

MichU  
CenRED  
R  
#1

CENTER FOR RESEARCH ON ECONOMIC DEVELOPMENT  
THE UNIVERSITY OF MICHIGAN

**NIGERIAN GOVERNMENT SPENDING ON  
AGRICULTURAL DEVELOPMENT:**

**1962/3-1966/7**

*by*

**JEROME C. WELLS**

**CRED Reprints  
(New Series)  
No. 1**

**Center for Research on Economic Development  
University of Michigan  
Ann Arbor, Michigan 48104**



NIGERIAN GOVERNMENT SPENDING ON  
AGRICULTURAL DEVELOPMENT:

1962/3-1966/7

*by*

JEROME C. WELLS



*Reprinted from The Nigerian Journal of Economic and Social Studies,  
Vol. 9, No. 3, November 1967*



# NIGERIAN GOVERNMENT SPENDING ON AGRICULTURAL DEVELOPMENT:

1962/3-1966/7\*

## I. INTRODUCTION

THIS paper summarizes the magnitude and composition of Nigerian governments' spending in the agricultural sector since 1962. Based on data from the Federal and Regional estimates of expenditures, it provides a measure of the size of the government effort being directed at the agricultural sector and an analysis of the nature of that effort.

The major document for the 1962-68 Development Plan provides the most commonly available measure of the level of resources directed through government to the agricultural sector and, in the individual plans of the regions and Federal government, the lists of projects which comprise the composition of government effort. Neither of these is a totally satisfactory measure. The totals cover only the planned capital budgets of the governments involved, and the project listing provides few clues to differences in the overall spending patterns of the regions or to the general strategies pursued in regional investment policy. The spending patterns which have emerged in the first five years of the plan have diverged considerably from the original ones published in the plan documents, and the impact of recurrent allocations has also modified the priorities listed in the Plan. This analysis attempts to fill these gaps by:

- (1) bringing the figures on planned and actual capital expenditures up to date in so far as they are reported in the *Estimates*;
- (2) including the allocations of the recurrent budgets; and
- (3) establishing a functional classification of government expenditures by means of which differences between the development policies of the regions may be explored.

---

\* The study has been undertaken under the joint sponsorship of the Centre for Research on Economic Development of the University of Michigan and N.I.S.E.R. (the latter under USAID grant 620-163, and the former under a Ford Foundation grant for the study of the Nigerian economy).

The author would like to thank Messrs Olu Awoyelu and Segun Famoriyo of N.I.S.E.R. for their aid in compiling and summarizing the budget data used, and Dr Edwin Dean of N.I.S.E.R. and Dr Anita Macmillan of the Economic Development Institute, Enugu, for helpful suggestions and comments at various points in the analysis.

The data upon which the analysis is based are drawn mainly from the capital and recurrent budget estimates of the Federal and Regional governments. Although these provide the most available and comprehensible measures of Nigerian governments' effort, they are neither exhaustive nor totally functional as measures of the government impact in the agricultural sector. Considerable care must therefore be taken in interpreting them. Some of the problems arising from their use will be elaborated in the body of the discussion, but it is well to set forth two major limitations at the outset. The first of these is a problem of completeness; not all government efforts in agriculture are channeled through the budgetary process, and the omission of foreign aid and the expenditure of local governments may somewhat mistake the nature and extent of expenditure on the agricultural sector. The second limitation is that of the categories used within the budgets themselves. Each government in Nigeria has a slightly different administrative structure for dealing with the agricultural sector, and the form of budgetary accounting done varies with the agency doing the recording. Actual expenditures are not broken down with the same level of refinement as budgetary allocations, and the capital budgets usually reflect the projects listed in the Development Plan, while allocations of resources through recurrent budgets is not attached to individual projects. Thus the division of allocations to make them comparable between agencies and capital or recurrent activities involves numerous rather arbitrary conventions as well as numerous opportunities for error. While the overall allocation should be correct in its broad outlines, it would be an error to assume that the numbers present a picture accurate to three significant figures.

The major results of the analysis can be briefly summarized. Out of a capital allocation of roughly £80 million in the National Development Plan, about half will have been spent by the end of 1966-67; an additional £37.3 million will have been allocated through regional and Federal recurrent budgets during the 1962/3 to 1966/7 period. Agriculture has absorbed roughly 7% of all government budgetary allocations during this period (Section 2).

The composition of spending is determined by a functional classification of types of capital expenditure (Section 3) and a not-so-functional classification of recurrent allocations (Section 4). These classifications rest on a distinction between investment in activities aimed at direct increases in production of agricultural commodities and those in the infrastructural or facilitating categories of research and education. The former account for approximately 85% of expenditures in capital budgets and perhaps three-quarters of recurrent allocations<sup>1</sup>, and it is in the kinds of directly productive capital investment that the strongest differences in regional spending patterns are to be found. The southern regions have allocated over half of all their capital expenditure to capital intensive types of investments which involve

---

<sup>1</sup> Two-thirds when university spending is taken into account.

government direction of the productive process and significant departure from the institutional framework of production of peasant agriculture. Less than one-fifth of their directly productive investments have been in extension types of activities serving a larger number of farmers and introducing less government direction and changes in institutions. For the North, this pattern is reversed, with the major proportion of capital going to the extension types of investments. An impressionistic survey of the types of investment in these two categories indicates that the government-directed projects appear to show considerably less promise than the more modest efforts in extension activities.

The differences between regional policies shown in the capital budget are not reflected in the recurrent allocations of the regions, mainly because recurrent budgets are organized on an administrative rather than a functional basis and tend to hide the recurrent requirements of different types of efforts undertaken in the Development Plan. This lack of functional budgeting represents a more serious dichotomy between the organization of government agencies involved in agricultural development and the requirements of effectively channeling investment into the agricultural sector. Major shortcomings of the analysis as a measure of total government effort directed at agriculture include the omission of significant foreign aid components, of university spending on faculties of agriculture, and of expenditure by local governments and authorities (Section 5). A final examination of the priority assigned to agriculture in the Development Plan (Section 6) leads to the tentative conclusion that the intent of that priority—to increase effective absorption of government investment by the agricultural sector—has not been greatly achieved by the allocations and implementation of the Plan.

## II. THE LEVEL OF GOVERNMENT ACTIVITY IN AGRICULTURE

The most commonly used measure of government effort in agriculture is derived from the allocations of the 1962–68 Plan document, where a total of £91.76 million out of a total investment allocation of £676.8 million (13.6%) is devoted to ‘primary production’. This figure overstates the proportion of effort devoted to agriculture by government and must be modified to take into account recurrent expenditure and the rate of implementation of the plan allocations.<sup>1</sup>

Table 2.1 summarizes the total estimated expenditures<sup>2</sup> of the Federal and Regional governments from 1962/3 to 1966/7, the first five years of the plan

<sup>1</sup> The plan document overstates the amount of resources going to agriculture in the Plan itself. The Federal component of expenditure includes a grant of £10 million to the Regions for agricultural development, but this has not resulted in any increase in regional programmes, it has merely served as a means of financing those listed in the plan. In the analysis here another £1.17 million is removed from the Federal allocation because it deals with geologic survey and mineral exploration.

<sup>2</sup> “Estimated expenditure” refers to the actual allocations of 1962/3–1964/5 and the approved or revised estimates of expenditure for the remaining two fiscal years. These are the latest available figures on government spending during the period and should be reasonably good indicators of actual government expenditure except that the approved estimates tend to over-estimate the amount which is actually spent. Thus the figures shown here should be treated as the maximum likely expenditure during the period under review.

TABLE 2.1

*Estimated Government Expenditures in Agriculture  
1962/3-1966/7**(£ millions)*

	<i>East</i>	<i>Mid-West</i>	<i>West</i>	<i>North</i>	<i>Federal</i>	<i>Total</i>
I. Estimated Expenditures						
Capital	18.25	1.34	11.16	8.00	3.19	41.94
Recurrent	7.67	1.48	10.97	12.37	4.80	37.29
	25.92	2.82	22.13	20.37	7.99	79.23
II. Plan Allocations: Capital	30.36	—	18.44 <sup>a</sup>	22.49	9.29 <sup>b</sup>	80.55 <sup>b</sup>
III. Recurrent Expenditures:						
1962/63	1.16	—	2.31	1.99	.62	6.60
1966/67	2.00	.513	2.43	3.31	1.62	9.93
IV. Agricultural Allocations as Proportion of Alloca- tions for all Sectors:						
Plan Allocations	40%	—	20%	23%	2%	12%
Estimated Capital Expenditures	29%	14%	19%	14%	2%	13% <sup>d</sup>
Estimated Current Expenditures	7%	7%	10%	8%	1.2%	5% <sup>d</sup>
Estimated Combined Expenditure	15%	9%	14%	10%	1.5%	7% <sup>d</sup>

Sources: Calculated from Federal and Regional *Estimates*, 1962/3-1966/7, and *National Development Plan*, Table 5.9, p. 41.

<sup>a</sup> Includes original allocation for both West and Mid-West.

<sup>b</sup> Federal total in plan document reduced by £10 million (transfers to regions) and £1.17 million (geologic survey and mineral exploration).

