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ASSESSMENT OF FOREST REVENUE SYSTEM IN KOGI STATE

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Low and arbitrary review of forest charges encourage waste and poor harvesting practices resulting in underdevelopment of forest resources. The study therefore assessed the type, value and changes in the value of forest charges in Kogi State between 1991 and 2009. Data on forest charges between 1991 when the state was created and 2009 were collected from the Forestry Service of Kogi State. GDP deflator was used to convert the forest charges in each year under study to real or constant values thereby compensating for the effect of inflation on the value of forest charges. Average annual change in the forest charges was calculated for the period under study while sensitivity analysis was carried out to determine the current (2009) equivalent value of the base year (1991) value of forest charges. The State Forestry Service (SFS) operates 35 different charges from eight groups of charges with the exception of Forestry Trust Fund. The SFS started operating 11 of the 35 charges since 1991 when the State was created and these 11 forest charges have been reviewed twice, one in 1997 and the other in 2004. Another 11 different charges were introduced in 1997, all of which were reviewed once in 2004. The remaining 11 other various charges were introduced in 2004 and are yet to be reviewed. Three methods - residual or stumpage valuation; calculation of the volume of timber transported from the forest; as well as consultation and negotiation- are used in determining the forest charges. The difference between the average annual change in the nominal value and the real current value is relatively high (16.06% to 17.68%) for the forest charges whose base year is 1991. Forest charges whose base year is 1996/1997 have lower differences (9.08% to 11.90%) while those whose base year is 2004 have difference of 7.38%. In order to have a better forest revenue system in Kogi State, setting of forest charges should be primarily based on the market prices of the products coupled with consultation with the stakeholders. The review of the charges which should be done more regularly such as once in three years should be adjusted for inflation.

INTRODUCTION

Forest revenue system refers to the ways forest charges, fees or taxes are determined, assessed and collected. Forest charges, fees, taxes or prices are amounts of money paid to the government for the right to harvest, produce, convert, convey or use forest goods and services obtained from forest area/estate owned by the state or held by the state on behalf of the people.

In economic terms, forest charges serve two distinct functions. First, they enable the government to capture a share of the economic rents associated with the natural forests. Second, they affect the harvesters' behaviour and as a result may play a role in the sustainability of forest exploitation. Thus, forest charges may act as Pigouvian taxes by internalising the long term, non-wood, and off-site values of the forests under exploitation (Ajewole 2002).

Forest revenue system in Nigeria dates back to the colonial era, where a variety of forest charges were introduced throughout the country (FAO, 2001). The first forest law was

passed in 1908 and it imposed different fees on offenders, especially farmers to discourage them from practicing their vocation through shifting cultivation. The farmers were thus prevented from destroying trees because of the penalties the law imposed on them. Thus the original intention of the charge was to serve as deterrent to forest encroachers in order to preserve the forest.

However, as more forest reservations were taking place in the country, forest charges have remained, largely because of the revenue they generate for government and because they have been accepted worldwide as an indication of both the concern for and the values of forest resources (Gray, 1997).

From 1970, the collection of forest charges has been primarily the role of the State Departments of Forestry in Nigeria (FAO 2001). Each state has both legal and administrative freedom to manage its forest in any way it wishes. However Skoup (1987) noted a slight departure from this trend in Northern Nigeria, where some local governments were given powers for all issues concerning forest taxation.

Since independence, the development of the forest revenue system has been of great concern to forest managers. Consequently, for over a period of two decades, the problem associated with the Nigeria forest taxes have been investigated at least eight times namely: Gray, 1981; Skoup, 1983; Adeyoju and Enabor, 1985; FORMECU, 1993; Adeyoju, et al, 1994; FORMECU, 1999; FAO/EU, 2001; and Adeyoju, 2002.

All these exercises were carried out to seek information on the variety of forest taxes and the methodology for collection with the aim of overcoming the problems of under development of the country's forestry sector.

