State-Federal Relations in Nigerian Agriculture

F.S. Idachaba

Managing Agricultural Development in Africa
FOREWORD

The MADIA study and the papers comprising this MADIA Discussion Paper Series are important both for their content and the process of diagnosis and analysis that was used in the conduct of the study. The MADIA research project has been consultative, nonideological, and based on the collection and analysis of a substantial amount of concrete information on specific topics to draw policy lessons. It represents a unique blend of country-oriented analysis with a cross-country perspective. The conclusions of the studies emphasize the fundamental importance of a sound macroeconomic environment for ensuring the broad-based development of agriculture, and at the same time stress the need for achieving several difficult balances: among macroeconomic, sectoral, and location-specific factors that determine the growth of agricultural output; between the development of food and export crops; and between the immediate impact and long-run development of human and institutional capital. The papers also highlight the complementarity of and the need to maintain a balance between the private and public sectors; and further the need to recognize that both price and nonprice incentives are critical to achieving sustainable growth in output.

The findings of the MADIA study presented in the papers were discussed at a symposium of senior African and donor policymakers and analysts funded by USAID in June 1989 at Annapolis, Maryland. The participants recommended that donors and African governments should move expeditiously to implement many of the study's valuable lessons. The symposium also concluded that the process used in carrying out the MADIA study must continue if a stronger, more effective consensus among donors and governments is to be achieved on the ways to proceed in resuming broad-based growth in African agriculture. The World Bank is committed to assisting African countries in developing long-term strategies of agricultural development and in translating the MADIA findings into the Bank's operational programs.

Stanley Fischer
Vice President Development Economics
and Chief Economist

Edward V. K. Jaycox
Vice President
Africa Regional Office
STATE-FEDERAL RELATIONS IN NIGERIAN AGRICULTURE

F.S. IDACHABA

THE WORLD BANK
WASHINGTON, D.C.
F. S. Idachaba is vice-chancellor of the Federal University of Agriculture in Makurdi, Nigeria.

Library of Congress Cataloging-in-Publication Data

Idachaba, Francis Sulemanu.

State-federal relations in Nigerian agriculture / F.S. Idachaba.

(MADIA discussion paper ; 8)
Includes bibliographical references.
1. Agriculture and state—Nigeria. 2. Federal government—Nigeria. I. Title. II. Series.

HD2145.5.Z8134 1989 338.1'869—dc20 89-22759

Contents

Introduction ......................................................... 4

Historical Antecedents .............................................. 5
Main Features of the Pre-1954 Era ................................ 5
Fundamental Changes of the Post-1954 Era ....................... 5

Analytical Framework .............................................. 6
Divergences Between Benefits of a Public Investment
Accruing to Residents Within a State and Benefits
Accruing to Federal or National Residents ....................... 6
Multiplier Effects and National Economy Linkages .......... 6
Balance of Payments and Foreign Exchange
Contributions .......................................................... 7
Meteorological Services as Public Goods ....................... 7
Indivisibilities, Huge Investment Outlays, and the Long
Purse .................................................................. 7
Risky Innovations ...................................................... 7
Production Specialization: One Nation, One National
Market .................................................................. 8
Regional Inequities, Desertification, and Other Natural
Phenomena .............................................................. 8
Macroeconomic and Agricultural Sector Policies ................ 8
National Food Security, Self-Reliance and Self-
Sufficiency ............................................................ 8
Exhaustible Resources ............................................... 9
Institutional Coordination .......................................... 9

A Review of State-Federal Relations in Nigerian
Agriculture: Four Case Studies ................................. 10
Research, Technology Development, and Dissemination 10
Fertilizer Procurement and Distribution ....................... 11
Agricultural Development Projects and Farm Input
Distribution ........................................................... 14
Development of Irrigation Facilities: A Case Study of the
River Basin Development Authorities ......................... 15
The Agricultural Development Projects: A Case Study in
State-Federal Collaboration in Agriculture .................. 17
Project Identification and Formulation ......................... 17
The Statewide ADPs .................................................. 18
Unilateral Decisions by State Governments ................. 18
FACU, APMEPU, and State-Federal Relations in ADPs 18
ADPs and Nonconventional Federal Participation in
Agriculture .............................................................. 19
Funding of ADPs ....................................................... 19
ADPs, State-Federal Relations, and Public Management
of Agriculture in Transition ......................................... 23

Issues in State-Federal Relations in Nigerian
Agriculture ........................................................... 24
Constitutional Provisions on Federal-State Relations in
Nigerian Agriculture ................................................. 24
The Role of Local Governments .................................. 24
Effect of State-Federal Relations on Autonomy of
Projects ................................................................. 25
Rural Infrastructures .................................................. 25
Agricultural Research ................................................. 26
Spatial/Regional Specialization in Production .................. 27
Data Collection System ............................................. 28
Human Capital .......................................................... 28
Institutional Credit ..................................................... 29
Institutional Arrangements ......................................... 31
The Demand and Supply-Side Approaches to State-
Federal Relations in Nigerian Agriculture .................... 33

Summary and Conclusions .......................................... 34

Annex 1 ................................................................. 35
Annex 2 ................................................................. 36
Notes .................................................................... 37
Bibliography ............................................................ 39

Illustrations

Tables
1. Frequent changes in institutional arrangements for
managing agricultural research in Nigeria ................... 10
2. Structure of decision making in fertilizer procurement:
extisting time table, Nigeria ........................................ 12
3. Demurrage claims from overseas fertilizer exporters,
1976-81 ................................................................ 13
4. Cost savings for rail-served primary distribution points
compared with direct road delivery ............................ 13
5. Indices of ADP funding shortfalls, by funding sources,
selected agricultural development projects, Nigeria .... 20
6. Indices of ADP funding instability, by funding source,
selected agricultural development projects, Nigeria .... 20
7. Untimely release of federal funds to the ADPs, Nigeria,
1st quarter 1986 and 1st quarter 1987 ....................... 23
8. Commercial bank lending to Nigerian agriculture, 1972-
83 .................................................................. 30
9. Agricultural loans under the agricultural credit
guarantee scheme Nigeria, 1979-1985 ......................... 30
10. Minimum agricultural sector and subsequent lending
target ratios (%) ...................................................... 31
11. Federal and state government control of decision-
making in Boards of River Basin Development
Authorities (RBDAs), Nigeria, 1976 and 1979 .......... 32
12. Statutory allocations from the federation account to
state and local government, 1978/79-1979/80 ............ 33

Annex Table 1 ............................................................. 35
Annex Table 2 ............................................................. 36
Introduction

An analysis of state-federal relations in developing agricultural economies must first address such issues as the overall role of government in this kind of development, the need for public administrative support, and the relative roles of state and federal governments during agricultural transformation.

One school of thought argues that the smallness of markets, market failures, indivisibilities in infrastructural investments and a variety of institutional failures, among other factors, require that government play an expansive role. This school contends that the private sector's response to structural constraints of developing agricultural economies is too sluggish, and does not always conform to national priorities and aspirations for development. Proponents of this view urge that governments participate directly in production by setting up plantations and by marketing produce and inputs.

Others would argue that agriculture in Nigeria, as in the rest of Sub-Saharan Africa, is highly decentralized and requires, not a regimented system of production and distribution controls operated by weak and inefficient public bureaucracies, but supportive infrastructures, research, and macroeconomic and sector incentive policies. African farmers, although unorganized and illiterate, are shrewd profit maximizers who have shown themselves able to transform their farming practices and use new technologies of proven profitability, appropriately adjusted for risk. Public bureaucrats, this school would argue, despite their good intentions in pursuing a direct role in agricultural production and distribution, almost invariably make bad situations worse. The resulting confusion in policy and programs has its roots in institutional ambiguities arising from multiple institutions with overlapping roles (International Bank for Reconstruction and Development 1983).

What is required, this school contends, is not necessarily a curtailment of government involvement in Nigerian agriculture, but a redefinition and specification of roles. For example, a shift from direct governmental participation in agricultural production and distribution to a massive program of national networks of rural feeder roads, rural water supplies, applied research stations and small-scale irrigation schemes may, in fact, mean a greater involvement by government in agriculture and rural development, with correspondingly larger budget allocations.

It is important to specify what kind of public administrative support must accompany scientific agriculture. In addition to continuous support for research into high-yielding and disease-resistant varieties, appropriate administrative support is needed to ensure equal access to the new inputs through an extension service and the proper administration of liberalized rural farm credit programs. Such steps are particularly important given the natural tendency for large-scale and medium-scale farmers to command the government's attention, to the nearly complete neglect of small-scale farmers, the original intended beneficiaries. While the need for administrative support is evident, experience shows that such aid often is tangled in red tape. Bureaucratic bottlenecks are constricted further when two or more tiers of government must collaborate for joint programming.

Determining the optimal time paths for state and federal government participation in agricultural transformation is another issue that needs clarification. Some would argue that the increasingly national dimension of the food problem, not to mention international politics, logically suggests that the federal government should play a substantially greater role than state governments in such transformations. An exploding population, accelerating rural-urban migration, and balance of payments implications of a dependence on food imports all point to a much stronger federal role in Nigerian agriculture. Opponents of this view acknowledge the necessity for stronger federal coordination and planning, but warn that the wide dispersal of small-scale farm production dictates that states must be involved in program design and that grassroots implementation should be the prerogative of state and local governments. The federal bureaucracy's remoteness, they argue, not only erodes the relevance of policies formulated solely by federal authorities but also fatally flaws their efforts to single-handedly implement agricultural programs at the grassroots level.

After examining the historical antecedents of local-state-federal relations in agricultural development, this paper presents an analytical normative model suggesting guidelines for assigning fiscal responsibilities for agricultural programs among tiers of government. It then examines empirical evidence against the background of the analytical model; isolates the critical issues in local-state-federal relations in Nigerian agriculture; and makes some recommendations that may guide local-state-federal relationships in agriculture in the future. The next section presents a brief sketch of historical antecedents, while the following section contains the analytical model of the criteria for assigning responsibilities for agriculture between state and federal governments. The paper then examines the empirical evidence, while the final section isolates the critical issues in local-state-federal relations in Nigerian agriculture. The paper is then summarized.
Historical Antecedents

Organized government involvement in Nigerian agriculture dates back to 1893, when a botanical station was established in Lagos. Subsequent developments are summarized in End Table 1. Two eras are clearly discernible: the era of unitary (central) government in Nigeria before the adoption of the federal constitution in 1954, and the federal era since then.

Main Features of the Pre-1954 Era

The main features of the pre-1954 era can be briefly summarized. The government’s primary focus was the introduction of export crops to cater to the raw material needs of the British economy. A national grid of road and rail lines was developed that connected the regional economies with the sea ports, making it easier to ship produce for export: cocoa in the West, cotton and groundnuts in the North, and oil palm in the East. There was an emphasis on agricultural research, primarily into export crops, but also into food crops, in the groups of provinces with main stations in Ibadan, Kaduna, and Umadike.

Another feature of the era was a focus on arrangements for export crop marketing, leading to the establishment of pan-territorial marketing boards: the Cocoa Marketing Board (in 1947), and the Cotton Marketing Board, Groundnut Marketing Board, and Palm Produce Marketing Boards (all in 1949). The roles played by these boards and the regional boards that succeeded them in the taxation of export crop production and the accumulation of surpluses is now well documented (Idachaba 1973; Olayide and Olatunbosun 1971; Olakanpo and Teriba 1974). During this period there was a close link between the colonial government and the search for raw materials by transnationals of the colonial era. For example, Moor Plantation was essentially founded by the British Empire Cotton Growers Corporation, whose functionaries in 1905 selected Ibadan, in a rain forest belt, as a location for cotton production. That idea had to be discarded five years later in favor of Samaru, Zaria, in the dry savannah belt in northern Nigeria. Finally, policies were formulated by the Office of the Governor General, while field officers of the federal departments of agriculture, forestry, and others, merely acted on behalf of the governor general.

Fundamental Changes of the Post-1954 Era

With the adoption of the 1954 federal constitution, regional governments embraced their newly won constitutional responsibility for agriculture by establishing their ministries of agriculture and regional marketing boards. The federal government’s departments of research were located in a curious hybrid called the Federal Ministry of Research and Information. By 1965, the Federal Ministry of Natural Resources and Research was created to coordinate agricultural matters at the federal level. "Agriculture" was omitted from the ministry’s title so as not to hurt the regions’ political sensibilities. In 1968, a full-fledged Federal Ministry of Agriculture and Natural Resources was created. A federal military government that had the courage to create, by decree, eight new states—to give Nigeria twelve states in 1967—did not shy away from a minor event like creating a new Federal Ministry of Agriculture and Natural Resources, provisions of the 1963 constitution notwithstanding. The new ministry had three departments of research—for agriculture, forestry, and veterinary—and a fisheries service, as well as a department of meteorological services. Federal capital projects consisted largely of loans and grants for expansion of regional projects, agricultural research projects, and a few special projects.

Some fundamental changes have occurred since 1954, when the adoption of the federal constitution created the federal government and three regional governments in the North, West, and East. The postindependence republic constitution retained the main features of the 1954 federal constitution. The 1979 federal constitution also retained essentially the same features, with a total of nineteen states and Abuja as the federal capital territory. In both the 1954 and the 1963 constitutions, agriculture appeared on the "residual" list of functions that also were claimed as a state responsibility, rather than on the legislative lists of either "exclusive" or "concurrent" federal responsibilities (see End Table 2). Under the 1979 constitution, both the federal and the state governments could "establish institutions for the promotion or financing of industrial, commercial or agricultural projects." Under all three constitutions, "scientific, industrial and technological research," including agricultural research, was on the concurrent legislative list, meaning that it was an activity that could be engaged in by both the state and federal governments. Interstate rivers and water drainage systems were on the exclusive legislative list, as were import and export tariffs and the control of interstate trade.

The problems of overlapping roles and institutional ambiguities that subsequently have arisen had more to do with the enabling acts and decrees establishing federal parastatals than with the constitutions per se. (It will be shown that these acts and decrees contradicted the spirit of the constitution and seriously threatened, if not destroyed, the basis for joint state-federal programming for Nigerian agriculture.) Regional governments used their newly won political autonomy to embark on economic development planning, including agriculture, and to pursue programs that reflected varying regional priorities. Finally, the post-1954 era was marked by a proliferation of public institutions servicing agriculture at all levels of government and by frequent changes in strategy for transforming agriculture.
Analytical Framework

An evaluation of past state-federal relations in agriculture and recommendations for the future need to be guided by certain criteria for assigning fiscal responsibility to the different tiers of government. Three caveats are in order. First, these allocative criteria, although capable of wide applications, are not always country-neutral. Second, no attempt is made to assign them priorities. Third, conflicts can arise when two or more criteria are applied to decision-making. In some cases, conflicts are inherent; in others, conflicts and trade-offs are affected by the use of the appropriate policy instruments. The challenge then becomes one of identifying those policy instruments that will favorably shift the trade-off curve. The following criteria are suggested for guiding the allocation of fiscal and constitutional responsibilities for agriculture between state and federal governments.

