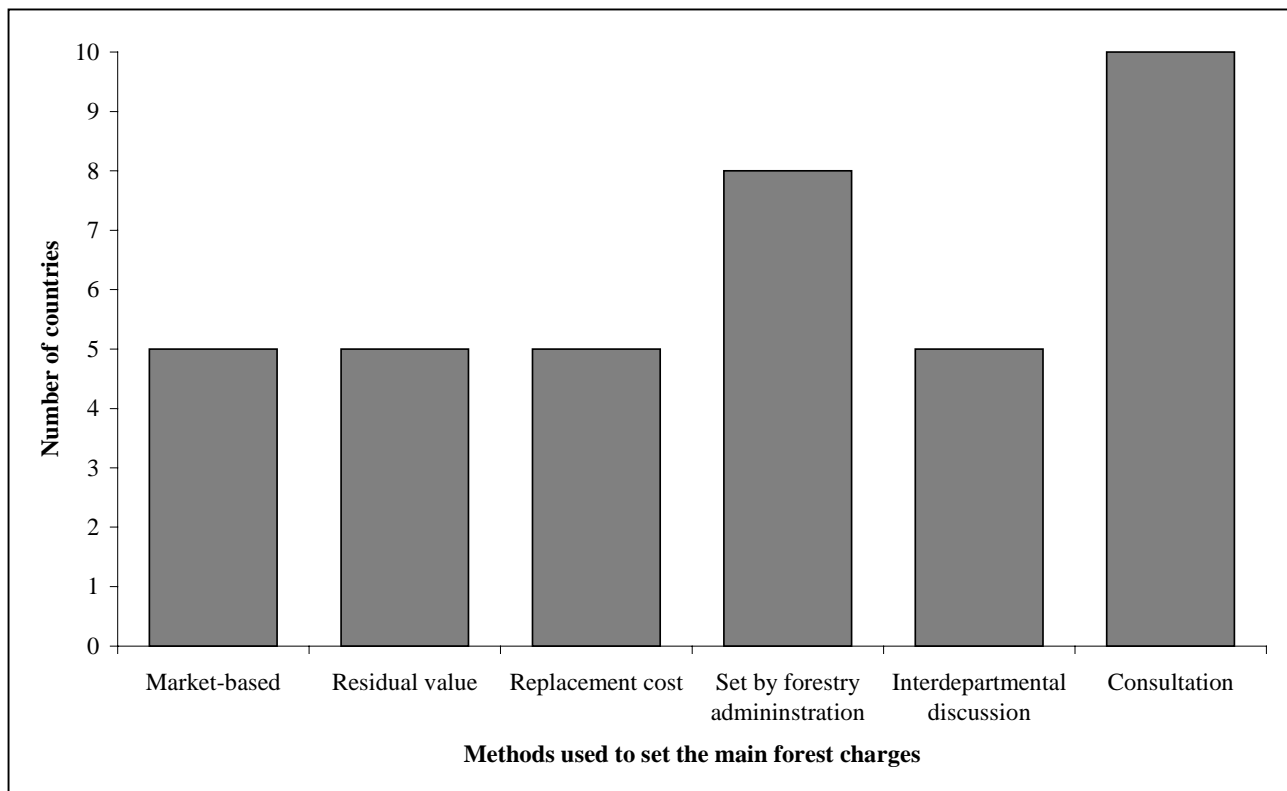
The other main way that forest charges are determined in countries is what can be broadly described as “consultation”. When setting forest charges, countries seem to consult at three different levels:

- **Consultation within the forestry administration.** In a number of countries, forest charges are discussed at a technical level within the forestry administration before they are passed to Ministers for approval.
- **Interdepartmental consultation.** In a few cases, broader consultation is carried-out within government as part of the process of setting forest charges. Some countries have specific committees or procedures for this process (e.g. Liberia).
- **Broader consultation.** In many countries, forest charges are discussed at a broader level between the forestry administration and other stakeholders (e.g. staff of other ministries, the forest industry).

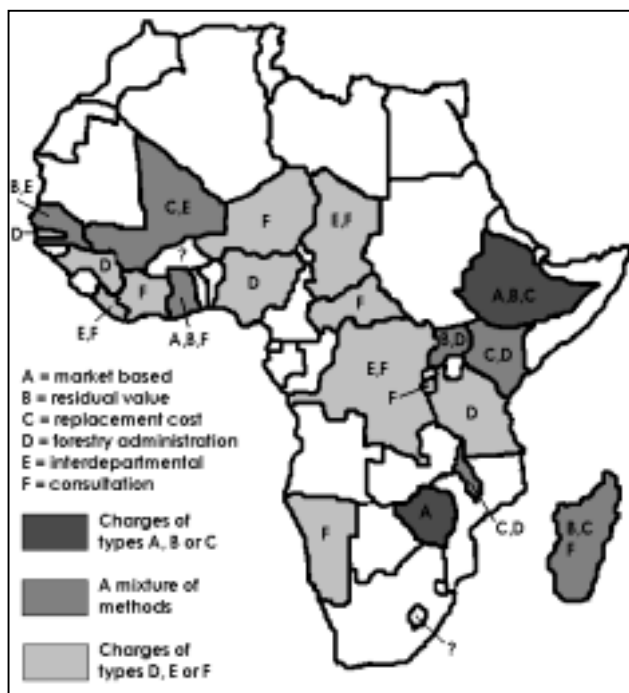
To a certain extent, all countries consult with others as part of the process of setting forest charges (including the countries using procedures based on market information or market mechanisms). However, in a number of cases, the consultation procedure is a major part of the process of setting forest charges and, where this is the case, this has been indicated in the analysis below.

The number of countries using each of the six different methods to determine forest charges is shown in Figure 10. Many countries use (or have used in the past) more than one method and, in these cases, all of the methods used in a country have been included in this figure. In addition, two countries (Burkina Faso and Lesotho) have not revised their forest charges for a very long time, so it was not possible to describe the processes used to set their forest charges.