Gray (1997) reported that forest revenue for many African countries has increased in recent time but primarily as a result of increased volume of harvest rather than from the increase stumpage values. In Nigeria this is attributable to the fact that there are no clear mechanisms for setting forest charges and thus charges are set administratively. Meanwhile, administrative setting of forest charges does not take into consideration market prices and consequently results in under-pricing of forest resources (FAO 2001). Usually the charges collected by African governments from the forestry sector are very low and the aim behind setting such low charges is to stimulate domestic employment and industrial development. However, this can reduce the incentive to invest in better forest management, encourage waste and poor harvesting practices and consequently reduce the amount of revenue collected from the sector.

From the foregoing, it becomes very imperative to assess the forest revenue system of State Forestry Departments from time to time in order to come up with suggestions to improve the system and consequently contribute to sustainable management of their forests. Kogi State, a relatively young state created in 1991 has not had its forest revenue system assessed hitherto and thus the basis for this study.

METHODOLOGY

Study Area

Kogi State, located between latitudes 5⁰22'E and 7⁰49'E and longitudes 6⁰33'N and 8⁰44'N was carved out from the the old Kwara and Benue States in August, 1991. The state has boundaries with Benue, Anambra, Enugu, Edo, Ondo, Kwara, Ekiti Nassarawa, Niger, Federal Capital Territory and Plateau states. Kogi State is located between Guinea Savanna in the north and High Forest in the south. There are however, some variations along hillsides, river valleys and depressions

The state exhibits the typical tropical climate of averagely high temperature (36⁰c), high humidity and duo rainfall maxima in the month of June and September. Average rainfall is about 1100mm at the outset of heavy rain to 1,600mm at its peak.

Kogi State has a total land area of about 1,944,267 hectares out of which 481,542.20 ha (24.8%) has been constituted as forest reserve. A total of 3,084.38ha (0.64%) out of the 481,542.20 ha is under industrial plantations. The state has thirty-six (36) forest reserves (Table 1 and Figure 1)

The administration of all forestry activities in the state is the exclusive responsibility of the State Forestry Department (SFD). The State Forestry Department is coordinated by the Director of Forestry Services who is responsible to the Honourable Commissioner through the Permanent Secretary of the host ministry. The State owns all the forest reserves, formulates policies and co-ordinate forestry activities in the reserve and free areas. Prominent among the tree species found in the State are: *Khaya spp*, *Melicia excels*, *Triplochiton scleroxylon*, *Azelia Africana*, *Daniella olliverri* and *Ceiba pentandra*. In addition, *Gmelina aborea* *Tectona grandis* and *Eucalyptus spp*. abound in plantations in the state.