Divergences Between Benefits of a Public Investment Accruing to Residents Within a State and Benefits Accruing to Federal or National Residents

It is presumed that when state governments allocate scarce resources to a public investment program, they do indeed worry whether state residents (either within the current generation or other generations) reap the full benefits from the investment or whether a substantial part of the benefits “spills over the state’s boundaries to be enjoyed by residents of other states.” State governments, especially in a federation where states must compete for resources from the same account, worry about the “free rider problem” when residents within a state are unable to “appropriate” the full benefits from a public investment financed from state government resources and where transaction costs of getting the free riders in other states to pay for these benefits are prohibitive. Such attempts to internalize externalities also may disrupt normal interstate relations. State governments financing such investments in agriculture will tend to underinvest in such programs from the viewpoint of what is socially desirable. This suggests the working rule:

The greater the divergence between the benefits from a state government funded agricultural investment accruing to state residents (the intended beneficiaries) and the benefits from the investment accruing to the whole federation (nation), the greater the tendency for underinvestment in the program if left alone to the state government and therefore the greater the need for the federal government to assume more investment responsibility for the program.

Whenever a program funded by a state government yields returns to the larger Nigerian society that are far greater than those accruing to state residents, the federal government should invest in the program.

Basic research funded by state governments yields results that accrue to the larger Nigerian society over and above the benefits received by residents of the state that provides funds. The benefits from basic research cut across state boundaries and the agro-ecological zones, suggesting the proposition:

The more basic the research, the greater the fiscal responsibility that must be assumed by the federal government. The corollary is true: the more applied, location-specific, and therefore more easily appropriated the agricultural research, the lower the tiers of government (state and local governments) that should assume fiscal responsibility for it.

Research into crop varieties with wide agro-ecological applicability, if funded by a state within a given agro-ecological zone, would yield benefits to farmers in other agro-ecological zones and states over and above the benefits to residents of the original state sponsor. Such research, even when not of a basic nature, would tend to be underfunded if left to states alone. This suggests the working rule:

The wider the agro-ecological applicability of research, the greater the fiscal burden of such research that must be assumed by the federal government.

By this criterion alone, the federal government should assume substantial fiscal responsibility for research into maize, cassava, rice, and yams, while highly location-specific crops like acha, tea, and cocoa, should command relatively large budget allocations by the respective state governments.

Research into pests and diseases of crops and livestock that do not respect state boundaries yield benefits to the larger society that are greater than the benefits accruing to residents of the state funding the research. Such pests and diseases require simultaneous eradication to eliminate the risks of cross-infestation or reinfestation across state boundaries. If research into such pests and diseases is left to states alone, there would be underfunding in terms of what is socially optimal for the country. This suggests the working rule:

The greater the transmigration of pests and diseases of crops and livestock, the greater the federal government’s fiscal responsibility for research to combat these pests and diseases. The corollary is that, all other things being equal, the more localized a disease or pest problem, the greater the state government’s fiscal responsibility.1

On this score alone, the federal government should fund a substantial part of veterinary research into cattle disease (such as rinderpest) within the context of nomadic pastoralism, while the state should support research on a highly localized problem such as the growing resistance to lindane of cocoa pests along Ile-Ondo Road in Oyo state.

Multiplier Effects and National Economy Linkages

A state government supports development programs for crops grown within its boundaries based largely on considerations of the crops’ contributions to generating jobs and income and supplying food and agro-industrial raw materials. The domestic provision of adequate food to placate restless and politically volatile urban workers yields benefits to the larger society in the form of industrial peace and social and political stability that are far greater than the
benefits that accrue to the producers. Similarly, provision of adequate agricultural raw materials for factories has significant multiplier effects on income and employment outside the state, especially where the factories are outside the state as well. Cotton production is concentrated in Kaduna and Bauchi states in the North, while most of the textile factories are in and around Lagos in the South. If cotton promotional programs (research and development) were left to Bauchi and Kaduna states, there would tend to be underfunding from the viewpoint of what is socially optimal. Similarly, while sorghum and maize are produced mainly in the middle belt and in the northern states, most of the breweries now being required to substitute these grains for barley are located in the South.

More generally, certain commodities have extensive linkages within the national economy. This suggests the working rule:

The greater the linkages between the production of certain farm commodities and the rest of the national economy, thereby giving rise to significant multiplier income and employment effects, the greater the federal government’s relative fiscal burden, especially in the developmental phase.

The corollary holds that commodities of purely local economic importance should be the fiscal responsibility of state and local governments. By this criterion alone, soybeans should be accorded high priority in federal budgetary and resource support.

**Balance of Payments and Foreign Exchange Contributions**

Foreign exchange is a federal responsibility; so is the country’s need to maintain a healthy external account balance. A healthy balance of payments confers benefits to the nation beyond the income and employment benefits enjoyed by residents of the state initially responsible for the export earnings or import savings. Furthermore, a country needs to diversify its export earnings to make them more stable, especially in a petroleum-driven economy. Agriculture is a major contributor to the diversification of export earnings. This suggests the working rule:

The greater importance of an agricultural commodity (output or input) as an export earner or import saver, the greater the federal government’s fiscal burden for research and development programming.

Left to states alone, there would tend to be underfunding from the viewpoint of what is socially desirable.

**Meteorological Services as Public Goods**

Nigeria’s climatic conditions are determined by the movement of two intercontinental fronts: the southwest winds from the Atlantic Ocean that bring in the rains between April and October, and the northeast winds from the Sahara Desert that bring in dry dusty airmasses during the dry season. Generating data for short-term and long-term forecasts requires capital outlays, resources, and international networking beyond the means of a single state. Furthermore, the consumption of weather information by residents in one state does not reduce the quantity available for residents of other states. If meteorological research and routine weather information requiring capital outlays for satellite facilities and training of specialized staff in atmospheric physics and satellite data generation, storage, and retrieval were left to states alone, there would be considerable underfunding from the viewpoint of society. This suggests the working rule:

The greater the attributes of a public good possessed by an agricultural commodity or service, the greater the federal government’s responsibility in supporting its promotion.

Agrometeorology provides basic information on agroclimological and agro-ecological zones that cut across state boundaries, and is therefore a proper domain for the federal government.

**Indivisibilities, Huge Investment Outlays, and the Long Purse**

Certain investments requiring large capital outlays are beyond the fiscal capabilities of individual states. These include large dams and irrigation schemes along major interstate rivers and basins, as well as railways and interstate highways that facilitate interstate commerce in farm produce and inputs.

Natural soil fertility is rapidly depleted with the continuous cultivation of scientific agriculture. Augmentation is possible through massive imports of inorganic fertilizers or the domestic manufacture of substitutes. Fertilizer imports consume large quantities of foreign exchange, which cut into other import needs. Foreign exchange is on the exclusive legislative list, with the federal government, through the central bank, allocating scarce foreign exchange to competing import demands. The domestic manufacture of fertilizer requires basic raw materials: phosphate rock for the phosphatic fertilizers, potassium for the potassic fertilizers, and naphtha for nitrogenous fertilizers. A country must often import some or all of these. The single superphosphate fertilizer plant in Kaduna relies on phosphate rock imports from Togo. States cannot enter into negotiations with sovereign countries, as external relations are exclusively a federal concern. These considerations, together with the large resources required to establish huge indivisible projects, suggest the following working rule:

The more indivisible and the larger the resources required by projects of national significance, the greater the degree of fiscal responsibility that the federal government must assume.

**Risky Innovations**

States might consider some new projects too risky, and thereby discount the prospective benefits to their residents if the states were to sponsor the projects. This leads to underinvestment. The federal government has a longer time horizon and a national perspective; through a pooling of risks, it implicitly uses a much lower social discount rate than would be employed at the state level. Taking advantage of compensating variations across climatic zones, it can sponsor a massive national program of introducing new seed varieties in different agro-ecological zones. This suggests the working rule:

The riskier the innovations of national significance, the greater the role that should be played by the federal government.

Risky innovations of purely local significance need not command the attention of the federal government.
Production Specialization: One Nation, One National Market

A large domestic market permits scale economies in the domestic production of food and fiber. Agro-ecological diversity provides opportunities for exploiting production complementarities and for encouraging spatial production specialization. It follows that there should be an unimpeded flow of interstate trade in food and fiber, which only can be supervised and enforced at the federal level. The control and regulation of interstate commerce are constitutionally federal concerns.

These considerations suggest the following working rules:

First, the greater the agro-ecological diversity within a country and therefore the opportunities for exploiting production complementarities along the lines of comparative advantage, the greater the need for the federal government to play a stronger planning and coordinating role in agricultural production. Second, the greater the agro-ecological diversity within a country, the greater the quality control and regulatory roles the federal government must assume in the determination of weights and measures and the development and enforcement of uniform standards in the marketing of farm produce. Finally, the greater the agro-ecological diversity within a country and therefore the greater the opportunities for fiscal specialization in farm production, the greater the control and monitoring roles over interstate trade in farm produce that the federal government must assume.

Regional Inequities, Desertification, and Other Natural Phenomena

Marginal areas left behind in the development process continue to lose out if the states are chronically too poor to take corrective action. Several states may lie in broad ecological zones that are perennial victims of drought and that therefore require massive support for water resources development far beyond the means of the individual states. The federal government also is in a better position to integrate the experiences of the different states for the benefit of all so that successes can be copied and costly errors avoided.

Macroeconomic and Agricultural Sector Policies

A proper delineation of responsibilities for macro economic and sector policies between the state and federal governments is essential to the establishment of a firm basis for institutional collaboration.

Foreign exchange rate policies are the proper domain of the federal government, as the rate determines the fundamental price relationship between tradables and nontradables. Active collaboration with the states is required if agriculture is to fully realize the benefits of corrective exchange rate adjustment, especially on four fronts: identifying and removing structural bottlenecks that constrain the responsiveness of individual farm commodities and the agricultural sector to new producer price incentives, especially in the export sector; transition difficulties from competition between farm produce exporters cashing in on the new export price opportunities and domestic processors who are unable to compete with exporters and smugglers, with the result that processing factories are starved of raw materials; emerging trends in commodity specialization in response to new relative prices; and the impact of new price relativities on patterns of technological transformation.

External trade and, by implication, trade policy are federal responsibilities. Though trade policy reforms and the determination of customs tariffs and export duties are federal concerns, states need to be actively consulted in the determination of comparative advantage and the design of appropriate effective protection rates. This is particularly necessary where there are significant linkages between farm production and manufacture, as for example between cotton and textiles. Monetary policy and banking are the traditional domain of the federal government. Consultation with the states is necessary around three issues: the inflationary consequences of monetary policy as this affects the domestic terms of trade between agriculture and non-agriculture; interest rate structure and the flow of loanable funds to agricultural enterprises of different gestation periods; and rural banking and farm credit needs.

Modernization of agriculture entails the purchase of farm machines and implements, fertilizers, pesticides, seeds, irrigation water and equipment, and the utilization of hired labor. Farm structures must be erected; irrigation canals dug; and other improvements made. Poultry cages and hatcheries must be built, and fishing nets, hooks, and outboard motors must be purchased. The required credit facilities invariably are not adequately provided by the states alone. Credit bottlenecks on a national scale often prompt policymakers into prescribing easy solutions of substitute policy instruments such as subsidies and the direct involvement of government in agricultural production and distribution. A national credit program naturally is a federal concern to ensure an adequate flow of loan funds to agriculture and coordination of credit programs.

Fiscal policy requires coordination between state and federal governments, especially in the treatment of taxes, depreciation allowances for agricultural production, and duties on farm imports, as well as in deficit financing, especially of the inflationary type financed from money creation. Federal constitutional responsibility for "labor," including "labour unions, industrial relations, conditions, safety and welfare of labour, industrial disputes, prescribing a national minimum wage for the Federation or any part thereof,..." does require consultation with the states to sensitize federal policymakers to the implications of national minimum wages for farm production costs and the competitiveness of Nigerian agriculture.

State-federal roles in agriculture are influenced significantly by the nation's overall macroeconomic objectives. The greater the role assigned to government in the national economy, the greater its derived role in agriculture at state and federal levels.1

National Food Security, Self Reliance and Self-Sufficiency

Individual states are preoccupied with their own problems and interests and are unable to appreciate the global dimensions of the food problem. The federal government is in a better position to appreciate the gravity of the national food problem and the bottlenecks that constrain national food and fiber production. This situation calls for a general policy framework covering all sectors and their linkages and a derived set of national program priorities. It suggests the proposition:
The greater the perceived national food and fiber problem, the greater the role that the federal government is expected to play in the formulation and implementation of a national food policy, with stress on program coordination, consistency, and complementarity.

Domestic food supply shortfalls necessitate substantial food imports that compete for scarce foreign exchange, the allocation of which is the statutory responsibility of the federal government. The federal, rather than state, government often has to worry about the linkages between unexpected domestic food production shortfalls, food imports, international politics, national food security, and sovereignty. When the food production crisis assumes national proportions, the federal government assumes a more activist role in food production and distribution.

**Exhaustible Resources**

Individual state governments may fail to grasp the full gravity of the depletion of natural resources. Forestry resources are rapidly depleted through short-sighted and uncoordinated exploitation, and are not replenished through natural regeneration. This suggests the proposition:

The greater the extent of exhaustible natural resources, the greater the degree of fiscal responsibility the federal government must assume for conservation of forestry and fishery resources and the regeneration of grazing reserves that are rapidly depleted by the growing cattle population.

The federal government should assume fiscal responsibility for a substantial part of forestry reserves development and forestry research into new high-yielding and quick-maturing varieties.