<sup>c</sup> Includes only 1965/6 and 1966/7.

<sup>d</sup> Agricultural proportions for combined Regions are as follows: capital, 21%; recurrent, 8%; combined, 12%.

period. By the end of 1966/7 £41.94 million, or about half of the allocation for agriculture presented in the Plan document, will have been spent. Agricultural capital spending has proceeded at about the same rate as all capital expenditure, and about 13% of the total spending so far has been on the agricultural sector. Even though the rates of capital spending have tended to increase during the later years of the plan, it is most likely that total spending for the six-year period will fall short of the plan allocation by at least 20-25%. One's impression of the level and nature of the government effort in agriculture must be considerably modified when the impact of recurrent expenditures is taken into account. During the past five years the total recurrent expenditure in agriculture (£37.3 million) has almost equalled the total capital expenditure. To appraise the government effort in agriculture without considering these allocations would serve to seriously misstate that effort.



When recurrent expenditures as well as those on capital account are considered, the proportion of government effort going into agriculture is seen to be considerably less than it appears from the plan allocations; only about 7% of total government spending has gone into agriculture during the first five years of the plan. Whether or not this proportional level of activity substantiates the Plan's claim that 'priority' has been given to the agricultural sector cannot be determined. If the capital budget is supposed to reflect the governments' development effort while the recurrent reflects its day-to-day administrative operations (as some people suppose), the claim that the weight of agriculture has been increased can certainly be substantiated.

The relationship between capital and recurrent spending is far more complex than this assumption indicates, and the two cannot be separated, either at the project or plan level, in appraising government efforts directed at 'development'. The resources allocated under the recurrent budgets of the agricultural ministries and agencies are themselves directed at development activities; for except for the relatively small proportion of recurrent funds going into departmental administration, the whole of their activities and allocations are directed at raising the productive capacity of the agricultural sector. Hence the amounts allocated as 'capital' do not introduce a new class of activities as much as they represent intensification of the types of activities regularly carried out. If anything, the division between 'capital' and 'recurrent' expenditures in agriculture conforms to a rather rough distinction between allocations in the form of services and goods. The recurrent budget measures largely the costs of 'establishment' (personnel), while the capital budget reflects the purchase of goods valued at over a few thousand pounds. One serious problem of this division, coupled with the emphasis on capital allocations made in the plan document, is that it draws attention away from the personnel requirements necessary for many of the 'capital' items proposed in the plan. Recurrent resource requirements appear as an afterthought, rather than an integral part of the analysis of most projects.

The relation between recurrent and capital allocations is apparent in the path of recurrent allocations over the past five years (section III of Table 2.1). Recurrent expenditures on agriculture in the Regions have increased by 30-50% of their original levels since the start of the plan period, and the proportion of increase is even greater if the base year is taken as 1961-62, the year before the Plan went into operation. Federal recurrent allocations in the same period have tripled, giving growth of total recurrent expenditures of about 50%. This rate of growth (which is approximately the same as that for total recurrent expenditures in all sectors) works out at about 11% per annum, slightly ahead of expectations at the time the Plan was written.<sup>1</sup> The combination of rapidly increasing recurrent expenditures with

---

<sup>1</sup> Compound rates are used over a four-year period of growth. For the original estimates postulated see W. F. Stolper: "Prospects for the Nigerian Economy" (supplement issued with the Plan document), Table A., p. 13. Growth of government consumption postulated there works out to 10% per annum.

shortfalls in the rate of capital expenditure is perfectly consistent with the impression gained from project studies that availability of recurrent resources (in the form of personnel) is the effective limit on the rate of capital expenditures. The figures understate the actual growth in use of recurrent types of resources, for they do not include personnel made available under foreign aid (Section 5).

The figures presented in Table 2.1 show the primacy of regional responsibility for agricultural development, and permit comparison between the spending patterns of the regions, which have allocated about 90% of the funds which have gone into agriculture in the last five years. Although the proportion of total capital allocations directed to agriculture in the Plan document varies widely between regions (ranging from 20% in the West to 40% in the East), the variance is not preserved when total actual expenditure is considered. The magnitude and relative share of government spending directed toward agriculture has varied little between the West,<sup>1</sup> North and East. Total spending in each region has varied between £20 and £26 million. The East has placed the highest absolute level and relative share of its expenditures in agriculture, followed by the West, and last, the North. The Eastern and Western levels of effort are much the same, the much higher capital expenditure in the East being offset by lower recurrent expenditures. This largely reflects the East's accounting procedures, which tend to put more types of expenditures related to specific projects in the capital budget. The North's rather lower level of spending probably reflects more severe bottlenecks, notably with respect to personnel, and a rather more cautious approach to selecting projects. Planned capital allocation in the North has been scaled down drastically from the £22 million proposed in the Plan document; the estimated total cost of all projects currently in the Northern capital budget is £15 million. Basically, however, these differences are not very great. Though the larger number of farmers and area covered in the North imply a lower level of resources per farmer directed to agriculture, there are no striking differences in the proportion of resources directed to agriculture in the three regions. Differences between the regional policies, if any, are more to be found in the nature of these allocations, their overall magnitude or share in total government expenditure.

### III. THE ALLOCATION OF EXPENDITURE: THE CAPITAL BUDGET

The estimate of total allocations going through the budgetary process to agriculture does little more than establish the general place of agricultural development in the total context of government spending. While the analysis is sufficient to demonstrate that the capital allocations of the plan over-

---

<sup>1</sup> The Mid-West for purposes of this discussion is combined with the West. Its planned allocations were originally part of the Western Region Plan, and only now is it beginning to diverge from the pattern of allocations set in the Western Plan. Its slightly lower proportion of spending devoted to agriculture probably reflects the difficulty of setting up a new agricultural ministry as a functioning unit.

state the share of total government effort going to the agricultural sector, it affords little insight into the nature of government efforts. About all that is demonstrated is that the primacy of regional responsibility for agricultural development is reflected in the division of spending between the regions and Federal Government, and that each region is channelling roughly the same proportion of government resources into the agricultural sector. Any further elaboration of agricultural policy requires an analysis of the types of efforts taking place in the sector. The nature of these efforts is at least as important as their overall magnitude. Two budgets of the same size but different composition can have vastly different effects on the response of the agricultural sector and, indeed, except for the pricing policies of the Marketing Boards, the composition of public expenditure is probably the main policy variable available to government for influencing agricultural development.

The major requirement in an analysis of the composition of government spending is for a framework within which types of expenditures may be classified. Such a framework must be consistent with a functional view of the role of government in agriculture and the elements involved in agricultural development itself. It must also be sufficiently consistent with the procedures involved in government budgeting to permit some meaningful classification of expenditures. The accounting processes used in Nigerian budgets are not based on a functional analysis of government activities, so that the framework which can be achieved at best represents an unhappy compromise between these elements. There is no way, for instance, that recurrent resource allocations can be attached to specific projects reflected in the capital budgets, and in some cases even the capital allocations to specific projects must be compiled from accounts of several different ministries. Although the classificatory framework developed here must be modified substantially to be used in analysing recurrent expenditures, it is nevertheless sufficient to afford some limited insights into the types of activities being pursued by the different governments and their relative weights in total spending.

The framework is based on an analysis of the types of government activities directed at agricultural development, and distinguishes between those which act directly to increase production or productivity and those which provide more of a supporting role in increasing the stock of knowledge or skills available to the agricultural sector. The distinction is roughly the same as that between 'directly productive investment' and 'social overheads' or 'infrastructure', the latter acting on the economy through improving the environment within which the former takes place. Research and educational activities typify the second class. Vitaly important to agricultural development, they act more on the environment within which activities directed at increasing production take place; for this reason they prove rather difficult to evaluate precisely in economic terms. The first class of activities, while sometimes more tractable in terms of economic analysis, is rather more diverse. It encompasses major government investments in the agric-

ultural sector and efforts to increase productivity among peasant farmers such as extension services and the provision of credit.

Within this category another distinction is very relevant to efforts at agricultural development in Nigeria; this relates to the organizational form of government activities to raise production. On the one hand there is a class of efforts which involve direct government management—though not always ownership—of the productive processes, on the other are a series of efforts coming under the broad heading of extension services which are largely directed at peasant farmers acting in their usual institutional environment. The first class might be characterized as ‘government directed projects’ or ‘directed investments’, the second as ‘extension activities’. There are a number of differences between the two types. The former tend to be projects limited to discrete areas and concentrating fairly large quantities of capital and managerial resources on a relatively small number of farmer-participants; irrigation schemes, settlement programmes and plantations afford the best examples. The latter tend to spread a smaller level of resource allocations over a wider area and larger number of farmers, as occurs in projects for development of smallholder’s tree crops or package demonstrations. Perhaps a major difference between the two types of activities is the way in which they deal with the institutional environment of peasant farming; the directed projects usually involve a break with this environment, while extension efforts work within it. The distinction reflects two different strategies of agricultural development: the ‘improvement approach’ which relies on attempts to increase productivity through inputs of materials and skills and only marginal changes in the traditional patterns, and the ‘transformation approach’, which envisions rather wide reaching changes in these institutions as a pre-condition for the effective use of additional inputs. The differences between these two types of investment and the development strategies related to each provide sufficient ground for attempting to differentiate between them in classifying government expenditures. Unfortunately the allocation of personnel to these types of activities cannot be determined from the recurrent budget, so the distinction can be preserved only in analyzing capital expenditures. This limitation forces the analysis to deal with capital and recurrent expenditures separately.

