

**An analysis of the implementation and
stability of Nigerian agricultural policies,
1970–1993**

By

P. Kasseyy Garba, PhD
Department of Economics
University of Ibadan
Ibadan

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Abstract

The study documented agricultural policies through the period 1970–1993; implementation deviation for ten agricultural policy variables, eight of which are fiscal and two monetary; and identified discontinuities in agricultural policies. In addition, it computed volatility measures for ten agricultural policy instruments and six regulated commodity prices.

The estimates of implementation deviation indicate consequential over- and under-shooting of policy targets. The results show that the implementation deviation was persistent and volatile in addition to being consequential. Therefore, the concern that private agents have about government not keeping its word is legitimate. Similarly, their concern about policy discontinuities is also valid.

In general, volatility was most intense for most policy variables in the structural adjustment period, implying that agricultural policies were relatively more stable before than after adjustment. This suggests that the major policy shift of 1985–1986 heightened policy instability. However, political instability pre-dated structural adjustment and could be associated with long-term instability of agricultural policies. For instance, we found that no agricultural programmes outlived the political regimes that introduced them while each new regime put in place new programmes.

Finally, even without a comprehensive evaluation of the credibility of agricultural policies, it is hardly likely that a policy regime would be credible if implementation deviations are consequential, persistent and volatile, and policy variables exhibit long-term volatility. Therefore, the partial assessment notwithstanding, the effects of political instability and structural adjustment on the credibility of agricultural policies are worthy of further investigations.

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1. Introduction

The research environment

The basic economic policy problem in Nigeria remains: how can government be a more socially responsible and effective economic agent? The dimensions of this problem could be deduced from the other key economic agent in the economy, that is, the private agent. The following statements reflect some of the concerns of private Nigerian economic agents about the key instrument of public policy in Nigeria, the budget:¹

“I am glad that it (the budget) has not reversed some of the positive moves made last year.....comments are made on the assumption that implementation would be faithful. Previous experiences have shown that these expectations are not always valid.....*the interest rate being left at 21% with inflation going at about 70-80 per cent is not good for the banking sector in mobilizing loanable funds*” (Mr. Kolade, Chairman of Cadbury (Nigeria) PLC).²

“only the implementation would determine how good it is”³

“the budget is a fine paperwork that shows the level of government’s deep concern for economic recovery. *But whether it would be implemented in the same spirit is another matter*” (Chief Olukayode Akindele, Chairman of the Osogbo Steel Rolling Mills).⁴

“we have always had fine budgets, *but implementation is always the problem*” (Dr. Adegbite, an executive council member of the Lagos Chambers of Commerce and Industry).

“It is good that the foreign exchange policy which was central to the macro-economic stability witnessed last year is retained” (Mr. Erasmus Akingbola, MD/CEO, Nigerian Intercontinental Merchant Bank Limited).

“As long as the exchange rate remains relatively stable, it would be easier to plan” (Mr. Dipo Aina, MD of a Lagos based investment banking outfit).

“in 1994, there was a policy U-turn. In 1995, there was no U-turn, and so we can say well-done to government for standing still. In an environment

such as ours, where there are frequent policy shifts, that's an achievement....*the decision to hang on to ₦22 for government transaction and autonomous rate for other transactions does not augur well for transparency*" (Mr. Atedo Peterside, CEO of IBTC, Lagos).

Four positive statements could be deduced from these statements:

- Private expectations about implementation of public policy are often not fulfilled. In other words, *government does not always keep its word*.
- There are frequent shifts or discontinuities in government policies. In other words, *government policies are unstable*.⁵
- Conflicts among public policies are frequent. In other words, *there are inconsistencies or incompatibilities in government policies*.
- Private Nigerian economic agents desire stable and consistent public policies and a government that keeps its word.

These four statements are relevant and interesting research problems in Nigeria for two reasons. First, they reflect some of the concerns Nigerian private economic agents have about public policy. As a result, if the objective of public policy research is to minimize the constraint public policy poses to the choices and actions of private Nigerian economic agents, their concerns are the practical and logical points of reference. Second, *the questions are positive*, hence they could be objectively evaluated. In other words, it is possible to find out if the concerns have foundations in fact. Therefore, research that seeks to establish the empirical validity of the statements assumes relevance in the process of Nigerian public policy reform.

The research problem

Agricultural reform policies were pivotal to the structural adjustment programme Nigeria implemented between 1986 and 1993. For example, core adjustment policies such as trade and exchange liberalization and dissolution of commodity boards and their system of price controls were primarily targeted at the agricultural sector. Similarly, public policies on agriculture were important parts of government budgets and the four development plans the government designed and implemented in 1962–1985. Thus, it is reasonable to investigate the four positive questions about agricultural policy.

This study, however, is limited to two research questions:

- Is the deviation in the implementation of agricultural policy consequential?
- Are agricultural policies discontinuous?

The first question evaluates the proposition that *government does not always keep its*

word, while the second investigates the proposition that *government policies are unstable*. In answering both questions, a historical, systematic and comprehensive profile of agricultural policies over the 1970–1993 period is a useful tool. Further, a more comprehensive evaluation of the credibility of government would have to investigate the problem of inconsistencies or incompatibilities in government policies. Thus, by excluding the problem of *inconsistencies or incompatibilities in government policies*, the study is a partial investigation of *the credibility problem* of agricultural policies.

Objectives of the study

The study has four primary objectives. The profile of agricultural policies over the 1970–1993 period is the first. The profile includes agricultural policies in the development plans and annual and ad hoc budgets; it also covers fiscal and monetary policies and programmes and institutional changes. Second, the study computes and analyses the implementation deviation for important agricultural policy variables. Third, it investigates the stability of agricultural policies from the “policy profile” and computes volatility indexes for selected quantitative indicators of policy. Finally, the study deduces *possible* explanations for observed policy (in)stability.

2. Research framework

Basic assumptions and implications

The study assumes that:

- A substantial and persistent deviation in the implementation of public policies is a constraint to private plans
- Private agents desire stable public policies
- Implementation deviation could be computed
- Discontinuities in agricultural policies could be deduced from a long-term profile of agricultural policies

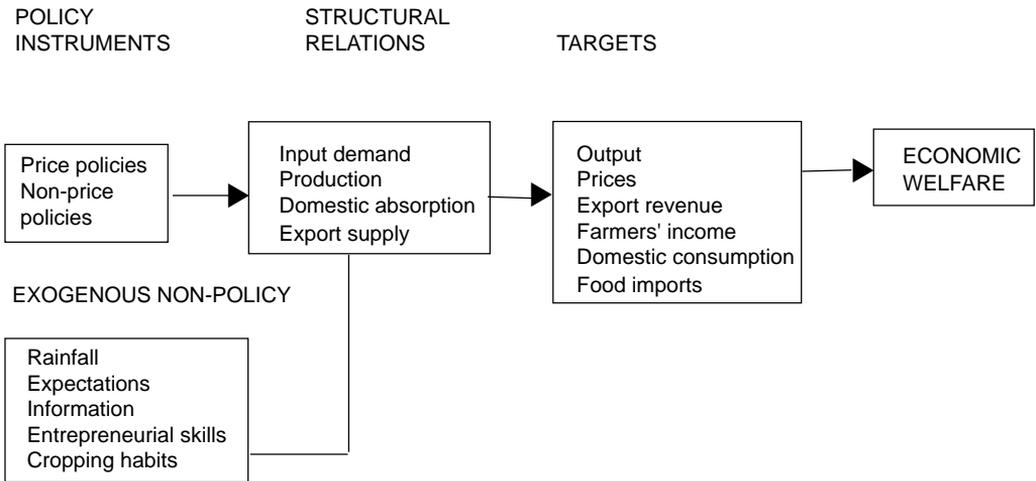
Justifications for the assumptions

The first two assumptions of the study are deduced from the concerns of Nigerian private economic agents. In addition, they are central to the monetarist/non-monetarist policy debate and the theory of economic inter-dependence. We can show this through an adaptation of the flow chart (Figure 1) of the theory of economic policy in Gordon (1990: 453) and his summary of the debate.

The flow chart shows that policy variables and exogenous non-policy variables feed into structural relations, which in turn connect the exogenous (policy and non-policy) variables to endogenous (target and non-target) variables. The flow chart also implies that total “economic welfare...depends on the achieved values of the target variables, and ... the decisions of policy-makers.” Notice that the structural relations and the targets, respectively, reflect the behaviour of private agents and their economic pay-offs. The flow chart implies that the behaviours of private economic agents engaged in agricultural activities in Nigeria are sensitive to the agricultural policies of government.

One of the key propositions of the new Keynesian macroeconomics is that “what matters for the economy is not what...policy-makers *say*, but what they *do*.” The new classical macroeconomics (NCM), on the other hand, contends that the divergence between what policy makers say and do matters. In addition, they argue that if policies are credible (that is, agents believe that deviation between what policy makers say and actually do is zero), policies would be ineffective.

Figure 1: Flow chart showing the relations among exogenous variables, agricultural structural relations and targets and economic welfare



The statements by the Nigerian private economic agents presented above reveal that both what policy makers say and what they do matter, hence the deviation between what policy makers say and do matters. To be specific, the private Nigerian economic agents imply that consequential deviations in implementation of public policies are undesirable. *The deviation between what policy makers say and do measures implementation deviation.*⁶

The New Classical Macroeconomics (NCM) distinguishes between *rigid rules, feedback rules and discretionary policies*. Of the three, only rigid rules are immune to shocks and discontinuities. For example, a *constant growth rate rule (CGRR)* for money supply is advocated for by monetarists and favoured by the NCM on the premise that it does not generate instability. Feedback rules are most likely to be unstable because they require that a policy instrument (say, expenditure on agriculture) be set to respond in a regular way to a macroeconomic event (say, inflation). Thus, unanticipated inflation shocks would cause unanticipated changes in expenditure on agriculture. Discretionary policy “treats each macroeconomic episode as a unique event, without any attempt to respond in the same way from one episode to another” (Gordon, 1990: 472). Consequently, discretionary policy is discontinuous. These imply that *rigid rules are stable, feedback rules less stable and discretionary policies inherently unstable*.

The classification of policies into rigid rules, feedback rules and discretionary policies offers useful guides in analysing policy stability. In addition, it offers a mechanism for investigating the factors motivating changes in policy. For instance, it is obvious that policies that are likely to be unstable are feedback rules and discretionary policies, with the latter more likely to be erratic than the former. Thus, it is possible to begin the analysis of policy stability with a characterization of agricultural policies into rigid rules, feedback rules and discretionary policies from a documentary review of agricultural policy over the period of analysis.

Organization of the study

The study has a simple three-part organizational structure consisting of: (1) documentation of agricultural policies; (2) computation and analysis of implementation deviation; and (3) detection and analysis of discontinuities in policy.

Documentation of agricultural policies

The study covers the period 1970–1993. In this period, Nigeria implemented 2 National Development Plans (the third and fourth plans), 18 annual budgets, 18 credit guidelines and a number of agricultural policy documents.⁷ In addition, Nigeria designed four three-year rolling plans (1990–1992; 1991–1993; 1992–1994 and 1993–1995). These documents are therefore the basic sources of government agricultural policies. Section 3 documents the key agricultural policies and their evolution.

Computation and analysis of implementation deviation

This begins with identification of policy instruments for which implementation deviation could be computed. These instruments are a subset of the policies implemented over the period. Because the requirements for computing implementation deviation are a useful guide in determining this subset, we begin with the requirements for computing implementation deviation.

The implementation deviation for policy i (d_i) could be measured as:

$$d_i = P_i^a - P_i^A \quad (1)$$

where,

P_i^A = announced value of policy i

P_i^a = actual value of policy i

The percentage deviation is given by:

$$pd_i = [(P_i^a - P_i^A)/P_i^A]*100 \quad (2)$$

Equations 1 and 2 show two requirements for being in the sub-set. First, the policy instrument is measurable. Second, the data on its announced and actual values are available. The federal development plans, the federal budgets and the three-year rolling plans are used by government to announce agricultural policy. The Central Bank of Nigeria's *Annual Reports and Statements of Accounts* reveal figures of actual policy

variables. In addition, they report CBN's survey of agriculture and appraisal of the performance of the annual budgets. Therefore, the data from both sources would be used to compute the *implementation deviation*.