**Institutional Coordination**

The multidisciplinary and multisectoral needs of food and agriculture require the collaboration of institutions in several states. Work in basic and applied agricultural research, for example, requires the collaboration and joint effort of different research institutions that extend across state boundaries. This has led to the establishment of national coordinated research projects under the Federal Ministry of Science and Technology. Only the federal government is capable of establishing coordinating institutions that operate across state boundaries.
A Review of State-Federal Relations in Nigerian Agriculture: Four Case Studies

Research, Technology Development, and Dissemination

With the adoption of the federal constitution in 1954, Moor Plantation facilities were jointly shared by the Federal Department of Agricultural Research and the research arm of the Western Nigeria Ministry of Agriculture and Natural Resources. The Samaru Research Station became the research headquarters of the Northern Nigeria Ministry of Agriculture and Natural Resources. It already was being suggested in the mid-1950s that the federal government should concentrate on basic agricultural research while the regional governments should support the more applied forms of research. Table 1 presents the main landmarks in the development of state and federal responsibilities for agricultural research. Several pertinent observations can be made. The first is the great instability in institutional arrangements for managing agricultural research. The country started out with centralized facilities for research on crops and veterinary and forestry sciences. The adoption of the federal constitution in 1954 resulted in a dual responsibility for agricultural research. At the federal level, research in 1955/56 was placed under the Ministry of Research and Information, to be moved to the Federal Ministry of Economic Development in 1960. Agricultural research moved to the newly created Ministry of Natural Resources and Research in April 1965 and then to the new Federal Ministry of Agriculture and Natural Resources in 1968/69. In 1971, the Agricultural Research Council of Nigeria was created, and by 1977, all research institutes had come under the aegis of the newly created National Science and Technology Development Agency (NSTDA). In 1979, the NSTDA was scrapped and all agricultural research institutes came under the newly created Federal Ministry of Science and Technology. In January 1984, this ministry was dissolved and merged with education in a new monolith called the Federal Ministry of Education, Science, and Technology. For twenty months, agricultural research probably suffered its worst relative neglect, as the ministry bogged down with monumental problems in education, had little time for science and technology. By September 1985, agricultural research came

Table 1
Frequent changes in institutional arrangements for managing agricultural research in Nigeria, 1964-1985

<table>
<thead>
<tr>
<th>Law/Decrees</th>
<th>Year</th>
<th>Provision</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nigerian Council for Science and Technology Decree</td>
<td>1970</td>
<td>Umbrella organization to coordinate research grouped into physical sciences, agriculture, medicine.</td>
<td></td>
</tr>
<tr>
<td>Agricultural Research Council of Nigeria Decree (ARCN Decree)</td>
<td>1971</td>
<td>Established ARCN to coordinate all agricultural research.</td>
<td></td>
</tr>
<tr>
<td>Agricultural Research Institutes Decree</td>
<td>1973</td>
<td>Vested power to establish institutes to conduct research and training in any field of agriculture, veterinary sciences, fisheries, forestry, agrometeorology and water resources in federal commissioner for agriculture; also power to take over any existing state research station.</td>
<td>Watershed in state-federal funding of agricultural research. Destroyed all initiative for states to fund agricultural research.</td>
</tr>
<tr>
<td>Research Institutes (Establishment) Order</td>
<td>1975</td>
<td>Established fourteen research institutes: NCRI, NRCRI, NIHORT, CRIN, RIN, FRIN, NVRI, NAPRI, NITR, NIFOR, LRIN, LCRI, KLRI, NIOMR.</td>
<td>Clear commodity mandate for each institute.</td>
</tr>
<tr>
<td>National Science and Technology Development Agency Decree</td>
<td>1977</td>
<td>Set up executive agency to coordinate all research in Nigeria, agricultural and nonagricultural. All research institutes established by the 1975 decree were brought under the aegis of the NSTDA.</td>
<td>Repealed the 1973 decree, but still vested powers to take control of any existing federal or state research establishment in NSTDA commissioner.</td>
</tr>
<tr>
<td>Constitution of the Federal Republic of Nigeria</td>
<td>1979</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Federal Ministry of Science and Technology Act</td>
<td>1979</td>
<td>Scrapped the NSTDA; created the Federal Ministry of Science and Technology.</td>
<td>Military suspended constitution.</td>
</tr>
<tr>
<td>Federal Ministry of Education, Science and Technology Decree</td>
<td>1984</td>
<td>Scrapped the Federal Ministry of Science and Technology and merged it with the Federal Ministry of Education.</td>
<td></td>
</tr>
<tr>
<td>Federal Ministry of Science and Technology Decree</td>
<td>1985</td>
<td>Created separate Federal Ministry of Science and Technology.</td>
<td></td>
</tr>
</tbody>
</table>
under a recreated Ministry of Science and Technology. These frequent institutional changes have hampered the evolution of stable state-federal relations in agricultural research.

Progress in the evolution of stable and viable state-federal relations in agricultural research after 1954 was abruptly halted by the Research Institutes Decree No. 35 (1973), which empowered the federal government to unilaterally take over any state research center or institute. By 1975, the federal government had assumed control of all existing state research stations and centers, including the faculties of agriculture in general universities. The spirit, if not the letter, of both the 1954 and 1963 constitutions, which had placed "scientific and technological research" on the Department of Agricultural Research located within the faculties of agriculture in general universities, was fatally violated, with grave consequences. No state government has established or founded any agricultural research station since 1975 and all state governments have abandoned their putative responsibility for applied research.

Monolithic federal government responsibility for all forms of agricultural research (basic, applied, operational, or adaptive on-farm research) since 1975 is inconsistent with the normative a priori expectations of the analytical framework of the third section. The system has failed to develop the vast network of research trials and stations that would adapt released seed varieties to suit particular environmental niches. State governments' commitment to routine funding of applied and adaptive research of practical relevance to state economies has failed to develop. Nigeria has ended up with the worst of both worlds: the federal government neglects the more basic forms of research that are its proper domain, while becoming bogged down with applied research for which it is not equipped. The NSTDA decree, like the 1973 decree, gave a lame-duck role to the states in the establishment of research institutes and stations, which now could be taken over by the federal government whenever it wants!

Research institutes had their origins in the export needs of the colonial economy, tackling the problems of cocoa, cotton, groundnuts, oil palm, and rubber, more or less corresponding to the regional economies of the West, North, Midwest, and East. These economies in turn were serviced by the regional marketing boards that provided substantial funds for regional governments and their burgeoning parastatals. Because of agriculture's importance to public revenues, the marketing boards goaded regional governments into actively supporting the research institutes. By 1 April 1973, oil revenues permitting, the federal government abolished the taxation powers of the marketing boards, removing a major source of regional government revenue. When the Research Institutes Decree No. 35 was promulgated later in 1973, effectively revoking state government powers to establish, own, and run research institutes, it was less surprising that not a single state government protested this abortion of a historical mission with respect to applied and adaptive research.

The 1954 constitution marked a watershed in the delineation of state and federal responsibilities for agricultural research. It left scientific and industrial research on the concurrent legislative list, which meant that both regional and federal governments could establish and run research institutes and stations. This led to the consolidation of the Northern Research Station, Samaru, under the Northern Region Ministry of Agriculture and Natural Resources; the establishment of the Rubber Research Institute by the Western and subsequently the midwestern regions; the establishment of the Institute of Agricultural Research and Training under the old western region; and the establishment of the Eastern Nigeria Agricultural Research Station at Umudike in 1965. The federal government, for its part, took over the assets of all interterritorial research institutions in Nigeria.

There was no effective coordination of agricultural research within governments or across governments. The technical advisory committee inaugurated in 1955 performed only an advisory role in coordinating research, and even that appeared to have been a limited exercise within the agricultural research establishment. The Federal Department of Agricultural Research located within the Federal Ministry of Economic Development performed a limited role coordinating federal agricultural research.

Agricultural extension, like agriculture, constitutionally has been a state responsibility. There is no national extension program similar to India's. While this dualism was intolerable during the 1954-73 period, it has since become programmatically undesirable with the assumption of all agricultural research responsibilities by the federal government. All eighteen agricultural research institutes are very poorly funded, and research results are not adapted to different agro-ecological circumstances. Because research and extension have more or less been compartmentalized between state and federal governments, linkages between research and extension have been neglected (See Lele and Goldsmith 1989 on the Indian experience).

Finally, no national agricultural research policy has been articulated. With no national framework, consistent relations between state and federal governments have not developed. This problem is compounded by political instability and frequent changes in the political and administrative arrangements for agricultural research at the federal level (Table 1).

Federal funding of research on rice, maize, yams, and cassava since 1954 is consistent with our analytical framework's a priori expectations on the relative role of the federal government in research into crops of agro-ecological diversity. The federal government should continue funding significant portions of basic and applied research on these crops as well as research on soybean and endemic livestock diseases, such as rinderpest, that cross state boundaries.

**Fertilizer Procurement and Distribution**

Prior to 1976, the various states placed individual orders for fertilizer. In 1976, as part of new federal government initiatives within the context of the "Operation Feed the Nation" Program, the federal government decided to centralize all fertilizer procurement in the Federal Ministry of Agriculture and Rural Development. The decision was motivated by five considerations. First, different states imported similar fertilizer material at unjustifiably different prices at the same time. Second, different importing states had problems coordinating the arrival of ships at Nigerian ports, thereby causing heavy bunching and excessive demurrage charges. Third, most states imported small quantities and lacked an adequate infrastructure for managing them efficiently. States were unable to enjoy the quantity discounts normally available with bulk purchases. Fourth, there were perennial complaints of delayed arrivals of shipments at the ports. Finally, there were problems of coordination in a decentralized system because states granted different levels of farm input subsidies, artificial
trafficking in fertilizers followed with fertilizer flowing from high subsidy to low subsidy states.

In most of the years since centralization, fertilizer supplies to the states have been inadequate, with only a fraction of the states' indents being met. Allocations to states as a percentage of their total requests in the early years of centralization was 50 percent in 1977/78, 59.4 percent in 1978/79, and 78 percent in 1979/80. The rationing was not due to any strong belief in federal quarters that state requests were unduly inflated, but was dictated largely by federal budget constraints within the context of a national fertilizer subsidy scheme funded by the federal government (Federal Ministry of Agriculture 1983).

Inadequate fertilizer supplies are not as serious as erratic or delayed supplies. There are at least twenty-five main administrative steps in federal government procurement of fertilizers, from issuing the call circular inviting state governments to submit their indents, to transporting of fertilizers from seaports to the primary distribution points (FPDD) in the nineteen states (Table 2). The cumbersome process takes about fifty-two weeks because of approvals that the Fertilizer Procurement and Distribution Department (FPDD) must obtain to process the orders. It has been estimated that it takes about two months for the FPDD to obtain Ministerial Council approval necessary for a letter of credit from the Central Bank of Nigeria (Federal Ministry of Agriculture 1983). To insure against expected delays in completing letters of credit and other formalities, fertilizer suppliers, as a group, tend to pad their bids to provide for possible price increases during the long processing period.

An effective fertilizer procurement and distribution system must ensure that any fertilizers reach farmers at the onset of the rains. According to the isochrones, this means that farmers in southern Nigeria are expected to begin fertilizer purchases by February while those in northern Nigeria are expected to begin their purchases by April. On the assumption that fertilizer should arrive at state depots by November, past experience of FPDD suggests that procurement procedures should begin ten to twelve months earlier (Federal Ministry of Agriculture 1983). In most years, there have been long procurement delays.

Centralization of fertilizer procurement and the operation of a national fertilizer subsidy scheme within the context of post-1976 state-federal relations in fertilizer procurement and distribution have been plagued by many problems, which include:

- An inadequate methodology for estimating state fertilizer requirements that frustrates national fertilizer planning. Usually, states submit quantities that are simple linear functions of time with no justification for request by type and quantity of fertilizer. There is no evidence that state governments adjust their requests for the opening stocks from local government authorities (LGAs) and other state stores. State governments, fully conscious of the budgetary implications of fertilizer use, quite often must limit their fertilizer requests to expected state government revenues.
- Procurement inefficiencies rooted in cumbersome bureaucratic procedures and systems of approval.
- Failure on the part of all cooperating agencies to appreciate the critical importance of timing fertilizer arrivals to synchronize with the isochrones in the different ecological zones.

| Table 2 |
| Structure of decisionmaking in fertilizer procurement: existing time table, Nigeria |

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
<th>Time in Weeks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Inviting state governments for indents (requests)</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>Receipt of indents (i.e., replies)</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>Collation and scrutiny of requests</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>Approval of allocation to states</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>Preparation of tender invitations</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>Publication of invitation for bids</td>
<td>2</td>
</tr>
<tr>
<td>7</td>
<td>Receipt of bids</td>
<td>3</td>
</tr>
<tr>
<td>8</td>
<td>Meeting of price committee</td>
<td>1</td>
</tr>
<tr>
<td>9</td>
<td>Consideration by Federal Tenders Board</td>
<td>1</td>
</tr>
<tr>
<td>10</td>
<td>Approval by council of ministers</td>
<td>5-8</td>
</tr>
<tr>
<td>11</td>
<td>Letters of successful bidders</td>
<td>1</td>
</tr>
<tr>
<td>12</td>
<td>Confirmation/signing of contract</td>
<td>1</td>
</tr>
<tr>
<td>13</td>
<td>Form 'M' formalities (Federal Ministry of Finance)</td>
<td>3</td>
</tr>
<tr>
<td>14</td>
<td>Form 'M' approval (Central Bank of Nigeria (CBN))</td>
<td>1</td>
</tr>
<tr>
<td>15</td>
<td>Letter of Credit (LC) application to Accountant General's office</td>
<td>1</td>
</tr>
<tr>
<td>16</td>
<td>Accountant General's office instruction to CBN (LC)</td>
<td>2</td>
</tr>
<tr>
<td>17</td>
<td>Issue of LC by Central Bank of Nigeria</td>
<td>3</td>
</tr>
<tr>
<td>18</td>
<td>Preparation of ships arrival and delivery/distribution of supplies</td>
<td>2</td>
</tr>
<tr>
<td>19</td>
<td>Consultation with Nigeria Ports Authority (NPA) and finalization of supplies</td>
<td>1</td>
</tr>
<tr>
<td>20</td>
<td>Issuance of shipping schedule</td>
<td>1</td>
</tr>
<tr>
<td>21</td>
<td>Voyage time</td>
<td>3</td>
</tr>
<tr>
<td>22</td>
<td>Waiting time for ships, customs clearance, NPA berthing formalities</td>
<td>1</td>
</tr>
<tr>
<td>23</td>
<td>Berthing and on-loading to trains/barges/trucks</td>
<td>12-24</td>
</tr>
<tr>
<td>24</td>
<td>Period of supply</td>
<td>12-20</td>
</tr>
<tr>
<td>25</td>
<td>Transportation to states</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>Period of time between steps 1 and 23</td>
<td>52-74</td>
</tr>
</tbody>
</table>

• Severe staffing inadequacies in FPDD in the areas of organization and management, monitoring, and control of the procurement and distribution system in the performance of commercial, operational, and planning functions.

• Centralized decisionmaking at the state level about fertilizer distribution, while fertilizer units of state ministries of agriculture are grossly underfunded for the recurrent costs of intrastate transport and handling.

• Untimely and inadequate state funding, with funds appropriated and released quite often after the optimal peak distribution periods, leading to serious internal transportation and storage bottlenecks.