Table 1: List of Forest Reserves in Kogi State

S/No	Name of forest reserve	Location (LGA)	Size (Ha)	Gazette no.
1	Acharane	Ankpa	5,486	No.44 of 1959
2	Kurumi odo	Omalla	7,500	
3	Opanda	Omalla	13,556	No58 of 1934
4	Akpatokun	Bassa	10745	No24 of 1939
5	Mozum	Bassa	16,576	No5. of 1993
6	Western okura	Dekina	9,497	No 41 of 1955
7	Okura iyale	Dekina	19,813	No 36 of 1955
8	Ojofu	Dekina	78	No 23 of 1960
9	Dekina	Dekina	13,442	No 44 of 1933
10	Northern adoru	Igalamela odolu	22,015	No 4 of 1925
11	Southern adoru	Igalamela odolu	20,300	No 6 of 1933
12	Ibaji ojoko	Ibaji/igalamela/odolu	35,097	No 30 of 1964
13	Alla Forest reserve	Ofu	3,212	No 48 of 1961
14	Bunnu	Kabba bunnu	52,842	No 28 of 1956
15	Chokochoko	Lokoja	13,986	No32 of 1943
16	Olle	Kabba bunnu	9,593	
17	Oinyin	Kabba bunnu	13,120	
18	Ilai gbedde	Ljumu	3,136	No 20 of 1993
19	ogbe	Yagba west	4,015	No 17 of 1955
20	Eba river	Yagba East	56462	
21	Ilai	Mopa amuro	3,131	No 11 of 1993
22	adagaki	Kogi	2,720	No 32 of 1959
23	Adankolo	Lokoja	3,885	No 48 of 1931
24	Patti I	Lokoja	65	No 67 of 1923
25	Patti II	Lokoja	76	1145/1904
26	Chokochoko	Lokoja	6.175	
27	Agbaja	Lokoja	17801	No 4 of 1925
28	Kakanda hill	Lokoja	4.144	No 1930
29	Sanawa	Lokoja	8,280	No 5 of 1955
30	Gabo	Kogi	6.799	
31	Gbagede	Kogi	3.522	No io of 1937
32	Swamp	Kogi	25,900	No7 of 1934
33	Ajaokuta	Ajaokuta	13,299	No 37 of 1945
34	Okene water catchment	Okene	409	No 3 of 1937
35	Otite	Adavi	376	
36	Osara	Adavi	55,063	

Source: Office of the Director Department of Forestry, M.A.N.R, Lokoja, Kogi State (2010)

Collection and Analysis of Data

Data on forest charges between 1991 when the state was created and 2009 were collected from the Forestry Service of Kogi State. GDP deflator was used to convert the forest charges in each year under study to real or constant values thereby compensating for the effect of inflation on the value of forest charges. The GDP deflator is an economic metric that accounts for inflation by converting output measured at current prices into constant-dollar GDP

(Investopedia 2010). Like the Consumer Price Index (CPI), the GDP deflator is a measure of price inflation/deflation with respect to a specific base year. Generally, price deflator is the ratio of the current-year price of a good to its price in some base year (Wikipedia 2010). The GDP deflator provides an alternative to the Consumer Price Index (CPI). The CPI is based upon a basket of goods and services while the GDP deflator incorporates all of the final goods produced by an economy. This allows the GDP deflator to more accurately capture the effects of inflation since it's not limited to a smaller subset of goods.

$$\text{GDP Deflator} = (\text{Nominal GDP}/\text{Real GDP}) * 100 \dots\dots \text{equation 1}$$

Nigeria GDP Deflator data, were obtained from

www.economywatch.com/economic-statistics/economic-indicators/GDP-Deflator

The Real Current Values of the charges were obtained using equation 2:

$$\text{RCV} = X_n(\text{GD}_n / \text{GD}_b) \dots\dots\dots \text{equation 2}$$

Where:

RCV - Real Current Value of forest charges and revenue

X - Nominal value of forest charges and revenue within the period of study

n = index of the current year in the period of years under study (1991 - 2009)

GD_n – Gross Domestic Deflator in a specific year within the period of study.

GD_b = Gross Domestic Deflator for the base year (1991 in this case)

Average annual change in the forest charges was obtained using equation 3.

$$P = [(X_b/X_a)^{(1/c)} - 1] \dots\dots\dots \text{equation 3}$$

Where

P = Average Annual Change.

X_b = value in year b

X_a = value in year a

c = b – a

Furthermore, sensitivity analysis to determine the current (2009) equivalent value of the base year (1991) value of forest charges was carried out. In an iterative process, various amounts were substituted for the nominal forest charges of 2009 in equation 2 until the corresponding real current value of the forest charge is equal to the value of the forest charges in the base year (1991).

RESULTS AND DISCUSSION

Types of Forest Charges and Collection Mechanism.

Kogi State Forestry Department operates eight major groups of forest charges for forestry development in the State. The groups are stumpage fees, Out-Turn Volume (OTV) fees, industry and machine registration fees, industry and machine registration renewal, hunting permits, fees for prescribed areas, toll fees on forest produce moving across the state, fines and Forestry Trust Fund (FTF). Also, three different methods - residual or stumpage

valuation, calculation of the volume of timber transported from the forest as well as consultation and negotiation are used in determining the charges (Table 2).