It is important to point out for this and subsequent analysis in the study the multiple sources of government documents announcing government's intentions implies that deviation between what government says and what it does may not be unique unless government is consistent in the three documents. Thus, it would be necessary to investigate *announcement consistency* by estimating deviations in policy variables in all its policy documents. The purpose of this estimation is to ascertain the consistency in policy announcement. However, for the purpose of implementation deviation, the budget values of the policy would be used mainly because private individuals base many of their economic plans and expectations on the budget. The second issue has to do with interpretation of the results. Let us therefore determine the possible values pd_i could assume and then deduce the implication of each. From Equation 2:

$$pd_i = [(P_i^a / P_i^A - 1)] * 100 \quad (3)$$

From Equation 3:

- $pd_i = 0$; implies $P_i^a = P_i^A$
- $pd_i > 0$; implies $P_i^a > P_i^A$ or *overshooting of announced policy*
- $pd_i < 0$; implies $P_i^a < P_i^A$ or *undershooting of announced policy*

Identifying and analysing policy discontinuities

The documentation of agricultural policy is the primary tool for detecting discontinuities and shocks in agricultural policies. The documentation as presented in Section 3 makes it possible to identify policy shifts or U-turns and their frequency. At this stage, we are not concerned with causes of the shifts. Rather, the study is limited to ascertaining the validity of the proposition that there are major discontinuities or consequential shocks in agricultural policies.

Gordon (1990) suggests that if the rate of growth of a policy variable, for instance, government's real expenditures, is uneven, the policy instrument is unstable and vice versa.⁸ This implies that the trend of growth rates of policy instruments could be used as an indicator of policy stability.⁹ Thus, we would investigate the time paths of key instruments of agricultural policy over the period of the study to determine the existence (or nonexistence) of regular patterns in the behaviour of the agricultural policy variables. We could also complement the estimation and analysis of the growth rates of policy variables by plotting them in graphs. This would make it possible to investigate and identify periods of relatively high and low fluctuations.

3. Profile of agricultural policies, 1970–1993

Agricultural policy of 1970–1993 could be classified into six broad groups: agricultural policy in the development plans; agricultural policy in the annual budget; budget and plan allocations to agriculture; sectoral credit allocations to agriculture; ad hoc agricultural policy; and major agricultural policy programmes. The documentary overview of agricultural policies in 1970–1993 focuses on all six groups. At the end, we summarize the major institutional changes as a first step in the investigation of the stability of agricultural policies.

Agricultural policy in the development plans

Table 1a shows a summary of the objectives of agricultural policy in the second, third and fourth plans. The table shows that the agricultural policies in the development plans are supposed to target nutritional requirements of the population; production (food and export crops); rural employment; and institutional environment of private economic agents engaged in agricultural activities.

Table 1a shows that apart from nutritional targets, the plans do not quantify the agricultural policy targets. The second plan did not specify the numerical values of the nutritional targets. The third and fourth specify values for expected protein consumption, but only the fourth plan provides numerical values for calorie consumption. It could be observed that the expected values of protein intake in the fourth plan (49.7grams) is between 17.2% and 23.5% less than the target in the third plan (60 to 65 grams). It is not clear whether the expected protein intake in the fourth plan was adjusted downwards, but it is unlikely to be in compliance with global nutritional standards.

Some targets specify expected directions of policy impact while others are ambiguous. For instance, all three plans are clear about the expected direction of production (increase). This is also true of the objective of employment. Some of the institutional objectives are less clear, however. For instance, the objective of propagating agricultural material production and of evolving appropriate institutional apparatus for integrated agricultural development (in the second plan) is ambiguous. Such ambiguities pose evaluation problems to policy analysis.

Table 1b shows a selection of the agricultural policy instruments in the second, third and fourth plans. The distinction between strategy and policy instrument is not very clear in the plans; in fact, the terms are used interchangeably. Table 1b shows that agricultural policy in the plans consists of: non-price incentive support programmes (e.g., farm services centres; National Agricultural Cooperative Management Centre; World

Table 1a: Agricultural policy objectives in Nigeria: 1970–1993

Second Plan Objectives	Third Plan Objectives	Fourth Plan Objectives
- To increase the calorie and protein intakes of Nigerians especially in the south	- To increase calorie intake and a crude protein consumption of between 60 and 65 grams - To increase animal protein relative to protein from other sources	- To attain a per capita intake per day of 2,073 Kcal and 49.7 grams of crude protein by 1985
- To ensure food supplies to keep pace with increasing population - To expand production of export crops in order to diversify foreign exchange earnings	- To ensure food supply in adequate quantity and quality to the increasing population - To increase production of food and export crops	- To increase food production in order to attain self-sufficiency - To increase production and processing of export crops - To increase the output by smallholders
- To create rural employment opportunities for the growing labour force	- To expand employment opportunities to absorb the increasing labour force	- To expand employment opportunities to absorb the increasing labour force
- To propagate agricultural materials production	- To guarantee adequate returns to farmers and ensure reasonable prices to consumers - To provide adequate storage and processing facilities - To expand and improve extension services	- To encourage private entrepreneurs to establish large-scale farms - To make farm inputs more accessible to farmers - To induce commercial banks to give more loans for agriculture
- To evolve appropriate institutional apparatus for integrated agricultural development		- To promote the evolution of appropriate institutional and administrative apparatus for rapid agricultural development - To properly organize cooperative farming, processing and cash crop farming

Source: Federal Government of Nigeria, second, third and fourth National Development Plans.

Bank assisted ADPs; River Basin and Rural Development Authority; Agricultural Credit Guarantee Scheme; and so on); price incentive programmes (e.g., price and tax incentives, guaranteed minimum price introduced, subsidies on inputs and so on); macroeconomic policies (e.g., fixed and stable exchange and interest rate policy); direct government participation in agriculture; and institutional changes (e.g., re-organization of commodity boards).

Table 1b: Selected agricultural policies in the second, third and fourth Nigerian National Development Plans

Second Plan (1970–1974)	Third Plan (1975–1980)	Fourth Plan (1981–1985)
<ul style="list-style-type: none"> • Small motor-powered implements and animal-drawn implements • Emphasis on food crops 	<ul style="list-style-type: none"> • Increased government participation in direct food production and processing • World Bank assisted small holders programme • Integrated Agricultural Development Programme 	<ul style="list-style-type: none"> • Farm services centres set up to deliver inputs to smallholders • Establishment of National Agricultural Cooperative Management Centre • Expansion of World Bank assisted ADPs • Reduction of government's direct involvement in food production • Introduction of River Basin and Rural Development Authority
<ul style="list-style-type: none"> • National Seed Multiplication Centre • National Accelerated Food Production Programme (NAFPP) 	<ul style="list-style-type: none"> • NAFPP de-emphasized • National Grains Production Company • National Root Crops Production Company established 	<ul style="list-style-type: none"> • Joint ventures by National Root Crops Production Company, National Grains Production Company and National Beverages Company Limited. • Cocoa, Cotton, Rubber and National Oil Palm rehabilitation schemes
<ul style="list-style-type: none"> • Nigerian Agricultural Credit Bank (NACB) proposal 	<ul style="list-style-type: none"> • Agricultural credit guarantee scheme 	<ul style="list-style-type: none"> • More resources to the NACB and Agricultural Credit Corporation
	<ul style="list-style-type: none"> • Price and tax incentives, guaranteed minimum price introduced, subsidies on inputs 	<ul style="list-style-type: none"> • Input subsidy to be continued • The guaranteed minimum prices to be reviewed more frequently
<ul style="list-style-type: none"> • Fixed exchange rate policy, interest rate regulation 	<ul style="list-style-type: none"> • Fixed exchange rate policy • Interest rate regulation • High public investments • High fiscal deficits 	<ul style="list-style-type: none"> • Fixed exchange rate policy • Interest rate regulation, high public investments • High fiscal deficits • Rising debt service

Source: Federal Government of Nigeria, second, third and fourth National Development Plans.

The table reveals a preference of government for programmes as the major tool of agricultural policy. Tables 1a and 1b suggest difficulties in the assignment of policies to targets because the number of targets in each plan is not equal to that of instruments. It may thus be difficult to evaluate the policy instruments precisely.

Agricultural policy in the annual budget, 1970–1993

Annex A shows the agricultural policy announced in the federal budgets over the period, as well as the objectives of agricultural policy and the policy instruments (classified into those retained from previous period and new ones). In most cases, the policies and policy instruments are specified as they were in the budgets. This was designed to reflect as closely as possible the position of government. This is important if we are to understand government's perception, thinking and expectations.

The second column of Annex A shows the objectives of agricultural policy in each budget year. The objectives are numbered to show their differences. The table shows that between 1976/77 and 1993 there were 35 different policy objectives. The objectives of agriculture could be categorized into:

- Sectoral growth and productivity (e.g., increase in production of food and cash crops, increase in productivity)
- Sectoral contributions to development (e.g., maximized contribution of cash crops to development, integrated rural development, self-sufficiency in food, increased supply of agricultural raw materials, reduction in import dependency, reduction in rural–urban welfare gap, etc.)
- Macroeconomic (e.g., reduction in inflation, increase in rural employment, higher export earnings, reduction in food imports, etc.)
- Institutional (e.g., increase in foreign investment, improvement in food storage, reduction in post harvest loss, etc.)

Annex A reveals at least three attributes of agricultural policy objectives. First, the number of objectives in each budget ranges from one in 1981, 1982 and 1985 to seven in 1986. Second, agricultural policy had multiple objectives (with the exception of 1981, 1982 and 1985). Third, most agricultural policy objectives are not expressed in magnitudes.

The third column of Annex A shows the policies retained in each budget, while the fourth column shows the new policy instruments or strategies announced in the budget. The agricultural policy instruments in Annex A are classified into the following four groups:

- Fiscal policy (e.g., investment incentive policies, allocations, etc.)
- Institutional changes (new programmes such as Operation Feed the Nation, Green Revolution, transfer of agriculture from schedule I to II, integrated rural development schemes, DFRRI, Agricultural Credit Guarantee Scheme, and so on)
- Credit and interest policy (sectoral credit allocations)
- Foreign trade policies (import and export bans, import duty relief, etc.)

Annex A shows at least three characteristics of agricultural policy in the budgets. First, each budget has multiple instruments. Second, each budget consists of old and new instruments. Third, institutional changes and especially agricultural programmes are the major instruments of agricultural policy.

Budget and plan allocations to agriculture

Table 2 shows allocations to agriculture in the federal budgets of 1977/78 to 1993 while Table 3 shows the allocations to agriculture in the second, third and fourth development plans and the three rolling plans announced in the 1990–1993 federal budgets. Table 2 shows that:

- Average percentage total allocation to agriculture ranged from 2.76% in 1977–1980 to 8.03% in 1981–1985, while it averaged 4.83% in 1977–1993.
- Capital allocations accounted for a higher percentage of total capital allocations relative to current allocations (the range for capital allocations was 3.38% to 13.12%, compared with 0.41% to 1.14% for current allocations).
- Though current allocations rose at a faster rate (54.62%) than capital allocations (50.941%) over the 1978–1993 period, much of its growth was in the 1986–1993 period.

According to Table 3, the share of agriculture in the capital plans of the three development plans was between 3.90% (third plan) and 12.0% (fourth plan). Clearly, therefore, the share of agriculture in plan expenditures did not match either its contribution to GDP or its share of employment. Moreover, the share of agriculture in the capital programmes of the four rolling plans was between 17.47% (1993–1995 plan) and 28.279% (1990–1992 plan). Although the shares of agriculture rose under the rolling plans, the effects of high inflation and crowding out of capital expenditures in the adjustment years implied even lower capital allocations to agriculture. Fertilizer procurement, furthermore, accounted for over half the capital allocations to agriculture in the rolling plans. Clearly, the capital allocations in the rolling plans grossly overstate capital allocations since fertilizer is an input, not a fixed asset.