• Failure on the part of state authorities to properly monitor stocks and inventory.

• Poor communication facilities between FPDD and other agencies such as shipping agents, Nigerian Ports Authority, customs and excise department, and so on.

• Inadequate facilities at FPDD for general commercial activities and synchronization of ship movements into Nigerian ports, therefore severely constraining berthing and discharge operations.

• Failure to synchronize placement of orders, opening of letters of credit, arrival of ships, and so on.

• A general failure to reconcile centralized bureaucratic procedures with requirement of timely commercial operations so critical in fertilizer procurement.

• Transportation and internal distribution inefficiencies and fertilizer wastage rooted in an overdependence on road transportation (Federal Ministry of Agriculture 1983).

Procurement and distribution inefficiencies have resulted in serious shortages of fertilizers, late deliveries, delayed and ineffective utilization of procured fertilizers, and a failure to realize the full benefits of fertilizer application. Benefits of the scheme continue to flow to unintended beneficiaries: mounting demurrage claims by foreign exporters and shippers of fertilizer from a failure to synchronize the movements of ships in and out of Nigerian ports, with such claims ranging from N1.78 per tonne of imported fertilizers in 1981 to a staggering N15.54 per tonne in 1976 (see Table 3); private road transporters responsible for hauling fertilizers from Nigerian ports to the hinterland being awarded lucrative transportation contracts while the much cheaper publicly-owned rail system was grossly underutilized (see Table 4); and a fertilizer subsidy scheme in which, owing to distributional inefficiencies within states, private operators marketed fertilizers at farm gate prices far in excess of the subsidized prices.

In the last two years, FPDD has partially withdrawn from transportation of fertilizer from the ports to the PDP in the states. It pays a predetermined transport allowance to the states, which then arrange for their own transportation. States have welcomed this development without protests, possibly because it permits state functionaries to do what FPDD has done over the years: award contracts to transporters of their choice for the haulage of fertilizers from the ports to the hinterland.

Fertilizer procurement and distribution also are hampered by the lack of a stock, inventory, and storage policy and the absence of a coordinated network of strategic and buffer stock storage facilities at state and federal levels. The short span (six months or less) during which fertilizers arrive leads to serious shortage problems at the state level, especially as FPDD lacks strategic storage facilities at the ports or in the states. Federal authorities have tended to see their obligations in fertilizer procurement and distribu-

### Table 3
Demurrage claims from overseas fertilizer exporters, 1976–81

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Demurrage Claims (N)</th>
<th>Demurrage Claims Per Ton of Fertilizer Imports (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1976</td>
<td>3,216,832</td>
<td>15.54</td>
</tr>
<tr>
<td>1977</td>
<td>2,273,195</td>
<td>7.63</td>
</tr>
<tr>
<td>1978</td>
<td>1,989,624</td>
<td>8.48</td>
</tr>
<tr>
<td>1979</td>
<td>1,209,720</td>
<td>3.07</td>
</tr>
<tr>
<td>1980</td>
<td>1,136,091</td>
<td>2.10</td>
</tr>
<tr>
<td>1981</td>
<td>1,813,664</td>
<td>1.74</td>
</tr>
</tbody>
</table>


### Table 4
Cost savings for rail-served primary distribution points compared with direct road delivery

<table>
<thead>
<tr>
<th>PDP Destination from Apapa, Lagos</th>
<th>PDP Destination from Port Harcourt to:</th>
<th>Savings (N/tonne)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gusau</td>
<td></td>
<td>24</td>
</tr>
<tr>
<td>Talata Mafara</td>
<td></td>
<td>23</td>
</tr>
<tr>
<td>Argungu, Gunmi, Sokoto, Wurmo</td>
<td></td>
<td>22</td>
</tr>
<tr>
<td>Dambarta, Daura, Gumel, Kano, Katsina, Wudil</td>
<td></td>
<td>21</td>
</tr>
<tr>
<td>Funtua, Gombe, Hadejia, Malumfashi</td>
<td></td>
<td>20</td>
</tr>
<tr>
<td>Dikwa, Dustin-Ma, Kaduna, Maiduguri, New Marte, Ngaiga</td>
<td></td>
<td>19</td>
</tr>
<tr>
<td>Benesheik, Samaru, Zaria, Birnin Kudu</td>
<td></td>
<td>17</td>
</tr>
<tr>
<td>Gumel</td>
<td></td>
<td>15</td>
</tr>
<tr>
<td>Kano, Wudil, Birnin Kudu, Hadejia, Jawa, Gomel</td>
<td>Birnin Gwari, Bunza, Fura, Igabi, Kaduna</td>
<td>13</td>
</tr>
<tr>
<td>Kadawa</td>
<td>Alkaleri, Darazo, Gamaora, Potskum, Tafoawa Balewa, Yana</td>
<td>12</td>
</tr>
<tr>
<td>Zaria</td>
<td>Azare, Damaure, Zigau, Jamaare, Misau</td>
<td>10</td>
</tr>
<tr>
<td>Funtua, Igabi, Kaduna</td>
<td>Damagum, Jos, Kafanchan, Biu, Saminaka</td>
<td>11</td>
</tr>
<tr>
<td>Dustin-ma, Malumfashi</td>
<td>Naborodo, Zonkwa, Chabbal</td>
<td>9</td>
</tr>
<tr>
<td>Katsina</td>
<td></td>
<td>8</td>
</tr>
</tbody>
</table>

Source: Fertilizer Procurement and Distribution Department.
tion as terminating at the state headquarters and PDPs, with the result that large quantities of fertilizer are "dumped" on the states. The states in turn dump the fertilizers on the local government authorities (LGAs), which have the least capacity for absorbing such "storage shocks." Large losses often result as fertilizers are left in the open to be soaked by torrential rain.

These storage losses are compounded by improper sequencing of fertilizer orders and deliveries. For example, some crops may require a full application of compound fertilizers followed by straight fertilizers. However, the compound fertilizers often arrive and are stored first; when the straight fertilizers arrive, they get stored on top of the compound fertilizer. At the onset of the rains, farmers requiring an initial application of compound fertilizer are unable to get it because storekeepers wish to sell under a "last in, first out" store regime.

One fundamental weakness of current state-federal relations in fertilizer procurement and distribution, and in agriculture in general, is the lack of coordination between state and federal governments in determining their annual programs and budgets. This often has led to grossly inadequate state funding commitments to programs of joint state-federal concern. This is a special case of the general problem of the lack of functional integration of state and federal programs, especially for subjects on the concurrent legislative list, including agriculture.

With a few exceptions, state governments have been entirely responsible for the internal distribution of fertilizer in their states, often through a multiplicity of agencies: state ministries of agriculture, cooperatives, farmers' groups, sales agents, and agricultural development projects. Federal authorities during 1979-83 sent fertilizer through federally-owned river basin development authorities and presidential liaison offices. Fertilizer was distributed from the state headquarters and PDPs to the LGA headquarters and from there to the districts and villages. Problems with intrastate distribution included poor logistical support, such as grossly inadequate fleets of vehicles to transport fertilizer; poor road networks within the states; untimely release of funds; poor sequencing of fertilizer arrivals at the depots and warehouses; and inadequate storage facilities.

The major government decisions about fertilizers each year involved how much to import and at what level to set the subsidies. State governments annually sent in requests for fertilizers and the federal government allocated quantities to them based on its perception of a state's true need, recent trends in a state's fertilizer consumption, and the overall federal fertilizer budget. States were simply informed through the National Council of Agriculture and other fora of their allocations for the coming season. Only in exceptional cases were significant adjustments made after these "consultations."

It was often alleged during the civilian regime (1979-83) that political considerations influenced federal allocations of fertilizers. Specifically, it was alleged that the NPN-controlled federal government discriminated against the non-NPN states in such allocations. If indeed there was any systematic bias against the non-NPN states, one would expect, on average, the proportion of fertilizer requests from non-NPN states that was granted by the federal government to be significantly less than the proportion of requests from NPN states. A simple t-test shows that there was no significant difference between the NPN states and the non-NPN states in the proportions of state requests for fertilizer granted or allocated by the federal government. One therefore must reject the null hypothesis that there was any difference between NPN and non-NPN states in such allocations during the civilian regime.

Federal authorities were responsible for transporting fertilizers from the ports to the PDPs, from which state governments were to distribute to the local government headquarters and the districts. While the federal government wholly controlled importation and distribution to state PDPs, it lacked any powers of sanctions against states that defaulted in their responsibilities for fertilizer distribution.

The federal government similarly made decisions about subsidy levels after little or no consultation with the states, even when it was in effect committing the states to a particular level of subsidies. Not unexpectedly, therefore, many states reneged on subsidy commitments and failed to remit to the federal government farmers' payments for fertilizer. The importation of large quantities of fertilizer consuming scarce foreign exchange (a federal constitutional responsibility) required federal coordination, a role that is consistent with the normative framework later in this paper. This ensures that fertilizer imports are related to soil needs and nutrient deficiencies across ecological zones.

**Agricultural Development Projects and Farm Input Distribution**

The advent of the agricultural development projects (ADPs) marked a new era in state-federal relations in the area of farm input distribution. A cardinal objective of the ADPs was the provision of needed farm inputs (fertilizer, seeds, farm implements, pesticides) within easy reach of farmers. The ADPs marked a joint state-federal effort to formulate and implement programs to build networks of decentralized farm service centers and robust farm input distribution systems. ADPs clearly consumed more fertilizer per unit of land than was consumed in the non-ADP area. For example, while the Faduna ADP area constituted only 11 percent of the total land area of Kaduna state, it consumed 50 percent of all fertilizer used in the state during 1977/78-1979/80. More or less the same situation existed in the Guwau ADP.

The disproportionate use of fertilizer in the ADPs can be traced to three sources. One is the ADPs' commercial services and input supply companies, whose task-oriented program of work and monthly calendar of operations are comparatively more efficient than the dragged-out procedures of mainstream ministries of agriculture. A second is the supportive network of farm service centers which, with the first generation of ADPs, ensured that no farmer travelled more than 15 kilometers to purchase needed farm inputs. The third is the massive subsidy that made fertilizer affordable to the vast majority of farmers. The federal incentive policy in this case was supporting state efforts to promote adoption of a new technology.

ADPs' relative success with fertilizer distribution led not only to impressive aggregate sales figures but also to gradually improved timeliness of fertilizer availability. Computed indices of availability show that for the Funtua ADP, the mean fertilizer availability indices for 1977/78, 1978/79, and 1979/80 were 25.1 percent, 57.3 percent, and 53.7 percent, respectively. The corresponding indices for Gusau over the same period were 26.1 percent, 29.5 percent, and 35.1 percent. The widespread distribution inefficiencies in the non-ADP areas suggest much lower input availability indices in the non-ADP areas.
Fertilizer procurement and distribution present a case in which normative prescriptions are required not only for the relative roles of local, state, and federal governments, but for what the appropriate role of government at any level should be. Government could play an initial promotional role based on considerations of smallness of the market size, barriers to entry, risk aversion of small-scale farmers as potential innovators, and the need for equality of access by all regions to new technology. Soil capabilities and deficiencies need to be correlated with fertilizer recommendations, and extension services need to be developed. The government role in this initial phase rests on three considerations: private operators will move into fertilizer procurement and distribution on a scale much smaller than is socially desirable; the transition phase as farmers move from old to new production functions may be longer than is socially desirable if left to the private operators; and complementary policy support is needed, such as the allocation of fertilizer berthing facilities at the points.

Given that government has a promotional role to play, the arguments for centralization remain valid, on balance. The critical issue is when to phase out the government’s role after the promotional phase. Given the fact that government procurement procedures are typically bogged down in bureaucratic snarls and operational inefficiencies, the social cost of government procurement structures in sector performance is tolerable in the promotional phase, when the scale of fertilizer use is small but increases disproportionately with increased utilization of fertilizers. The greater the quantities of fertilizer procured and distributed by government structures, the greater the procurement inefficiencies, the transportation and storage bottlenecks, and the losses from internal distribution arrangements. The larger the land area (spatial dimension) of fertilizer use, the greater the operational inefficiencies of governmental structures. As fertilizer use spreads over larger land surfaces and covers more states of the country, the larger the social costs of distributional and procurement inefficiencies of governmental structures.

What are the determinants of timing the withdrawal of government from procurement and distribution? The first is the rent-seeking behavior of public bureaucrats who have come to appreciate a system of contract awards for fertilizer procurement, clearance from ports and transportation of fertilizer from ports to the hinterland, temporary fertilizer storage, and internal distribution of fertilizers from the primary distribution points to the local government headquarters and the districts. The second determinant is the implicit belief that public procurement and distribution are a necessary complement of a fertilizer subsidy program, and that so long as the government continues to grant substantial subsidies, it must continue to procure and distribute fertilizer. Two examples demonstrate that this belief is erroneous. Although the government has subsidized cocoa pesticides since 1959, procurement and distribution of the pesticides have remained in the private sector (Idachaba 1981), and although it subsidizes petroleum the government has played little or no role in the procurement or retail distribution of petroleum products. The third determinant, which is closely related to the preceding point, is the availability of funds to sustain the subsidy program. The greater the government’s fiscal ability to support a large fertilizer subsidy program, the stronger the public sector’s desire to retain government structures for procurement and distribution. This suggests that resistance to government disengagement from fertilizer procurement and distribution will decrease when government subsidies on fertilizer are phased out. Finally, political considerations may become important if the distribution of fertilizer consumption is skewed in favor of a region—about 70 percent of fertilizer is consumed in six northern states—the removal of public subsidies and government procurement would be perceived to have a disproportionate impact on that region. If, on this ground, subsidies are retained, then the perceived complementary policy instrument—public sector procurement and distribution—also will be retained.

Fertilizer subsidies have created a dependency mentality by which farmers have come to expect that successive governments—military or civilian—are obligated to provide subsidies. The operation of a pan-territorial pricing policy within the framework of fertilizer subsidies has served to discourage private sector participation by cooperatives and independent traders in the retail marketing of fertilizers. This has resulted in the underdevelopment of private sector fertilizer marketing infrastructures in the form of storage facilities, transportation, and market information and intelligence.

**Development of Irrigation Facilities: A Case Study of the River Basin Development Authorities**

Comprehensive efforts to develop Nigeria’s water resources for irrigation began in 1976, when passage of the River Basin Development Authority Decree No. 25 created ten river basin development authorities (RBDA).12 The pre-1976 efforts consisted of ad hoc irrigation schemes of the Northern Region Ministry of Agriculture, especially in the Savannah and Sahel areas.

Federal attitudes toward the development of irrigation facilities changed dramatically after the 1973/74 drought.13 The newly created river basin development authorities (RBDA) were given sweeping powers after 1979 in irrigated agriculture, general agriculture, and rural development.