Two further elements of spending may be distinguished to correspond to slightly different forms of efforts directed at increasing production. Complementary investments in processing and marketing facilities are sometimes made by agricultural ministries to aid the processing and orderly flow of goods to market. These differ sufficiently from efforts at increasing production to justify a separate category. Similarly, the provision of credit justifies separate treatment.

A rough classificatory framework based on these considerations can be constructed. It distinguishes between:

- (i) Government Directed Projects, as described above;

- (ii) Investments in Processing and Marketing; including food storage depots, market construction, and various processing plants or centres;
- (iii) Extension Activities; including a wide range of activities directed at the peasant farmer, such as fertilizer distribution, smallholders tree crop development, demonstrations, pest and disease control, publicity on crop and animal husbandry, soil conservation, and the general development of extension services;
- (iv) Research and Investigations; including the total range of agricultural research as well as soil and water surveys not directly tied to irrigation schemes;
- (v) Education; comprising the training of both extension personnel and special courses for individual farmers; and
- (vi) Credit provision, where it can be identified.

A seventh category permits inclusion of miscellaneous types of activities and the provision of general equipment which cannot be allocated to individual projects. The framework provides a fairly straightforward means of classifying project efforts, though there is some latitude in allocating joint projects such as nucleus plantation schemes which include elements of categories 1 and 3. Several conventions have been followed in ambiguous cases. Schemes for farmer training—such as farm institute programmes—have been included in category 4, with the exception of those schemes strictly limited to serving a specific project, such as the Western Farm Institutes. The processing and marketing category is reserved for investment exclusively of that nature; those attached to other productive projects, such as plantations, are placed in category 1.

The data used are drawn from identifiably agricultural allocations or estimates of expenditure in the budget, and this limits somewhat their completeness in recording certain categories of expenditure. A good deal of the development of processing facilities, especially those of significant scale, takes place in the industrial sector allocations of the budget. These have not been included. The omission is not quite as serious as one might expect, because of the rather hazy boundary between the agricultural and industrial sector with respect to processing facilities. The small number of projects included here represent the ministries' appraisals of processing facilities needed to break bottlenecks in agriculture which would not be provided under the industrial criteria of the plan. Markets, marketing centres and storage facilities comprise the major element in this group. Similarly, and more seriously, educational and research activities taking place in universities cannot be broken out of the university budget allocations; it is hoped that this supplementary data can be obtained in the future, for university allocations comprise a fairly large component of the training and research expenditures. What is presented here is limited fairly strictly to the allocations taking place through the agricultural institutions which have separate budget allocations; the omissions noted above appear to be the only significant ones.

What can be learned from such a categorization of expenditures? By far the most useful comparison presented is that between the relative effort going to the two major types of direct output raising activities, categories 1 and 3. At the beginning of the Plan period, there was considerable interest in the difference between 'transformational' and 'improvement' types of activities, and a tendency to regard emphasis on extension activities as an outmoded feature of colonial agricultural policy. The extent to which this feeling has been translated into planned—and implemented—projects is probably the most useful item of information to be obtained from this analysis. The extent to which credit has been implemented in actual expenditure is also an item of interest; it featured prominently in the allocations of each region in the Plan. Finally, the evaluation should provide a rough division between activities directed at production and supporting (educational and research) activities, though this comparison is weakened by the omission of university spending.

TABLE 3.1

*Proportional Distribution of Capital Allocations and Expenditure*  
(Revised Plan Allocation and Estimated Expenditure 1962/3–1966/7)

I. Revised Planned Allocations by Type of Spending	East	Mid-West <sup>a</sup>	West <sup>b</sup>	North	Federal	Total
1. Directed Investment	59%	38%	53%	18%	—	40%
2. Processing and Marketing	4%	6%	—	4%	19%	5%
3. Extension	23%	30%	18%	55%	—	25%
4. Research & Investigation	3%	2%	2%	8%	53%	11%
5. Education & Training	4%	—	—	5%	—	2%
6. Credit	5%	n.a.	27%	6%	28%	14%
7. Misc. & Unclassified	2%	24%	—	4%	—	2%
Total: % <sup>d</sup>	100%	100%	100% <sup>b</sup>	100%	100%	100%
Total: Amount in £ millions <sup>d</sup>	28.25	2.39	18.44 <sup>b</sup>	14.99	10.52	74.58
For Comparison: Original Plan Allocations (£ millions)	30.36	—	18.44	22.49	9.29	80.55
II. Estimated Actual Expenditure to 1966/67						
1. Directed Investment	70%	59%	71%	23%	—	55%
2. Processing and Marketing	4%	11%	—	6%	1%	3%
3. Extension	18%	18%	16%	46%	—	21%
4. Research & Investigation	2%	3%	3%	10%	98%	11%
5. Education & Training	2%	—	2%	8%	—	3%
6. Credit	4%	—	5%	4%	—	4%
7. Misc. & Unclassified	1%	9%	4%	4%	—	2%
Total: % <sup>d</sup>	100%	100%	100%	100%	100%	100%
Total: Amount in £ millions <sup>d</sup>	18.25	1.34	11.16	8.00	3.19	41.94

Sources: Compiled from Federal and Regional *Estimates*, 1962/3 to 1966/7. Section I, last line derived from *Estimates* and National Plan document.

<sup>a</sup> Mid-West figures derived from listing of projects' estimated total costs, 1966/67 budget.

<sup>b</sup> Western figures derived from plan document, since no later listing of estimated total costs is printed.

<sup>c</sup> If staff housing removed from category 3 and placed in 7, proportions become category 3—12%, category 7—15%.

<sup>d</sup> Detail may not add to total due to rounding.

n. a. = not available.

The distribution of capital allocations and expenditures between different types of activities is presented in Table 3.1, where allocations are measured by the latest estimated total costs of projects in force at the time of the 1966/67 budgets, and expenditures are measured by estimated expenditures to the end of the 1966/67 budget year. The distribution shows not only the difference between the roles played by the Federal and regional governments but also strong differences between regional policies which have been emphasized in the course of Plan implementation.

Before these differences are discussed a few comments on the reliability of the proportional breakdowns are in order. The figures for the West and Mid-West, especially in categories 2-7 are the weakest links in this analysis; the budgets of these two regions simply do not lend themselves to functional analysis and several of their projects (notably the veterinary station at Fashola and the Regional Farm at Agege) serve several purposes. The major weight of their expenditure, however, can be easily identified as falling into category 1. The processing and marketing and research and education sections are, as noted above, probably incomplete, and expenditures on forestry and livestock have proved somewhat difficult to distribute within this framework. Conservation and most forestry activities have been placed—rather arbitrarily—in category 3, as have projects to control livestock disease. In spite of these limitations, the allocations presented here give a reasonably representative picture of the distribution of capital expenditure to the different classes of activities.

The figures first provide a measure of the relative division of effort between 'facilitating' types of investment activities—measured in categories 4 and 5—and activities directly concerned with increasing production, measured by the other categories. About 13% of total capital allocations have been directed to research, education, and investigation, and 14% of actual spending in the five-year period has gone into these categories. It was noted above that the omission of university spending could understate government effort in this category of activities, but a review of the magnitude of total capital expenditures of universities does not indicate serious understatement. Even if one-third of total university spending of £5.1 million over the five-year period is assumed to be for agricultural faculties, this only increases the share of effort in "facilitating" activities to 18 or 20% of the total. The overall division of effort—in capital expenditure—between the two major classes of government activity appears rather definitively to fall between 1:6 and 1:5. (The omission of university spending is likely to be more serious in its impact on measurement of recurrent expenditure.) In general the capital budget cannot be considered a very good indicator of the extent of government effort in research and educational activities, as much of this effort takes place through recurrent allocations. With the exception of Federal research activities, most of the allocations are merely for construction of additional facilities; actual research and training programmes are parts of the recurrent budgets.

Capital expenditure on research and investigations is largely a Federal affair. The Federal Government accounts for three-quarters of the actual expenditure in this area and, due to the slow initiation of the other projects in the Federal Plan, research and investigatory expenditure comprises almost all Federal expenditure to date. Regional capital allocations in the "facilitating" categories vary considerably, with the Northern allocations accounting for 13% of their planned allocations while the Southern proportion seems much lower.<sup>1</sup> The pace of implementation has increased the weights of these categories in the North.

The remaining categories of expenditure—with the exception of the rather small proportion which cannot be classified—are directed specifically at increasing agricultural production; within this category regional capital allocations and expenditures are included and the most dramatic differences in regional policies can be discerned.

Processing and marketing facilities absorb a small proportion of allocations and expenditures in this sector, and although the credit allocation accounts for 14% of allocated funds the slow implementation (or reduction) of Western and Federal programmes has reduced the overall impact of credit in expenditure to less than 5%. Effective ways to administer the distribution of credit and to employ it in increasing output apparently have yet to be devised.