Table 2: Budget allocations to agriculture (relative shares and growth rates)

Rolling plan	Current (% shares)	Capital (% shares)	Total (% shares)	Current (% growth)	Capital (% growth)	Total (% growth)
1977-93	0.84	8.96	4.83	54.62	49.51	50.91
1977-80	1.12	3.38	2.76	23.30	69.24	63.47
1981-85	0.73	13.12	8.03	0.49	67.51	59.78
1986-89	0.41	10.04	4.31	31.17	14.85	15.46
1990-93	1.14	8.19	3.44	169.20	46.87	65.86
1986-93	0.78	9.11	3.87	100.19	30.86	40.66

Source: Computed from federal budgets, 1977/78–1993.

Table 3: Allocations to agriculture in development and rolling plans

Rolling plan	Agriculture (₦ million)	DFRRI	Fertilizer	Allocation to agricultural items as % of total	NALDA	Water resources
1970-74	74.49 (4.11%)	-	-	4.11	-	-
1975-80	1012.60 (3.90%)	-	-	3.90	-	-
1981-85	5130.0 (1.20%)	-	-	12.0	-	-
1990-92	1286.718 (24.64%)	936.0 (17.92%)	3000 (57.44%)	28.279	-	-
1991-93	1054.00 (15.12%)	996.09 (17.41%)	3102.0 (54.21%)	21.89	-	570.59 (9.97%)
1992-94	733.88 (12.96%)	325.00 (5.40%)	3460.00 (57.50%)	24.97	900.00 (14.96%)	598.685 (9.18%)
1993-95	7719 (80.12%)	932.86 (9.68%)	-	17.47	982.00 (10.2%)	-

Sources: Federal Ministry of National Planning, second, third and fourth National Development Plans; Federal Budgets, 1990–1993.

Sectoral credit allocations to agriculture

Table 4 shows the minimum percentage of commercial and merchant banks' credit approved for allocation to agriculture. The approved lending rates are stable before and after the sharp increases in 1985/86 for commercial banks and 1987 for merchant banks. The sharp increases occurred in the first phase of structural adjustment in Nigeria. This type of control is, of course, incompatible with the liberal economic policy regime the government claimed to be fostering. It is also important to point out that the structural adjustment was facilitated by the political shock of 1985. Therefore, the sharp increases could be attributed mainly to the political shock, especially since the increase is not compatible with the policy preferences of the new regime.

Table 4: Approved sectoral credit allocations to agriculture

Period	Commercial banks	Merchant banks
1977-78	6.0	6.0
1981-82	8.0	5.0
1983-84	8.0	5.0
1985	12.0	6.0
1986	15.0	6.0
1987-93	15.0	10.0

Source: Central Bank of Nigeria, Annual Reports and Statements of Accounts, 1977–1993.

Ad hoc agricultural policy

Some of the major agricultural policy programmes were not designed or announced as part of the development plans, rolling plans or annual budgets. Rather, they were designed within budget years and announced through policy statements. Annex B shows four of the major programmes: the new commodity marketing system (1977); the Green Revolution programme (1980); the structural adjustment programme (1986);¹⁰ and the New Agricultural Policy (1988). It also shows three relatively smaller programmes—Accelerated Development Area Programme (ADA), Livestock Development Project (LDP) and Rural Agro-Industrial Scheme (RAIS).

Four main points are worth noting about Annex B. First, the structural adjustment programme (SAP) and the New Agricultural Policy (NAP) had similar objectives and instruments. This is not surprising since the NAP was guided by the same faith in the powers of the market that generated SAP. In fact, the NAP could be referred to as a subset of SAP. Second, only the new commodity marketing system had a one-to-one correspondence between instruments and objectives. Even then, a clear causal link between instruments and objectives is not very obvious. It is thus unclear how the instruments are

to achieve objectives that lack quantified guideposts. Third, the introduction and termination of three programmes (new commodity marketing system [NCMS], Green Revolution [GR], Accelerated Development Area Programme [ADA], Livestock Development Project [LDP] and Rural Agro-Industrial Scheme [RAIS]) are attributable to political changes.¹¹ Fourth, the ad hoc agricultural programmes and policies were biased in favour of crops. Since these programmes turned out to be the main agricultural strategies of the governments that introduced them, the bias was not compatible with the realization of nutritionally balanced agricultural output.

The ad hoc character of the programmes has two implications. First, the implementation of the policies could hardly facilitate budgetary discipline and effective control. In fact, they seem more favoured to rent-seeking behaviour. Second, the longevity of the programmes is undermined by the ad hoc character of their origins.

Review of major agricultural policy programmes

Three programmes are the focus of the review: River Basin Development Authorities (RBDAs), the Integrated Agricultural Development Projects, and the Directorate of Foods, Roads and Rural Infrastructures (DFRRI). Our discussion of these programmes focuses on their evolution and objectives.

River Basins Development Authorities (RBDAs)

Annex C shows key information on the evolution of River Basin Development Authorities from 1970 to 1993. The objectives of the RBDAs when the idea was conceived in 1970 were to:

- Provide large-scale mechanized clearing and farming of land for farmers
- Construct dams and bore-holes
- Supply electricity
- Build agro-allied centres with workshops and tractor hire services
- Ensure large-scale multiplication of improved seeds
- Provide for large-scale rearing of improved livestock and poultry and distribution to farmers
- Establish grazing reserves
- Encourage large-scale afforestation schemes
- Train junior staff for maintenance of rural development projects

Three points are worth noting about the first 13 years (1970–1983) of the RBDAs. The first is that the gestation period between conception and operations of the first two RBDAs (Sokoto-Rima and Chad Basin) was four years. Action lags of this type raise costs (plant and operating) and jeopardize the rationality of public investments especially in periods of high inflation. The second point is that the 1974–1983 period had fewer changes in the number and operations of RBDA than the 1984–1993 period. Finally, federal allocations to RBRDAs declined especially after 1983. Figure 2 shows the decline of nominal values of the allocations and actual expenditure of RBRDAs. It is clear that adjustment for the high inflation of 1986–1993 would reveal sharper real decline.

The series of changes in the 1984–1993 period began in 1984 with an additional function (rural development) and a change in name—to River Basins and Rural Development Authorities (RBRDAs). In addition, the 11 RBDAs were increased to 18 following a decentralization of the RBDAs. The RBRDAs were relieved of the function of direct participation in production in 1985, supposedly to enable them to focus on land preparation, irrigation and provision of inputs. In a reorganization that took three years to complete, the number of RBRDAs was reduced to 11 (the pre-1984 number).

Figure 2: Allocations and expenditures of RBRDAs, 1981–1993 (N million)

The reorganization was followed in 1990–1993 by a policy of privatization and commercialization and a narrowing of functions. For instance, in 1990, RBRDAs ceased to participate in the distribution of farm inputs to farmers and in direct production. In 1991, their role was limited to the provision of water. It is worth mentioning that the functions of the Directorate of Foods, Roads and Rural Infrastructures (DFRRI), set up in 1986, had already overlapped significantly with those of the RBRDAs. However, the subsequent sale of non-water assets of some RBRDAs may have had less to do with efficiency than with politics, rent and "personalization" of public wealth.

The commercialization policy that took root in 1991 affected the following RBRDA services: "design, construction and management of earth dams/irrigation, drainage schemes, drilling of bore-holes, plant/equipment hiring and land clearing" (CBN, 1992:86). If private firms are more efficient than public firms, it follows that rational private agents would patronize private companies rather than RBRDAs. Besides, many public water boards at the state levels have more experience than RBRDAs in the supply of water and water related services. Therefore, the economic rationale for limiting RBRDAs to water supply is hardly credible, especially when the DFRRI has a wide coverage of ministries (agriculture, water resources, health, works, power, etc.) and functions and is neither commercialized, decentralized nor privatized. Further, the information about RBRDAs became more limited in 1990–1993. For instance, it was not clear how many RBRDAs were left in 1990–1993. Central Bank (1991, 1992) reports, which were based on the returns of the existing ones, suggest that there were only seven RBRDAs in 1991 and six in 1992.

In 1993, the federal government enacted *Decree 101 of 1993, which vests in the federal government ownership of all surface and underground water resources in Nigeria*. This implies that users are to obtain licences before development of the resource. The decree secures monopoly power over water resources to government and is clearly incompatible with liberalization. The monopoly power, the weak economic justifications for selling the assets of RBRDAs and the weak information about RBRDAs, conduce rent-seeking behaviours and weaken the credibility of the institutional reform of the RBRDAs in the structural adjustment era (especially 1990–1993).

Integrated agricultural development projects (ADPs)

The integrated agricultural development projects (ADPs) were conceived in the early 1970s as a means of raising productivity and farmers' incomes in the rural areas through the provision of improved seeds, fertilizers, pesticides, credit facilities and infrastructure (roads, water supply and health care). Consequently, the ADPs are the forerunners of the DFRRI (as we shall show below). Unlike the RBDAs and DFRRI, the ADPs were partly financed by external credit from the World Bank. Table 6 shows that the finance of ADPs was shared almost equally between federal government, the states and the World Bank in 1981–1985. However, the share of the federal bank fell to 13.33% in 1986 while that of the World Bank rose to about 50%. Thus, though the total capital allocations to ADPs rose to ₦583.56 million in 1986–1993, from ₦192.42 in 1981–1985, that of the federal

Figure 3: Capital allocations to ADPs, 1981–1993 (US\$ and naira)

Figure 4: World Bank credit to ADPs, 1981–1993 (US\$ and naira)

government declined to ₦55.10 million from ₦59.80 million. Figures 3 and 4 show, respectively, that much of the increase in total allocations and World Bank allocations in 1986–1993 can be explained by the devaluation of the naira.

Table 6 also shows that the ADPs increased their supply of fertilizers to farmers from an annual average of 98.4 thousand in 1981–1985 to 584.07 thousand in 1986–1996. However, the constructions of feeder roads fell from 2,111.40 km to 1,028.70 km over the same period.

Table 6: Capital allocations to ADPs and key performance indicators 1981–1993

Period	Federal %	State %	World Bank (%)	Miscellaneous (%)	Federal allocations (₦ million)	Total allocations (₦ million)	Fertilizer (000)	Feeder roads (km)
1981-85	34.06	32.51	33.43	0.0	59.80	192.42	98.4	2,111.40
1986-93	13.33	28.42	50.10	8.25	55.10	583.56	584.07	1,028.70
1981-93	21.24	30.00	43.67	5.09	56.91	433.12	397.27	1,445.11

Source: Central Bank of Nigeria, Annual Reports and Statements of Accounts, (1977–1993).

Annex D shows the evolution of ADPs from 2 (1974) to 3 (1975), 5 (1980), 9 (1982), 10 (1983–1985), 19 (1986–1987), 21 (1988–1989) and 22 (1990). It also shows the introduction of accelerated development area projects (ADAPs) in 1981, their expansion from two in 1981 to three in 1984 and their merger with ADPs in 1988. The table shows the introduction of multi-state agricultural development projects (MSADPs) in nine states in 1986 and the creation of nine more ADPs, thus bringing operational programmes to 31 units. The programmes were reduced to 22 ADPs in 1988.

In the case of RBDAs, the activity levels heightened in 1986, reflecting the effect of a new regime that took power the year before. In fact, "a new regime effect" can easily be seen in Annex D: at least one unit of ADP was set up by each of the regimes that operated in 1975–1979, 1980–1983, 1984 and 1986.

Annex D shows that it is difficult to establish systematic relationships between capital allocations and units of programmes. For instance, while capital allocation rose by ₦487.8 million in 1982 with four new ADPs, allocation at the peak level of programmes (31) was 22% of the 1982 level. On the other hand, capital allocation rose by ₦769.4 in 1993, even though the number of ADPs was unchanged. Similarly, it is difficult to establish systematic relationships between units of programmes and productivity (farm service centres, dams constructed, tractors, supply of fertilizer and feeder roads constructed) or between capital allocation and productivity.