In 1984, these authorities were increased to eighteen, with each state except Lagos having one. Their names were changed to river basin and rural development authorities to emphasize the much wider mandate in the area of rural development. Substantial resources were allocated to the RBDA, reflecting the increasing importance attached to them by the federal government.

Several observations are pertinent. First, over 75 percent of the statutory functions of RBDA relate to resource and infrastructure development. In the area of infrastructure, RBDA were to construct feeder roads, agro-service centers, and small dams, wells, and boreholes for rural water supply schemes. Other functions included the provision of power for rural electrification; improvement of navigation on lakes, lagoons, rivers, and reservoirs; the resettlement of persons displaced by RBDA schemes; control of pollution in reservoirs, lakes, lagoons, and creeks; and the establishment of grazing reserves. In the resource development area, RBDA were to provide irrigation water to farmers; develop fisheries; and undertake mechanized clearing and cultivation of land for the production of crops, forestry, and livestock in areas inside and outside irrigation areas for a fee. Still other functions included the provision of water from reservoirs and lakes for urban water supplies; comprehensive development of surface and underground water
resources for multipurpose use; flood and erosion control; watershed management, including afforestation; and the construction and maintenance of dams, dikes, walls, polders, boreholes, irrigation, and drainage systems.

In addition, the RBDAAs were to undertake large-scale multiplication of seeds and of improved livestock for distribution to farmers, as well as large-scale multiplication of improved tree seedlings for afforestation schemes. They also were to process crops, livestock, and fish produced by farmers in RBDA areas in partnership with state agencies, among others.

The 1979 decree’s wide-ranging provisions and the free license it appeared to have granted to RBDA management posed problems for state-federal relations in agriculture. The provisions, liberally interpreted, granted extensive powers for the development of rural infrastructure without any requirement of mandatory liaison with state agencies. RBDAAs were expected to engage in extensive resource development without any explicit requirement for consultation with all relevant state agencies. Consultation occurred only at the pleasure of the RBDA authorities. Although rural infrastructure development must necessarily complement agriculture, a traditional domain of the states, no formal provisions were made for state-federal collaboration. Indeed, there was no assurance of state participation in the design and implementation of RBDA projects.

Other problems arose because RBDAAs were to engage in extensive land clearing and development inside and outside their project areas as a service to farmers for a fee. Distortions were introduced as RBDAAs and state agencies operated different subsidy schemes for land development for the same farmers in the same state, there being no mechanisms for coordination of policy at the state level. This problem was exacerbated by the creation of one RBDA for each state, resulting in institutional pluralism and obfuscation. Furthermore, RBDAAs had no grassroots presence at the farm level as they had no extension staff. A rapid increase in staff levels moved the RBDAAs away from the intended initial focus on water resources development to an undue preoccupation with the infrastructure of irrigated agriculture. RBDAAs engaged in extensive seed multiplication in direct competition with state agencies even though RBDAAs did not have client farmers outside the irrigation schemes. Finally, RBDAAs were to process farm produce even before the irrigation infrastructures were developed, with the result that RBDAAs unduly focused on the purchase and installation of big mills that were heavily underutilized.

The extensive powers under the decree were open invitation for RBDAAs to engage in seemingly related activities. In practice, RBDAAs became significant distributors of fertilizers, especially during the civilian regime, on behalf of the NPN-controlled federal government in the non-NPN states. It was alleged in those turbulent days of partisan politics that RBDAAs and similar agencies were tools for destabilizing non-NPN state governments through their use as conduits for the distribution of federal patronage. RBDAAs rapidly became suspect and by 1981, six state governments dragged the federal government into court, challenging its constitutional right to engage in grassroots agricultural projects. This dramatized in extreme form the problems arising from lack of coordination and consultation between state and federal authorities in program design.

The letter and the spirit of the constitutional provision that the federal government alone could dam interstate rivers are consistent with a priori expectations from the normative framework in this paper on grounds of technological and other externalities. In other words, the comprehensive development of river basins that cross state boundaries is the proper domain of the federal government. A corollary is that the development of a state river basin that crosses many local government boundaries is the proper domain of a state government and not that of the respective local governments. Similarly, the exploitation of river basins that straddle international boundaries should be the responsibility of multinational basin commissions.

The erosion of traditional constitutional powers over agriculture in general can be explained by four factors. First, oil revenues enabled the federal government to dangle federal funds tantalizingly in the name of new programs which, in earlier times, would have been stoutly resisted and condemned as a blatant infringement of the states’ constitutional rights over agriculture. Second, the rapidly diminishing importance of agriculture to state government revenues through levies on export crops made them more tolerant of a growing erosion of state powers over agriculture. That was why states did not protest when the 1979 RBDA decree stipulated that the federal government would multiply and distribute seeds to farmers through the RBDAAs or would process farm produce or clear land for farmers for a fee. Third, there was a growing appreciation that the national food and fiber problem was beyond the capabilities of any single state. Last, the unitary tendency of military regimes has tended to muzzle any dissent over the growing federalization of programming for Nigerian agriculture.

As with agricultural research, the result has been the near total abdication of state responsibility for irrigation investments. This has introduced a serious dualism: while state governments are investing large amounts of resources to directly and indirectly accelerate agricultural production, they are doing nothing practical to provide reliable water supplies and ensure sustained agricultural growth and national food security. State governments promote new seed varieties almost in total isolation from the supplemental irrigation water programming that would ensure maximum yield. Programming for agricultural production and irrigation clearly must be integrated to achieve the desired complementarity. Irrigation modalities may be inappropriate on two grounds. First, there is a tendency, given the dualistic setup, for federally-owned RBDAAs to focus mainly on surface water development and the selection of dam sites that have low agricultural potential. In practice, the RBDA landscape is dotted with incomplete dams, dikes, gorges, and drainage works, monuments to the neglect of the development of a network of small-scale and medium-scale underground water supply schemes such as washbores, boreholes, and tubewells, which are more consistent with the widely dispersed and decentralized shareholder production system of Nigerian agriculture. Second, because state government has little input in the area of largely small-scale irrigated agriculture, the design of federal irrigation projects of the RBDAAs becomes a game for engineers only, where projects come to be assessed not by economic return but by engineering and technical grandeur and
complexity, e.g., the Tiga Dam, the Bakolori Dam, the Goronyo Dam, and the Challawa Gorge Scheme. There has been a tendency to overemphasize the indivisibility argument to rationalize federal dominance in irrigation programming.

The long-run prospects are not bright: the federal government cannot continue to bear alone the costs of irrigation development. The states must reallocate their priorities and shift some of the funds to research, insurance, and hotel and cement projects into the provision of assured water supplies to support state agriculture.

The Babangida Administration has moved to correct some of the anomalies, through provisions in the 1986 federal budget. First, the number of River Basin Development Authorities has been reduced from eighteen to eleven. This move is intended to reemphasize the basin concept that focuses on the comprehensive development of interstate river basins in order to internalize some of the externalities that might arise when an individual state RBDA independently damns an interstate river, not caring what consequences this might have in a contiguous state through which the same river flows. In the last four years, there has been a simmering conflict in which Borno state feels that the damming by the Keno state of the Hadjaja River has resulted in the drying up of the riverbed downstream in Borno. Recently, the governors of Kano and Borno met to coordinate development of the basin that straddles the two states.

Federal policy with the RBDA has therefore created problems not only for state-federal relations in agriculture, but also for state-state relations. If the old system of one RBDA per state had remained, there would have been serious conflicts over water rights.

Second, the RBDA have shed their agricultural roles to focus more sharply on water resources development. The agricultural roles have been transferred to the agricultural development projects, which are essentially state agencies. This promises a new era in institutional pluralism, when it is hoped that ambiguities can be reduced to a minimum.

River Basin Development Authorities have many constraints, among which are: (1) an extensively demanding mandate that tended to spread management too thin, leading to undue concentration on the rainfed agricultural activities with which most RBDA management staff felt at home; (2) a severe shortage of technically qualified personnel in irrigation engineering, hydrology, agronomy, fisheries, and biology, at the government salaries being offered, leading to large-scale dependence on imported skills that provide no basis for sustained capabilities in the design, implementation, and maintenance of large-scale irrigation projects; (3) the simultaneous creation of eleven RBDA, and then eighteen RBDA, accentuated the severity of the "skill gap," a situation that reduced many RBDA to little more than land clearing and land development agencies; (4) heavy politicalization during the civilian regime when the boards of many RBDA saw their roles mainly in terms of contract awards for projects that were never executed, with members appointed for political patronage rather than for specific skills; and (5) the pursuit of capital and import-intensive projects that were very sensitive to foreign exchange and general revenue shortages with the result that the economic recession has brought in its train a long list of half completed, incomplete, and probably not completable projects.

The Agricultural Development Projects: A Case Study in State-Federal Collaboration in Agriculture

Agricultural development projects were initiated amid a worsening national food and fiber situation in the post-civil war period and a growing conviction on the part of the federal government that agriculture was too important to be left to the states alone. The landmark National Agricultural Development Committee Seminar organized by the Federal Ministry of Agriculture at the University of Ibadan in July 1971 brought together, for the first time, Nigeria's agricultural establishment at the state and federal levels to deliberate on short, medium, and long-term perspectives for Nigerian agriculture. Many recommendations flowed from the seminar on appropriate supportive economic incentives, research, and extension, as well as institutional arrangements. The consensus that emerged was that the challenge of providing adequate food and fiber at affordable prices was the joint responsibility of the state and federal governments. The state and federal governments jointly recognized the national food and fiber problem, with external technical assistance from the Food and Agriculture Organization of the United Nations.

Project Identification and Formulation

The identification mission, consisting mainly of World Bank consultants, federal officials, and a small contingent from the states, toured the cotton and grain producing areas of the North and the cocoa and oil palm producing areas of the South. The states with the three pilot projects (North-Central for Funtua ADP, North-Western for Gusau ADP, and North-Eastern for Gombe ADP) participated in formulating projects. The design of these pilot ADPs emphasized state-federal collaboration at eight levels: (1) the federal and state governments were joint sponsors of the projects, with clearly stipulated amounts to be contributed by each tier of government for each of the five years of project life; (2) although the federal government obtained project loans from the World Bank on behalf of the states and also guaranteed the loans, it was clearly understood that the ADPs were primarily state projects with active federal participation; (3) the involvement of the World Bank and the signing of loan agreements and project documents by both the state and federal governments introduced, for each ADP, an external commitment that governments were constantly reminded to honor, especially with respect to providing counterpart project funds as stipulated in the appraisal report documents; (4) each project document stipulated joint state-federal representation on the project executive committee, the policy-making body of each project, usually chaired by the state commissioner for agriculture; (5) joint participation of state and federal officials (and the World Bank) in the recruitment and selection of key project staff, with emphasis on the application of criteria to ensure that only capable professionals were recruited; (6) joint participation of state and federal officials in supervision missions with the World Bank; (7) consultation with the federal government before a state government effected major changes in project management; and (8) joint state and federal responsibility with the World Bank for mid-term reviews and project completion reports, to provide evaluation information to be fed into new generations of projects.

The effectiveness of state government inputs into project design and formulation of the pilot ADPs can be ques-
tioned on at least two grounds. First, there were significant omissions of program components of utmost importance to client states. Millet, Nigeria's second most important grain in terms of cropped area, production, and source of calories, was conspicuously omitted from the project appraisal documents; there was a brief mention of sorghum but no developmental planning. Similarly, there was no livestock component in states that are major producers of livestock, especially cattle. There also was no rural water supply and supplementary irrigation project—the earth dams were to serve primarily as cattle water points. Second, the key project staff (e.g., project manager, chief civil engineer, financial controller, chief commercial services officer, chief technical officer, and land use officer) were all expatriates; there was little or no insistence by state or even federal officials on indigenization.

Management succession in the pilot ADPs was relatively orderly, with indigenous Nigerians taking over after due consultations between the state and federal governments. This was to stand in sharp contrast to subsequent developments in follow-up projects, such as the Kano ADP (more on this later). Essentially the same procedures were followed in the new enclaves at the Lafia, Ayangba, Bida, and Ilorin ADPs.

**The Statewide ADPs**

At the completion of the pilot ADPs, the federal government received requests from the Bauchi, Kaduna, Sokoto, and Kano state governments for statewide ADPs. During the civilian regime, there was a strong demand to spread the benefits of the ADPs beyond the enclave areas to other constituencies, as it became difficult, within the context of popular participatory democracy, to justify the concentration of scarce domestic and borrowed funds on a few local governments in the enclave ADPs: two LGAs in Funtua ADP (Funtua, Malumfashi) out of fourteen LGAs in Kaduna state; three LGAs in Gusau ADP (Gusau, Kaura Nomada, and part of Anka) out of nineteen local LGAs in Sokoto State and three LGAs in Gombe ADP (Gombe, Akko, and T-Waja) out of sixteen LGAs in Bauchi state. The demands from the states were based on considerations of regional/spatial equity. On the supply side, the pilot ADPs provided useful lessons on design and implementation of area-based projects that could be fed into the design of larger projects. Moreover, some of the staff from the pilot projects were well placed to run the new statewide projects. These demand and supply-side considerations explain the fact that 75 percent of the first four statewide projects were in states that already had enclave ADPs (Bauchi, Kaduna, and Sokoto).

More or less the same procedures were followed in the design and implementation of statewide ADPs as with the enclaves. In project components, the new statewide ADPs had, in addition, a rural water supply scheme and a farm produce marketing component.

**Unilateral Decisions by State Governments**

On several occasions, states have found it convenient to make unilateral decisions on project management and then to inform the federal government, *ex post facto*. In 1985, the Kano state government unilaterally sacked the program manager of the Kano Agricultural and Rural Development Authority (KNARDA) and gave him 24 hours to pack and leave. The state government unilaterally appointed one of the zonal managers the acting program manager. Prior to that, the Kano state government had appointed a full-time executive chairman of KNARDA, an appointment that was bound to conflict with the role of the full-time program manager. Here again, the federal government was informed *ex post facto*, contrary to the intended cultivation of collaboration between state and federal governments in the recruitment and selection of key project staff.

In Kaduna, the civilian governor refused to meet the conditions for loan effectiveness in 1981. The facts of this case are not clear. Officially, the civilian governor expressed dissatisfaction with what he saw as the overgenerous salaries and service conditions of expatriate staff. He also was reported to be very concerned about the sustainability and long-term viability of externally assisted projects after their completion and the withdrawal of all external inputs in persons and money. Unofficially, some claimed that the footdragging had something to do with local politics in Kaduna state. Even when the project finally took off in 1984, it was soon to be beset by a sudden change in management when, in 1986, the state government unilaterally removed the project manager and again, as in Kano, appointed one of the expatriate zonal managers as the program manager.