**Figure 10** The number of countries in Africa using each of the six different methods to determine forest charges



**Figure 11** The different processes used in countries to set forest charges

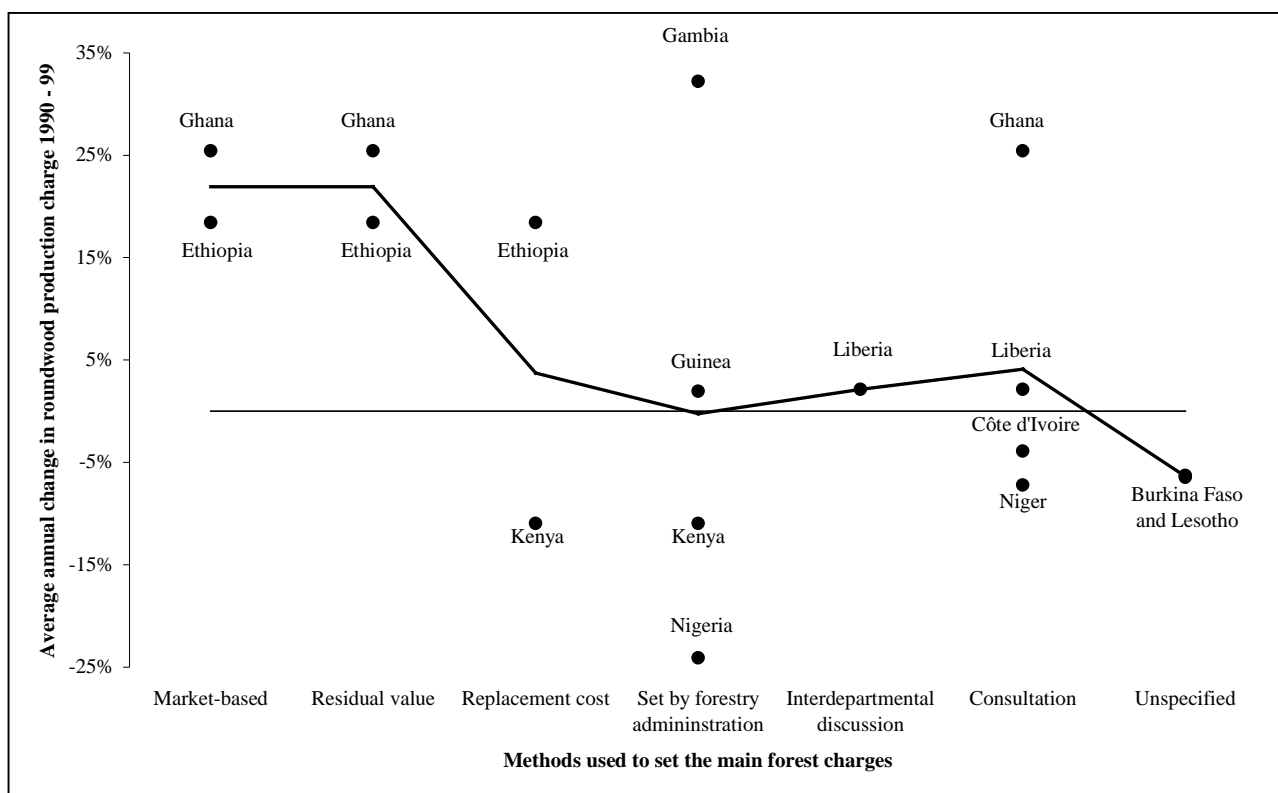


As the figure shows, the most common process used to set forest charges is some form of consultation (and, in many countries, this is the only process used). Although it appears that the first three methodologies are also quite common, the number of countries using them is actually quite small because several countries have used more than one of these approaches (see Figure 11).

It is also important to note that many countries use market-based mechanisms (usually auctions and negotiated sales) to sell forest products that have been seized (e.g. where they have been produced illegally). These cases are not included in the figure above. To some extent, this is probably because such sales meet many of the conditions already described above (e.g. many buyers, clearly identified products). However, it is interesting that many countries are prepared to sell seized products in this way, but appear reluctant to consider using market-based forest charges more generally.

On the basis of the information collected from countries, there is some weak evidence to support the hypothesis that forestry administrations will be more successful at increasing forest charges if they use some sort of methodology based on market prices (i.e. one of the first three methodologies described above). This evidence is presented in Figure 12. For the 11 countries where the recent history of forest charges is available, this figure compares the average annual increase in forest charges (adjusted for inflation) with the methodologies used to determine forest charges. The bold line through these points represents the average increase for all of the countries using each methodology. As this figure shows, the average real increase in forest charges over the last 10 years appears to be higher in the countries using one or more of the first three methodologies than in the countries using consultation to determine forest charges.

**Figure 12 A comparison of historical trends in real forest charges (1990 -1999) and the methodology used to determine forest charges**



### ***Processes used to collect forest charges and monitor charge collection***

In general, the processes used to collect forest charges are, more or less, the same in most African countries. These are broadly summarised below:

**Charges for roundwood from forest plantation.** Most countries with significant forest plantation resources (e.g. Kenya, Lesotho, Malawi, Zimbabwe) have well-established and detailed procedures for collecting charges. These usually begin with forestry administration staff marking and measuring (or tariffing) the trees that will be cut. These staff then monitor the harvesting operations to verify that the correct trees have been cut and that the production records are correct. They may also put an official stamp on the roundwood produced after it is cut. Charges are usually paid on the basis of the volume of production or number of trees cut, with charges varying by species, tree size and/or quality. Charges are often collected in advance (i.e. after marking and measuring but before

production), but may also be paid in stages as areas are cut. A number of countries mentioned weaknesses in this process, particularly where poorly paid staff are in charge of monitoring large volumes of production worth large amounts of money.

**Area-based charges.** A number of countries collect charges based on the area of forest concessions. These charges account for a significant share of total forest charge collection, particularly in countries with relatively well-developed forest concession arrangements (e.g. many countries in West Africa). These charges are sometimes collected once at the start of a licence period or, more often, they are collected every year. Area-based charges are nearly always collected at the start of the licence period or start of the year and are usually collected at the central level of the forestry administration. These charges are very difficult to evade and usually provide a relatively reliable source of revenue for the forestry administration, although a few countries did note problems with producers getting into arrears with their payments.

**Volume-based charges for industrial roundwood production.** All countries collect some sort of volume-based charges on the production of industrial roundwood. These charges are usually based on the volume of production but may, in some cases, be based on the number of trees cut. In contrast to the production of roundwood from forest plantations, most countries do not measure or estimate the volume of production before harvesting, but rely on the monitoring of production (either at the forest site or during the movement of roundwood) in order to estimate the total amount of charges that should be paid. Apart from this, the procedures followed are generally the same as described above for forest plantations. Producers record total production volume by species and/or grade and field staff from the forestry administration check these figures during site inspections or at roadblocks. Roundwood is usually marked with an official stamp to signify that production has been checked and verified. In some cases, producers mark the roundwood themselves with their own property hammer (and additional charges are collected on the registration of property hammers). Again, the main problems noted by countries were the lack of resources to effectively control and monitor production and the opportunities for fraud when field staff are poorly paid.

**Charges on woodfuel and NWFP production.** Most countries use one of two types of charges on woodfuel and NWFP production. Some countries use charges based on the volume or weight of production (particularly in the case of woodfuel or more valuable NWFPs such as rattan and bamboo). Others issue permits to produce these products from a certain area for a specified time period and collect flat-rate charges when they issue these permits. Because it is quite difficult to mark these products to indicate that charges have been paid, countries use a range of measures (e.g. coupons, movement licences and permits) to identify that charges have been paid. This paperwork must be presented if staff of the forestry administration carry out an inspection of production or checks at roadblocks or in the market. One of the most common problems with monitoring this production is the cost of collecting these charges and monitoring production compared to the amounts of revenue collected. Although the production of these products accounts for the majority of production in some countries, it is often simply not cost-effective to try to collect these charges on a large scale. Therefore, in many countries, much of this production is not recorded and the effectiveness of charge collection is generally low.

