



## EFFECTIVENESS OF BUDGET PROVISIONS TO PROMOTE SUSTAINABLE FORESTRY IN FOREST RESERVES OF OSUN STATE, NIGERIA

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### ABSTRACT

*Budget is a vital tool for government planning and control especially in the use and maintenance of natural resources like forests. Forestry production requires adequate funding which can only be obtained through budget appropriation process. The objective of this paper is to evaluate the extent to which annual budgetary provisions foster sustainable forestry in Osunstate. Budget provisions for revenue and expenditure were juxtaposed and their relativity shown. Actual expenditure was matched against the budgets to identify accounting variances. The ANOVA method was employed to analyze the data while the F- statistic was employed to test the significance of differences in the variables. Results show that budgetary provisions were inadequate and even that was hardly disbursed fully. There is a significant relationship between budgets and sustainable developments of forests in Osunstate. Budgets should reflect sustainable development ideals and be properly implemented.*

**Keywords:** Effectiveness, Budgetary, Nigeria

### INTRODUCTION

Budgets could be defined as “financial or quantitative statements prepared and approved before the commencement of a period of the policy to be pursued... to achieve a given set of objectives” (Fajinmi, 2001). In government circles, a budget is viewed as a financial statement which sets out estimates of government expenditure and expected revenues for the coming year. Ebeloku, (2003) explains that the budget is a document indicating the total and composition of government expenditure and sources from where such expenditures could be financed. In Nigeria, governments prepare budgets annually at the three tiers, i.e. Federal, State and Local governments. These budgets could be surplus, balanced or deficit budgets and are meant to achieve the objectives such as allocative functions, redistribution of wealth and income, protection of local industries, control inflation, stabilizing the economy and manage and control the economy. Budget for agriculture,

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always include forest production. Forests have been viewed as viable sources of internally generated revenue. By its nature, forests are quite sustainable because they are renewable, recyclable, bio-degradable and are carbon-neutral. Budgeting for forestry production is vital as it has significant impact on state revenues profile (Olatunji, 2006).

### **Statement of the problem**

As sustainable as the forest is, it must be noted that forests can be depleted if not properly managed. The productivity of forests can actually diminish below sustainable levels such that expected revenues may not be achieved. This has become a significant reason why the processes and provisions of government annual budgets need to be assessed in terms of its effectiveness to achieve expected results. Issues relating to the volume of wood 'taken' vis-à-vis volume/stands grown in replacement are critical. Researches into sustainability tend to focus much on the ability to pronounce standards and policies for forest management. There have not been many attempts to appraise the effectiveness of annual budget provisions to cater to the needs of forestry. This paper sets out to examine the extent to which the consideration of sustainability has affected budgets and estimates for forestry operations and productivity.

### **Objectives of the study**

The main objective of this study is to evaluate the effectiveness of Osun state annual budgets to achieve sustainable forestry. Specifically, it is aimed to assess the adequacy of annual budgetary provisions to achieve the needed forest renewals, determine the effectiveness of the budget process to ensure accountability and evaluate relative productivity of the budgetary provisions in terms of hectares renewed.

### **Hypothesis for the study** (stated in null form)

**Ho:** Provisions for forest renewals in Osun state annual budgets has not fostered sustainable forestry.

## **CONCEPTUAL FRAMEWORK**

### **Government budgeting systems**

A budget is a quantitative economic plan in respect of a period of time (Harper, 1982). A budget is a quantitative expression of a plan of action prepared in advance of a period to which it relates. Lucey, (2002) defines a budget as "a plan quantified in monetary terms prepared and approved prior to a defined period of time, usually showing the revenue to be generated and/ or the expenditure to be incurred during that period and the capital to be employed to attain a given objective". It is a comprehensive and coordinated plan, expressed in financial terms for the operations and resources of an enterprise for some specific period in the future (Pandey, 1995). This activity is so crucial to effective control that Kaplan and Atkinson, (1998) insist that except in