The major forms of government activity directly focused at increasing output come under categories 1 and 3, i.e. government-directed investments and extension activities within traditional farming patterns. The former constitute the 40% of all revised allocations, and the latter 25%, but rates of implementation have varied so far that over half the resources allocated through capital budgets have gone into directed investments. Spending on extension types of activities has lagged slightly behind the average spending rate, and constitutes only 21% of total capital expenditure in the first five years of the plan. The different rates of implementation are not difficult to understand; the 'directed projects' usually involve significant amounts of construction, land clearing, etc.; and these forms of expenditure—especially when confined to a few locations—are somewhat easier to plan and get underway. Extension activities require more personnel spread over wider areas; it takes long to develop effective extension programmes; the rate of expenditure on such investments is more sensitive to personnel shortages and other bottlenecks. Whether returns on these projects are more sensitive to shortfalls in personnel and administration than they are on the directed type of investments is open to question. Expenditure upon the directed investments can simply proceed at a more rapid rate.

Not only does the expenditure on government-directed investments constitute the major component of total capital expenditure in agriculture,

---

<sup>1</sup> The Western and Mid-Western figures are not reliable, no specific educational project being delimited in the rather vague Western Region plan. But the emphasis is probably on a lower order of magnitude than that in the East.



it also comprises the major source of differences in regional investment policies between the North and the South. 60% of total regional capital spending in agriculture has been for government-directed investments, and the East, West and Mid-West are largely responsible for this emphasis; their proportions of spending on category 1 projects ranging between 60 and 70%. The North has taken a completely different approach, putting almost half of its expenditure in the extension type of activity, and less than one quarter into directed investment. Within the South, this ranking is completely reversed, category 3 has received less than 20% of total expenditure in every case. The difference in emphasis has been reflected in rates of plan implementation; the East and West, concentrating heavily on their priority investments in category 1, have spent 60-65% of the totals allocated, while the North has only spent 53% of a revised plan allocation (£14.99 million) vastly scaled down from its original plan allocation (over £20 million).

In order to explore the reasons for these differences in Regional investment policies it is necessary to look at the specific project allocations in the two categories. These are presented in Table 3.2 and 3.3 listing the major types of projects falling under the directed investment and extension headings and the proportions of total capital spending devoted to them.

The directed investment components are shown in Table 3.2. Most of the allocations in this category—and almost all of the actual spending—has gone to four types of projects: settlement schemes, plantations, irrigation projects and cattle ranches. The pattern of allocation between them varies widely between the regions with the North spending most of its much smaller allocation to directed projects on irrigation, while the South has concentrated on the settlement schemes and plantations. Within the East and West there is a further difference in emphasis; the West's settlement programme has absorbed the largest share of inputs to directed projects while plantations are in second place, and in the East this ranking is reversed. It is easy from this table to determine the favoured project in each region; it receives the largest proportion of directed investment (and usually of all capital allocations) and it has generally been implemented at a slightly faster pace than average capital investment, giving it a higher weight in actual spending than it had in plan allocations. The East has laid its emphasis on tree crop plantations, which comprise 37% of planned allocations and have received 47% of actual spending. Exactly the same figures apply to the West's farm settlements, while the North's more modest emphasis on irrigation has resulted in a rate of implementation just slightly faster than that of other allocations in the plan. Each region's choice of project was strongly affected by the planning and allocations of other regions. This is most clearly evident in the case of Eastern Region's farm settlements, an outright imitation of the Western scheme (which predates the development plan by three years). The North was also influenced by the publicity given the Western scheme, but capital and personnel limitations confined its form of imitation to a more widely spread and less expensive scheme of farmer training (listed under category 4 in this analysis).

TABLE 3.2

*Major Components of Directed Investment in Capital Allocations and Expenditure  
(Percentages refer to proportion of total expenditure or allocation in all categories)*

	<i>East</i>	<i>Mid-West</i>	<i>West</i>	<i>North</i>
<b>I. Revised Planned Allocations</b>				
Total: All Directed Investment:				
Amount (£ millions)	16.64	0.91	9.74	2.71
All Directed Investments:				
Proportion	59%	38%	53%	18%
Specific Projects:				
1. Settlement Projects	21%	38%	37%	—
2. Plantations and Nucleus Estates	37%	n.a.	16%	—
3. Cattle Ranches	1%	—	n.a.	3%
4. Irrigation	a	—	—	13%
<b>II. Estimated Expenditure to 1966/67</b>				
Total: All Directed Investment:				
Amount (£ million)	12.70	.79	7.89	1.84
All Directed Investment:				
Proportion	70%	59%	71%	23%
Specific Projects:				
1. Settlement Projects	21%	59%	47%	—
2. Plantations and Nucleus Estates	47%	n.a.	22%	—
3. Cattle Ranches	1%	—	n.a.	4%
4. Irrigation	a	—	n.a.	17%

*Sources:* Computed from Regional and Federal Estimates, 1962/63-1966/67.

<sup>a</sup> Less than 1% of total allocations or expenditures.

n.a. = not available

How effective are these types of investment? This question cannot be fully answered on the basis of current data, nor without an examination of all elements of agricultural policy, but some observations can be recorded. The farm settlement programmes appear to be the weakest of the four forms. Originally defended as a means of introducing 'modern' agricultural techniques and a co-operative form of organization, they involved—even at the planning stage—high capital costs per settler and fairly complex administrative requirements. The level of costs—over £2,000 per farmer in the original estimates—subverts any possibility that the schemes, if successful, could be imitated by other farmers and forces them to specialize heavily in a few crops which, at the time of their inception, promised the

highest returns.<sup>1</sup> In practice, the settlements appear to be turning in a worse performance than the marginal one at best predicted. Settler turnover has been high, costs are considerably higher than the original amount predicted, and the schemes have absorbed considerable numbers of agricultural staff from other activities. Their net impact on the economy beyond their confines appears at present to be limited to providing opportunities to increase the government labour rolls.

The plantations represent a form of investment which is at least potentially successful, but they face administrative and cost problems similar to those of the settlements. Government's comparative advantage in plantations appears low: government is usually the highest cost producer of the crops they raise. The Northern irrigation projects are perhaps slightly less plagued by difficulties, though the more ambitious of these are marked by development costs of over £120 per acre and it is not clear whether cropping patterns promising yields high enough to cover these costs can be devised. But the irrigation schemes to date encompass a variety of types and the lower total amount of resources going into them (£1.37 million in estimated expenditure for the Northern irrigation projects vs. almost £10 million for Southern settlements) at least partially justifies their claim to being 'pilot' investments.

Table 3.3 lists the major forms of allocation to extension activities planned and undertaken by the ministries of agriculture during the first five years of the Development Programme. These display considerably more variety than do the directed investments and, although implementation has lagged, appear to show more promise than the investments of category 1. With the exception of smallholders tree crop development and the North's fertilizer programme, there are relatively small schemes, and even these two schemes involve considerably less resources than the settlement and plantation investments of category 1. Though less ambitious than directed investment projects they are wider ranging, and hold out at least the prospect of affecting a larger number of farmers.

The major form of this type of investment in the South is comprised by the smallholder tree crop schemes which have recently been promoted by the IBRD. These attempt to provide technical advice and small amounts of capital to encourage smallholders to replace ageing trees or to expand their tree crops. An even lower cost scheme aimed at tree crop planting together with development of arable cash crops is that of the Eastern Region's Ministry of Rural Development, which attempts to incorporate land consolidation (through the use of co-operative holdings released to individual planters), community effort, and technical expertise provided by the Ministry. One modest experiment in relocation is taking place under this scheme. Another set of schemes which appear to be meeting with limited success

---

<sup>1</sup> The Western Region's settlements, in spite of their stated goal of aiding in diversification of Western Region agriculture, rest almost entirely on the fortunes of cocoa and egg prices. See J. C. Wells: "The Israeli Moshav in Nigeria: An Estimate of Returns", *Journal of Farm Economics*, May 1966, pp. 279-294.

TABLE 3.3

*Major Components of Extension Activities in Capital Allocations and Expenditures*  
(Percentages refer to proportion of total capital allocation and expenditure for all categories)

	East	Mid-West	West	North
I. Revised Plan Allocations				
Total—All Extension Activities (£ millions)	6.62	.71	3.34	8.18
All Extension Activities: % of total capital	23%	30%	18%	55%
<i>Individual Projects</i>				
1. Smallholder Tree Crop Development	16%	22%	14%	1% b
2. Rural Development: Tree crops, Arables	5%	3%	n.a.	—
3. Fertilizer Distribution	—	—	—	28% a
4. Cattle: Veterinary Service, Disease control	1%	—	n.a.	6%
5. Cattle: Grazing Land, Production facilities	—	—	n.a.	7%
6. Poultry Development	<1%	1%	n.a.	1%
7. Soil Conservation, Reclamation	—	—	—	3%
8. Development of Mechanical Cultivation	—	—	n.a.	2%
9. Fisheries	—	—	n.a.	2%
II. Estimated Expenditures to 1966/67				
Total Amount: All Extension Activities (£ million)	3.27	.24	2.24	3.69
Extension Activities as % of total	18%	18%	20%	46%
<i>Individual Projects</i>				
1. Smallholder Tree Crop Development	11%	8%	12%	1½%
2. Rural Development: Tree Crops, Arables	4%	<1%	—	—
3. Fertilizer Distribution	—	—	—	14%
4. Cattle: Veterinary Services, Disease Control	1%	—	n.a.	9%
5. Cattle: Grazing Lands, Production Facilities	—	—	n.a.	8%
6. Poultry Development	<1%	2%	n.a.	2%
7. Soil Conservation, Reclamation	—	—	n.a.	3%
8. Development of Mechanical Cultivation	—	—	n.a.	3%
9. Fisheries	—	—	<1%	1.6%

Sources: Computed from Federal and Regional Estimates, 1962/63–1966/67.