The text above has described the procedures used to collect charges and monitor production in the field in most countries. In addition to these procedures, most countries also have systems to record production and revenue collection at the central level of the administration and audit or inspect field offices to check for fraud and maladministration. In most cases, these systems are weak due to the lack of resources noted above. However, on a more positive note, some countries (particularly some of the Sahelian countries) indicated that they had developed innovative approaches to try to

improve revenue collection and production monitoring. Two examples of such approaches are as follows:

- **Incentives for field staff.** In a few countries, a proportion of the revenue collected from fines and the sales of illegal forest products are shared amongst the staff carrying-out monitoring activities and inspections.
- **Revenue collection with communities.** Many of these countries also have mechanisms whereby local communities monitor production and collect revenues (or assist with revenue collection) on behalf of the forestry administration. The communities then benefit by being given a share of the revenue collected.

Little information is available about how successful these schemes are although, in a few cases, countries reported that these procedures have improved monitoring and resulted in an increase in total revenue collection. Certainly, given the lack of resources in many forestry administrations in Africa, it would seem likely that such developments should be an improvement over the current situation, particularly in cases where there are large numbers of small producers that the forestry administration can not possibly hope to cover.



## TOTAL FOREST REVENUE COLLECTION

Table 2 below shows the trends in total forest revenue collection in selected African countries up until 1999. The figures are presented here as average annual increases in revenue collection although, in many countries, revenue collection has increased suddenly over the period in one or two years (e.g. Guinea in 1998).

**Table 2 Trends in total forest revenue collection in selected African countries**

Country and time period		Average annual increase in total forest revenue collection		
		In local currency		In US\$ at current prices and exchange rates
		at current prices	at real prices	
Burkina Faso	1993-99	+38%	+26%	+21%
Burundi	1993-99	+28%	+12%	+11%
Central African Republic	1996-00	+43%	+35%	+35%
Chad	1994-00	+29%	+19%	+26%
DR Congo	1996-00	0%	n.a.	0%
Côte d'Ivoire	1990-99	+7%	-2%	-2%
Ethiopia	1991-99	+11%	+3%	-6%
Gambia	1995-00	+26%	+21%	+18%
Ghana	1990-99	+37%	+8%	+9%
Guinea	1994-00	+177%	+164%	+135%
Kenya	1993-99	-8%	-20%	-11%
Madagascar	1997-00	+29%	+6%	+17%
Malawi	1990-99	+21%	-8%	-11%
Mali	1990-99	-5%	-12%	-13%
Mauritius	1996-99	+7%	-2%	-5%
Namibia	1993-99	-13%	-22%	-21%
Niger	1992-99	+11%	+3%	-1%
Nigeria	1991-99	+11%	-22%	-16%
Senegal	1990-99	0%	-6%	-9%
Uganda	1995-99	+57%	+39%	+42%
United Republic of Tanzania	1990-99	+42%	+4%	+29%
Zimbabwe	1995-00	+33%	+3%	-12%

*Source: country reports. Note: the figures for Ethiopia are an underestimate because the most recent figures on total revenue collection in Ethiopia only include some states, while the earlier figures are for the country as a whole. It is believed that the trend in total revenue collection is higher than the figures presented here suggest.*

Despite the fact that, in most countries, the levels of forest charges have not increased by much over the last ten years, this table shows that total forest revenue collection has increased in nearly all countries. It is not known how much of this is due to increased levels of charges, increased levels of production, or improvements in charge collection, but it is likely that all three factors have contributed to these trends to some extent.

As the table shows, before adjusting for inflation, total forest revenue collection has fallen in only two countries (Kenya and Namibia). Even after adjusting for inflation (i.e. in real terms), total forest revenue collection has only fallen in eight countries over the period. The last column in the table shows that the US\$ value of total forest revenue collection has fallen in 11 countries (largely due to the devaluation of many African currencies). However, this is not particularly significant except in countries where large volumes of forest products are exported to countries outside of Africa.

**Figure 13** Recent trends in total real forest revenue collection in countries

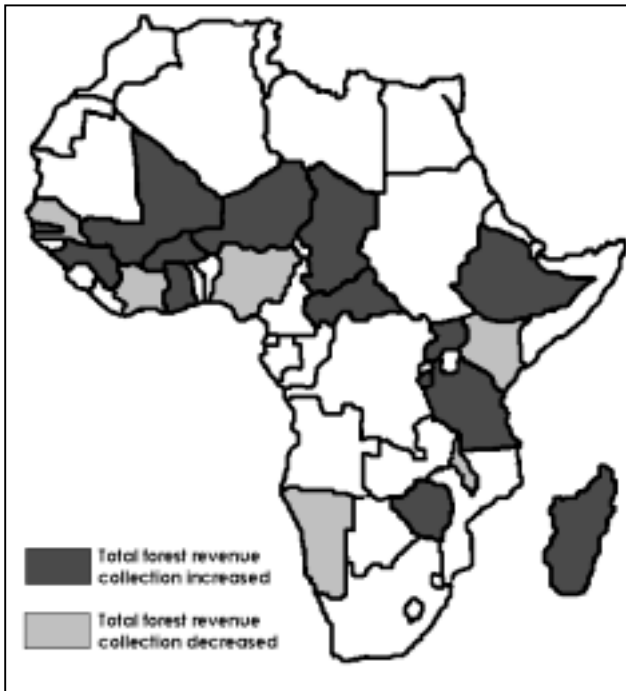
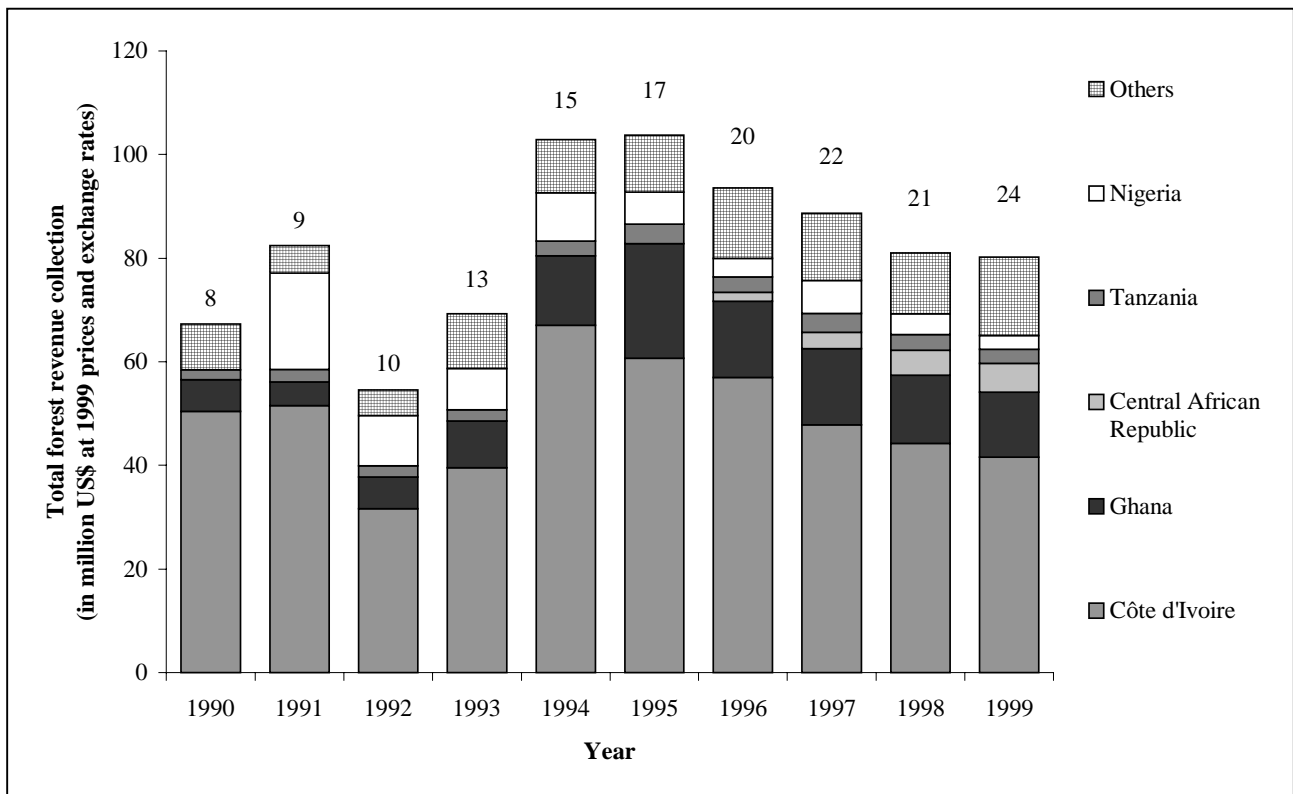