the idealist world where certainty prevails, information is costless and unbounded computational capacity obtain, could budgets be done away with. This idealist world does not exist anywhere, hence the centrality of budgets. In public finance, budgets set out planned government expenditure and expected revenues for a particular future period, usually a year. Such budgets could take various forms such as Planning, Programming and Budgeting Systems (PPBS), Zero-Based Budget (ZBB) each of the approaches having their merits and values (Buhari, 1992). Government budgeting is a composite activity involving both the executive and the legislature. Indeed, the annual budgets and estimates must be legislated into existence otherwise it is only a pile of paper having no consequence. The significance of the intertwining relationship shows when the executive arm has some disagreement with the legislature on matters relating to budget estimates, it brings all activities having to do with appropriations to stop until the issues are resolved. Operationally, financial requirements and estimates arise from the Ministries, Agencies and Departments. It is compiled by the Ministry of Finance in line with certain policies and forwarded to the Cabinet where it is appraised and thereafter the President or Governor (as the case may be) shall present the document before the legislature for its consideration. With respect to forestry, it was customary to include the estimates for forest revenues and appropriation for forest regeneration in the budget for agriculture, but in the recent times the forestry management and regeneration departments have been transferred into the Ministry of Environment. This means that forest maintenance is now considered an environmental issue. When budgets are meant to facilitate environmental management, it is important to assess the outcomes of such endeavor.

#### **Objectives of osun state forestry budgets**

Among the numerous objectives of the Ministry of Agriculture and Natural Resources in its annual budgets, are:

1. To maintain orderly exploitation and development of the state's forest resources and to ensure continuous and adequate forest products and adequate protection of the state's environment;
2. To protect, develop and manage wildlife (Osun State Government, 2006)

#### **Nature of forestry production**

Forestry resources refer to those resources derivable from forests both flora and fauna. These could be timber, wildlife, fruits and nuts, medicinal plants and wood fuel. Indeed non timber forest products have vital roles to play in food security and income generation (Ashbey, 1998; Olatunji, 2013). Forests provide an array of services, among which include production of timber, wildlife and fruits, nuts, medicinal plants and wood fuel. The uses of forests (including the vegetative cover) are to prevent erosion, desertification, extinction of wildlife species and the provision of business and to serve as tourist's attraction. These environmental services call for cautious handling of forests (Muir-Leresce, 1990; The World Bank, 1992). The world's forests can be broadly divided into three – the tropical moist and dry forests, the temperate forests and the degraded forestland. Nigeria's forests and woodlands provide significant economic and ecological benefits.

Indeed, timber and pulpwood industries provide about 8% of GDP of Nigeria (FORMECU, 1996). The significance of forests calls for careful planning and control hence the need for budgetary control. Indiscriminate logging of forests as a result of ambitious budgetary provisions (which demands so much for revenue generation but appropriates very little for maintenance) will prove unsustainable.

### **Sustainable forestry production**

Forests are threatened by deforestation for food production, as a result of increased demand for wood timber for housing and exports, as well as increased substitutional use of wood fuels in the current advent of high cost of petroleum fuels (Kuznets,1955). These have dire consequences such as eco-toxicity, soil erosion, threatened biodiversity, desertification and climate change (global warming) (Bradley, Myers 1989; Olatunji, 2012). It is to this end that Hussein (2000) opines that a safe minimum standard will serve as basis for sustainable yield concept. Chapman, (1999) defines sustainable yield as the amount that can be harvested while maintaining a fixed population for a biological population. This is the bed rock of environmental accounting which caters for the needs of future generations and sustainable development.

### **Environmental accounting: a vital tool for sustainable forest operations**

Environmental accounting looks at natural resources in terms of stocks and flows. Indeed, Thampapillai and Uhlin, (1997) conceive of natural resources as environmental capital which can be dealt with in terms of investments or depreciation. Thus reforestation is viewed as investment effort. The key issue here is to have accurate evaluation of natural capital and the attributable depreciation. The limits of traditional financial and cost accounting to reflect sustainability, as well as the inadequacies of the popular Statement of National Accounts (SNA) to emphasize sustainability has called for a review of accounting practices to bring sustainability on board. This is quite crucial in the case of forestry accounting (Olatunji, 2004; UNDS/DESA, 2001). By identifying environmental services provided by forests and determining non monetary costs associable with afforestation programs using a methodology akin to the cost-benefit analysis to assign values to these environmental accounting ensures that natural resources are managed sustainably.

### **Budgeting for sustainable forestry production**

Budgets face a critical problem which according to Kaplan and Atkinson (1998) was described as one arising from obtaining the appropriate statistics for analysis. When sustainable forestry production is considered it would imply that revenue estimates need to be empirically determined rather than being based on mere previous period's estimates. Expenditure for forest maintenance and development also must be determined from proven facts reflecting needs and sustainable replenishment.