These charges are collected at different locations depending on the nature of the charge. For example stumpage is collected at local government forestry offices and sawmills; O.T.V. is collected at the sawmills; industries/machine registration and renewal fees are collected at sawmills, plank markets/sheds and local government forestry office; hunting permit and fees for prescribed area use are collected at local government forestry office and entrance into the forest; toll fees are collected at road check points; while fines are collected at forestry office; and FTF is collected at both local government forestry office and sawmills.

Table 2: Types and Methods of Setting Forest Charges in Kogi State

S/N	TYPES OF CHARGES	MODE OF SETTING	REMARKS
1	Stumpage	By Residual and Stumpage valuation	Value – based charges
2	Out-turn volume (OTV)	By calculating the volume that is transported from the forest.	Volume – based charges
3	Industry/machine licenses	By consultation	Flat – rate charge
4	Hunting permit	By consultation	Flat – rate charge
5	Fees for use of prescribed areas	By consultation and negotiation	Flat – rate charge
6	Toll (Inter State) fees on forest produce	By consultation	Flat – rate charge
7	Fine	By consultation	Flat – rate charge
8	Forestry Trust Fund (FTF)	25% of receipted revenue	Flat – rate - charge

Source: Kogi State Department of Forestry (2010).

Trends in Forest Charges in Kogi State between 1991 and 2009

Changes in revenue generation are often affected by the interplay of three major factors, viz.: changes in charge levels, changes in production level / mix, and changes in the efficiency of revenue collection. It is therefore very important to assess the trends in changes of forest charges and their implication on forest revenue in the State. From columns 1 and 2 of Tables 3 and 4 it can be observed that the State Forestry Service (SFS) operates 35 different charges from eight groups of charges with the exception of Forestry Trust Fund. The SFS started operating 11 of the 35 charges since 1991 when the State was created and these 11 forest charges have been reviewed twice, one in 1997 and the other in 2004. Although, stumpage fee for low timber quality has been in operation since 1991, it was reviewed only once in 2004. Renewal fee for registration of Power saw/timber truck was brought into operation in 1996 and another 11 different charges were introduced in 1997, all of which were reviewed once in 2004. The remaining 11 other various charges were introduced in 2004 and are yet to be reviewed.

Furthermore, results in column 4 of Tables 3 and 4 show that hunting charges recorded the highest average annual change in the nominal value of the forest charges in the State. Thus, 29.90%, 19.38% and 17.68% average annual changes were recorded for permit to kill one Elephant, hunting permit for indigenes and permit to sell bush meat respectively. The lowest average annual change in the nominal value of forest charge of -1.17% was recorded for renewal fees for timber contacting which was actually reviewed downward from ₦5000 in 1997-2003 to ₦2000 in 2004. However, more importantly are the very low changes of 2.69% and 3.72% observed for OTV fee for high quality timbers and stumpage fee for low quality timber respectively.

The results in column 5 of the Tables average annual changes in the real current values of the forest charges are lower than changes in their corresponding nominal values. This indicates that the real current values of the charges are lower than the nominal current values since the real current values have been adjusted for inflation. This trend is expected since inflation has the usual effect of reducing the value of money over time. Furthermore, it can also be observed that all the values in this column with the exception of those for hunting charges are negative. This implies that those changes in the real current values that are positive but less than the corresponding changes in the nominal values are increasing at decreasing returns; while those with negative values are in the real sense decreasing over the period of study. This clearly shows the effect of inflation on the value of forest charges and the need to factor inflation into the process of reviewing forest charges so as to internalize such inflation effect. These negative values connote loss of revenue to the State Forestry Service

The results in column 6 of Tables 3 and 4 show the difference between the average annual change in the nominal value and the real current value of forest charges. This difference indicates the gravity of the effect of inflation on the forest charges. From the results, it can be observed that the effect of inflation on the forest charges is pronounced with time. The forest charges whose base year is 1991 have relative high differences ranging from 16.06% to 17.68%; those whose base year is 1996/1997 have lower differences ranging from 9.08% to 11.90% while all the charges whose base year is 2004 have difference of 7.38%.