Figure 13 shows the countries where total forest revenue collection has increased or decreased (in real terms) in recent years. It may be possible to explain the differences between countries in terms of their forest resources and market structures, but it seems likely that a number of other factors may account for these differences.

The trend in total real forest revenue collection for all of the countries included in this analysis is given in Figure 14. In order to calculate these totals, the total amount of forest revenue collected in each country has been adjusted for inflation (i.e. converted to 1999 price levels) and converted to US\$ at 1999 exchange rates. The numbers given at the top of each bar in this figure represent the number of countries included in the total in each year. Many countries did not provide statistics on total revenue collection for the whole of the period, but the total amount of forest revenue collected in most of these countries is relatively small, so they have not distorted the trend very much.

**Figure 14** The trend in total real forest revenue collection in selected African countries



This figure shows several interesting features:

- The majority of forest revenue collected in Africa is collected in a few countries. Nearly 75% of the total given here is collected in Côte d'Ivoire, Ghana and Central African Republic. These countries are all in West and Central Africa and have relatively large forest product export industries. Nigeria, Liberia, Senegal and DR Congo also account for a significant share of the total and it seems likely that other similar countries not included in this analysis (e.g. Cameroon and Gabon) would have similarly high levels of total forest revenue collection.
- With the exception of Ethiopia, Kenya and Tanzania, all of the other countries analysed here in Eastern and Southern Africa collect less than US\$ 1 million each year in forest revenue. Indeed, in many countries, total forest revenue collection is only a few hundred thousand US dollars and, in a number of cases, it can be measured in the tens of thousands of US dollars. Similarly low levels of total forest revenue collection are also recorded in most of the Sahelian countries.
- For the countries examined here, the trend in total real forest revenue collection shows an increase from under US\$ 70 million in 1990 to a peak of over US\$ 100 million in 1995. Since 1995, this has fallen to around US\$ 80 million. However, much of this trend reflects changes in forest revenue collection in Côte d'Ivoire. Excluding this country, total real forest revenue collection in the other countries has increased from US\$ 17 Million to just under US\$ 40 million per year. This increase reflects the average annual increases in total forest revenue collection already described above in Table 2.

One final way to examine these figures is to calculate the average amount of forest revenue collected per cubic metre of roundwood produced. There are difficulties with this calculation, particularly with respect to the amount of woodfuel produced each year, which is often unrecorded or estimated in official statistics. However, an estimate of revenue collection per country should take into account the different levels of production in different countries. This should make it easier to make more reliable comparisons of revenue collection between countries with similar market structures.

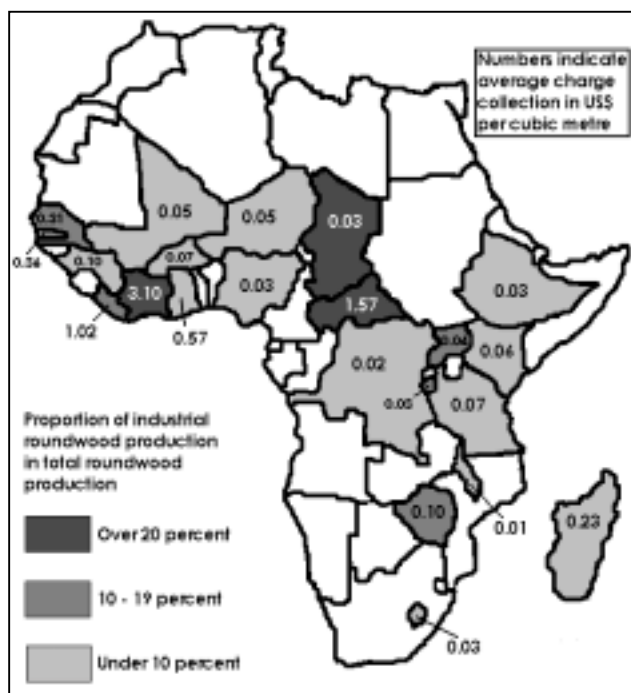
Total forest revenue collection per cubic metre of wood produced is shown in Table 3. The figures in this table have been produced by taking the figures for total forest revenue collection supplied by countries and dividing them by total roundwood production (and industrial roundwood production) as recorded in the FAO Yearbook of Forest Products. The last two columns show the total revenue collected in US\$ per cubic metre at 1999 prices and exchange rates. The first of these shows total revenue collection per cubic metre of total roundwood produced and the last column shows total revenue collection per cubic metre of industrial roundwood produced.

A high proportion of total roundwood production is woodfuel production and, in most cases, these figures are estimated by FAO. In addition, revenue collection from woodfuel production in most countries only accounts for a small proportion of total revenue collection. Therefore, the figures in the last column might give a better indication of the relative levels of charges in different countries. However, on the other hand, woodfuel production is a significant use of forest resources in all countries, so the figures in the previous column give a better indication of the average levels of revenue collection measured in terms of the use of the forest resource.