<sup>a</sup> Includes £0.2 million of £4.19 million in crop demonstrations and support of extension services.

<sup>b</sup> Mostly distribution of seedlings in the North.

n. a. = not available.

in the South are those directed at expansion of the poultry industry, resting on the sale of day-old chicks and poultry batteries and the provision of information on the operation of such commercial poultry units. Expansion of domestic egg production has been considerable since the start of the plan period

and local eggs have replaced imports. Oddly enough, the ministries do not consider their efforts successful because the increased supply of local eggs has depressed prices below their former high levels.

The difference between Northern policy and that in the southern regions is not merely confined to the relative distribution of effort between directed investment and extension; it extends to the types and varieties of activity undertaken in both areas. The North's extension activities are spread over a larger number of smaller efforts than the South's, which are directed mainly at smallholder tree crop expansion. The major Northern extension effort is based on widespread distribution of subsidized fertilizer backed by an extensive programme of on-the-farm demonstrations of recommended cropping practices. Totalling over 5,000 in 1966, these demonstrations serve to show farmers the potential gains from fertilizer use and the modest changes in crop husbandry that can be applied under existing patterns of land use and tenure. The demonstrations have shown that considerable gains are possible from use of these practices, as well as providing a good measure of response to new seeds and fertilizer under actual field conditions. The extent to which the scheme is successful in establishing widespread use of recommended practices cannot yet be predicted, but sales of the subsidized fertilizer have increased five-fold between 1961 and 1965. The other Northern extension efforts are smaller in scale but cover a wide range of activities, from provision of grazing lands and water for cattle to an attempt to establish tractor hire units and introduce use of mechanical cultivation (the latter has not been fully costed, but it does not appear to have achieved a successful formula for low cost hire services to date).

The extension activities in all regions are much more difficult to appraise than the directed investment projects; since in most cases their success will depend on the nature of peasant response to the government efforts. Although they do not involve government control of the entire productive environment—as do the directed investments—they have a number of strong points in their favour. They are much less expensive per farmer affected than the directed investments; this permits the possibility of widespread emulation (with or without additional government effort) if they prove successful, as well as committing a smaller level of government efforts to projects which fail. Furthermore, the extension projects are usually more flexible; because they do not involve large components of fixed assets they can be changed as conditions dictate. The pace of their expansion is not, in general, a crucial determinant of their level of total returns.

The extension activities are intimately connected with the recurrent budget allocations of the regions. Because they contain a rather high proportion of personnel service components, the capital allocations to them usually cover a smaller proportion of their total cost than do the capital allocations to directed investments. But in both cases the total projects draw on both capital and recurrent resources, and the latter cannot be ignored in any discussion of the level of effort in the agricultural sector. It is to these allocations that our discussion now turns.

#### IV. THE ALLOCATION OF EXPENDITURE: THE RECURRENT BUDGET

The division of recurrent expenditure into functional categories suffers from a number of problems. Although the ideal form for this distribution of expenditures would parallel that used in the division of capital allocations, recurrent expenditures are not classified by function. The best breakdown possible, therefore, involves an unhappy compromise between the categories set out for capital and the administrative structures of the ministries of agriculture. The breakdown preserves the division between efforts directed mainly at increasing output and those directed at facilitating types of activities, but it does not preserve the distinction between effort in directed government investment and extension activities, nor between efforts expended on plan projects and the on-going efforts of the ministries.

Seven categories can be distinguished:

- (i) General Administration,
- (ii) Agricultural Engineering,
- (iii) Irrigation Engineering,
- (iv) Productive Services,
- (v) Research and Investigation,
- (vi) Education and Training, and
- (vii) Produce Inspection and Marketing Services.

An eighth category records unclassified expenditures (usually in the form of charges for vehicle allowances and operation of ministry vehicles), and a ninth account lists the underspending expected to reduce expenditures from the levels required with full establishment to those listed. Categories 1-3 record the administrative and technical services required to operate the ministries. Category 4, Productive Services, can be further subdivided between Field Services (the general locus of agricultural activities), Veterinary, Forestry and Fisheries activities. These are the operating sections of the ministries involved with directly increasing output; categories 2 and 3 serve as technical support for them. Categories 5 and 6 parallel the research and investigation and education and training allocations in the capital accounts distribution, and category 7 represents on-going commitments of the ministries in produce inspection, the largest component of ministry activity related to processing and marketing.

The distribution of total recurrent allocations<sup>1</sup> from 1962/3 to 1966/7 is presented in Table 4.1. Half of the recurrent allocations during this period have gone to the productive services, approximately 25% to research and educational activities, and the remaining 25% to administration, produce inspection and miscellaneous items. The capital allocations, in contrast, are

---

<sup>1</sup> The figures here are drawn from those for total allocations only. Breakdowns are not possible on the basis of actual expenditures in any case, which is why the total of £40.41 million exceeds that presented in Table 2.1.

TABLE 4.1

*Distribution of Estimated Recurrent Expenditures in Agriculture, 1962/63-1966/67*

	East	Mid-West	West	North	Total (including Federal) <sup>c</sup>
1. General Administration	7%	12%	8%	9%	8%
2. Agricultural Engineering	2%	4%	6%	—	2%
3. Irrigation Engineering	—	—	—	4%	1%
4. General Productive Services:					
(a) Field Services	37%	39%	48%	26%	32%
(b) Veterinary and Livestock	9%	6%	4%	22%	11%
(c) Forestry	5%	5%	6%	7%	5%
(d) Fisheries	2%	10%	2%	a	1%
4. Sub-total Productive Services	(53%)	(60%)	(60%)	(56%)	(50%)
5. Research and Investigation	6%	a	6%	3%	16%
6. Education and Training	8%	1½%	11%	5%	7%
7. Produce Inspection	11%	2%	9%	15%	10%
8. Miscellaneous and Unallocated	18%	25%	8%	14%	12%
9. Underspending	-6%	-6%	-8%	-6%	-6%
Total: Proportion	100%	100%	100%	100%	100%
Total: Amount in £ millions <sup>b</sup>	8.54	1.48	11.61	13.98	40.41 <sup>c</sup>
Total per Estimated Expenditures: <sup>b</sup>	7.67	1.48	10.97	12.36	38.15 <sup>c</sup>

Sources: Regional and Federal *Estimates*, 1962/63-1966/67.

<sup>a</sup> Value accounts for less than 0.75% of expenditures.

<sup>b</sup> The only breakdowns and those available from the budget allocations, hence the total amount somewhat exceeds the values presented in Table 2.1.

<sup>c</sup> Federal expenditures include £.08 m. on administration and £7.2 m. on research.

weighted more heavily toward direct production activities: 80% of these have gone to directed investment, extension services and credit, with only 15% to research and educational activities (Table 3.1). That the heavier weight of the recurrent budget is in research and education is evident even though the costs of university activities in these areas are omitted. Federal expenditures are totally allocated to research and account for most of the weight of the research in the recurrent budgets.

The high proportion of unallocatable expenditures and of underspending casts some doubt on the accuracy of the overall breakdown. The two categories have been presented separately rather than combined to state accurately the level of uncertainty involved. The miscellaneous and unallocated category, however, is mostly in the form of vehicle allowances and vehicle operating costs; and these probably are allocated between categories in roughly the same proportion as other expenditures. The underspending may affect the proportions presented here more seriously as some activities have a higher proportion of understaffing than others.

There is a remarkable similarity between the regional spending patterns. The proportion of spending on direct productive services ranges between

53% and 60% in all the regions, and also the proportion spent on other categories does not vary too greatly. Within the productive services category the allocations to different activities are also roughly the same with the exception of the Mid-West's rather greater emphasis on fisheries and the North's division of its effort between field services and veterinary and livestock components. This is partly explained by the greater emphasis on cattle in the North, and partly explained by a difference in the location of services. In the South this category picks up only activities of the veterinary department; efforts to expand livestock production come under the field services allocation. There is a slight difference in the proportional allocation to research which may reflect the transfer of the North's major research station at Samaru to Ahmadu Bello University in 1963. The expenditures on this station are currently excluded from this analysis, which understates the North's research activities rather considerably. Educational activities (ignoring the Mid-West proportion, which is not reliable) also vary somewhat, with the East and West putting 8-11% of their expenditure into training, while the North only allocates 5% of its expenditure in this manner. In view of the North's higher allocations to education and training in the capital allocations (Table 3.1), this can be explained either by the assumption that the North's investment is an attempt to catch up with higher Eastern and Western levels of training or that the North's capital budget includes some items for which recurrent spending is used in the East and West. The former is probably the correct interpretation, for about half of the Northern capital outlays on education and training are going into construction of additional facilities for training extension officers, and existing facilities contain a fairly sizeable proportion of expatriate staff whose salaries are paid by outside agencies.