Directorate of Foods, Roads and Rural Infrastructures (DFRRI)

The 1986 federal budget heralded the DFRRI in the following words:

Government will establish a Directorate of Foods Roads and Rural Infrastructures in the Office of the President. The Directorate will work closely with the State Governments in order to reach the various communities in each of the 304 Local Government Areas throughout the country. The fund will be administered for stated objectives at the community levels on the basis of matching-grants system. It will be the cardinal element of the Directorate not only to effectively promote a framework for grassroots mobilisation but also, to mount a virile programme of developmental monitoring and performance evaluation. It is expected that under the programme, rehabilitation of 60,000 kms of rural feeder roads would be undertaken in 1986. (Federal Budget, 1986:11)

The 1987 budget stated further that:

the Directorate of Food, Roads and Rural Infrastructures will: (a) accelerate its efforts to build a national network of rural feeder roads and add another 30,000 kilometres to its original target of 60,000 kilometres; (b) implement

a national water supply scheme; (c) launch a national rural markets programme to be closely phased in with the rural feeder road programme; (d) launch a rural electrification programme with emphasis on rural agro-industrialisation; and generally implement its articulated programmes in the fields of crop, livestock, fruits, vegetables, rural housing, rural health, rural education and social organisation. The Directorate will make its presence felt on the ground more than it has done in its foundation year; and has been allocated a sum of ₦500 million for its operations in 1987. (Federal Budget, 1987:17-18).

In 1988, a presidential task force on implementation of DFRRRI's functions on feeder roads was set up. This was followed in 1989 by the creation of a comprehensive rural feeder roads maintenance programme to arrest damage to and prevent eventual collapse of DFRRRI. The 1989 budget merged the recurrent expenditure of DFRRRI with that of the Ministry of Agriculture and Rural Development to avoid duplication. In 1993, the DFRRRI was merged with the Ministry of Agriculture and Rural Development, yet the budget for that year indicates that "it will continue to enjoy generous government backing".

Annex D and Annex E clearly show that objectives of DFRRRI and the ADPs overlap considerably. Without a clear delineation of areas of operations, the overlap could hardly facilitate efficiency or minimize government overheads. In fact, the DFRRRI was even less likely to reduce "gross inefficiency" or overheads because its operational scope also overlapped with those of federal ministries (e.g., works, agriculture, water resources, power, industry, etc.) and public agencies like the water boards. It is not surprising therefore that it was eventually scrapped and merged with the federal ministry of agriculture. The real surprises were its creation under a regime supposedly committed to a lean and fitter government and the length of time it took before it was eventually merged.

A summary of institutional changes

Institutional environments are usually perceived to be stable. If the institutions supporting agriculture are unstable, it is highly unlikely that agricultural policies will be implemented effectively. A discussion of the institutions of agricultural policy is therefore useful to an analysis of the stability of agricultural policy. Institutional change is used here to refer to changes in the general rules and in economic bodies supporting agriculture.¹² Consequently, two types of shifts are relevant: shifts in general rules and shifts in economic bodies. Further, we end with a brief discussion of possible explanation of the shifts.

Shifts in general rules

In Section 2, we showed that a classification of agricultural policies into rigid rules, feedback rules and discretionary rules is useful to an analysis of stability. Annexes A–E

show that agricultural policies are mainly discretionary. For instance, changes in fiscal, monetary and trade policy variables were announced mainly through annual budgets. In addition, the fiscal and monetary instruments as well as producer prices, guaranteed minimum prices and credit allocations do not follow either rigid or feedback rules.

The general rules regulating the behaviour of agents directly participating in or servicing agriculture are categorized into four: sectoral policies or programmes, land reform, rules of participation, and credit programmes and allocations. Table 7a, which summarizes the introduction and termination of agricultural programmes, shows eight new sectoral programmes (1977, 1980, 1986, 1988, 1990 and 1991), four of which were terminated (1980, 1984, 1986 and 1993), in 17 years. Therefore, on average, one new sectoral programme was introduced every 21 months (1977–1991), increasing to an average of one in about 14 months (1986–1991). In addition, three new programmes terminated three old programmes: NCMS replaced NPMB, GR replaced OFN and SAP replaced NCMS. Further, the life of a programme ranged from three years (OFN and GR) to ten years (NCMS). Most significantly, *sectoral programmes do not outlast regimes that introduce them.*¹³

Table 7a: Major institutional shifts and discontinuities

Period	ADP	ADAP	MSADAP	RBDA	RBRDA	Sectoral/ Macroeconomic programme	Exogenous shocks
1973-75	*			*			Positive oil revenue shock Military coup (1975)
1976/77-79						OFN, end of NPMB, NCMS	Oil boom Transfer of power to civilians (1979)
1980-83		* LDP, RIS				End of OFN, GR	Negative oil shock External debt crisis Overthrow of civilian government (1983)
1984					*	End of GR	
1985					*		Military coup
1986-87			*		*	Termination of NCMS, DFFRI, NNP	Major policy shift
1988	*	-	-			NAP	
1990					*	NCP	
1991					*	NALDA	
1993					*	End of DFRR1	

OFN	=	Operation Feed the Nation
NPMB	=	Nigerian Produce Marketing Boards
NCMS	=	New Commodity Marketing System consisting of a price-fixing authority and seven commodity boards
GR	=	Green Revolution
DFPRI	=	Directorate of Food, Roads and Rural Infrastructure
NNP	=	National Nutritional Policy
NAP	=	National Agricultural Policy
NCP	=	National Commodity Programme
NALDA	=	National Agricultural Land Development Agency

Source: Annex A, B and C.

Although there is no standard for how long programmes should last, a three-year period is too short for the objectives of sectoral programmes to be realized. Moreover, the rate at which new programmes are introduced may be too frequent to elicit desired responses from farmers. In fact, if farmers' expectations are as presumed by the rational expectation school, sectoral programmes would have no effects on farmers. In this context, the results of Kwanashie, Garba and Ajilima (1992), that agricultural response to policy is weak, appears compatible with the rational expectation thesis and it is no proof of the latter. However, given the level of illiteracy among farmers, it may very well be, that *lack of information has effects similar to rational expectations*. An earlier study (Garba, 1997), for instance, found that food processors do not consciously respond to government policies because they have no knowledge of the policies.

Two changes to the Indigenisation Decree are shown in Annex A. First, in 1978/79, agriculture was transferred from Schedule II to III to make it legal for foreigners to own agricultural firms. Before the change in 1978/79, foreigners were restricted from participating in agriculture. The 1984 change allowed for a foreign holding of 80%, which was subsequently increased to 100% under the liberal regime of structural adjustment. Theoretically, barriers to entry are not compatible with efficiency. However, theory also recognizes the negative effects of market power. The issue therefore, is the right balance between freedom of entry, market power and the long-term interest of Nigeria, given that food is a powerful instrument of international politics. Now more than ever, the dangers of foreign unregulated participation in Nigerian agriculture must be taken more seriously in the light of the controversial Trade Related Intellectual Property Agreement, Article 27.8 (b) on the patenting of plants. Core issues in the controversy such as equity, genetic erosion/genetic diversity, terminator technologies, monopolies and costs have significant implications for food security in Nigeria especially in the new millennium.

The annex also shows that a land reform was carried out in 1977/78 through the Land Use Decree of 1978. The land reform was designed to make land more accessible for agricultural and industrial activities. The reform has remained stable even though its effectiveness is the subject of intense controversy, especially now in the debate about true federalism.

Annex A also shows two changes to the institutional structure providing credit to

farmers. The first, in 1976/77, was the Agricultural Credit Guarantee Scheme (ACGS); the second was the creation of Nigerian Agricultural Credit and Commerce Bank (NACB) in 1983. These programmes have endured relative to the sectoral programmes. Similarly, as Table 4 showed, rules on credit allocation to agriculture were relatively stable.

Economic bodies

The agricultural development programmes (ADP) and River Basins Development Authority (RBDA) have been core economic bodies supporting and coordinating agricultural policies since the early 1970s. Table 7a shows the evolution of these organizations and the creation of others.

The structure of ADP was changed three times (1981, 1986 and 1988) and two of the changes were reversed. The first change (the introduction of accelerated development area projects—ADAP—in 1981) and the second (introduction of multi-state agricultural development projects—MSADAP—in 1986) were reversed in 1988 when they were integrated into 22 ADPs. Two other programmes, the Livestock Development Project (LDP) and Rural Agro-Industrial Scheme (RAIS), were introduced in 1981, but official records do not show when they were implemented or discontinued. These imply that most of the changes to ADP occurred in 1981–1988. Similarly, Table 7a also shows six changes in RBDA in 1984–1993 (an average of one change in 20 months).

Overall, sectoral policies and economic bodies implementing agricultural policies were fluid both in absolute terms and relative to monetary policies. Land laws were the most stable.

Possible reasons for the institutional changes

Two inferences about institutional changes could be made. First, changes in the general rules and economic bodies supporting agriculture are frequent. Second, the changes were most frequent in 1984–1996. Annexes C–E show the official reasons for some of the policy shifts, among which were to:

- Reduce inflation and food shortages (OFN)
- Provide incentives to private sector and foreign participation (the changes to the indigenization decree, land reforms, NCMS)
- Promote self-sufficiency (Green Revolution, DFRRI, NAP)
- Increase export earnings (land reforms, NCMS, termination of NCMS, DFRRI)
- Increase acreage (ADAP, MSADAP, RBRDA, NALDA)
- Rural development (ADAP, MSADAP, RBRDA)

- Increase organizational efficiency (DFRRI, DFRI monitoring units, merger of DFRFRI with Ministry of Agriculture)
- Marketing efficiency (NCMS, termination of NCMS, DFRI)
- Provision of rural infrastructure (ADAP, MSADAP, RBRDA, DFRI)

If objectives were a sufficient condition, the sectoral programmes would be justified. For instance, Table 7b shows that food production declined at a mean annual rate of 4.7% in 1971–1976 while the inflation rate averaged 16%. Therefore, the official reasons for OFN were valid. Similarly, the mean decline in food production of 3.7% and agriculture 1.8% and the mean rise in food imports (34.9%) in 1977–1979 validate the objectives of GR. Programmes that sought to raise export earnings could also be justified by the low mean growth of exports in 1971–1985 of 1.4% relative to import growth of 25%. However, objectives by themselves may not justify the shifts. For instance, two contradictions could be identified using this criterion. First, the introduction and termination of NCMS were justified by the similar objectives: increased export earnings and increased market efficiency. Second, the creation and end of DFRI had the same justification: efficiency.

Table 7b: Percentage growth rates of agricultural quantities, import and exports, and the inflation rate (1971–1993)

Year	Crops	Fish	Livestock	Total	Import	Export	Inflation
1971-76	-4.7	4.9	0.5	-3.5	45.9	11.1	16.0
1977-79	-3.7	2.6	3.2	-1.8	34.9	10.4	14.6
1980-85	2.5	-11.2	4.0	2.2	-1.3	-12.7	17.8
1986-93	10.3	-1.6	2.0	8.0	8.5	-1.0	30.5
1971-93	2.5	-1.9	2.3	2.2	19.1	0.6	21.3

Source: Computed from Central Bank (1993; 1977–1993).

The information in this study is insufficient to test the proposition that the behaviour of agricultural output, export earnings and prices causes institutional shifts. However, Table 7a shows strong support for the proposition: in general, institutional change is associated with political change. For instance, after each of the four major political shocks, a programme is terminated and at least one new one introduced. Further, the period with the most new programmes coincided with the period of both a major policy shift and a major political shock. However, because the creation of more programmes was incompatible with a smaller government as required by the policy shift, the “political effect” appears to have been the dominant catalyst.

4. Implementation deviations of agricultural policies

This is the first of a two-part evaluation of the credibility of agricultural policies. The focus on this section is on estimates of implementation deviation, while the next section investigates the problem of instability. Section 2 discussed how we measured implementation deviation; here we report the estimates and discuss them.

In all, we estimated implementation deviations for ten policy variables grouped into two fiscal allocations to agriculture and agricultural programmes and sectoral credit allocation to agriculture. The first group of fiscal policy variables has eight variables while the second (monetary policy) had two. For each variable, we report period averages, spread and standard deviations. In addition, we report the pattern of over- and undershooting to supplement the reported estimates of implementation deviations. Thus, in addition to inferences about implementation deviation, we also provide information on volatility of implementation.