**Table 3 Total forest revenue collection in selected African countries in 1999**

Country	Estimated production in 1999 (m <sup>3</sup> )			Average charge collection (US\$/m <sup>3</sup> )	
	Total roundwood	Industrial roundwood		Total roundwood	Industrial roundwood
Burkina Faso	11,095,000	514,000	5%	0.07	1.52
Burundi	1,799,000	289,000	16%	0.03	0.17
Central African Republic	3,548,000	861,000	24%	1.57	6.46
Chad	1,969,000	761,000	39%	0.03	0.08
DR Congo	50,754,000	3,727,000	7%	0.02	0.22
Côte d'Ivoire	13,396,000	3,093,000	23%	3.10	13.44
Ethiopia	88,239,468	2,454,300	3%	0.03	0.93
Gambia	617,700	112,700	18%	0.36	2.00
Ghana	21,907,000	1,229,000	6%	0.57	10.22
Guinea	8,651,000	651,000	8%	0.10	1.39
Kenya	29,908,000	1,977,000	7%	0.06	0.93
Lesotho	1,594,000	0	0%	0.03	n.a.
Liberia	3,037,000	337,000	11%	1.02	9.20
Madagascar	10,359,000	115,000	1%	0.26	23.78
Malawi	9,964,000	520,000	5%	0.01	0.21
Mali	6,596,900	412,900	6%	0.05	0.78
Mauritius	25,000	13,000	52%	30.81	59.24
Niger	6,666,000	411,000	6%	0.05	0.85
Nigeria	100,637,000	9,418,000	9%	0.03	0.27
Senegal	5,037,000	794,000	16%	0.31	1.99
Uganda	16,998,000	3,175,000	19%	0.04	0.24
United Republic of Tanzania	39,846,000	2,254,000	6%	0.07	1.23
Zimbabwe	9,252,600	1,081,400	12%	0.10	0.84
<b>Total</b>	<b>441,896,668</b>	<b>34,200,300</b>	<b>8%</b>	<b>0.19</b>	<b>2.42</b>

**Figure 15 Average revenue collection per cubic metre in 1999**



For the countries included in this analysis, the above table shows that the average level of revenue collected per cubic metre of roundwood produced is only US\$ 0.19/m<sup>3</sup>. However, this figure is somewhat distorted by Côte d'Ivoire, which accounts for almost half of all revenue collection in these countries. Excluding this country, revenue collection is only about US\$ 0.10/m<sup>3</sup>. In terms of industrial roundwood production, the average level of revenue collection is US\$ 2.42/m<sup>3</sup> (or just under half this amount if Côte d'Ivoire is excluded).

The average level of revenue collected per cubic metre of total roundwood produced in each country is also shown in Figure 15. The countries shown in darker shades of grey are countries where industrial roundwood accounts for a greater share of total roundwood production. As would be expected, these countries generally have higher levels of revenue collection per cubic metre of production.

This figure also shows that West African countries have generally higher levels of revenue collection than elsewhere and that collection is generally lower in countries without a coastline.

## GOVERNMENT EXPENDITURE ON FORESTRY: TRENDS AND CURRENT STATUS

Table 4 below shows the trends in total government expenditure on forestry in selected African countries up until 1999. These figures include expenditure supported by foreign assistance. Again, the figures are presented here as average annual increases.

Compared with the information about total revenue collection, fewer countries were able to provide a complete set of historical statistics on expenditure from all sources. In addition, many countries could only provide this information for a more limited number of years. Therefore, only a limited number of countries are presented here and the trends shown are for shorter time periods in most cases.

It is interesting to note that, in many cases, countries could provide historical information about foreign assistance to the sector, but were unable to provide much information about expenditure from domestic resources.

**Table 4 Trends in government expenditure on forestry in selected African countries**

Country and time period		Average annual increase in expenditure on forestry		
		In local currency		In US\$ at current prices and exchange rates
		at current prices	at real prices	
Burkina Faso	1996-99	-6%	-11%	-12%
Burundi	1990-00	+4%	-5%	-6%
Central African Republic	1996-00	+8%	-11%	-10%
Chad	1991-00	+10%	+1%	0%
Côte d'Ivoire	1990-99	+5%	-4%	-4%
Ethiopia	1997-99	+3%	-5%	-4%
Gambia	1995-00	+1%	-3%	-5%
Ghana	1990-99	+37%	+8%	+8%
Kenya	1995-00	-7%	-18%	-15%
Malawi	1990-99	+26%	-4%	-7%
Mali	1992-99	+16%	+6%	+3%
Mauritius	1996-00	+6%	-3%	-4%
Niger	1991-99	+8%	+1%	-2%
Nigeria	1993-99	+16%	-18%	-9%
Senegal	1990-99	+6%	0%	-3%
Zimbabwe	1996-00	+59%	+25%	-2%

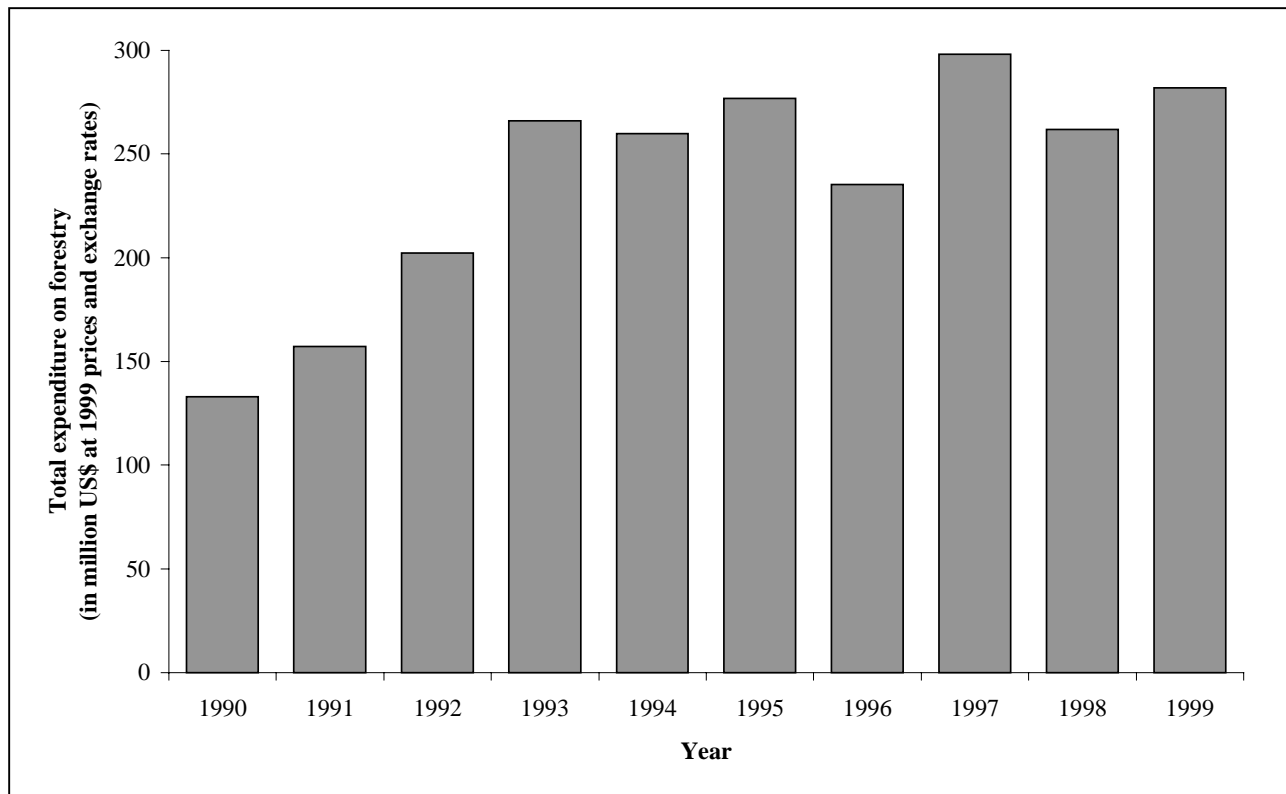
Source: country reports. Note: the figures for Ethiopia are an underestimate because the most recent figures on expenditure in Ethiopia only include some states. The trend in total revenue collection may be higher than the figures presented here. The figures for Central African Republic, Ghana and Malawi exclude expenditure by foreign donors. The figures for Nigeria include estimates of spending on forestry by state forest administrations, based on the country report plus information about state budgets in Nigeria (from the IMF).