The results of sensitivity analysis give the idea of the tremendous revenue the SFS is losing by infrequent and inadequate review of forest charges. The values in parenthesis in column 7 of Tables 3 and 4 are the current (2009) forest charges, while the other value is the current equivalent value of the 1991 forest charges. For example, this value for stumpage fee for high quality timber is ₦7261 while the corresponding value in parenthesis is ₦800. The ₦7261 is the current equivalent value of ₦250 the SFS charged for that category of timber in 1991. It means the SFS should not have charged anything less than ₦7261 in 2009 if it wants to remain at the level of forest fee of 1991. In essence, the amount will be greater if the SFS wants to increase the forest fee from that of the base year (1991). The difference (₦6461) between ₦7261 and ₦800 is the loss of revenue to SFS coffer due to infrequent and inadequate review of forest charge.

The results of the sensitivity analysis for the hunting charges are quite instructive. With the exception of hunting license, the current equivalent value of the base year forest charges for all other fees under hunting charges are lower than the current fees. This suggests over pricing and is due to arbitrary and irregular review of charges. For example, review of hunting charges between 1997-2003 and 2004-2009 was as follows: hunting permit (indigene) from ₦50 to ₦500; hunting permit (immigrant) from ₦200 to ₦1000; permit to kill one elephant from ₦200 to ₦6000 and permit to sell bush meat from ₦50 to ₦600. These reviews no doubt appear outrageous and the probable reason is that the SFS realized after a while that the initial charges for these resources were abysmally low and then reviewed it upwardly enough to commensurate with the market value of the resources.

Table 3: Trends in Changes of Forest Charges in Kogi State between 1991 and 2009

Types of forest Charges	Forest Charge components	Forest Charge		Average Annual Change in Nominal Value of forest charges (%)	Average Annual Change in Real Value of forest charges (%)	Differences between the average annual % change in nominal and real values of forest charges	Current (2009) Equivalent value of Base year (1991) value of forest charges (₦)
		Period (Year)	Value (₦)				
Stumpage	High quality timber	1991-1996	250	6.31	-10.96	17.27	7261 (800)
		1997-2003	540				
		2004-2009	800				
	Medium quality timber	1991-1996	180	5.52	-11.62	17.14	5228 (500)
		1997-2003	250				
		2004-2009	500				
Low quality timber	1991-2003	200	3.72	-13.14	16.86	5809 (400)	
	2004-2009	400					
Out-Turn Volume	High quality timber	1991-1996	3.50	2.69	-13.99	16.68	101.7 (5.80)
		1997-2003	4.50				
		2004-2009	5.80				
	Medium quality timber	1991-1996	2.25	4.82	-12.21	17.03	65.4 (5.50)
		1997-2003	3.50				
		2004-2009	5.50				
	Low quality timber	1991-1996	1.25	5.16	-11.93	17.09	36.31 (3.25)
		1997-2003	2.50				
		2004-2009	3.25				
Registration fees for forest industries and machines	Sawmill	1991-1996	5000	8.84	-8.84	17.68	145,205 (25000)
		1997-2003	10000				
		2004-2009	25000				
	Circular bench saw	1991-1996	2000	8.84	-8.84	17.68	58,085 (10000)
		1997-2003	5000				
		2004-2009	10000				