## **METHODOLOGY**

The research design for this study is exploratory research intending to use secondary data to evaluate the relationships between budgeted expenditure and expected revenues from forestry. The study also assessed the adequacy of the expenditure budget to meet regeneration and maintenance needs of the forests. Monitoring and evaluation procedure for voted monies was also appraised to determine its adequacy to ensure effectiveness of budget implementation. Secondary data were obtained from the published Approved Budget and Estimates for years 1993 to 2006. The trend of budget for forest regeneration is compared with the trend of revenue estimates from forests to determine the correlations; the amounts budgeted are compared with what was obtained by the forestry departments showing the variance. The significance of difference of what was obtained is tested through the student and the number of hectares achieved over the period is compared with the funds disbursed to show the cost per hectare and the significance of the relationships is tested using the ANOVA technique.

### **Variables of study**

The independent variable in this study was annual state forestry expenditure budget while the dependent variables were the hectares of plantation achieved and the revenues earned and the actual expenditures incurred on forest renewals.

### **Procedures**

The forestry expenditure budget provisions for each year is related to total expenditure and annual expenditure committed to tree planting is further related to total forestry budget to determine the relativity. A further comparison is made between the annual estimates of expected revenue and annual expenditures. The actual expenditure is compared to budgets to determine variances as a pointer to budget discipline and compliances. Finally the ANOVA technique is adopted to determine the degree and the sources of variations such that the impact of annual budgets on productivity of forests was determined. Total funds voted to forestry capital budgets are shown above. The highest ever noted was only 0.6% of total budgets. Of this an average of 68% are meant for plantation of forestry.

The Table 1 and 2 show the relationship between the budgeted revenues from and expenditures on forests. Both variables have maintained some indefinite patterns that seem to vary with the exigencies of the moment. The average spending on forests is N 5.62 million, while average expectations from forests over the years are N 12.695 millions showing well above 100% return on committed funds. It could be observed only seven of fourteen sampled years had any funds released at all and in only one case in 1997 recorded favorable variance as a result of ecological fund obtained from Federal Government amounting to ₦2,800,000, every other observation yielded an adverse variance.

**Table 1: Findings**

Year	Annual Expenditure	% of Total Budget	Forestry Expenditure	Plantation Budget	% of Total Forestry Budget
1993	N 1.50m	0.25	N905, 000		60.33
1994	N2.73m	0.44	N1,855,000		68.12
1995	N4.00m	0.60	N2,850,000		71.25
1996	N3.00m	0.30	N3,000,000		100.0
1997	N4.00m	0.32	N2,000,000		50.0
1998	N6.88m	0.44	N2,829,000		41.13
1999	N7.00m	0.46	N3,000,000		42.85
2000	N5.25m	0.08	N5,000,000		95.33
2001	N0.50m	0.004	N300,000		60
2002	N10.00m	0.09	N8,500,000		85
2003	N4.00m	0.08	N2,500,000		62.5
2004	N10.00m	0.14	N7,500,000		75.0
2005	N09.00m	0.08	N2,000,000		22.22
2006	N11.00m	0.08	N10,000,000		90.9

**Source:** Osun State Annual Budgets 1993-2006

**Table 2: Osun state budget for forestry: Expenditure vs. Revenue**

Year	Expected Forestry Revenue N' m	Annual Expenditure Budget
1993		N1.5 m
1994		N2.73 m
1995		N4.0 m
1996	N6.0 m	N3.0 m
1997	N6.0 m	N4.0 m
1998	N10.0 m	N6.88 m
1999	N50.4 m	N7.0 m
2000		N5.25 m
2001	N50.0 m	N0.5 m
2002	N25.0 m	N10.0 m
2003	N8.33 m	N4.0 m
2004	N10.0 m	N10.0 m
2005	N10.0 m	N9.0 m
2006	N2.0 m	N11.0 m

**Source:** Annual Budget & Estimates 1993-2006

The F-observed is greater than F table showing that the Null hypothesis should be rejected and its alternative hypothesis be upheld i.e. budgets have consequential impact on the sustainability of Osun state forest production.

## DISCUSSION OF FINDINGS

The findings in Table-3,4 and 5 depict the pattern of budgetary provisions made by Osun state for forest sustenance in line with the sustainable yield theory which emphasizes that forests should be harvested cautiously by observing the safe minimum standards and that planting should be in excess of volume felled to foster sustainability (Bishop and Woodward, 1999; Chapman,1999;

Forest Australia, 2007). Tables D and E were aimed at establishing that the difference among the sets of data. It was found to be both significant and due to the treatment of variables (i.e. non adherence to fiscal discipline). Strict observance of budgets would probably have resulted in less significant differences but low compliance with the provisions of the budget has led to significant differences as shown.