In Oyo state, the state government replaced the project manager of the Oyo North ADP in 1985, again without consultation with the federal government. In Benue state, the state government unilaterally cut off all funds to the Ayangba ADP and unilaterally removed the project manager and some officers in what appears to have been a purely political decision to “punish” the ADP.

**FACU, APMEPU, and State-Federal Relations in ADPs**

The Agricultural Project Monitoring, Evaluation, and Planning Unit (APMEPU) in Kaduna has concentrated mainly on data generation and analysis and some evaluation studies. APMEPU also has been responsible for the project completion reports (PCRs). Since 1981, when the newly created Federal Agricultural Coordinating Unit (FACU) took over the planning and monitoring roles, APMEPU's responsibilities have centered on: (1) design of sample evaluation surveys of projects for data on cropped area, yields, production, wealth, farming practices, input utilization, and output and input prices; (2) training of evaluation staff in the execution of sample surveys; (3) data storage, analysis, and retrieval, as well as policy analysis; and (4) documentation on project impact.

Information from specific impact evaluation studies and the project completion reports has helped state and federal governments formulate new projects and effect necessary modifications in ongoing ones.

The FACU was established in 1981 to: (1) monitor ongoing ADPs to provide critical information for internal corrective action by ADP management and for use by the federal government and the World Bank as joint sponsors; (2) provide technical backup support for the projects in the areas of agronomy, engineering, planning, commercial services and input distribution, accounting, communications, and manpower development and training; (3) provide planning, programming, and budgeting support for ongoing projects, as well as plan for new ADPs through project identification, formulation, appraisal, implementation, and mid-term reviews; (4) coordinate production programming among the ADPs within the context of Nigeria as one national market and the encouragement of spatial specialization of production to exploit comparative advantages; and (5) develop indigenous capabilities as a substitute for
ADPs and Non-Conventional Federal Participation in Agriculture

The advent of the ADPs has resulted in unconventional involvement by the federal government in agriculture through the use of federal funds and direct participation of federal staff in FACU, APMEPU, and the Federal Department of Rural Development (FDRD). These activities include: (1) federal funding of a network of rural feeder roads in project areas where traditionally rural feeder roads were the responsibility of the lowest and poorest tier of government—the local government council; (2) federal support for a farm input distribution system through robust commercial services arms of ADPs, farm input supply companies, and networks of farm service centers as replacements for inefficient state ministries of agriculture, which almost always ensured that farmers did not receive needed inputs in the right quantities, in the right places, and at the right time; (3) a completely reorganized and revitalized agricultural extension service, which emphasized a two-way communication system that ensured that researchers knew what farmers’ field problems were and that farmers received the latest technologies and results of agricultural research, as a substitute for the demoralized, overstretched, and poorly motivated agricultural extension staff of mainstream state ministries of agriculture; (4) federal support for rural water supply schemes and small-scale irrigation works as a substitute for the isolated and ineffective schemes of state governments; and (5) the development of a strong and effective culture of monitoring and evaluation of agricultural projects, in contrast to the traditional habit of moving from half-completed and unsuccessful projects to new ones, only to repeat the earlier sets of mistakes.

Federal support for the ADPs has created a new awareness of the potential benefits of agricultural projects that emphasize supportive public institutional and physical infrastructures while relying on the decentralized responses of millions of independently operating small-scale farmers to economic incentives and disincentives. This contrasted with the now discredited but once powerful and pervasive preoccupation of state and federal governments with direct participation in agricultural production through a network of parastatals. Federal support for the ADPs has taught state governments to develop a culture of patient and systematic programming for agriculture, with emphasis on defining the appropriate roles for government in agriculture. This contrasts with the "quick fix syndrome" of the oil boom era by which many policymakers and laymen concluded that the nation’s agricultural crisis was too serious to be left to the illiterate farmers of the private sector and that the solution lay in state-owned large-scale mechanized farms. State-owned agricultural and food production companies sprang up in almost every state with their managing directors and resource-guzzling boards of directors.

Funding of ADPs

The tripartite arrangement for funding the ADPs is alive, but ailing. The ADP funding arrangements, with funds from the state government, the federal government, and the World Bank, have created a new era of state-federal collaboration in agriculture. They were meant to replace the old system in which funding for agriculture was grossly inadequate and erratic. Funding under the ADP system has encountered several constraints, including the following:

Inadequate funding. Generally, ADPs have been underfunded, some grossly, relative to budgeted amounts (see Table 5). The causal factors for the shortfall include the general public revenue shortfall caused by recessions in world markets, which have tended to have a disproportionate impact on funding for agriculture at both state and federal levels; 17 the low priority accorded agriculture on the political agenda of some states during the civilian regime; and the lack of funding commitment to the recurrent costs of agriculture. But why are some ADPs more successful than others with respect to funding?

Instability of government funding. When inadequate funding by state and federal governments is compounded by unpredictable, uncontrollable, and undesirable fluctuations in government funding, ADP management becomes an almost impossible task. When program managers do not know what to expect, it becomes impossible to stick to a prescribed program of work and calendar of operations. During my project visits, ADP managers indicated that they could adapt to reduced but stable and predictable operating budgets, but confessed their complete inability to handle a highly uncertain and unstable flow of funds. Table 6 presents computed indices of instability of funding by source: the most unstable source of funding for most projects was the federal government. The public management of agriculture is totally handicapped when the funder whose contribution falls short by the greatest percentage also shows the greatest instability in funding (compare Tables 5 and 6). 18 Funding instability has resulted in half-completed and abandoned projects and has completely paralyzed planning and programming. Such instability has four determinants with regard to ADPs. The first determinant is the instability caused by fluctuations in the federal account, the distributive pool from which states get their statutory allocations from federally collected revenue. Fluctuations in the federal account in turn are caused by fluctuations in the world oil market price. Observed fluctuations in state funding of ADPs suggest that state expenditures on ADPs have been revenue elastic. The second determinant is instability caused by personnel changes within the agriculture or finance ministry that entail
Table 5
Indices of ADP funding shortfalls, by funding sources, selected agricultural development projects, Nigeria

<table>
<thead>
<tr>
<th>ADP</th>
<th>Period</th>
<th>IBRD</th>
<th>State Government</th>
<th>Federal Government</th>
<th>Others</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ayangba</td>
<td>1977-84</td>
<td>12.88</td>
<td>36.08</td>
<td>30.64</td>
<td>129.44</td>
<td>29.44</td>
</tr>
<tr>
<td>Bauchi</td>
<td>1981-85</td>
<td>29.68</td>
<td>29.23</td>
<td>32.87</td>
<td>100.00</td>
<td>28.39</td>
</tr>
<tr>
<td>Kano (KANARDA)</td>
<td>1982-85</td>
<td>22.08</td>
<td>27.44</td>
<td>22.76</td>
<td>-</td>
<td>21.21</td>
</tr>
<tr>
<td>Lafia</td>
<td>1980-85</td>
<td>-44.64</td>
<td>27.54</td>
<td>-36.9</td>
<td>-</td>
<td>-102.48</td>
</tr>
<tr>
<td>Oyo (ONADEC)</td>
<td>1982-85</td>
<td>11.84</td>
<td>63.44</td>
<td>-27.20</td>
<td>54.56</td>
<td>77.04</td>
</tr>
<tr>
<td>Sokoto (SARDAP)</td>
<td>1982-85</td>
<td>63.72</td>
<td>26.80</td>
<td>0.28</td>
<td>-</td>
<td>36.04</td>
</tr>
<tr>
<td>Bida</td>
<td>1980-85</td>
<td>25.83</td>
<td>42.07</td>
<td>20.70</td>
<td>-</td>
<td>42.61</td>
</tr>
<tr>
<td>Ilorin</td>
<td>1980-85</td>
<td>67.5</td>
<td>40.92</td>
<td>21.3</td>
<td>45.24</td>
<td>59.04</td>
</tr>
<tr>
<td>Average</td>
<td></td>
<td>8.63</td>
<td>37.53</td>
<td></td>
<td></td>
<td>8.63</td>
</tr>
</tbody>
</table>

ADAPs (non-World Bank assisted)

<table>
<thead>
<tr>
<th>ADP</th>
<th>Period</th>
<th>IBRD</th>
<th>State Government</th>
<th>Federal Government</th>
<th>Others</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Borno</td>
<td>1982-85</td>
<td>N.A.</td>
<td>13.62</td>
<td>4.80</td>
<td>-</td>
<td>10.01</td>
</tr>
<tr>
<td>Imo</td>
<td>1982-85</td>
<td>*</td>
<td>15.99</td>
<td>11.86</td>
<td>10.89</td>
<td>14.81</td>
</tr>
<tr>
<td>Gongola (GIRDP)</td>
<td>1982-85</td>
<td>*</td>
<td>15.49</td>
<td>6.28</td>
<td>-</td>
<td>13.77</td>
</tr>
</tbody>
</table>

Notes: Index of funding shortfall is defined as
\[ \frac{100}{\sum (\text{FB}_t - \text{FA}_t) / n} \]
where FB is the budgeted amount expected, FA is the actual amount received and n is time period. The higher the index, the higher the shortfall.

Table 6
Indices of ADP funding instability, by funding source, selected agricultural development projects, Nigeria

<table>
<thead>
<tr>
<th>ADP</th>
<th>Period</th>
<th>IBRD</th>
<th>State Government</th>
<th>Federal Government</th>
<th>Others</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ayangba</td>
<td>1977-84</td>
<td>45.99</td>
<td>50.98</td>
<td>48.28</td>
<td>64.51</td>
<td>114.50</td>
</tr>
<tr>
<td>Bauchi</td>
<td>1981-85</td>
<td>46.78</td>
<td>38.37</td>
<td>22.09</td>
<td>98.12</td>
<td>26.17</td>
</tr>
<tr>
<td>Kano (KANARDA)</td>
<td>1982-85</td>
<td>30.05</td>
<td>32.71</td>
<td>129.09</td>
<td>-</td>
<td>28.11</td>
</tr>
<tr>
<td>Lafia</td>
<td>1980-85</td>
<td>49.43</td>
<td>176.61</td>
<td>40.94</td>
<td>-</td>
<td>82.55</td>
</tr>
<tr>
<td>Oyo (ONADEC)</td>
<td>1982-85</td>
<td>37.08</td>
<td>22.07</td>
<td>51.91</td>
<td>100.00</td>
<td>15.33</td>
</tr>
<tr>
<td>Sokoto (SARDAP)</td>
<td>1982-85</td>
<td>60.44</td>
<td>23.9</td>
<td>34.34</td>
<td>-</td>
<td>17.44</td>
</tr>
<tr>
<td>Bida</td>
<td>1980-85</td>
<td>41.62</td>
<td>53.22</td>
<td>22.30</td>
<td>-</td>
<td>30.34</td>
</tr>
<tr>
<td>Ilorin</td>
<td>1980-85</td>
<td>43.27</td>
<td>30.83</td>
<td>72.05</td>
<td>67.13</td>
<td>40.64</td>
</tr>
<tr>
<td>Average</td>
<td></td>
<td>44.33</td>
<td>49.73</td>
<td>52.63</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

ADAPs (non-World Bank assisted)

<table>
<thead>
<tr>
<th>ADP</th>
<th>Period</th>
<th>IBRD</th>
<th>State Government</th>
<th>Federal Government</th>
<th>Others</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Borno</td>
<td>1982-85</td>
<td>N.A.</td>
<td>39.19</td>
<td>24.82</td>
<td>64.79</td>
<td>52.41</td>
</tr>
<tr>
<td>Imo</td>
<td>1982-85</td>
<td>*</td>
<td>55.81</td>
<td>17.20</td>
<td>65.00</td>
<td>38.95</td>
</tr>
<tr>
<td>Gongola (GIRDP)</td>
<td>1982-85</td>
<td>*</td>
<td>83.44</td>
<td>72.68</td>
<td>100.00</td>
<td>13.27</td>
</tr>
</tbody>
</table>

Notes: Index of funding instability (I') defined as:
\[ \frac{100}{\sum (\text{FA}_t - \text{FA}_{t-1}) / n-1} \]
where FA is actual funding from a given source in year t, FA_{t-1} is funding from the same source in year t-1. The higher the index, the higher the instability.

Political will and commitment to the ADP on the part of the state governor. Funding has been relatively more successful in states in which the governor was identified personally with the ADP. During the civilian regime, the Kano state governor was committed to the Kano ADP (KANARDA) to the extent that he made his deputy (Dawakin Tofa) the chairman of the Agricultural Development Project Executive Committee (ADPEC). With the interests of the ADP represented at the highest political level, the program received a strong funding commitment. This raises the question: should the governor's political will and commit-
ment be left to chance or regarded as a result that can be achieved through appropriate allocation of political resources by ADP management within the state? Some project managers used rural water supplies as a "political weapon" to win the political commitment of the state government.\(^\text{19}\)

A governor could be committed to agriculture at heart but still have preconceived notions and strategies that may have little or nothing to do with the ADP approach. The former governor of Rivers state (F. Oyakhilome) appeared interested in agriculture, but he was totally fixed on one of his pet programs called "School to Land Programme," aimed at turning young school-leavers into an army of young farmers.\(^\text{20}\) His commitment and that of his commissioner was such that when they were approached regarding an ADP program, they declined.

Getting a governor's commitment to an ADP involves two inherently related problems. First, the impact on yield and production of an ADP operating through responses of widely dispersed smallholders does not possess the "political visibility" that is required to demonstrate a regime's achievement in agriculture. Second, it is easier to show the physical results of high political visibility when a government, through its agencies, engages in direct production, even when such programs are nonreplicable and nonviable. Getting the political will and commitment requires conscious action by ADP management and their supporters.

**Political leadership of the Ministry of Agriculture.** In an environment of rapidly changing military regimes, it is unlikely that many military governors have any strongly fixed biases about agriculture. Many therefore come to rely on the commissioners for agriculture for advice. At one extreme was Benue state, where the commissioner for agriculture was determined to close down the Ayangba ADP in 1984/85, not on the grounds of poor program performance, but because the project area was on the wrong side of the political map. In Rivers state, the commissioner for agriculture (Dr. Spiff) told me that he was more interested in the "School to Land Programme" than in an ADP. In Kwarara, my dialogue with the commissioner for agriculture (Dr. Matanmi) convinced me that he was, at best, sitting on the fence, with the result that throughout 1984 the state made no allocation to the Ilorin ADP. A whole year was lost while the government instituted an inquiry into the affairs of the ADP, which ended up finding nothing significantly amiss. In Ondo state, my appeals to the commissioner (Dr. Akintuyi) fell on deaf ears; he was more interested in channelling resources to the several newly floated so-called joint public-private agricultural companies, so the Ekiti ADP was poorly funded.