	Timber contracting	1991-1996	1000	8.84	-8.84	17.68	29,045 (5000)
		1997-2003	2000				
		2004-2009	5000				
	Power saw /timber truck	1997-2003	2000	5.08	-4.00	9.08	7,395 (4000)
		2004-2009	4000				
	Timber shed	1997-2003	500	5.48	-5.00	10.48	916 (1000)
2004-2009		1000					
Renewal fees for registration of forest industries and machines	Sawmill	1991-1996	2000	8.84	-8.84	17.68	58,085 (10000)
		1997-2003	5000				
		2004-2009	10000				
	Circular bench saw	1991-1996	1000	8.84	-8.84	17.68	29,045 (5000)
		1997-2003	2000				
		2004-2009	5000				
	Timber contracting	1991-1996	5000	-1.17	-17.23	16.06	145,205 (4000)
		1997-2003	2000				
		2004-2009	4000				
	Power saw/timber truck	1996-2003	2000	5.08	-4.00	9.08	7,395 (4000)
		2004-2009	4000				
	Timber shed	1997-2003	250	5.48	-5.00	10.48	916 (500)
2004-2009		500					
Hunting charges	Hunting License	1997-2003	300	9.70	-1.00	10.70	1,100 (1000)
		2004-2009	1000				
	Hunting permit (Indigene)	1997-2003	50	19.38	8.00	11.38	185 (500)
		2004-2009	500				
	Hunting permit (Immigrant)	1997-2003	200	13.18	2.00	11.18	735 (1000)
		2004-2009	1000				
	Permit to kill one Elephant	1997-2003	200	29.90	18.00	11.90	735 (6000)
		2004-2009	6000				
Permit to sell bush meat	1997-2003	60	17.72	7.00	10.72	220 (500)	
	2004-2009	500					
Fees for use of prescribed forest areas	Reside in forest area (Corporate)	1997-2003	1500	9.70	-1.00	10.70	5,495 (5000)
		2004-2009	5000				
	Reside in forest reserve	1997-2003	1200	4.01	-6.00	10.01	4,395 (2000)
		2004-2009	2000				
	Farming in forest reserve	1997-2003	300	4.01	-6.00	10.01	1100 (500)
		2004-2009	500				
	Honey collection	2004-2009	1000	0	-7.38	7.38	1,585 (1000)
	Firewood collection	2004-2009	2000	0	-7.38	7.38	3169 (2000)
Forest fines		1997-2003	2000	7.30	-3.00	10.30	7,321

Felling under girth trees	2004-2009	5000				(5000)
Splitting wood at stump site	1997-2003	5000	5.48	-5.00	10.48	18,305 (10000)
	2004-2009	10000				
Movement of unprocessed logs across states	1997-2003	5000	5.48	-5.00	10.48	18,305 (1000)
	2004-2009	10000				
Movement of logs at night	2004-2009	10000	0	-7.38	7.38	15,845 (10000)
Failure to keep sawmill log book	2004-2009	20000	0	-7.38	7.38	31,685 (20000)

Source: Computations from data obtained from Kogi State Forestry Department (2010)