This table shows that total government expenditure on forestry has increased in nearly all countries in recent years. Indeed, before adjusting for inflation, total expenditure has fallen in only two countries: Burkina Faso and Kenya. However, in most cases, expenditure has not increased by very much and has failed to keep up with inflation. After adjusting for inflation (i.e. in real terms), total expenditure has increased in only five countries in recent years.

The trend in total government expenditure on forestry for all of the countries included in this analysis is given in Figure 16. Again, the amounts included in this figure have been adjusted for inflation (i.e. converted to 1999 price levels) and converted to US\$ at 1999 exchange rates. However, this figure includes all of the information about expenditure presented by countries,

including amounts from the years when only partial information was available. This accounts for the apparent increase from 1990 to 1995. Most countries have presented complete or almost complete information for the last five years and this figure shows that, over this period, expenditure has not increased in real terms.

**Figure 16 The trend in total government expenditure on forestry in selected African countries**

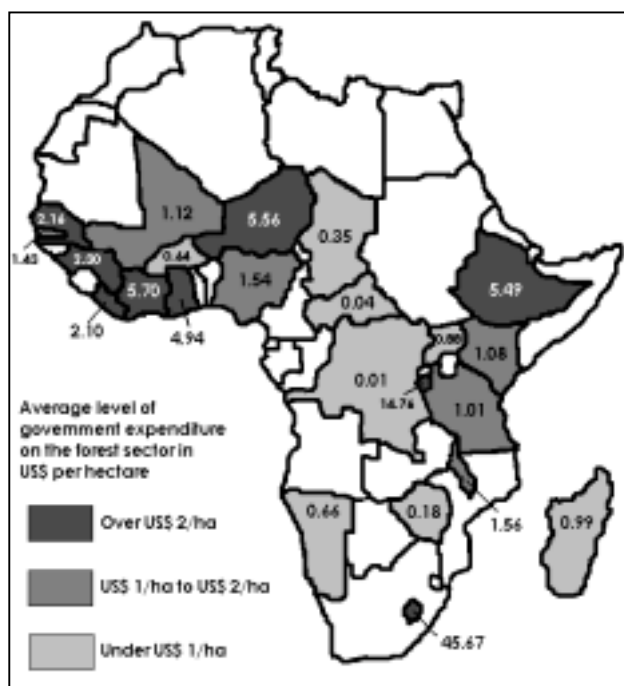


In the countries included in this analysis, total expenditure on forestry since 1995 has been around US\$ 275 million per year. However, as in the case of revenue collection, a few countries account for a significant share of this total. Total annual expenditure on forestry is highest in Côte d'Ivoire, Tanzania and Ghana (US\$ 41 million, US\$ 39 million and US\$ 31 million respectively in 1999). In addition to these countries, the other countries spending more than US\$ 10 million per year on the forestry sector are: Ethiopia; Guinea; Kenya; Madagascar; Mali; Nigeria; and Senegal. However, it should be noted that these figures include foreign assistance to the sector. As will be shown later, in many cases this accounts for a huge proportion of expenditure.

**Table 5 Government expenditure per hectare on the forestry sector in Africa**

Country	Forest area (000 ha)	Total government expenditure (US\$ 000)	Government expenditure (US\$/ha)
Burkina Faso	7,089	4,530	0.64
Burundi	94	1,391	14.76
Central African Republic	22,907	1,030	0.04
Chad	12,692	4,431	0.35
DR Congo	135,207	1,277	0.01
Côte d'Ivoire	7,117	40,538	5.70
Ethiopia	4,593	25,209	5.49
Gambia	481	686	1.43
Ghana	6,335	31,294	4.94
Guinea	6,929	15,913	2.30
Kenya	17,096	18,461	1.08
Lesotho	14	639	45.67
Liberia	3,481	7,317	2.10
Madagascar	11,727	11,641	0.99
Malawi	2,562	3,992	1.56
Mali	13,186	14,726	1.12
Mauritius	16	5,603	350.19
Namibia	8,040	5,335	0.66
Niger	1,328	7,385	5.56
Nigeria	13,517	20,821	1.54
Senegal	6,205	13,413	2.16
Uganda	4,190	3,668	0.88
United Republic of Tanzania	38,811	39,340	1.01
Zimbabwe	19,040	3,386	0.18
<b>Total</b>	<b>342,658</b>	<b>282,025</b>	<b>0.82</b>

**Figure 17 Average government expenditure per hectare on forestry in 1999**



Total expenditure per hectare has been calculated by taking the statistics on expenditure in 1999 and dividing them by the total forest area reported in the Global Forest Resource Assessment 2000. These figures are shown in Table 5 and Figure 17. These figures show the generally low levels of expenditure on forestry in Africa. To a large extent, the variation between countries can be explained by how much foreign assistance has been given (or lent) to different countries. Therefore, these figures do not accurately reflect the priority given to forestry in different countries, but are more a reflection of how well they succeed in attracting donor funding.

## **SOURCES OF FUNDING FOR GOVERNMENT EXPENDITURE ON FORESTRY**

There are two main sources of funding for government expenditure on the forestry sector: external funding and domestic funding. Most countries provided information about funding from both sources.

External funding includes grants and loans from international agencies and development banks, bilateral development agencies and other international organisations such as charities and NGOs. It is difficult to identify exactly how much external funding is used to support the forestry sector, because funding programmes and projects are often quite broad. For example, many projects cover subjects such as environment and rural development, where forestry might only be one part of the overall package. The information presented by countries only included projects where it was felt that forestry was a major component. However, it should be noted that some of this money might not be spent on the forestry sector.

Most countries presented this information in the form of a long list of donor funded projects, although a few countries presented information about total external funding. In a few of the very poorest countries, external support is also given directly to the ministry of finance to support general government expenditure and, in countries where this occurs, this was included in the analysis.