When the commissioner was committed to the ADP and had sufficient clout within the government, funding was reasonable. In the Sokoto ADP, there was a double advantage: first, the commissioner (Isa Argungu) was a former deputy program manager of the ADP who was familiar with the ADP concept; and second, he championed the cause of the program in the government. The result was a government commitment to a steady monthly subvention to the ADP in 1984 and 1985. In Bauchi, the commissioner for agriculture in 1984 was a former Bauchi state ADP program manager, and he too succeeded in getting a state government commitment to steady funding.

In Oyo state, the commissioner (Dr. Ojutalayo) was committed to the ADP and state funding was reasonably satisfactory.

At the federal level, the major change in the fortunes of the ADPs occurred in 1984 with the appointment of a new minister of agriculture (Dr. Bukar Shaibu), who shifted program and funding emphasis in favor of the river basin development authorities (RBDAs). The RBDAs were officially declared to be the main instruments for implementing federal agricultural projects and they received the lion's share of the federal budget. The new approach differed from the old in a fundamental sense: federal agriculture was to assert itself through each of the eighteen RBDAs in the states, all adequately funded. RBDAs thus were seen as instruments of federal grassroots presence in the states.

Consistent federal funding for the ADPs has been aided by the stability and continuity of support at the state level within the Ministry of Agriculture, the ADP's overall stature and the seriousness with which its funding and other needs were treated at the ministry level were greatly diminished. In Benue state, an otherwise capable but relatively "junior" officer was posted to the Ayangba ADP as manager, with the result that his "seniors" at the ministry never took the needs of his project seriously.

On this score, the accelerated development area projects (ADAPs) not assisted by the World Bank stand as a group: they had as program managers men of stature who were well respected by the ministry, especially since the creation of the Federal Department of Rural Development (FDRD) in 1976. The department's mandate is to coordinate the ADPs and their funding and it has been the duty of FDRD to ensure that federal budgetary allocations are consistent with appraisal report targets. Of special significance has been the stable support and advocacy of FDRD's director since 1979, O. F. J. Oyaide.

**Stature of ADP manager.** Where the ADP manager was of small stature relative to the professional leadership of the supervising Ministry of Agriculture, the ADP's overall stature and the seriousness with which its funding and other needs were treated at the ministry level were greatly diminished. In Benue state, an otherwise capable but relatively "junior" officer was posted to the Ayangba ADP as manager, with the result that his "seniors" at the ministry never took the needs of his project seriously.

On this score, the accelerated development area projects (ADAPs) not assisted by the World Bank stand as a group: they had as program managers men of stature who were well respected by the ministry, especially since the creation of the Federal Department of Rural Development (FDRD) in 1976. The department's mandate is to coordinate the ADPs and their funding and it has been the duty of FDRD to ensure that federal budgetary allocations are consistent with appraisal report targets. Of special significance has been the stable support and advocacy of FDRD's director since 1979, O. F. J. Oyaide.

In Lafia ADP, the project manager (John Kum) was substantively a permanent secretary; this enhanced status raised the project's stature before the professional and political leadership of the Ministry of Agriculture.

Although Lafia and Ayangba ADPs were similar in design and start-up dates, project management leadership in the critical 1984/85 period differed markedly, as did their funding fortunes. In Bauchi, the program manager (Adamu Husaini) was well respected, with the result that he was able to get the political leadership within the state committed to steady funding of the project. This suggests that:

The greater the stature of the ADP manager within the hierarchical structure of the state agricultural establishment, the greater the chances for satisfactory state funding of the ADP.

**Different program priorities of the political party in power.** Program priorities differed among political parties during the last civilian regime. While the NPN emphasized food and shelter, the UPN accorded top priority to free education at all levels. For projects in the UPN states during 1979-83 (Ekiti Akoto ADP in Ondo state and Oyo North ADP in Oyo state), free education at all levels had the first claim on the state governments' revenue. One therefore would expect that the funding of the ADPs in the UPN states such
as Ondo and Oyo states would be worse than the funding of the ADPs in the NPN states such as Ilorin ADP in Kwara state. In the UPN states, an integrated rural development program dubbed OPTICOM was accorded higher priority than the ADP, which tended to be seen as part of the NPN-controlled federal government's Green Revolution Program. The anomalous situation that arose was that, even though the ADPs predated civilian party politics, agriculture commanded different priorities in the political manifestos of the UPN and the NPN. UPN states were reluctant to fund a program that was at the top of the NPN's political agenda. But this was not true of all political parties. The GNPP displayed great magnanimity in Gongola and Borno states, where they supported the ADPs that were the joint fiscal responsibility of the state and federal governments, even though the parties had different manifestos.

More generally, ADPs must compete with other parallel projects for state funds. In some states, the state directorate of food, roads, and rural infrastructures has been able to attract funds for the construction of rural feeder roads to the exclusion of the state's ADP. This is usually the case where the leadership of the parallel competing project has direct political access to the governor.

Articulation of small coalitions versus the disarticulation of widely dispersed groups of small-scale farmers. The inability of small-scale farmers to organize, articulate their demand, and press for a funding commitment from state governments has constrained ADP funding by government at all levels. The low density of potential and actual beneficiaries of ADPs hinders organization and social mobilization, leaving the field to small coalitions that can easily organize and articulate their needs and corner some of the state's financial resources. In 1984, federal and state funding of the ADPs was very poor. In my capacity as head of FACU, I constantly drew national attention to the financial stranglehold of the ADPs and advocated the floating of special development loan stocks on behalf of the states to finance the ADPs. Fortunately, the federal government agreed to float N 300 million of development loan stock. Surprisingly, when state shares were disbursed, some state governments directed the funds to some other purposes: in Kano state, the development loan stock proceeds went into the tractor hiring operations that in practice served a few privileged clients, while in Sokoto state, the proceeds were diverted to the Sokoto urban water supply scheme to serve the needs of a politically conscious and powerful clientele.

The gross inadequacy of state funding was particularly serious in states where state contributions to the ADP could not even cover the workers' wages and salaries. In the Ayangba ADP, arrears of payments of more than a year led to considerable industrial unrest. In Kano state, state funding was inadequate for staff salaries and wages for most of 1985. This situation, common in many projects in 1984/85, compelled ADPs to utilize federal subventions for staff salaries and overheads, leaving little or nothing for developmental activities. When states are unable to meet even the salary cost of the ADPs, there is genuine doubt as to the commitment of the state to the ADP. This is because, without the ADP, the state government would still have had to pay the salaries of staff members, most of whom were seconded from the parent ministry. When projects exist merely to pay salaries, urgent program adjustments are required to reorder priorities and achieve a rational balance between recurrent and capital costs.

Delayed release of federal funds to the ADPs. Delayed release of funds by the government has been a major problem for the ADPs. The first quarter's budgetary allocation, meant to cover 1 January to 31 March, for example, ideally should be released in the first week of January to support land preparation and input distribution activities before the onset of the rains in March and April. The evidence in Table 7 shows excessively long and disruptive delays in the release of federal funds.

Prefinancing of World Bank loan funds. The rate at which states could draw down World Bank loans used to be constrained by the need to use project funds to prefinance the World Bank's share of the total project expenditure. The constraint is now being alleviated by the creation of the World Bank special accounts schemes. The special accounts are meant to provide an imprest to finance projects for four months of authorized Bank expenditures, as per SAR figures. However, the projects are still handicapped by the need to amend existing loan agreements before those accounts can be denominated in dollars.

Timeliness of ADP funding. Timeliness of funding is critical to meet the seasonality requirements of farming operations. Ex post examination of funding figures might show a nearly perfect score in terms of sponsors' meeting SAR obligations, but this may have little relevance for overall project performance if the funds were not released on time and the necessary farming support services were paralyzed. The timeliness of funding is determined by four factors. First, the normal budgetary processes of government, with their dragged-out procedures, almost always guarantee that the first quarterly allocation does not reach the ADPs in time. This is always a handicap, as the first quarter of the year is critical for the supportive project activities. The second factor is the time required at the start of the project to mobilize the necessary funds and expertise to draw down the World Bank loan component. The third factor is the failure of the budgetary process to make special funding provisions for farming operations before and after the onset of the rains. The fourth element is that loan effectiveness is achieved long after loan approval by the World Bank, as is now the case with multistate ADPs.
Table 7
Untimely release of federal funds to the ADPs, Nigeria, 1st quarter 1986 and 1st quarter 1987

<table>
<thead>
<tr>
<th>ADP</th>
<th>1st Quarter 1986</th>
<th></th>
<th>1st Quarter 1987</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Voucher date</td>
<td>Receipt of vouchers by Central Pay Office</td>
<td>Receipt of funds by ADP</td>
<td>Fund release delay in weeks</td>
</tr>
<tr>
<td>Ayangba</td>
<td>6/3/86</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>Bida</td>
<td>&quot;</td>
<td>9/4/86</td>
<td>13.1</td>
<td>&quot;</td>
</tr>
<tr>
<td>Ilorin</td>
<td>&quot;</td>
<td>10/4/86</td>
<td>n.a.</td>
<td>&quot;</td>
</tr>
<tr>
<td>Ekiti Akoko</td>
<td>&quot;</td>
<td>10/4/86</td>
<td>n.a.</td>
<td>&quot;</td>
</tr>
<tr>
<td>Oyo North</td>
<td>&quot;</td>
<td>10/4/86</td>
<td>n.a.</td>
<td>&quot;</td>
</tr>
<tr>
<td>Ogun</td>
<td>&quot;</td>
<td>10/4/86</td>
<td>13.3</td>
<td>&quot;</td>
</tr>
<tr>
<td>Sokoto</td>
<td>&quot;</td>
<td>9/4/86</td>
<td>13.1</td>
<td>&quot;</td>
</tr>
<tr>
<td>Bauchi</td>
<td>&quot;</td>
<td>n.a.</td>
<td>n.a.</td>
<td>&quot;</td>
</tr>
<tr>
<td>Kano</td>
<td>14/3/86</td>
<td>n.a.</td>
<td>n.a.</td>
<td>&quot;</td>
</tr>
<tr>
<td>Anambra</td>
<td>27/4/87</td>
<td>n.a.</td>
<td>n.a.</td>
<td>&quot;</td>
</tr>
<tr>
<td>Bendel</td>
<td>27/4/86</td>
<td>n.a.</td>
<td>n.a.</td>
<td>&quot;</td>
</tr>
<tr>
<td>Cross River</td>
<td>&quot;</td>
<td>10/4/86</td>
<td>13.3</td>
<td>&quot;</td>
</tr>
<tr>
<td>Niger (Bida)</td>
<td></td>
<td>not applicable</td>
<td></td>
<td>&quot;</td>
</tr>
<tr>
<td>Benue</td>
<td></td>
<td>not applicable</td>
<td></td>
<td>&quot;</td>
</tr>
<tr>
<td>Kaduna</td>
<td>6/3/86</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>Plateau</td>
<td></td>
<td>not applicable</td>
<td></td>
<td>&quot;</td>
</tr>
<tr>
<td>Kwara</td>
<td></td>
<td>not applicable</td>
<td></td>
<td>&quot;</td>
</tr>
</tbody>
</table>

Notes: "n.a." means not available.
Source: Derived from original data in Federal Ministry of Agriculture, Water Resources and Rural Development.

ADPs, State-Federal Relations, and Public Management of Agriculture in Transition

Nigerian agriculture is in transition, as it moves from dependence on traditional inputs toward scientific and commercialized agriculture. This transition is managed at three levels. The first level involves supportive infrastructures in the form of networks of rural roads, irrigation facilities, rural water supplies, rural marketing infrastructures, and soil conservation. Federal funds through the ADPs, and now through the federally-funded Directorate of Food, Roads, and Rural Infrastructures and the RBDAs, are assisting in the infrastructural transformation of Nigeria's rural economy.

FACU engineers have assisted by producing a design and construction specification manual for rural roads for use by all ADPs, covering road design, material selection, and construction specification, and bridge design and specification; by working out an agreement with the Federal Ministry of Works and Housing to train ADP staff at FMW training centers within Nigeria on rural infrastructures maintenance; by assisting ADPs in reprogramming and with advice on machines, targets, and spare parts in the face of dwindling resources; by conducting feeder road prioritization exercises such as those in Anambra; and by serving as liaisons with ADPs on technical design problems, procurement of parts, and the provision of a common forum among ADP road engineers for a free exchange of ideas on problems and strategies through workshops, conferences, and regional technical coordination meetings.

The problem that needs urgent solution is the maintenance of rural infrastructures. The classic disaster case is the Ayangba ADP, which collapsed after completion of the project and termination of the political commitment of the state government. Project feeder roads rapidly fell into disrepair and rural water supply pumps broke down. The local government councils had neither the funds nor the technical capability to maintain the infrastructures. The problem is how to sustain the gains of infrastructure development after formal closure of a loan project.

The second level involves the management of economic incentives at the macro and sector levels that will provide appropriate signals to guide resource flows. The states need to develop analytical capacities at the micro-project level that will favor the foundations of macroeconomic policy. FACU provides planning assistance to the states through the ADPs in the area of programming, budgeting, and monitoring, as well as specific policy analysis.23

The third level involves the management of institutions for joint agricultural programming by state and federal governments.
Issues in State-Federal Relations in Nigerian Agriculture

In addition to the normative prescriptions in the section on case studies, the following issues need to be addressed from the viewpoint of future state-federal relations in Nigerian agriculture against the background of recent experiences.

Constitutional Provisions on State-Federal Relations in Nigerian Agriculture

The recently published report of the political bureau and the federal government white paper on it expressed serious reservations about an activist federal government role in grassroots agriculture of the type promoted by the RBDAs. The white paper went so far as to say that the federal government should be restricted to research activities, and it is expected that the Constituent Assembly soon to be convened will further examine the issue of constitutional responsibilities for agriculture.

The 1954 and 1963 constitutions assigned limited responsibility to the federal government for agriculture. The 1979 constitution widened the federal government's role by authorizing it to establish institutions for the development of agriculture. This gave constitutional backing to an earlier set of enactments: the establishment of a federal ministry of agriculture and natural resources (1968); the drastic reform and abolition of the taxation powers of marketing boards (1973); the scrapping of the regional marketing boards and their replacement with six federally-owned pan-territorial commodity boards (1976); the establishment of eleven, and then eighteen, river basin development authorities (RBDAs) (1977, 1984); the granting of extensive powers to RBDAs to engage in both irrigated and irrigated agriculture (1979); the landmark Research Institutes Decree (1973); and the Research Institutes (Establishment) Order (1979), which terminated past state-federal collaboration in agricultural research and vested virtually all powers for agricultural research in the federal government, to mention a few.