Plan and budget allocations to agriculture and to the RBDAs

Implementation deviations were computed for eight fiscal policy variables. Four of the policy variables comprise capital allocations to agriculture in the second and third plans (1971–1979) and current, capital and total allocations to agriculture in the federal budgets of 1977–1993. The other policy variables are shares of current, capital and total budget allocations to agriculture, and capital allocations to the RBRDAs in 1981–1993.

Table 8 summarizes the result for the eight variables. Three main points are indicated by the results: First, the results suggest that the proposition by private agents that government does not keep its word is valid. For instance, implementation deviation for plan allocation ranges from -37.0% to 428.5%, with a period average of 54.9%. Similarly, current, capital and total allocations to agriculture in the budget show similar ranges of implementation deviations. However, the period average for capital allocation is very small (0.5%) in absolute terms and relative to those for current (45.5%), total (55.9%) and capital allocations to RBDAs (-21.3%). The implementation deviations for expenditure shares also have wide ranges, although the mean averages for current and capital allocations are small (-5.5% and 4.1%, respectively).

Figure 5a: Capital expenditure on agriculture (plan allocations and actual expenditures), 1971–1979 (₹ million)

Table 8: Summary descriptive statistics of the implementation deviation of selected agricultural policies (%)

Variable	Mean	Maximum	Minimum	Standard Deviation	Period
Capital (plan)	54.9	428.5	-37.0	147.0	1971-79
Capital (budget)	0.5	121.1	-69.5	49.7	1977-93
Current (budget)	45.5	148.6	-36.4	47.8	1977-93
Total (budget)	4.4	112.4	-66.3	48.6	1977-93
Current (shares)	4.1	71.7	-61.7	43.2	1977-93
Capital (shares)	-5.5	64.8	-72.1	45.5	1977-93
Total (shares)	71.2	423.0	-52.8	115.8	1977-93
RBRDAs	-21.3	48.7	-49.8	27.6	1977-93
Commercial banks	-24.4	15.4	-22.3	11.6	1977-93
Merchant banks	12.2	43.8	-21.9	26.9	1977-93

Source: Author's estimates

It is worth noting that the period average of implementation deviation is smallest in the case of budget capital allocation and highest in the case of total expenditure shares. In addition, about 75% of the plan and budget allocation variables have implementation deviations greater than 5%.¹⁴ Second, of the eight fiscal policy variables, only two (expenditure shares of capital allocations and capital allocations to RBDAs) have negative period average deviations. For the other six, the results indicate a tendency to overshoot planned or budget targets.

Third, the values of the standard deviation of the percentage implementation deviations show *substantial degrees of volatility*. Figures 5b, 6b, 7b, 8b, 9b, 10b, 11b and 12 clearly show the volatility of the implementation deviations. Figures 5a, 6a, 7a, 8a, 9a, 10a, 11a and 12 show the two series used in computing the percentage implementation deviation and are placed alongside the respective implementation deviation so that they can be compared.

Figure 5b: Implementation deviation of planned capital expenditure on agriculture, 1971–1979 (%)

Figure 6a: Capital expenditure on agriculture (budget allocations and actual expenditures), 1977–1993 (N million)

Figure 6b: Implementation deviation of capital allocations to agriculture, 1977–1993 (%)

Figure 7a: Current expenditure on agriculture (budget allocations and actual expenditures), 1977–1993 (N million)

Figure 7b: Implementation deviation of current allocations to agriculture, 1977–1993 (%)

Figure 8a: Total expenditure on agriculture (budget allocations and actual expenditures), 1977–1993 (N million)

Figure 8b: Implementation deviation of total allocations to agriculture, 1977–1993 (%)

Figure 9a: Share of agriculture infederal current expenditure (budget and actual)

Figure 9b: Implementation deviation of relative shares of agriculture in total current allocations, 1977–1993 (%)

Figure 10a: Share of agriculture in federal capital expenditure (budget and actual) (%)

Figure 10b: Implementation deviation of relative shares of agriculture in total capital allocations, 1977–1993 (%)

Figure 11a: Share of agriculture in total federal expenditure (budget and actual), 1977–1993 (%)

Figure 11b: Implementation deviation of relative shares of agriculture in total allocations, 1977–1993 (%)

Figure 12: % Implementation deviation (capital allocations to RBRDAs), 1981–1993 (N m bn)

Table 9 reveals a pattern of implementation deviations that sheds more light on the volatility that period averages conceal. First, Table 9 clearly shows that there are no occurrences of zero percentage deviation for any case or year. Therefore, Table 9 also supports the position that the government does not keep its word. Second, most of the undershooting occurred before 1987 and most of the overshooting occurred after 1986. Third, four fiscal policy variables overshot target levels more often while the other four had more occurrences of undershooting.

Sectoral credit allocation to agriculture

The last two rows of Table 8 show the results for the implementation deviation for the two monetary policy variables, commercial bank sectoral credit allocations to agriculture

Table 9: Pattern of the implementation deviation of selected agricultural policies (%)

Variable	Undershooting	Zero deviation	Overshooting	Number of observations	Period with most undershooting	Period with most overshootin
Capital (plan)	5 (56%)	0	4 (44%)	9	2nd plan (1970-74)	3rd plan (1975-79)
Capital	8 (47%)	0	9 (53%)	17	1977-81	1986-93
Current	3 (18%)	0	14 (82%)	17	1979-82	1983-93
Total	7 (41%)	0	10 (59%)	17	1978-86	1987-93
Current	10 (59%)	0	7 (41%)	17	1978-86	1987-93
Capital	9 (53%)	0	8 (47%)	17	1979-86	1987-93
Total	4 (24%)	0	13 (76%)	17	1982-86	1977-81 and 1987-92
RBRDAs	10 (91%)	0	1 (9%)	11	1981-93	
Commercial banks	7 (54%)	0	6 (46%)	13	1981-87	1988-93
Merchant banks	6 (46%)	0	7 (54%)	13	1981-84	1988-92

Source: Author's estimates.

and merchant bank lending to agriculture. Whereas actual commercial bank sectoral credit allocations to agriculture undershot target levels by a period average of 24.4%, merchant banks overshot their lending limits by 12.2%. The results imply that commercial banks on the average were not bound by government regulations on minimum sectoral allocations to agriculture while merchant banks were.

Further, Table 9 shows that commercial banks undershot approved lending rates 9 out of 13 times (54%) while merchant banks undershot approved lending rates 8 out of 13 times or 46% of the time in 1981–1993. The table also shows that most of the undershooting for commercial and merchant banks occurred in 1981–1987 and 1981–1984, respectively, while most of the overshooting occurred in 1988–1993 and 1988–1992, respectively. These imply that neither bank type was always bound by government regulations on sectoral lending.

Figure 13a shows the approved and actual lending rates for both while Figure 13b shows the time paths of the percentage implementation deviation for approved commercial and merchant bank sectoral credit allocations. It shows that they are volatile but less so than budget allocation variables.

Overall, three main deductions are indicated. First, government does not keep its word; it is also not able, on average, to induce or compel the organized private financial sector to meet its minimum approved lending to agriculture. Second, there is a noticeable shift in the direction of implementation in 1986: occurrence of undershooting of both fiscal and monetary targets coincided with the pre-adjustment era, while the overshooting coincided with the adjustment era. Third, following from the second, the direction of overshooting appears to be sensitive to changes in political and policy regimes.

However, it is not possible to draw strong conclusions about credibility of the observed tendency for fiscal over- and undershootings. This is because we have not formulated a

Figure 13a: Approved and actual lending to agriculture (% of total lending)**Figure 13b: Implementation deviation lending to agriculture, 1981–1993 (%)**

macroeconomic model required for a more rigorous analysis of the credibility of the agricultural policy regime. However, while some implementation deviation may be compatible with credible policy, a persistent and non-marginal implementation deviation could hardly be compatible with a credible policy regime.

5. Stability of agricultural policies

The historical overview of agricultural policy reveals frequent changes, and discontinuities in general rules and economic bodies supporting agriculture are frequent. It also showed that the discontinuities heightened under the adjustment period. In addition, the discontinuities and frequency of new programmes are linked to political changes. At this stage therefore it is plausible to infer that the frequent changes and discontinuities are indicative of unstable policy regimes. However, further investigation of the volatility of the growth rates of important agricultural policy variables is useful to shed more light and provide more evidence.¹⁵ Therefore, we report and discuss measures of volatility for selected price, fiscal and monetary policy variables as a complement to the information revealed by the tables.

Selected indicators of agricultural policy

Three groups of indicators are in the selection: prices, expenditure on agriculture and credit to agriculture. These variables are indicators of price, fiscal and monetary policies. We selected six prices consisting of three major tradeables (cocoa, groundnuts and palm kernel) and three non-tradeables with broad national spreads (maize, rice and yams).

The *expenditure on agriculture* consists of two broad categories: budget allocations and actual expenditures. In addition, we disaggregated both into capital and current and distinguish between nominal and “real” expenditure. We defined real expenditure as nominal expenditure deflated by the naira/US\$ exchange rate. Two assumptions underlie the choice of the exchange rate as deflator. First, a significant proportion of capital expenditure on agriculture is capital goods imports. Second, domestic price is a direct function of the exchange rate.¹⁶ Further we investigated the volatility of budget and actual allocations because of the significant implementation deviation revealed by Section 4. Therefore, it is possible to find out if their volatility is different. Similarly, the distinction between nominal and real makes it possible to investigate the proposition that their volatility is different.

The *credit variables* are approved allocations to agriculture (commercial banks and merchant banks); and loans to agriculture (commercial banks and merchant banks).

The study uses two methods to investigate the volatility of the variables. First, we compute, graph and analyse the growth rates of the variables. Second, we compute and analyse the standard deviations of the “growth series”. For all groups of series, we compute and analyse short-run variability and compare with long-run variability. The observed association between institutional change and political change informs this.

Measures and analysis of volatility

Prices

Figure 14a shows the graphs of the growth rates of the selected crops plotted against time. Table 10, on the other hand, shows the mean and standard deviations of the growth series for the period 1971–1989 and four sub-periods: 1971–1976; 1977–1979; 1980–1985 and 1986–1989. It is important to appreciate that the sample period covers:

- The termination of NPMB (Nigerian Produce Marketing Boards)
- Its replacement by NCMS (new commodity marketing system consisting of a Price Fixing Authority and seven commodity boards)
- The termination of NCMS, introduction and termination of OFN (Operation Feed the Nation) and GR (Green Revolution)
- The operations of DFFRI (Directorate of Food, Roads and Rural Infrastructure)

The appreciation is important to perceiving the subsamples as indicators of the institutional changes and the four political changes that occurred within the period.

The table and the graphs show that all the commodities exhibit long-term volatility. The volatility indicators range from 31.3% (yams) to 247.2% (rice) for non-tradeables and from 38.2% (palm kernel) to 76.3% (groundnuts) for tradeables. Further, the subsample indicators show that the subperiod 1986–1989 is the most volatile for all three tradeables and for two non-tradeables (yams and rice). On the other hand, the subperiod 1977–1979 is the most stable for all three non-tradeables and two tradeables (groundnut and palm kernel). Cocoa was most stable in 1980–1985 and rice was most unstable in 1980–1985 (the graph for rice in Figure 14a shows that this was caused by the sharp increase of 1981).

Table 10: Volatility indicators for growth rates of selected commodity prices, 1971–1989 (%)

	1971–76		1977–79		1980–85		1986–89		1971–89	
	mean	s.d.	mean	s.d.	mean	s.d.	mean	s.d.	mean	s.d.
Cocoa	18.5	36.4	24.2	28.8	3.9	4.2	73.6	61.6	26.3	42.2
Groundnuts	26.5	17.8	12.0	7.8	40.1	65.4	67.4	156.9	37.1	76.3
Palm kernel	22.8	48.6	6.7	11.5	16.7	28.8	32.5	54.0	20.4	38.2
Maize	21.2	32.4	15.9	17.3	26.4	33.5	46.3	117.6	27.3	55.3
Rice	19.9	28.8	3.4	24.8	181.4	442.9	31.7	41.9	70.8	247.2
Yams	14.1	35.6	35.5	19.0	10.3	23.9	33.5	43.2	20.4	31.3

Source: Central Bank of Nigeria (1970–1989).