Domestic funding includes expenditure by government forestry administrations, which can include national, state and local administrations. Most countries only presented information about expenditure by national institutions, except in a few countries that have decentralised forms of government (e.g. Ethiopia and Nigeria). Many countries have forest funds, with varying degrees of autonomy in the way that they are managed and controlled. In such cases, most countries were able to provide information about expenditure from such funds. In addition, a few countries were able to present information about expenditure on forestry by government institutions working in other sectors.

Again, it should be noted that in many countries the forestry administration is only part of a larger ministry or government department. Some countries were not able to identify separately the money spent on the forestry administration, so these figures might be slightly overestimated.



For the countries included in this analysis, the total amount of government expenditure on the forestry sector in 1999 is shown in Table 6. This table also shows the amount of external funding to the forestry sector in total and as a proportion of total expenditure.

**Table 6 Sources of government expenditure on the forestry sector in selected African countries in 1999**

Country	Expenditure on the forestry sector (in US\$ '000)		External funding as a proportion of total expenditure
	Total expenditure	External funding	
Burkina Faso	4,530	2,328	51%
Burundi	1,391	1,198	86%
Central African Republic	1,030	n.a.	n.a.
Chad	4,431	3,960	89%
DR Congo	1,277	0	0%
Côte d'Ivoire	40,538	7,566	19%
Ethiopia	25,209	3,865	15%
Gambia	686	445	65%
Ghana	31,294	n.a.	n.a.
Guinea	15,913	8,551	54%
Kenya	18,461	1,054	6%
Lesotho	639	119	19%
Liberia	7,317	0	0%
Madagascar	11,641	7,255	62%
Malawi	3,992	n.a.	n.a.
Mali	14,726	9,896	67%
Mauritius	5,603	0	0%
Namibia	5,335	2,787	52%
Niger	7,385	6,612	90%
Nigeria	20,821	8,241	40%
Senegal	13,413	444	3%
Uganda	3,668	2,386	65%
United Republic of Tanzania	39,340	31,773	81%
Zimbabwe	3,386	1,254	37%
<b>Total</b>	<b>282,025</b>	<b>99,735</b>	<b>35%</b>

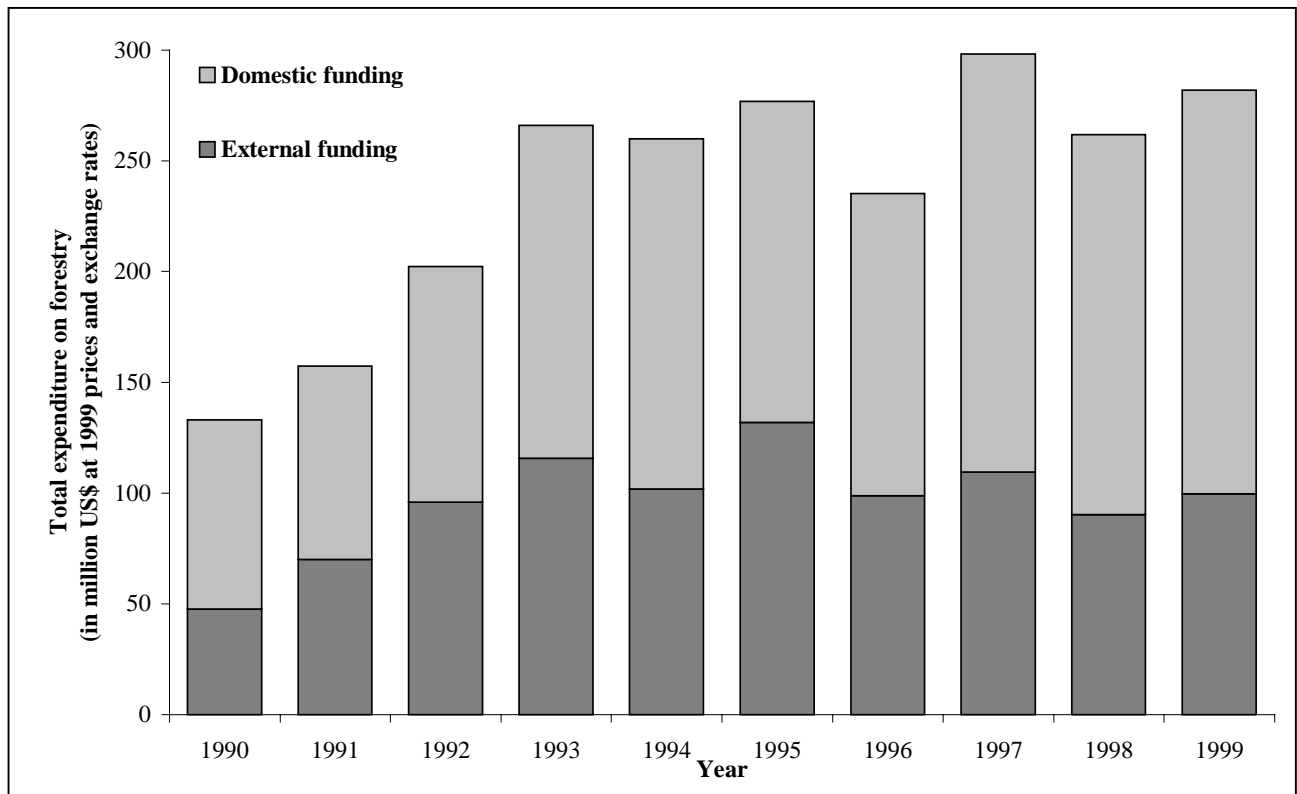
This table shows the large variation in external funding between different countries in Africa. Based on this information, it would appear that countries tend to fall into three categories:

- Some countries have relatively large, well-developed forestry sectors, high levels of government expenditure on forestry and relatively low levels of external support. These tend to be the countries where revenue collection is also quite high (e.g. Côte d'Ivoire, Central African Republic and Ethiopia).
- Some countries also have quite high levels of government expenditure, but much higher levels of external support as well (e.g. Madagascar, Mali and Tanzania).
- Most of the countries with generally low levels of government expenditure on forestry also have relatively high levels of external support. In most of these countries, forestry is not a major economic activity and is valued more for the socio-economic and environmental benefits that it can provide. These priorities are generally reflected in the types of projects and programmes that external donors tend to support.

For all of the countries shown in the table, the average contribution of external funding to total government expenditure on the forestry sector is 35%. Since 1990, this contribution has varied from 35% to 40% (see Figure 18). On the basis of the limited information available, it appears that

external funding for forestry is very variable between years in most countries, while domestic funding is much more stable. It should also be noted that external funding is generally declining from the peak of US\$ 132 million reached in 1995.

**Figure 18 The trends in external and domestic funding for government expenditure on forestry in selected African countries**



## ACTIVITIES SUPPORTED BY GOVERNMENT EXPENDITURE ON FORESTRY

Most countries differentiate between two types of government expenditure on forestry:

- recurrent or operational expenditure, which includes expenditure on staff, utilities, consumable materials and travel; and
- investment expenditure, which includes the purchase of capital items such as vehicles, machinery and buildings, as well as expenditure on specific projects.