Table 4: Inter-state (toll) Charges for Forest Products in Kogi State

Product	Quantity	Period (Year)	Value (₦)	Average Annual Change in Nominal Value of forest charges (%)	Average Annual Change in Real Value of forest charges (%)	Differences between the average Annual change in nominal and real values of forest charges (%)	Current (2009) equivalent value of Base year (1991) value of forest charges
Planks	Trailer load	2004-2009	1200	0	-7.38	7.38	1,905 (1200)
	911 lorry load	2004-2009	600	0	-7.38	7.38	955 (600)
	Tipper/Dyna load	2004-2009	400	0	-7.38	7.38	635 (400)
	Pick-up load	2004-2009	100	0	-7.38	7.38	160 (100)
Firewood	Trailer load	2004-2009	400	0	-7.38	7.38	635 (400)
	911 lorry load	2004-2009	200	0	-7.38	7.38	320 (200)
	Tipper/Dyna load	2004-2009	100	0	-7.38	7.38	160 (100)
	Pick-up load	2004-2009	50	0	-7.38	7.38	80 (50)
Borrasmus	Trailer load	2004-2009	1200	0	-7.38	7.38	1,905 (1200)
	911 lorry load	2004-2009	600	0	-7.38	7.38	955 (600)
	Tipper/Dyna load	2004-2009	400	0	-7.38	7.38	635 (400)
	Pick-up load	2004-2009	100	0	-7.38	7.38	160 (100)
NTFPs	Trailer load	2004-2009	400	0	-7.38	7.38	635 (400)
	911 lorry load	2004-2009	200	0	-7.38	7.38	320 (200)
	Tipper/Dyna load	2004-2009	100	0	-7.38	7.38	160 (100)
	Pick-up load	2004-2009	50	0	-7.38	7.38	80 (50)

Source: Computations from data obtained from Kogi State Forestry Department (2010)

CONCLUSION

Kogi State Forestry Service has a considerable number and variety of forest charges. However the value of these charges has been eroded over time due to non-consideration of the effects of inflation during the review of these charges. In order to improve the economic rent of the forestry sector in Kogi State, setting of forest charges should be primarily based on the market prices of the products coupled with consultation with the wide variety of stakeholders. Furthermore, because of the instability and high inflation rate that characterise Nigerian economy, forest charges have to be reviewed more frequently such as once in three years so that the difference between the nominal and real values of the charges during the review period will not be too high to fully or largely recover by the State Forestry Service.

More importantly, in order for the state to have a better forest revenue system, the State Forestry Service will have to adjust for inflation by using the GDP deflator to calculate the current equivalent real value of the forest charges at the base year so as to realistically determine what the appropriate value of the reviewed charges whenever a review is carried out. In addition, the State Forestry Service must incorporate a certain annual percentage increment into the process of determining and reviewing the value of the forest charges. This percentage increment has to be based the average rate of inflation over the years. However, the annual percentage increment has to be done in consultation with forest stakeholders.

REFERENCES

- Adeyaju, S.K. and Enabor, E.E.. (1985): Nigerian Forestry Revenue System II, FORMECU, Abuja
- Adeyaju S. K., Okojie, J., Nwokeabia, D. and L. Ogundare (1994); Report of the Committee on National Forestry Revenue System Development, FORMECU, Abuja.
- Ajewole, O. I (2002): Analysis of Trends in Forest Charges and Government Expenditure on Forestry in Africa. A Thematic Study for Food and Agriculture Organisation (FAO) Rome. FAO PROJECT GCP/RAF/354/EC. 44pp
- FAO, (2001): Forest Finance: The Forest Revenue Systems and Government Expenditure on Forestry in Nigeria. A paper prepared for the FAO work-programme component on financing sustainable forest management. Working paper: FFSM/WP/02
- FAO/EU, (2001): Forest Resources Study. Beak International/Geomatics International/Geomatics Nigeria, Main Report Vol 2. 266pp
- FORMECU, 1993, Forestry revenue system development in Nigeria, FORMECU, Abuja
- FORMECU, (1999): Forest Resources Study: Nigeria Market Assessment and Pricing Policies, Abuja.
- Gray J.A, (1997): Underpricing and Overexploitation of Tropical Forests: Forest Pricing in the Management, Conservation, and Preservation of Tropical Forests. *Journal of Sustainable Forestry*, 4(2)
- Gray J.W (1983): Forest Revenue Systems in Developing Countries: Their Roles in Income generation and Forest Management Strategies. FAO Forestry Paper 43

Grut. M, Gray. J.A, and N. Egli (1991): Forest Pricing and Concession Policies: managing the high Forests of West Central Africa. World Bank Technical Paper Number 143.

Skoup and CO. LTD (1983): Nigeria Forestry Revenue System, FORMECU, FDF, Lagos.

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