The general impression which emerges from this analysis of recurrent spending is that the regions distribute their efforts in very similar ways, and it is tempting to conclude that the differences shown in their capital allocations are muted by similarities in the day-to-day operations of the agricultural ministries. This is not necessarily so. The recurrent budgets reflect the administrative structures within the ministries; these have evolved from a common origin and are quite naturally similar. But within these similar administrative frameworks resources may be deployed in quite different ways. This is especially true of the staff allocations of the Field Services Divisions, where deployment of personnel appears to reflect the patterns of spending in the capital budget. It is clear in most cases that the bulk of field services personnel are engaged in the on-going extension activities of the ministries and in the implementation of capital investments in the extension category; but the drain of personnel to staff-directed investment projects is not inconsiderable.

Perhaps the greatest hidden cost of these types of investments is their absorption of personnel who would otherwise be engaged in extension activities. The lack of a functional distribution of recurrent efforts, notably in



field services, renders any attempt to appraise the overall cost of the different direct investment programmes totally ineffective.<sup>1</sup>

There are wide differences between the regions in the growth of recurrent spending. Between 1961/2 and 1964/5 (the latest year for which actual spending figures are currently available) the recurrent spending of the East's Ministry of Agriculture increased by 98%, that of the West dropped by 2% and that of the North increased by 2%.<sup>2</sup>

Budget allocations, as opposed to actual expenditure, can be used to plot the regional intentions with respect to expenditure although, even with planned underspending accounted for in the *Estimates*, actual expenditure tends to fall short of the allocated amount. The budget allocation for the East's Ministry of Agriculture in 1966/7 was 146% greater than it was in 1961/2; that of the combined West and Mid-West ministries was up by only 35%; that of the North's Ministries of Agriculture and Animal and Forest Resources was up somewhere between 30% and 37%.<sup>3</sup>

The East, starting the plan period with less than half the recurrent expenditure in agriculture of the West, has clearly been increasing the intensity of its activities to the levels of the West.

Not only have levels of recurrent spending grown differentially; the rates of growth have been associated with changes in its composition over time. This is very clearly shown by comparison of the Western and Eastern Regions expenditures for 1961/2 and 1966/7, presented in Table 4.2.<sup>4</sup> As noted above Eastern recurrent expenditure has more than doubled in the six-year period, while that in the West has increased by only 12% (35% if the Mid-West is combined with the West). The major expansion in activities of the Western ministry came in the period before 1961/2, while that of the East's ministry has occurred during the plan period. The eastern configuration of allocations is roughly the same for both years; the only significant changes being decreases in the proportion of resources going to administration and the expected rate of underspending from staff shortages. The Eastern allocations in 1961/2 typify the patterns of spending in the period around Independence. The low proportion of expected understaffing indicates the pattern of spending (and establishment) has not changed radically; productive services receive a lower weight than they will after expansion, and

---

1 The Mid-West has gone part of the way in an attempt to record personnel requirements of their settlement programmes by the inclusion of a farm settlement category as a subsection of field services. But the figures appear to be minimal ones and do not include the drain on time of general extension personnel providing services to the directed projects. Staff deployment lists are available and should provide some clue to project allocation of personnel, but if the Western figures are any example these vary so widely from estimate to estimate as to appear totally unreliable.

2 The drop in Western Region expenditure is the result of the removal of the Mid-West, and is therefore largely spurious. Unfortunately Mid-West actual spending for 1964/5 is not yet available, but if 90% of its allocation were actually spent, the West's figure change to an increase of 21%.

3 Northern figures imputed from 1960/61 and 1963/4 allocations.

4 Unfortunately this comparison cannot extend to the North because its budget categories before 1962/3 do not easily lend themselves to this framework. The analysis is indicative of trends in spending patterns in the South, which vary somewhat from those in the North simply because of the more extensive differences in agriculture between the two areas.

TABLE 4.2

*Distribution of Budget Allocations, Western and Eastern Regions: 1961/2 and 1966/7*

	West		East	
	1961/2	1966/7	1961/2	1966/7
1. General Administration	12%	7%	3%	7%
2. Agricultural Engineering	5%	6%	1½%	2%
3. Irrigation Engineering	—	—	—	—
4. General Productive Services:				
(a) Field Services	50%	46%	32%	40%
(b) Livestock	3%	5%	5%	10%
(c) Forestry	7%	6%	7%	6%
(d) Fisheries	1%	2%	1%	1½%
4. Sub-total	(61%)	(59%)	(45%)	(57%)
5. Research and Investigations	6%	6%	7%	6%
6. Education and Training	12%	11%	3%	5%
7. Produce Inspection and Marketing	9%	9%	19%	11%
8. Miscellaneous & Unallocated	7%	7%	23% <sup>a</sup>	16% <sup>a</sup>
9. Underspending	-13%	-6%	-1%	-6%
Total: Proportion	100%	100%	100%	100%
Total: Amount (£ million)	2.173	2.429	.812	2.004
Index: 1961/2 = 100	100	112 <sup>b</sup>	100	247

Sources: Computed from *Regional Estimates, 1961/2 and 1966/7*. Detail may not add to totals because of rounding.

<sup>a</sup> In 1961/2, 18% of Eastern allocations were unallocatable, mostly in the form of motor vehicle allowances. In 1966/7, 11% were unallocatable, again in the form of motor vehicle allowances. The remaining 5% in this category consists mostly of grants to cover ENDC deficits.

<sup>b</sup> If Mid-West is included, index is 135.

standard services such as produce inspection constitute a higher proportion of the ministries efforts. Although administrative allocations are low, the cost of associated inputs (motor vehicles in the 'unallocated' account) carries a heavier weight than it does after expansion. The expansion is associated with an increase in the weight of productive services, felt most noticeably in the field services and livestock activities, an increase in ministry educational and training activities, and little or no change in the weight of research activities. Administrative costs have increased, as has the expected rate of underspending.<sup>1</sup> The configuration finally achieved is very similar to that of the West in both 1961/2 and 1966/7.

The figures confirm the impression that the West was the leader in expansion and change in the role of agricultural ministries in the South and that the East's expansion at first reflected considerable emulation of the Western model. Differences in the pattern of expansion have occurred,

<sup>1</sup> The expected rate of underspending in 1961/2 was not a very clear guide to performance; actual expenditure was only 95% of that predicted, even after expected underspending was accounted for. This rate of deviation is not atypical of spending in all cases for the first three years of the Plan. If this deviation is removed in current years, the rate of underspending will have remained constant.

however, and show up most clearly in the capital allocations, where Eastern efforts have focused more on plantations settlements and slightly more on smallholder tree crop development.

The summary of recurrent allocations provides very little useful information on the actual operations of the agricultural ministries and on their relative priorities in the implementation of their capital programmes. Given the differences in capital allocations there should be more apparent differences in the composition of recurrent allocations, and perhaps the only inference to be drawn from a review of these allocations is that the administrative structure inherited by the ministries has exercised a far greater influence over the allocation of recurrent expenditures than has any functional set of priorities with respect to the development plan. What differences exist in ministry policies only occur within the rather rigid and common administrative framework.

## V. THE MEASURE OF GOVERNMENT EFFORT: PROBLEMS AND OMISSIONS

The analysis presented here has been undertaken to provide a rough measure of the level and composition of government effort in the agricultural sector of the economy. As such, the measures provided represent an imperfect compromise between the type of exhaustive functional classification desirable for economic analysis and the extremely awkward and limited data available from the results of the government accounting process. The data presented in the governments' *Estimates* provide faulty measures of both the level and composition of government expenditures. Their shortcomings as a base for functional analysis of activities have been indicated in the course of the preceding discussion, and inferences drawn from the analysis have been limited to those which seem relatively firm in spite of ambiguities in the data. Several warnings, however, need to be appended to this presentation and held in mind in any attempt to employ it as a basis for analysing government effort in agricultural developments.

There are at least three serious omissions to be considered if the data provided here are to be taken as measures of government effort in agriculture; they include: foreign aid, the expenditures of local authorities, and the expenditures of universities on faculties of agriculture and agricultural research. The omission of aid is probably the most important of these as a source of mis-stating government agricultural effort, for use of resources made available through this means is integrated with the activities of the government ministries, but not recorded within their budgets. Not only is a sizeable amount of resources provided through foreign aid, these resources may also be deployed quite differently than those provided solely through the Nigerian budgetary process. Aid giving and receiving reflects a joint decision-making process between donor and recipient, and, since donors have

their own priorities with respect to agricultural development and tend to provide certain specialized types of resources, the allocations resulting through this process may differ considerably from those reflecting only Nigerian spending.