Strictly speaking, the inclusion of expenditure on projects as investment expenditure is not quite correct (e.g. it includes expenditure on project staff), unless the project results in the creation or improvement of a capital asset (e.g. a forest plantation). However, most countries seem to consider all types of project expenditure as investment, so this convention will be followed here.

Only a limited amount of information was provided by countries about different types of expenditure and the different activities supported by government expenditure. However, the following general observations can be made:

- In general, operational expenditure, particularly on staff costs, accounts for the majority of domestic funding for government expenditure on forestry. For example, in the 17 countries providing information about investment expenditure, only 14% of domestic funding was used for investment in 1999. In 10 of these countries, this proportion is less than 10% (and in seven of them it is less than 3%).
- In contrast, nearly all external funding is spent on investment (i.e. projects). Indeed, external funding accounts for the majority of investment in the forestry sector in Africa. For the same 17 countries providing information about investment expenditure, 73% of total investment expenditure in 1999 was supported by external funding.
- The only countries that have significant domestic investment programmes in forestry (i.e. over US\$ 1 million per year) are: Côte d'Ivoire; Ethiopia; Liberia; Mali and Senegal.

Most countries could not easily identify how much government expenditure was specifically devoted to sustainable forest management. Indeed, the range of subjects covered by forestry projects in countries is very wide. However, the most common types of investment projects seem to be reforestation projects, for either community forestry, commercial forestry or control of desertification, or investment in infrastructure.

Where investment in infrastructure was clearly identified, much of this investment was supported by external funding and went towards purchasing equipment and providing buildings for specific activities such as research, education and training facilities. However, many countries remarked that these aspects of forestry development still receive inadequate funding to support the types of work that are now required.

Most of the money spent on more general forestry projects was spent on two main subject areas: community forestry and protected area management. Investment in these areas seems to attract a

wide range of different types of external support, including support from: The Global Environment Facility (GEF); IUCN; international NGOs; and charities, in addition to the traditional sources of external support for forestry projects and programmes.

## THE OVERALL FLOW OF FUNDS BETWEEN GOVERNMENT AND THE FORESTRY SECTOR

A summary of the overall flow of funds between the forestry sector and government in 1999 is shown in Table 7. For the countries analysed here, this table shows that, on average, the sources of funding to support government expenditure on forestry policies and programmes are split fairly evenly as follows:

- 26% from forest revenue;
- 33% from net domestic government expenditure (i.e. total government expenditure from domestic funding less forest revenue); and
- 41% from external funding.

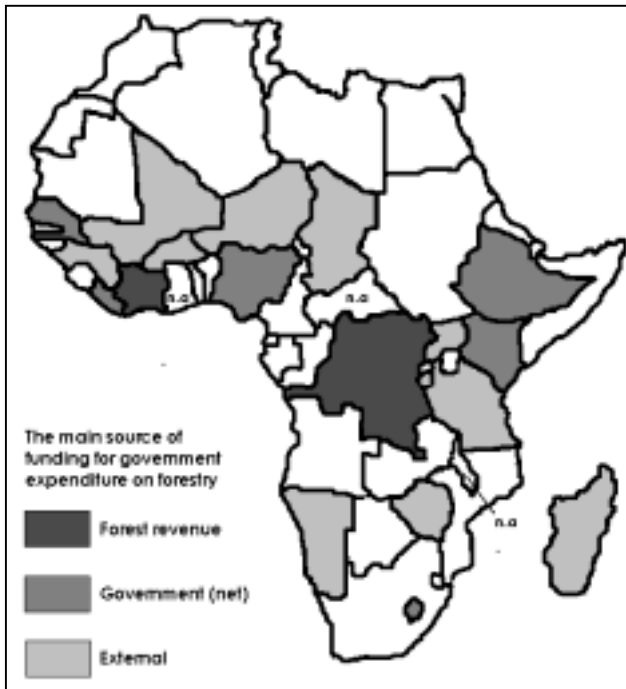
**Table 7 Summary of total forest revenue collection, government expenditure on forestry and sources of funding in 1999**

Country	Forest revenue	Government expenditure			Sources of funds		
		Domestic funding	External funding	Total	Forest revenue	Government (net)	External
Burkina Faso	780	2,201	2,328	4,530	17%	31%	51%
Burundi	50	193	1,198	1,391	4%	10%	86%
Central African Republic	5,566	1,030	n.a.	1,030	<541%	n.a.	n.a.
Chad	60	471	3,960	4,431	1%	9%	89%
DR Congo	803	1,277	0	1,277	63%	37%	0%
Côte d'Ivoire	41,561	32,971	7,566	40,538	103%	-21%	19%
Ethiopia	2,283	21,345	3,865	25,209	9%	76%	15%
Gambia	225	242	445	686	33%	2%	65%
Ghana	12,559	31,294	n.a.	31,294	<40%	n.a.	n.a.
Guinea	902	7,362	8,551	15,913	6%	41%	54%
Kenya	1,845	17,407	1,054	18,461	10%	84%	6%
Lesotho	44	521	119	639	7%	75%	19%
Liberia	3,100	7,317	0	7,317	42%	58%	0%
Madagascar	2,734	4,385	7,255	11,641	23%	14%	62%
Malawi	110	3,992	n.a.	3,992	<3%	n.a.	n.a.
Mali	321	4,830	9,896	14,726	2%	31%	67%
Mauritius	770	5,603	0	5,603	14%	86%	0%
Namibia	68	2,548	2,787	5,335	1%	46%	52%
Niger	351	773	6,612	7,385	5%	6%	90%
Nigeria	2,572	12,580	8,241	20,821	12%	48%	40%
Senegal	1,579	12,969	444	13,413	12%	85%	3%
Uganda	763	1,282	2,386	3,668	21%	14%	65%
United Republic of Tanzania	2,763	7,567	31,773	39,340	7%	12%	81%
Zimbabwe	908	2,132	1,254	3,386	27%	36%	37%
<b>Total (excluding CAR, Ghana and Malawi)</b>	<b>64,482</b>	<b>145,975</b>	<b>99,735</b>	<b>245,709</b>	<b>26%</b>	<b>33%</b>	<b>41%</b>

Source: country reports. Note: all figures are in US\$ '000 at 1999 exchange rates.

However, this table also shows the tremendous variation between countries, in terms of their ability to finance their forestry policies and programmes from different sources of funds. Only Central African Republic and Côte d'Ivoire appear to collect sufficient forest revenue to cover their current levels of total government expenditure on forestry. None of the other countries collect sufficient revenue to cover their total expenditure or even their expenditure from domestic sources. Thus, in all of these countries, there is a net flow of money from the government to the forestry sector.

**Figure 19 The main sources of funding for forestry in Africa in 1999**



The other main point highlighted by this table is that there is a great difference between countries in terms of where this net flow comes from. With the exception of Ethiopia, the countries with the lowest contribution from forest revenue collection are also the countries with the highest levels of external support. Countries with generally higher levels of forest revenue collection tend to have levels of domestic funding that are relatively higher than their levels of external support. These differences are shown in Figure 19, which shows the main source of funding for government expenditure on forestry in each country.