**Table 3: Comparison of budgeted and actual forestry expenditures**

Year	BUDGET (₦)	ACTUAL(₦)	VARIANCE(₦)	REMARKS
1993	1,500,000		1,500,000	ADVERSE
1994	2,723,000		2,723,000	ADVERSE
1995	4,000,000	180,000	3,820,000	ADVERSE
1996	3,000,000	70,000	2,930,000	ADVERSE
1997	4,000,000	4,117,000	117,000	FAVOURABLE
1998	6,879,490	2,800,000	4,079,000	ADVERSE
1999	7,000,000		7,000,000	ADVERSE
2000	5,250,000	4,973,100	276,900	ADVERSE
2001	500,000		500,000	ADVERSE
2002	10,000,000		10,000,000	ADVERSE
2003	4,000,000		4,000,000	ADVERSE
2004	10,000,000	2,495,000	7,505,000	ADVERSE
2005	9,000,000	3,150,000	5,850,000	ADVERSE
2006	11,000,000			

**Source:** Annual Budget Speeches Osun State 1993-2006

## CONCLUSIONS AND RECOMMENDATIONS

Osun state provides annually for forestry operations but this provision is grossly inadequate to cater for the needs of the forest. Even when such provisions are made, they are hardly adhered to such that funds disbursed fall far below the budgets. The budget of expected revenue from forests always tends to have an upward tendency while the expenditure is not stable. The efforts at achieving revenues lead to unsustainable production practices. It is recommended therefore that budget provisions should relate production anticipated to meet revenue estimates to the expenditure required to sustain such production levels. Budget provisions for forest renewals should be monitored to ensure that funds were actually released. Sustainable production should be the bedrock of budget planning for forestry production. Future generations have rights to meet their own needs from these natural resources and so it should be sustained. Environmental Accounting Concepts emphasize a sustainable yield and safe minimum standards. These concepts should be employed practically. In conclusion: Budgets have significant effect on the productivity of forests in the state but Osunstate budgets have not been effective enough to foster desired level of productivity. It is hoped that above recommendations will assist in improving the situations.

**Table 4: Analysis of variances**

Block	Forestry Budget	Renewals Budget	Actual Expend	Fees	Hectares Achieved	Block Total	Block Mean
I	1.5	0.905	0	1.73	110.4	114.535	22.907
II	2.723	1.855	0	2.097	115.0	121.675	24.335
III	4.0	2.85	0.18	4.92	85.0	96.95	19.390
IV	3.0	3.00	0.70	4.725	70.0	81.425	16.285
V	4.0	2.00	4.117	10.113	64.0	84.23	16.846
VI	6.8794	2.829	2.80	9.293	41.0	62.8014	12.561
VII	7.0	3.00	0	9.534	32.0	51.534	10.307
VIII	5.25	5.00	4.673	5.334	66.0	86.257	17.311
IX	0.5	0.3	0	14.446	62.0	77.246	15.449
X	10.00	8.5	0	10.782	75.0	104.282	20.856
XI	4.0	2.5	0	8.33	41.0	55.83	11.165
XII	10.0	7.5	2.495	10.0	64.0	93.995	18.799
XIII	9.0	2.0	3.15	10.0	62.0	86.15	17.230
XIV	11.0	10.0	0	2.0	32.0	55	11,000
TREATMENT TOTAL	78.8524	52.239	18.115	103.304	919.4		
TREATMENT MEAN	5.632	3.731	1.294	7.379	65.671		
GRAND Total						1171.9104	

**Table 5: The ANOVA analysis**

Groups	Count	Sum	Average	Variance		
Column 1	14	78.8524	5.632314	11.43707		
Column 2	14	52.239	3.731357	8.561802		
Column 3	14	18.115	1.293929	3.065925		
Column 4	14	103.304	7.378857	15.22812		
Column 5	14	919.4	65.67143	648.5268		
Source of Variation	SS	Df	MS	F	P-Value	F crit
Between Groups	42183.43	4	10545.86	76.77312	6.58E-24	2.51304
Within Groups	8928.656	65	137.3639			
Total	51112.09	69				

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