Not all allocations financed by foreign sources are omitted from the government budgets; allocations for special programmes such as the World Bank's cocoa scheme are recorded as capital receipts to the development fund and capital expenditure in the agricultural allocation. The types of aid most usually not picked up are provision of equipment and services, especially on a recurrent basis. An indication of the magnitude of the problem is provided by the handling of expenditures of USAID, the largest but by no means the only donor in the agricultural sector. USAID at the end of 1965 appeared to have obligated about £17 million to Nigerian agricultural development,<sup>1</sup> of which £6 million was to have been spent by the end of fiscal 1965. These obligations are to be matched by £10 million in unspecified allocations by Nigeria and mostly take the form of personnel services and equipment to be deployed on a wide variety of projects. Some of the projects are strictly of USAID's conception, but many of them provide support for projects undertaken by the Nigerian governments themselves. Support is allocated over a number of activities ranging from agricultural economics to water resources development, but over half of the obligations involve support for extension, research, and agricultural education. The aid allocation in this case differs rather substantially from that which appears in the government estimates; this could be due to the nature of the specialized resources granted or to the donors' interests in providing additional support for given types of activities.

Even if detailed information were available on the amount and deployment of foreign aid, there would be considerable problems in providing a combined account of Nigerian and foreign expenditures. Foreign personnel services, which account for a large proportion of the total foreign aid, involve a set of price structures very different from those used in the Nigerian government, and there is no unambiguous way of comparing the costs of similar experts financed from foreign instead of local sources. The same stricture applies to equipment provided from foreign sources, where purchases are usually tied to products available in the donor country.

University spending is also a serious source of underestimation, especially in the education and training and—to a lesser extent—the research components of the recurrent budget. At Ibadan, with the largest faculty of agriculture, recurrent spending on the faculty and related farm reached almost a quarter million pounds per year by 1966/7, and has totalled about three-quarters of a million over the first five years of the plan period. Based on these figures, recurrent allocations of the faculties of agriculture must be in the order of magnitude of £2–£3 million over the plan period. This is equal to the total amount of recurrent resources allocated to education and training since 1962/3, and excludes the cost of operating the North's major research station, which is organized as a separate institute of Ahmadu Bello

University. University capital allocations to agricultural developments are also unknown, but it was noted in Section 3 that these probably do not increase existing estimates of expenditure by more than 20%. The importance of foreign aid in university spending is indicated by the figures for Ibadan; grants for various research financed from outside (non government) sources have totalled over £160,000 during the Plan period.<sup>1</sup>

No attempt has been made to incorporate the spending of local government units such as Native Authorities in these estimates. Although such units spend modest sums on agricultural development, their spending usually supplements efforts determined by the Regional ministries, and any really heavy expenditure on their part requires additional support from the regional ministries. This form of expenditure can probably be safely treated as a secondary source which follows the patterns of effort set by the regional governments.

## VI. THE NATURE OF GOVERNMENT EFFORT IN THE AGRICULTURAL SECTOR

The Nigerian Federal and Regional Governments have allocated about £80 million to agricultural development through the budgetary process since the beginning of the National Development Plan in 1962 and the end of the fiscal year 1966/7. Only about half of this has been in the form of capital allocations (which account for only half of the capital expenditure planned in 1962); the rest has been recurrent expenditure which has grown at a rate of approximately 11% per annum since the start of the plan period in 1962. These figures reflect the budgetary implementation of the Plan's claim that 'priority' has been given to the agricultural sector and it seems relevant to examine the level and nature of the agricultural allocations in relation to this claim. It will be argued that the agricultural sector has not received and does not need priority in the usual sense of the word, and, far more relevantly, that the pattern of agricultural policy evident in these budgetary allocations does not constitute a very successful approach to the potential role of government in increasing production and incomes in Nigerian agriculture.

The plan document states that the 'highest priority has been given to agriculture, industry and training of high and intermediate level man-power'.<sup>2</sup> The linking of three items together leaves one question of priority somewhat unresolved, and the general import of the statement is immediately limited by recognition that both the agricultural and industrial sectors can only absorb limited quantities of capital (effectively) within a given time period. The importance attached to man-power training appears to be related to an attempt to increase the absorptive capacities of these sectors.<sup>3</sup> The "priority" thus claimed for agriculture is somewhat modified, and the analysis may be reduced to the following propositions:

<sup>1</sup> This is not included in the £3 million mentioned above.

<sup>2</sup> National Development Plan, p. 22.

<sup>3</sup> *Ibid.*, pp. 22-23.

- (i) If the targets with respect to growth are to be achieved, the plan must represent a marginal shift of government effort toward directly productive types of investments in the agricultural and industrial sectors.
- (ii) Given current conditions, the capacity of these sectors to absorb investment effectively is limited; this constituting the effective limitation on the rate of growth.
- (iii) The causes of limited absorptive capacity may be traced, *inter alia*, to shortages of knowledge and trained manpower; hence the emphasis on increased training of intermediate and higher level skilled personnel.

At no point is priority claimed for the agricultural sector because its slow development appears to be interfering with the potential for growth in other sectors, and at no point is the growth of the agricultural sector seen as making a contribution to anything but the generalized growth of the economy.

On this issue the analysis of the planners appears to be essentially correct; certainly no evidence since the start of the plan period appears to challenge it. Production of both exports and domestic foodstuffs appears to have performed at least adequately during the plan period and there have been neither serious food shortages nor, until the disruption of interregional trade patterns due to the events of 1966, any really serious increases in food prices. (The slow rise in urban food prices noted by some observers may very well be explained by the government's wages policy more than by failure in the expansion of production of foodstuffs.) The main concern with respect to agriculture generally seems to be focused on its inability to slow the drift of young school leavers to the urban areas, and this is probably more the result of government wage, educational and spending policies than it is of any inherent failure within agriculture. The problems of the agricultural sector appear to be the more generalized ones of underdevelopment; low productivity, low incomes and, possibly, overspecialization of given areas on specific export crops. Thus, the 'priority' assigned to agriculture in the plan is not born of desperation; it merely represents an attempt to establish conditions required for effective additional investment in the largest sector of the economy. The nature of this interpretation is important, for a more urgent interpretation of 'priority' may lie at the source of some weaknesses in agricultural policy which have emerged during the plan.

The plan document stresses the limited capacity of both agriculture and industry to absorb investment effectively, and identifies this with shortages of trained manpower. While this is essentially correct, it puts too great a burden on the scarcity of trained manpower alone. Certainly it is much easier to spend money on the agricultural sector than it is to make socially profitable investments, and certainly the lack of skilled agricultural workers at all levels imposes severe constraints. But to state the constraint in this way ignores the problems of effectively co-ordinating what manpower resources

there are, and of following through on promising lines of effort. The process of investment involves a good deal of learning, and unless investment policy is ordered so as to provide a maximum opportunity to learn as the process proceeds, considerable quantities of resources may be committed to efforts which eventually stagnate. The limited absorptive capacity of the agricultural sector can be attributed to limited knowledge and manpower; but increased quantities of these two factors *per se* are not sufficient to remove the bottlenecks; they must be effectively co-ordinated in efforts to increase direct production.

If this analysis is basically correct, then the major problem in agricultural investment policy lies in identifying potentially successful forms of directly productive investment. More research and manpower training are called for as a matter of course, but the most difficult sets of problems lie in choosing the type of directly productive investments these activities will be used to support. Stated in terms of the classification used in Section 3, these problems resolve to the careful choice of types of directly productive activities and of forms of organization, i.e. the allocation of activities between government-directed projects, extension efforts, processing and marketing investments, and the use of credit.

Several different characteristics of these different forms need to be kept in mind. First of all, many lines of effective activity will involve more than one kind of investment: processing and/or marketing elements need in many cases to be attached to investments directed at production if these are to be successful. Government directed projects tend to have a number of characteristics that mitigate against them; they tend to be quite capital intensive, and, worse still, to require rather careful administrative co-ordination of numerous elements. Their capital intensity and administrative requirements tend to limit the opportunities for rapid expansion of directed investments which do prove successful; duplication of the investment involves finding additional capital and additional administrative inputs. Extension activities also require the careful co-ordination of a number of elements to be successful, but they are usually dependent on quantities of lower level trained manpower, and, if they take root in a given area, the manpower can move on to spread them cheaply to another. Credit is usually associated with one or another form of extension activity, and always requires an administrative structure to supervise its use and repayment.

Given the characteristics of these types of investments and the manpower resources available for agricultural investment, one can roughly define the types of allocations called for. Since the major 'priority' in agriculture appeared to be that of raising productive capacity and productivity over a wide range of peasant producers, and since the major experience of the ministries in the past had been with extension types of investment efforts one would expect the investment mix which focuses its main productive efforts on extension types of investments together with the required complementary investments in marketing and processing facilities. There would be experimentation—at the pilot project level—with directed investments

for trying out new forms of organization and amassing information for future projects. In all cases, one would expect initial investment levels to be low, building up in areas which proved effective as the plan ran its course.