Figure 14a: Growth rates of selected commodity prices, 1971–1989 (%)

Expenditure on agriculture

Figures 14b and 14c show, respectively, the graphs of the growth rates of budget and actual expenditure plotted against time. The former is for the sample period 1978–1993 and the latter is for the sample period 1971–1993. The sample periods reflect data availability. To make a comparable analysis, the computed indicators of variability in Tables 11 (budget allocations) and 12 (actual expenditure) have the same sample periods.

Four general observations could be made from the figures (14b and 14c) and (11 and 12). First, budget allocation (86.8% to 135.4%) and actual expenditure (93.1% to 105.9%)

Figure 14b: Growth rates of budget allocations to agriculture (1978–1993)

exhibit long-run volatility. Second, budget allocations are less volatile than actual expenditures except in the case of current expenditures. This is reasonable since actual expenditures depend on actual government revenue, which is very sensitive to movements in actual oil revenue. Third, nominal and real budget allocations exhibit similar patterns of volatility but real expenditure and nominal expenditures have slightly different patterns. For instance, while real current expenditure is less volatile than real capital expenditure, nominal current expenditure is more volatile than nominal capital expenditure. Fourth, current expenditure (budget and actual) is the most volatile in the long term.

Table 11: Volatility indicators for growth rates of budget allocation to agriculture, 1978–1993 (%)

	1978–79		1980–83		1984–85		1986–93		1978–93	
	Mean	s.d.	Mean	s.d.	Mean	s.d.	Mean	s.d.	Mean	s.d.
Capital ^a	86.2	91.2	40.3	26.8	105.8	260.9	30.9	71.5	49.5	91.8
Current ^a	37.6	51.7	-3.6	8.0	5.8	8.7	100.2	183.8	54.6	135.4
Total ^a	79.5	86.3	37.5	25.1	90.2	235.7	40.7	87.9	50.9	91.4
Capital ^b	91.0	86.8	33.2	26.6	78.3	222.7	-4.3	68.7	27.3	87.1
Current ^b	41.4	47.8	-8.5	11.3	-2.4	16.8	56.3	174.7	30.9	123.9
Total ^b	84.2	82.0	30.4	24.6	65.0	200.0	4.5	85.0	28.5	86.8

a Nominal

b. Nominal deflated by the exchange rate.

Source: Computed from Central Bank of Nigeria (1993, 1977–1993).

Table 12: Volatility indicators for growth rates of actual allocation to agriculture, 1978–1993 (%)

	1978-79		1980-83		1984-85		1986-93		1978-93	
	Mean	s. d.								
Capital ^a	-5.7	22.1	109.1	162.0	-24.8	45.6	36.5	64.4	41.7	97.3
Current ^a	-22.4	40.7	37.0	86.2	ñ1.9	0.6	82.3	127.5	47.3	104.1
Total ^a	-12.0	7.7	96.5	146.7	-23..7	42.4	46.0	72.9	42.7	93.1
Capital ^b	-1.9	26.8	109.4	184.0	-32.7	35.6	-1.5	56.8	22.3	105.9
Current ^b	-20.5	38.9	36.2	102.0	-9.8	7.6	39.7	124.8	25.1	100.2
Total ^b	-8.7	11.6	96.7	168.0	-31.6	32.6	7.0	69.0	22.6	100.3

Source: Computed from Central Bank of Nigeria (1993, 1977–1993).

Figure 14b and Table 11 reveal different intensities of short-run volatility for budget allocations and its components. For instance, budget allocations were least volatile in 1980–1983, whereas total and capital allocations were most volatile in 1984–1985. However, budget allocation was most volatile in 1986–1993. It follows, therefore, that much of the long-run volatility of current budget allocations was due to its heightened volatility in the 1986–1993 period.

Similarly, Figure 14c and Table 12 reveal different intensities of short-run volatility for actual expenditure and its components. Total and capital expenditure were least volatile in 1978-1979 while current expenditure was least volatile in 1984–1985. Interestingly, both total and capital expenditure were most volatile in 1980–1983 when corresponding budget allocations were least volatile. However, the period of greatest volatility was the same for both current expenditure and current budget allocations (1986–1993).

Figure 14c: Growth rates of actual expenditure on agriculture (1971–1993)*Credit allocation and bank lending to agriculture*

The growth rates of credit allocations and bank lending to agriculture are shown in Figure 14d, while their mean and standard deviations are summarized in Table 13. The graphs and table show that approved allocation to agriculture for commercial banks is relatively stable, while commercial bank lending is volatile. Second, approved allocation and lending of merchant banks is more volatile in 1986–1993 than in 1982–1985, but approved allocation and lending by commercial banks is more volatile in 1978–1985 than in 1986–1993.

Figure 14d: Growth rates of approved allocations and bank lending to agriculture (1978–1993)

Table 13: Volatility indicators for approved credit and bank lending to agriculture, 1978–1993 (%)

	1978-85		1986-93		1978-89	
	Mean	s. d.	Mean	s. d.	Mean	s. d.
Approved allocations to agriculture (commercial banks)	9.8	14.0	3.1	8.8	6.5	4.4
Approved allocations to agriculture (merchant banks)	0.41	9.8	8.3	23.6	11.8	17.9
Lending to agriculture (commercial banks)	33.2	16.5	30.7	13.4	32.0	48.1
Lending to agriculture (merchant banks)	43.3 ^a	6.8 ^a	50.5	24.8	48.1	20.4

^a This applies to 1982–1985.

Source: Computed from Central Bank of Nigeria (1993, 1977–1993).

6. Conclusion

The study achieved three main objectives. First, it collected, organized and presented a comprehensive documentation of agricultural policies for 1976–1993. Second, it computed and analysed implementation deviation for ten agricultural policy variables, eight of which are fiscal and two monetary. Third, it identified and analysed discontinuities in agricultural policies. In addition, it computed volatility measures for ten agricultural policy instruments and six regulated commodity prices.

The estimates of implementation deviation indicate consequential over- and undershooting of policy targets. The results show that the implementation deviation was persistent and volatile in addition to being consequential. Therefore, the concern that private agents have about government not keeping its word is legitimate. Similarly, their concern about policy discontinuities is also valid. For instance, the volatility measures indicate that all variables exhibit consequential long-run volatility, although the degree and patterns of short-run volatility differed.

In general, volatility was most intense for most policy variables in the structural adjustment period, implying that agricultural policies were relatively more stable before than after adjustment. This suggests that the major policy shift of 1985/86 heightened policy instability. However, political instability predated structural adjustment and could be associated with long-term instability of agricultural policies. We found that no agricultural programmes outlived the political regimes that introduced them, while each new regime put in place new programmes. Further, while the official rationales for the changes suggest that even though some of the changes could be justified by the behaviour of agricultural output, productivity, prices and export revenue, political instability seems to be the driving force.

Finally, even without a comprehensive evaluation of the credibility of agricultural policies, it hardly seems likely that a policy regime could be credible when implementation deviations are consequential, persistent and volatile and policy variables exhibit long-term volatility. Therefore, the partial assessment notwithstanding, the effects of political instability and structural adjustment on the credibility of agricultural policies are worthy of further investigations. We choose to recommend further studies rather than simple inferences from the results in recognition of the limits of recommendations that are neither feasible nor sufficiently justified. For instance, to recommend minimizing political instability as a way to reduce long-term volatility of agricultural policies is pointless without explaining political instability and establishing more rigorously the connection between political and policy instabilities. Similarly, to assert that structural adjustment should be reversed to improve credibility of agricultural policies would lack credibility if we have not established rigorously how adjustment is causal to the heightened volatility of agricultural policies.

Notes

1. Though these statements were made with specific reference to the 1996 budgets, newspaper reports of the response of private economic agents to previous budgets reveal similar comments.
2. Mr. Kolade's statement and those of Dr. Adegbite and Mr. Peterside below were reported by *The Guardian*, Monday, 19 February 1996.
3. The consensus of some financial operators on the 1996 budget when they were interviewed by *The Guardian* as reported in its edition of Monday, 19 February 1996.
4. Mr Akindele's statement and those of Mr. Akingbola and Mr. Dipo Aina were reported by *The Guardian*, Sunday, 18 February 1996.
5. Mr Peterside indicates that policy shifts are frequent while Mr Erasmus reveals that policy shifts make private sector economic planning difficult and that a stable public policy regime is desirable to improvements in the private sector activities.
6. Thus, unlike World Bank (1994), policy performance is not evaluated by some exogenously determined policy targets but simply by the deviation between what government announces and what it actually does.
7. We do not yet know how many agricultural policy documents have been released; we would find out from the federal Ministry of Agriculture in the course of the study.
8. The concept of policy stability as used in this study is not precisely the same as the concept of stability in macroeconomic or general equilibrium analysis where it is used "to refer to the extent to which an equilibrium price or set of prices will be secured despite any 'shocks' to the system which temporarily move prices away from its equilibrium level" (Pearce, 1983). The partial and general equilibrium analysis would have been strictly relevant if we sought "to ascertain whether, and under what conditions, the variables present in a given economic model converge over time to their respective equilibrium values" as stability analyses of models seek to do (Gondolfo, 1985: 395).
9. Under microeconomic and general equilibrium analysis we would have needed to establish the following conditions for stability:

$$\lim_{t \rightarrow \infty} Y_i(t) = Y_i^e, i = 1, 2, \dots, n$$

$$\lim_{t \rightarrow \infty} [Y_i(T) - Y_i^e] = 0, i = 1, 2, \dots, n$$

10. Though the structural adjustment programme is a comprehensive economic

programme, agricultural policy is an important part of it.

11. The NCMS Green Revolution (GR) and accelerated development area project (ADAP) are attributable to political changes.
12. Unlike North (1992), the study does not distinguish institutions from organizations. This assumes that players and rules converge if power is centralized.
13. The NCMS is the only exception.
14. This is computed as six divided by eight multiplied by 100%.
15. Further analysis of stability may focus on policy reaction functions to ensure that policy changes are not erroneously interpreted as indicators of instability. Clearly, there is value added in this type of extension especially in economies where policy making is intertemporal, largely autonomous and with stable policy institutions. However, where the policy institution is unstable and policy making is evidently discontinuous, the chances of erroneous interpretation are very limited and the value addition of analytical rigour may not justify it. Besides, regardless of its underlying causes, frequent change in policy is not compatible with a stable policy environment under which private enterprise thrives.
16. A simple test of this assumption supports it. The result is: $CPN = 93.3 + 142.5ERN$. The respective t-statistics are 2.0 (intercept) and 21.2 (slope coefficient). The adjusted R-square is 0.95, the D.W. 1.96 and the sample period is 1970–1993.

References

- Bevan, D., P. Collier, and J. W. Gunning. 1992a. "Nigeria policy response to shocks, 1970–1990". Mimeo. Oxford, London.
- Bevan, D., P. Collier, and J. W. Gunning. 1992b. "Nigerian economic policy and performance: 1981–1992". Mimeo. Oxford, London.
- Binswanger, H. 1989. "The policy response of agriculture". *The World Bank Supplement to Research Observer*.
- Bond, M.E. 1983. "Agricultural response to prices in sub-Saharan African countries". *IMF Staff Papers*.
- Central Bank of Nigeria: *Annual Reports and Statements of Accounts, 1970–1993*.
- Faruqee, R. 1994. "Nigeria: Ownership abandoned". In I. Hussain and R. Faruqee, eds., *Adjustment in Africa: Lessons from Country Case Studies*. World Bank Sector and Regional Studies.
- Federal Government of Nigeria: Presidential/Head of State Budget Speeches and Budget Analyses. 1970, 1975 and 1981.
- Federal Ministry of Planning. *National Development Plans*, various. Lagos.
- Gandolfo, G. 1985. *Economic Dynamics: Methods and Models*. Amsterdam: North-Holland.
- Garba, P. K. 1997. "The impact of economic adjustment on women in food processing: A case of women gari processors in Ibadan and Moniya". In P. K. Garba, et al., eds., *Women and Economic Reforms in Nigeria*. Women's Research and Documentation Center (WORDOC), University of Ibadan.
- Gordon, R. J. 1990. *Macroeconomics*, Fifth edition, New York: HarperCollinsPublishers.
- Kwanashie, M., I. Ajilima and A. Garba. 1992. "Policy modelling in agriculture: Testing the response of agriculture to adjustment policies in Nigeria". *AERC Research Paper No. 57*, Nairobi, Kenya.
- Laffont, J. 1994. "The new economics of regulation ten years after". *Econometrica*, vol. 62, no. 3 (May): 507–537.
- Meir, G., ed. 1991. *Politics and Policy Making in Developing Countries: Perspectives on the New Political Economy*. San Francisco: ICS Press.
- Oyejide, A. T. 1986. "The effect of trade and exchange rate policies on agriculture in Nigeria". International Food Policy Research Institute, *Research Report No. 55*, Washington, D. C.
- Pearce, D. W. 1983. *The Dictionary of Economics*. London: Macmillan.
- World Bank. 1994. *Adjustment in Africa: Reforms, Results and the Road Ahead*. New York: Oxford University Press.

Annex A: Agricultural policies in federal budgets: 1976/77–1996

Year	Policy Objectives	Policies Retained	Policy Changes or Extension to past policies
1976/77	<p>i -reduce cost of food to cut inflation</p> <p>ii -increase food production</p> <p>iii -maximize contribution of cash crops and ensure adequate income to farmers</p>	<p>(a) - Agricultural Development Programs (ADP)</p> <p>- River Basins Development Authority (RBDA)</p>	<p>(b) - Operation feed the nation to be launched</p> <p>-improvement in distribution facilities to facilitate easy access to cheap fertilisers by farmers</p> <p>-efforts to provide simple and standardised implements to farmers</p> <p>-maintenance facilities to be set up at strategic places</p> <p>-increase in the provision of trained manpower for large scale irrigation</p> <p>-increase in the supply of pest control equipment and pesticides</p> <p>-Agricultural credit guarantee scheme</p>
1977/78	<p>iv -higher export earnings</p> <p>v -increase in supply of food and agricultural raw materials</p>	<p>(a) -ADP</p> <p>-RBDA</p> <p>-75% fertilizer subsidy</p> <p>(b) -Operation feed the nation to be pursued with even more vigour</p> <p>-Agricultural credit guarantee scheme</p> <p>(d) -Import duty relief for agricultural machinery, selected food products, trucks, lorries and spare parts</p>	<p>(c) -interest rates fixed at between 6-8%</p> <p>(d) -Import duty relief for agricultural machineries, selected food products, trucks, lorries and spareparts</p> <p>(a) -5 years tax relief</p> <p>(b) -provision of land by States to Nigerians and non-Nigerians interested in large-scale farming</p> <p>(d) -duty free imports of raw materials for livestock feeds and all agricultural machines used for agro-allied processing</p> <p>-ban on food imports (except chocolates and chocolate preparations)</p>
1978/79	<p>i -control of inflation</p> <p>i -increase food production</p>	<p>(a) -ADP</p> <p>-RBDA</p> <p>-75% fertiliser subsidy</p>	<p>(a) -additional investment allowance of 10% on all capital on plant and equipment</p> <p>-indefinite carry forward of losses</p>

Annex A continued....

Year	Policy Objectives	Policies Retained	Policy Changes or Extension to past policies
	<ul style="list-style-type: none"> vi -improve food storage vii -encourage foreign investment in agriculture 	<ul style="list-style-type: none"> -5 years tax holidays 	<ul style="list-style-type: none"> -interest payable on agricultural loans to enjoy special exemption from taxation -capital allowances to firms leasing agricultural implements
	<ul style="list-style-type: none"> (b) -Operation feed the nation to be pursued with even more vigour -Agricultural credit guarantee scheme 	<ul style="list-style-type: none"> (b) -Import duty relief for agricultural machineries, selected food products, trucks, lorries and spare parts 	<ul style="list-style-type: none"> (b) -transfer of agriculture from schedule II to schedule III -treatment of agriculture, its processing and marketing as preferred activities in credit allocations
	<ul style="list-style-type: none"> (d) -Import duty relief for agricultural machineries, selected food products, trucks, lorries and spare parts 	<ul style="list-style-type: none"> (d) -Import duty relief for agricultural machineries, selected food products, trucks, lorries and spare parts 	<ul style="list-style-type: none"> (d) -re-exports of imported food banned
1979/80	<ul style="list-style-type: none"> ix -increase in production (400,000 tonnes of assorted grains) x -integrated rural development xi -improvement in the quantity and quality of livestock and livestock products 	<ul style="list-style-type: none"> (a) -ADP -RBDA -75% fertilizer subsidy -5-year tax holidays (b) -Operation feed the nation to be pursued with even more vigour -Agricultural credit guarantee scheme (d) -Import duty relief for agricultural machineries, selected food products, trucks, lorries and spare parts 	<ul style="list-style-type: none"> (a) -contract for supply of 400,000 tons of assorted types of fertilizer to farmers awarded (b) -proposal to establish a National Centre for Agricultural Mechanisation made in 1978/79 to get off the ground -investing in manufacturing simple agricultural machines and implements -1400 hectares for cultivation of cash crops -establishment of large-scale agricultural farms of 4000 hectares in all states -irrigation schemes in Bakalori, Lake Chad Basin and Kano River to irrigate 6000, 5000 and 7000 hectares of land, respectively -integrated rural development schemes -2 million hectares of land acquired (d) -wheat, barley, oats, rice, buckwheat, millet, canary seed, grain sorghum, and other cereals, cereal flour, butter, cheese and frozen beef placed under import licence

Annex A continued....

Year	Policy Objectives	Policies Retained	Policy Changes or Extension to past policies
1980	<ul style="list-style-type: none"> i -reduction in inflation xii -increase in the availability of essential food items to the generality of our people 	same as 1979/80	<ul style="list-style-type: none"> -machinery for irrigation to be imported duty free -fresh fish and shrimps caught and landed in Nigeria by Nigerian-owned vessels to attract zero duties while those landed by foreign vessels would attract 2k per kg duty and all others would attract 4k per kg duty (d) -import duty on fishing vessels abolished
1981	xiii -self-sufficiency in food by 1985	<ul style="list-style-type: none"> (a) -ADP -RBDA -green revolution programme 	
1982	xiv -sustain momentum of boost in production of rice and fish	<ul style="list-style-type: none"> (a) -ADP -RBDA -green revolution programme 	
1983	<ul style="list-style-type: none"> iv -export earnings xiii -self-sufficiency in food xiv -reduction in food imports 	<ul style="list-style-type: none"> (a) -ADP -RBDA -green revolution programme 	<ul style="list-style-type: none"> (a) 760 boreholes to be sunk (b) -development of grandparent stock for domestic production of day-old chicks -establishment of grazing reserves for nomadic herders and local production of livestock feeds -fishing terminals at Ondo, Rivers and Cross Rivers States to be commissioned

Annex A continued....

Year	Policy Objectives	Policies Retained	Policy Changes or Extension to past policies
1984	xiv -reduction in food imports xv -revival of agriculture xvi -employment of labour	(a) -ADP (d) -Import duty relief for agricultural machineries, selected food products, trucks, lorries and spare parts	<ul style="list-style-type: none"> -efforts to be made to duplicate pilot schemes in rural integrated agricultural development projects (c) -Nigerian Agricultural and Commerce Bank to borrow ₦100 million for provision of credit to farmers (a) -₦20 million allocated for emergency water supply, supplementary feeds, and repairs of agricultural tractors and machinery (b) -states to set up farm settlements -RBDA renamed River Basins and Rural Development Authorities (RBRDA); to drive agricultural policies and to add the responsibility of rural development to those of RBDA -small farmers to have easier access to credit, higher producer prices and more efficient provision of inputs -proposal to amend NEPD to allow foreigners to own more than 80% of large farm projects -simplification of land acquisition -liberalisation of credit to farming (d) -duties on selected agricultural imports raised -duties on wheat and tea reduced
1985	v -provision of food and raw materials	(a) -ADP -RBRDA	<ul style="list-style-type: none"> (a) -allocation of 15% of allocations to agriculture to ADPS (b) -comprehensive insurance scheme to be established to protect agricultural produce against all forms of hazards -River Basins and Development Authorities to assume full responsibility for all federally funded water resource projects.

Annex A continued.....

Year	Policy Objectives	Policies Retained	Policy Changes or Extension to past policies
1986	<p>xvii -accelerated drive towards self-sufficiency in the production of rice and maize</p> <p>xviii -adequate production of yams, cassava, cocoa, sorghum and millet</p> <p>xix -reduced import dependency through groundnut, cotton, cocoa and palm oil production</p> <p>xx -reduced post harvest losses</p> <p>xxi -increased export earnings to diversify foreign exchange earnings and raise rural employment</p> <p>xxii -self-sufficiency in food in two years</p> <p>xxiii -reduction in rural-urban welfare gap</p>	<p>(a) -ADPs</p> <p>(b) ban on rice and maize imports</p>	<p>They are to cease direct production to concentrate on extension services to individual farmers</p> <p>(c) lending institutions to grant enhanced moratorium on agricultural loans</p> <p>(b) -DFRRI (with a budget of N450 million) to construct 60,000km of rural feeder roads</p> <p>-national on-farm storage programme to be launched</p> <p>-focus on small-scale farmers as the centrepiece of food- and fibre production</p> <p>-disengagement from direct production and distribution of farm produce</p> <p>-federal support in policy formulation and coordination but state and local government implementation</p> <p>-special care to prevent leakages</p> <p>-national rice production and distribution and national maize production and distribution programmes to be implemented</p> <p>-ADPs to take over the agricultural functions of RBRDAS and work alongside local government councils</p> <p>-RBRDA to focus on water resource development</p> <p>-review of the 18 Agricultural Research Centres so that each could begin establishing an extensive network of on-farm adaptive research centres in different ecological zones</p> <p>-National Seeds Service to be vastly strengthened in the areas of quality control and seed certification</p> <p>-new farm mechanization policy that emphasizes development of appropriate small-scale mechanical technologies to be articulated</p> <p>-commercialization of fertilizer procurement and distribution</p>

Annex A continued....

Year	Policy Objectives	Policies Retained	Policy Changes or Extension to past policies
1987	-not stated	-all programmes in 1986	<ul style="list-style-type: none"> -National Grains Board to build up strategic buffer stock of not less than 50,000 metric tonnes -Food Market Information Dissemination Service to be launched to further integrate the various segments of the Nigerian food market -a Rural Development Decree to provide for the revitalization and transformation of Nigeria's rural sector to reduce rural-urban welfare gap <p>(c) -a new farm credit policy to be formulated to liberalize access to farm credit</p> <p>-at least 15% of commercial banks to be allocated to agriculture (grains, 50%; livestock, 15%; others, 35%)</p> <p>(d) -pesticide control decree to be promulgated</p> <p>-ban on import of vegetable oil, day-old chicks and hatching eggs, stock fish</p> <p>-Export Promotion Council to encourage and facilitate export of all forms of agricultural produce</p> <p>(a) -N500 million allocated to DFRR1 to add 30,000km of feeder roads to the 60,000km in 1986; implement a national rural water supply scheme, launch a rural rural market programme and rural electrification programme and implement its articulated programme in crop, livestock, fruits, vegetables, rural housing, rural health, rural education and social organization</p> <p>(b) -National Food Security and Storage system to create 500,000 tonnes</p>

Annex A continued....