The distribution of effort at increasing investment between exports and domestic foodstuffs is also an important variable in investment policy. The approach taken here depends on one's view of the capabilities of traditional agricultural institutions to match population growth and the degree of effort required to include investment in export tree crops which require relatively long waiting times. There seemed, at the beginning of the plan, to be little knowledge or concern about the production and marketing of domestic foodstuffs; but the rates of population growth, movements to urban areas, and complaints about overspecialization in single export crops would have justified at least pilot efforts in ways to expand production of foodstuffs and efforts to fill in the gaps in knowledge about their production and marketing. The goal in this area would be that of increasing the elasticity of supply of staple foodstuffs, providing a reservoir of potential capacity to meet increased demands should they arise. This would be consistent with the overall goals of investment to increase saleable production and to achieve increases in income spread widely throughout the agricultural sector.

The budgetary allocations examined here seem to indicate that the governments lost sight of these goals. The bulk of directly productive investment has gone into large, unwieldy, government-directed projects; and instead of being started slowly on a pilot basis these have been expanded rapidly on the basis of the most superficial initial analysis. The beneficiaries of these investments are the relatively few farmers hired or served by them, and their capital costs totally preclude their emulation. Many of them rest on the same specialized exports about which so much concern was expressed at the beginning of the plan period. The pre-investment analysis of these projects generally indicated that even under highly favourable assumptions with respect to yields, timing, and input requirements, they would at best be marginal. The favourable assumptions have not been justified. The cost of these schemes is higher than the figures reported in the capital budgets, because they have used considerable amounts of recurrent resources. Because of the amounts of money and complexities involved they absorb a disproportionate amount of the time of senior officers, and they also absorb considerable quantities of personnel from the extension divisions of the ministries, thereby slowing down the other programmes.

The Northern Region's policy constitutes the only exception to this investment pattern; it has concentrated its main effort on directly productive investment in the direction of extension activities; spreading its effort over a wide variety of different projects. The progress that these have made is rather hard to assess at the present time, but a few of them, notably the farm extension and fertilizer distribution programme appear at the present time to be at least potentially successful. The variety of efforts backed by reasonably good record keeping has laid some basis for selecting future investments and afforded at least a degree of learning from the investments undertaken.



It is interesting to note that the total value of capital allocations expected in the North was vastly scaled down from that of the original plan, and that the rate of spending of even the reduced allocation is lower than that in the Southern regions, which are still planning to spend roughly the amounts originally allocated. The North's investment efforts have also been directed over a wider variety of crop and livestock raising activities. Their major demonstration project includes both groundnuts and domestic crops, and although the increased demand for fertilizer created was mainly concentrated in the groundnut-producing areas, there appears to be increasing use of fertilizer on stable foodstuffs.

The performance of the extension types of investments casts some light on the causes of limited absorptive capacity in agriculture. These investments have by no means been unqualified successes. Their performance has been harder to appraise, and, in general, sufficient attention has not been given to keeping records to appraise their effectiveness. Some of the projects appear quite successful, others are promising, and the great bulk of them simply cannot be appraised.

The problems incurred on two of the more promising extension projects are indicative of the problems which must be met in devising effective forms of government investment in agriculture. The schemes in question include the North's extension demonstration cum fertilizer distribution programme and the Eastern Region Ministry of Rural Development's efforts at small-holder tree planting; the latter is especially interesting because it aims at effecting a modest revision of land tenure patterns through the formation of local co-operatives and releasing of co-operative land to members in coherent blocks. The Northern project, as described in Section 3, involves on-the-farm demonstrations (in which the farmer himself does the work) of the gains from use of fertilizers, improved seeds, and a simple set of recommended cropping practices. The demonstrations involve comparisons between the small plot raised by the farmer's own methods and one using the recommended practices; the resulting difference in yields is supposed to convince the farmer and his neighbours of the usefulness of the recommended set of practices, creating a demand for the fertilizer which the government subsidizes and distributes. The crucial determinant of success in the programme is, of course, whether the farmer continues to use the recommended practices after the demonstration, and this in turn depends on:

- (i) whether he is convinced that they do lead to higher yields;
- (ii) whether he has ready cash for the fertilizer;
- (iii) whether the fertilizer and improved seed are available; and
- (iv) whether the gain justifies, in the farmer's mind, the cost of the fertilizer and the extra work involved in the recommended practices.

Finally, the farmer must be able to sell the extra crop if it is above the requirements of his own family needs.

Each one of these conditions for readoption must be met if the original demonstration is to be a success, and while the ministry has carried out the

demonstrations with a good deal of vigour and enthusiasm, interest is only now turning to whether in fact the other conditions are being met. Supplementary investments in marketing, or credit or seed distribution may well be created, and getting these put into effect may involve a number of different divisions or agencies. The crucial determinant of success here will be the ministry's ability to move effectively and flexibly into the complimentary lines of activity required; this is not only limited by the existing staff, but by the organization of the services and how rapidly personnel can be deployed. It is interesting to note that after the original round of demonstrations political pressure was more focused on increasing their number and provincial coverage than on backing them up with required complementary investments.

The Eastern Rural Development Ministry's programme will require a similar flexibility in overcoming bottlenecks. It has had singular success in getting farmers to consolidate fragmented holdings of bush and wild oil-palms which are then planted with new palms in individual holdings. The agricultural and rural development extension officers provide the new seeds and the advice, but the labour is provided by those who wish to establish plots. A number of related activities take place in the community, and, in one highly important case, the land consolidation technique is being extended to include a group of settlers new to the community. The scheme lends itself to an infinite variety of experiments, and can be changed to suit conditions and information gained from previous experiments. But its success too depends on available complementary resources, i.e. whether there are processing facilities, whether food crops grown in the related Young Farmers' Clubs plots can get to market, etc., etc.

The success of an individual village project would appear to depend on whether the rural development organizers are at present frequently and sufficiently skilled (this may or may not depend on their training) to recognize where the particular bottlenecks lie; and on whether the ministry can arrange complementary efforts to remove the bottlenecks. Where action is required from complementary agencies such as the Ministry of Agriculture or the Credit Corporation, the speed of communication and response is the crucial determinant of success. As an example, distribution of seeds and fertilizer—due to shortage at the Ministry of Agriculture—was one of the problems which was plaguing the project during the summer of 1966.

The problems encountered with government-directed investments are similar to those of the extension form and, though the governments' responsibility for dealing with related bottlenecks on this class of investment is more clearly defined, the size of the investments and the large commitments of resources in their early stages have made them far more sensitive to whether these bottlenecks are removed or not. For projects which involve institutional changes as well as changes in productive technology, the number of potential bottlenecks is very high, and the potential for success depends on how rapidly bottlenecks can be indentified and upon the flexibility of governments' response in meeting them. The general lack of success with the directed form of investment can be traced not only to inadequate initial

planning but also to the staging of investments, which virtually precluded the possibility of incorporating changes suggested by the performance of these investments during their early stages.

What can account for the emphasis put upon the directed form of investment? In the early stages of plan formulation this is probably the result of enthusiasm for the 'transformation' approach to agricultural development and a misreading of the nature of the priority given to agriculture. It is much more difficult to explain why sizeable flows of resources continue to be directed to this form in spite of its increasingly evident lack of performance; the reasons which can be adduced to explain this are impressionistic and quite unsettling. They appear to be more the results of administrative inflexibility than of outside political pressure; large commitments of resources to these types of investments were made early in the plan period and these have been extremely difficult to reverse, even if the agencies involved had wanted to do so. One gets the strong impression that there is neither the information gathering capacity to carry on continuous appraisal of investments nor the flexibility in organization and decision making to respond to changing conditions in the field. It was noted in Section 4 that the administrative structures and recurrent budgets of the agencies involved in agricultural development do not parallel the division of effort between activities in the Development Plan. The structure of the recurrent budgets easily masks heavy drains on resources into individual projects, and, in spite of a plethora of record keeping, there is little in the way of on-going functional project analysis. This has been clearly evident in the cases where planning units have been established in the agencies for agricultural development; they usually find that their first task is to collect basic data on the performance of projects which have been underway for several years and that the mass of accounting records which have been kept do not permit functional project analysis. The same strictures are noted in the administrative response to changes in the types of investments; these frequently involve the activities of several agencies or divisions which are not really organized to permit rapid adjustment of resource allocation to information fed back from the field.

The effective constraint to absorption of investment in the agricultural sector appears to lie not so much in shortages of capital, knowledge, or manpower, as in the mechanisms available for co-ordinating these factors. The dichotomy between the accounting forms for recurrent and capital expenditures reflects a more serious dichotomy between the demand of significant government effort in agriculture and the organization of existing institutions to channel resources through government into the sector.

In what sense has agriculture received the priority claimed for it in the Development Plan? A larger proportion of resources than previously has been channelled into the sector, and the range of government activities in the sector has somewhat expanded. But in the sense of removing barriers to effective absorption of investment by the agricultural sector, the intended effects of the Plan's priority do not appear to have been effectively achieved.





PRINTED IN 12 PT. BEMBO  
AT THE IBADAN UNIVERSITY PRESS  
NIGERIA FEBRUARY 1968