Year	Policy Objectives	Policies Retained	Policy Changes or Extension to past policies
1988	xx -prevention of post harvest losses xxiv -encouragement of private sector, large and medium size businesses to embark on hybrid seed multiplication xxv -fight against desertification xxvi -cost effectiveness and accountability in the activities of DFERRI	(a) -ADP -DFERRI	farm and on-farm storage capacity -National Nutritional Policy to be formulated -the Food Market Information Dissemination Service to be developed to provide the Nigerian food system with information on inventories and stocks, market trends, spot and future prices (c) -a new National Small Farmers Credit Programme to bring seasonal credit to the grassroots (b) -research institutes to facilitate second objective -promotion of tree nurseries and tree planting exercises -promote wood imports -full monitoring and auditing of DFERRI (d) -zero duty on fish caught by Nigerian and transported by Nigerian vessels
1989	i -reduction in high food prices xxvii -dramatically raised farm productivity xxviii -encouragement of private commodity traders to assume responsibility for buffer stock	(a) -ADP -DFERRI	(a) -N2 million allocated to Nigerian Stored Products Research Institute for design and fabrication of prototype small-scale storage facilities and the development of a cadre of storage extension workers -50% increase in the price of fertilizer (b) -clear, stable and consistent price signals -appropriate financial and institutional support -National on-farm adaptive research trials

Annex A continued....

Year	Policy Objectives	Policies Retained	Policy Changes or Extension to past policies
1990	i -reduction in food prices xx -cutback in post harvest losses xxix -accelerated production of food consumed by low and middle income group xxx -replacement of low productivity agriculture with high productivity agriculture xxxi -reduction of high cost of food and fibre production	(a) -ADP -DFRRI (gains to be consolidated)	-fertilizer procurement and distribution to be privatized in 1990/91 -free inter-state flow of produce -Universities of agriculture to be funded by the Ministry of Agriculture from 1990 (b) -import of poultry products, fruits and vegetables, vegetable oil, rice and rice products, wheat, and wheat products (a) -link between DFRR1's rural feeder roads programme with national food and agriculture priorities -National Commodity Programmes to be launched for accelerated food production, processing and distribution -necessary machinery for privatizing fertilizer procurement and distribution -subsidy and importation of fertilizer -NAFCON to establish fertilizer depots in different zones in the country
1991	xxxii -sustained tempo of food and agriculture xxxiii -increased acreage under cultivation xxx -increased productivity of agriculture xxxiv -democratized and liberalized farm credit	(a) -ADP -DFRRI (gains to be consolidated)	(a) -National Agricultural Land Development Authority (NALDA) to be established -research extension service linkage to be strengthened -National Commission for Women to be strengthened -establishment of community banks to be pursued with utmost vigour -pronouncement on privatization of fertilizer (in 1978 budget) to be vigorously pursued -new programme on small and medium scale storage facilities

Annex A continued....

Year	Policy Objectives	Policies Retained	Policy Changes or Extension to past policies
1992	<p>xxxv -access to adequate food and fibre at affordable prices</p> <p>xxxvi—attainment of national food security</p> <p>xxx -higher productivity</p>	<p>(a) -ADP -DFRRI (to continue to enjoy substantial government support)</p> <p>-NALDA (appropriate funds to be released in 1992, board was inaugurated in May 1991)</p>	<p>to be launched in 1991</p> <p>(b) -ECOWAS trade liberalization scheme</p> <p>(c) -tax exemption on agricultural loans</p> <p>(a) -assistance to FOFAN to sharply focus their interest and advocacy roles</p> <p>-reform of institutional arrangement for agricultural research and extension to raise productivity</p> <p>-monitoring of ECOWAS demand on Nigerian agriculture and formulation of appropriate policy response</p>
1993	<p>i -reduced food prices</p> <p>ii -increased food production</p> <p>xxxvii —development of rural infrastructure</p> <p>xxxvi -guaranteed food security</p>	<p>-same as 1992 apart from DFRRI</p>	<p>(a) -DFRRI to be merged with the Ministry of Agriculture</p> <p>-plans in the pipeline for the government to completely disengage from procurement and distribution of fertilizer</p>

Source: Federal Budget of Nigeria, 1976/77-93

Annex B: Ad hoc programme and policy instruments

Period	Programme	Instruments	Objectives	Period Terminated
April 1977	New commodity marketing system	<ul style="list-style-type: none"> • a price fixing authority (PFA) • seven national commodity boards 	<ul style="list-style-type: none"> • encouragement of production and organization of marketing of agricultural products • gradual phasing out of Nigerian Produce Marketing Company 	1986
April 1980	Green Revolution	<ul style="list-style-type: none"> • allocation of substantial funds for the resuscitation of areas of food crop, livestock and fish production which had been hitherto handicapped • land clearing schemes, farm mechanization centres, agro-service centres, river basin development schemes • the national accelerated food production schemes, and tractor hire, increased supply of fertilizer and expansion of credit. 	<ul style="list-style-type: none"> • Self-sufficiency in food by 1985 	1983
1981	-Accelerated Development Area Programme (ADA) -Livestock Development Project (LDP) -Rural Agro-Industrial Scheme (RAIS)	<ul style="list-style-type: none"> • Accelerated Development Area Programme (ADA) • Federal, state and IBRD finance and NACB • World Bank Technical Assistance Programme 	<ul style="list-style-type: none"> • complement ADPs • increased output of livestock farmers • agro-allied industrialization in rural areas 	1988
1986	Structural adjustment programme	<ul style="list-style-type: none"> • abolition of commodity boards, price control and export taxes • trade and exchange rate liberalization • 100% retention of export revenue 	<ul style="list-style-type: none"> • increased domestic food production and the production of cash crops • increased domestic supply of agricultural raw materials and reduction in dependence on imported raw materials • promotion of exportable cash crops (processed 	

Annex B continued.....

Period	Programme	Instruments	Objectives	Period Terminated
1988	New Agricultural policy	<ul style="list-style-type: none"> • decentralization of prices; • liberal trade and exchange rate policies; • selective subsidy on farm inputs and equipment; • tariff regulations • favourable fiscal and credit policies • review of land acquisition and allocation laws in favour of agriculture 	<p>cash crops and consumer durables) in order to further diversify the export base of the economy</p> <ul style="list-style-type: none"> • self-sustained growth in the agricultural sector • self-sufficient in food production • structural transformation of agriculture 	

Source: Central Bank of Nigeria, Annual Reports and Statements of Accounts, 1977–1993.

Annex C: Overview of the River Basin Development Authority: 1970–1993

Year	Evolution	Action lag	Capital allocation	Actual expenditure	Number of farmers resettled	Problems
1970	Conception					
1973	Establishment of Sokoto-Rima and Chad Basin	3 years				
1974	Operations of Sokoto-Rima and Chad Basin	1 year				
1976	Ogun-Oshun, Cross-River, Niger River, Hadejia-Jamare, Upper Benue, Lower Benue, Benin-Owena, Anambra-Imo, Niger Delta					
1981	No change		629.4	522.5	2,008	
1982	No change		429.6	287.4	1,984	-inadequate supply of seeds; late release of funds, hostility by rural population
1983	No change		623.2	317.6	14,178	
1984	-Increase from 11 to 18 -Decentralization -Change in name to River Basin and Rural Development Authority (RBRDA)		363.9	N/A.	20,126	-scarcity of farm inputs, inability to pump sufficient water due to drought
1985	-Shift from direct production to land preparation, irrigation and provision of inputs		371.9	N/A.	7,638	-re-organization of RBRDA to state-based
1986	-Reversed re-organization of RBRDA to pre-1984 (reduction from 18 to 11)		133.9	79.3	10	
1987	-Re-organization ongoing		124.0	87.7	16	-irregular/late release of

Annex C continued....

Year	Evolution	Action lag	Capital allocation	Actual expenditure	Number of farmers resettled	Problems
1988	-Re-organization completed	2 years	183.0	123.0	28	funds; lack of spare parts; inadequate rainfall
1989	-No change		241.4	210.3	N/A.	-
1990	-Privatization and commercialization -Cease to handle distribution of farm inputs and direct agricultural production		121.1	60.8	167	
1991	-Some RDAs slated for privatization -Non-water assets sold off -7 RBDAs left -Concentration on provision of water		188.9 127.0		15,280	
1992	-		116.1	104.1	18,596	
1993	-Enactment of Decree No 101 of August 1993 ^b		112.8	103.8	8,325	

a. Machinery, seeds/seedlings and fertilizer

b. The decree vests in the Federal Government ownership of all surface and underground water resources in Nigeria through the Federal Ministry of Water Resources and Rural Development. The RBDAs and other users are to obtain license before development of the resource.

Annex D: Integrated agricultural development programmes: evolution and operations

Year	New Projects	Number operational	Farm service centres	Dams constructed	Tractors	Supply of fertilizer	Feeder roads	Capital allocation
1974	Funtua, Gusau	2	N/A					
1975	Gombe	3	N/A					
1980	Ayangba, Lafia, Bida, Ilorin	5	N/A	199		60,000	2000	
1981	-Statewide expansion of Funtua, Gusau and Gombe -ADAP ^a in Gongola and Borno	5 + 2	39	10	74	77,000	3150	116.2 (29.2; 56.9; 30.1) ^c
1982	-Ilorin, Bida, Oyo North, Ekiti-Akoko ^b	9 + 2	128	33	40	45,054	4112	604.0 (183.4; 223; 197.6)
1983	-	10 + 2	128	22	20	68,292	1624	73.7 (37.5; 19.1; 17.1)
1984	-ADAP in Imo	10+3	19	29	17	103,925	657	52.2 (27.5; 9.6; 26.1)
1985		10 + 3	64	19	4	197,673	1014	105.3 (21.4; 37.6; 46.3)
1986	-Phased multi-state agricultural development projects (MSADPs) in nine states, 15 state-	19 + 3 +9	131 (137)	N/A.	155	451,000 (144000)	1602	133.5 (25.3; 41.8; 49.4; 17.0)

Annex D continued.....

Year	New Projects	Number operational	Farm service centres	Dams constructed	Tractors	Supply of fertilizer	Feeder roads	Capital allocation
	wise ADPs, 4 enclave ADPs and 3 ADAPs							
1987	-Same as 1986	19 + 3 + 9	6 (10)	N/A	250	514,000 (199000)	914	127.3(24.9;24.98;55.8; 21.7)
1988	-Integration of ADAPs into ADP -21 states and Abuja ADPs	21	25	N/A	N/A.	729,000 (124000)	1367	391.9 (59; 84.2; 276.3; 15.7)
1989	22 ADPs	21	893	N/A.	N/A	667,000	1244	410.6 (59.2; 136.6; 155.2; 59.7)
1990	22 ADPs	22	597	N/A	N/A	225,000	460.5	354.1 (43.9; 156.4; 121.6; 32.2)
1991	22 ADPs	22	383	N/A	N/A	344,700	197	448. 1 (68; 129.9; 241.9; 8.3)
1992	22 ADPs	22	722	N/A	N/A	1,410,000	1014.46	1217.5 (80.0; 296.0; 804.7; 36.8)
1993	22 ADPs	22	583	N/A	N/A	331,850	1430.5	1542 (80.5; 406; 990.9; 64.6)

a. ADAP is Accelerated Development Area Project

b. The Ilorin and Bida projects became operational only in 1981 while the feasibility reports of Oyo North and Ekiti-Akoko was completed in 1980. Thus, there is an action lag of at least two years.

c. The figures in parenthesis are federal, states, World Bank contributions respectively. The fourth figure from 1986 is miscellaneous sources.

Source: Central Bank of Nigeria, Annual Reports and Statements of Accounts, (1977—1993).

Annex E: Facts file of DFERRI, 1986–1989

Year	Allocation	Roads to be Rehabilitated	Roads Actually constructed	Changes	Problems
1986	500	60,000	N/A.	-	-
1987	400		N/A.	30,000km more roads to be constructed	-roads did not cover culverts and bridges -most boreholes sunk were not functioning -only few villages were electrified
1988	500	?	N/A	-indication that phase 1 consist of 30,000km and should be completed by July 1987 -set up of a Presidential Task Force on Implementation	-roads incapable of withstanding rainy season -inadequate allocation of funds
1989	300	?	progress to complete and upgrade to the Directorate's minimum specification 8000km of the 30,000 km first phase	-merger of DFERRI's recurrent expenditure with that of Ministry of Agriculture and Rural Development -set up of a comprehensive Rural Feeder Roads Maintenance Programme to arrest damage to and prevent eventual collapse of DFERRI	-wasteful duplication of efforts -second phase of 30,000km

Source: Central Bank of Nigeria, Annual Reports and Statements of Accounts, (1977—1993).

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