The commodity boards were scrapped in 1986 because they were ineffective; the research institutes have virtually broken down; and the river basin development authorities have fallen into disrepute. It is therefore recommended that the federal government's role be redefined. The government should facilitate and support efforts rather than play a direct role in production and distribution. This suggests an activist role for government in the area of rural infrastructure development and active government support for agricultural research and extension, with an emphasis on the linkages, appropriate macroeconomic and sector incentive policies, and the establishment of coordinating institutions.

The Role of Local Governments

Local governments are now involved in agricultural development at four levels: building and maintaining local government (feeder) roads; providing extension services, primarily the multiplication and distribution of seedlings and planting materials, the distribution of fertilizers, and the operation of limited subsidized tractor hiring services on behalf of state ministries of agriculture and ADPs; helping to identify and acquire suitable lands for state and federal government projects; and collecting agrometeorological data.

The results on state-federal relations can be generalized to include local governments along the following lines.

- The more basic forms of agricultural research should be supported by higher tiers of government such as the federal government, while the more applied and adaptive forms of research should be supported by the lower tiers, such as state and local governments. Local governments must provide resources for the support of research outstations in subzones of agroecologies at the district level.

- Local governments need to assume more responsibility for agricultural extension, especially at the level of primary contact with farmers (village extension agents). State governments should provide more support in supervision and in development communication that is effective in transmitting new technology and cultural practices. At the same time, local governments should not abdicate responsibility for providing senior extensionists to state governments alone.

- Local governments must provide more resources for farmer training and field days to maximize extension worker-farmer contacts. They are more suited for organizing and supporting a highly decentralized and widely dispersed network of training at the grassroots level.

- Local governments must assume greater responsibility for the construction, and more especially the maintenance, of rural feeder roads beyond the traditional focus on linking district headquarters. The benefits of a national network of feeder roads transcend local government area boundaries, especially from the economies of scale that they permit, by encouraging regional specialization of farm production within the context of a unified national market with no trade hindrances across local and state government boundaries.

- Local governments must actively encourage farmers' associations and private traders to handle farm input distribution at the district and village levels as part of public sector disengagement from farm input distribution.

There are two central issues in giving a greater role to local governments in policy implementation. The first is the trade-off between decentralization, local autonomy, and initiative in policy implementation on the one hand, and uniformly good policy implementation on the other. One main reason given by federal bureaucrats in agriculture for an increased federal role in policy execution was that states lacked implementation discipline, with some states diverting federal monies meant for agriculture into nonagricultural projects. Giving local governments greater scope in the implementation dramatically raises the risk of policy implementation failures across 301 local government authorities with widely varying capabilities. Complementary policy instruments are required for shifting the trade-off curve outward and to the right. These include state and federal monitoring of local government implementation.
performance, increased technical backup support for those LGAs that are seriously deficient in implementation capabilities, and vastly increased state and federal funding for the training of LGA personnel.

The second is revenue sharing. Local governments have two main sources of revenue: internal sources (consisting largely of rates, licenses, fees, and personal and community taxes) and external sources (consisting largely of federal and state grants). Local governments have depended heavily on federal grants. The LGA revenues have been grossly inadequate on two counts. First, internal revenue based on rural economies has been weak, due in part both to poor revenue mobilization and structurally weak rural economies. Second, federal grants meant for local governments ended up in joint accounts that state governments often diverted to other uses. The real drawback has been that federal grants were not transmitted directly to local governments, but were paid to state governments, which found other uses for the funds.

A fundamental change needs to occur in the proposed revisions to the revenue allocation formula to ensure that federal grants are paid directly to local government treasuries without having to pass through state government joint accounts. Revenue allocation arrangements to date have doubly discriminated against agriculture: first, by discriminating against local governments and crippling their capabilities for grassroots project implementation capabilities; and second, by the astonishing failure of all successive federal governments to make any direct grants to any local government for agricultural projects in the same way that it made ad hoc grants to state governments (see End Table 3).

**Effect of State-Federal Relations on the Autonomy of Projects**

Joint state-federal programming has favored the creation of semiautonomous project management units outside the mainstream ministry of agriculture because the federal government found it institutionally tidier to participate in implementation in a unit outside the state ministry of agriculture. The World Bank also felt that the bureaucratic snarls of the mainstream ministry of agriculture within the general framework of the civil service were stifling and precipitating a collapse, or how to mobilize lower tiers of government and crippling their capabilities, and vastly increased state and federal funding for the training of LGA personnel.

The Accelerated Development Area Projects (ADAPs) had no World Bank loans, and yet they had semiautonomous management units outside the ministry. Thus it could not have been the World Bank's "invisible hand" that was wholly responsible for this organizational mode in the projects. It can be said that the World Bank and the federal government did, however, actively promote and support the ADPEC mode, with state government concurrence, if not the same level of active support. It also can be said that federal government and World Bank presence strengthened the autonomous status of projects and that, had the projects been left to the states, they rapidly would have lost their autonomy. In the Ayangba ADP, after World Bank funding ended upon the project's completion, the Benue state ministry rapidly phased out project management and recalled seconded staff attached to the project without consulting the federal government.

One potential solution for ensuring organizational sustainability is the creation of integrated agriculture and rural development authorities in Bauchi, Kano, Sokoto, Kaduna, Benin, Benue, Cross River, and Anambra, among others. Such authorities would have flexible and responsible decision-making processes, as well as adequate incentives to retain staff.

But will such authorities remain autonomous? The answer depends on what is meant by "autonomy of projects." If autonomy refers to being autonomous from the Ministry of Agriculture, there is little autonomy in policy formulation if ADPEC is chaired by the commissioner of agriculture or his nominee. In practice, there is little autonomy under these circumstances if, as was the case with some of the northern state ADPs, the other state agencies are represented by junior officials at board/executive council meetings. A strong chairman who is also a commissioner for agriculture can, under these circumstances, run away with the board/executive council. When the board/executive council is chaired by the governor/deputy governor or an independent person from the private sector or outside the civil service, the authority/executive council could be autonomous from the ministry, although not necessarily free from overall guidance by state and national policy. In particular, it could, under these circumstances, be free from undue ministerial interferences in routine day-to-day operations after policy guidelines have been established.

"Autonomy" does not mean that project authorities can chart programs and activities independent of overall government policies and priorities. ADPs are to assist government in the realization of overall agricultural sector objectives. Autonomy properly refers to the freedom of the project to set broad priorities and management procedures within the general framework of government policy and the objectives of policy.

**Rural Infrastructures**

The issue regarding rural infrastructure is how to provide federal funds to create facilities and disengage without precipitating a collapse, or how to mobilize lower tiers of government, including nongovernmental organizations and associations of beneficiaries, to take over the maintenance of rural infrastructures. Past supply-side approaches to the provision of rural infrastructures, with their emphasis on federal and state funding without sufficient involvement of local institutions, have limited prospects for long-run viability. Local institutions must be involved in project design, construction, installation, and funding.

Local institutions need to purchase spare parts on a continuing basis to maintain plant and equipment used in rural infrastructures. The existing revenue allocation formula does not provide enough funds for local governments to purchase needed foreign exchange to import spare parts; pending new revenue arrangements, the federal government needs to assist lower tiers of government with needed imports of spare parts.

Lower tiers of government need to show "development" results at the grassroots that are easily provided by rural infrastructures. The temptation has been for some ADPs to concentrate on feeder roads and rural water supplies that are then used to build up political support for the ADP. In other words, some ADPs utilized rural infrastructures to obtain funding leverage. Some of these ADPs failed to
achieve the needed balance between rural infrastructures and agriculture. While ADPs can use the "political visibility" of rural infrastructures to advantage, core agricultural components must not be neglected.

Among several issues that arise with respect to the Directorate of Food, Roads, and Rural Infrastructure is the integration of its rural infrastructure program with those of state and federal agencies. ADP road programs in a state need to be coordinated with the rural road program of the state directorate. The directorate's programs on rural water supply need to be similarly coordinated with those of other agencies at state and federal levels. The same goes for rural electrification and mass literacy campaigns. Failure to attain integration results in confusion over roles and wasteful duplication.

Another issue is the degree of state-federal collaboration over the entire project cycle. While some progress has been made in involving state and local governments in identifying project priorities, little progress has been made in technical monitoring and technical backup services by the federal directorate for projects in the state. Performance in the states has been uneven, reflecting the varying degrees of state commitment.

A third issue is sustainability—the institutional and operational modalities required to ensure that the infrastructures will be maintained and that huge investments are not wasted. The directorate's present structure needs to be overhauled to enhance program and financial accountability at both state and federal levels. The federal directorate must ensure compliance with program priorities and targets by state directorates without getting unnecessarily bogged down in direct implementation by federal agents at the grassroots level.

**Agricultural Research**

The solution to the agricultural research problem lies in the resolution of several dualities. Under the first, the federal government owns all of the eighteen agricultural research institutes, while the state governments run the agricultural extension systems through their ADPs or their ministries of agriculture. The second is the duality between a system of thirteen faculties of agriculture of mostly federal general universities with their agricultural research activities, and state agricultural extension services operated through ADPs terms of indigenous capabilities in the agricultural establishment. The third is the duality between a system of applied research. In practice, the federal government is expected to focus on basic research, while state funds focus on applied research. In practice, the federal government is stalled with all forms of research; as a result, neither basic nor applied research receives proper funding and program support.

The tragedy of the post-1975 watershed change from joint state-federal ownership of research institutes to the present monolithic federal system is that in many states, especially those created in 1976, the concept of agricultural research as a proper domain of state programming and budgeting support is an alien one. These states have no culture of agricultural research; have no agricultural research policy; and have developed no research resources allocation system. That all nineteen states of the federation basically believe that, abstracting from the oil boom syndrome, agriculture is a state responsibility, and yet continue to treat all forms of agricultural research as federal government responsibilities, does, indeed, represent a fundamental duality.

The present monolithic system in which the federal government owns and operates all agricultural research institutes and conducts all forms of basic and applied agricultural research should be replaced by a new system in which both state and federal governments would provide budgetary and programming support for agricultural research. In the new system, the federal government would concentrate on the more basic forms of agricultural research, leaving the more applied forms of research for state and local governments. Also, the federal government could fund research of relevance across different ecological zones, leaving states to concentrate on research that is location-specific and of relevance mainly to the local state economy.

The present arrangement, in which the eighteen agricultural research institutes are located in a federal ministry of science and technology which has absolutely no functional relationship with state ministries of agriculture or the ADPs, is anomalous and should be scrapped. A new institutional arrangement should ensure functional integration at two levels: between the research institutes and the Federal Ministry of Agriculture at the federal level, and between the research institutes and the state ministries of agriculture at the state level.

Two options are to transfer the research institutes to the Federal Ministry of Agriculture or to revert to the earlier arrangement of putting all research institutes under a national science and technology development agency located in the presidency.

Planning support for agriculture requires the development of indigenous capabilities in sector and macroeconomic policy analysis. The capability for policy analysis is weak at the federal level and practically nonexistent at the state level. This raises problems in three areas. First, federal policy decisions have tended to be based on limited in-house analysis, with most of the policy work being done by consultants and the World Bank. These constitute *ad hoc* inputs that leave no enduring benefits in terms of indigenous capabilities in the agricultural establishment. Second, federal policymaking is not based on policy analysis done at the micro level by lower tiers of government that feed into the federal policymaking process. It is ideal for sector analysis work to serve as an input into the macroeconomic policymaking process. States, in turn, should play a major role in sector work. Estimates of different response coefficients from micro empirical work must necessarily come from the state level.

What is recommended at the ADP level is accelerated development of an in-house planning capability that emphasizes the integration of programming, budgeting, and monitoring, as well as the capability for policy analysis. The policy analysis capability within the ministry needs to be dramatically expanded in FACU and the central planning department of the Federal Ministry of Agriculture.

The third problem is that no stable relationships have developed between state and federal governments in formulating and implementing sector policy and macroeconomic policy. Policy decisions handed down from "federal heights" typically have not been embraced by states during implementation. There is no forum for exchanging
Spatial/Regional Specialization in Production

Three issues need to be addressed. First, some states desire food and fiber self-sufficiency sheerly out of ignorance of the role of regional specialization on the basis of comparative advantage and of the resulting complementarities within the context of a federation. Areas of ignorance on the part of the professional and political leadership in the states can be narrowed through the enhancement of technical competence and exposure to the broader issues of political economy. Second, the desire for state food and fiber self-sufficiency may arise from a justified or unjustified fear of the unknown, such as future political upheaval or drought, that might disrupt the flow of needed food and fiber from the other states in the country. Third, the desire for state self-sufficiency may be induced by the failure of federal authorities to regulate interstate commerce, control epidemics, and coordinate pricing policies.

Available evidence indicates that cereals, seeds, nuts, and cowpeas contributed 76.12 percent of the nation's stock economy, grains and the brewing industry, arable fiber self-sufficiency may arise from a justified or unjustified federal funds would need to be allocated in much larger quantities.

The livestock industry has developed along regional lines: while traditional nomadic pastoralism is confined mainly to the North, the poultry industry has developed around the big urban centers in the South. Tsetse fly eradication efforts would need to be doubled before cattle rearing could take hold in the South, or alternatively, federal funds would need to be allocated in much larger quantities than in the past for work on trypano-resistant breeds. Federal funds are needed for the establishment of permanent grazing reserves to cut down on the seasonal migration of nomadic pastoralists. The new World Bank-assisted livestock projects department is expected to mobilize resources to implement projects that recognize the agro-industrial linkages between grains and the livestock economy, grains and the brewing industry, arable crops and the nomadic pastoralism, and between different agro-ecological zones.

The federal government needs to identify current and potential sources of complementarities between sectors and between agro-ecological zones, as well as appropriate policy instruments that will encourage regional specialization in agricultural production and calm the fears of those.
in the states who might be worried about the dangers of institutionalized dependency on other states for critical supplies of agricultural raw materials.

**Data Collection System**

State governments can allocate resources to agrometeorological data collection involving the use of satellites and international cooperation need to be vastly increased. However, agrometeorological data is not an end in itself; it must be analyzed and used to construct required probabilities and confidence intervals and bands for critical variables, such as expected dates of the start of the rains for different ecological zones, that are of critical importance for agriculture. Agrometeorological data must be analyzed and the information provided to those agencies responsible for fertilizer and other input distribution, seed multiplication, agricultural credit, and farm implement hiring services.

Federal and state development plans perennially have bemoaned the lack of reliable agricultural data, especially with regard to production, cropped area, yields, cattle population and reproduction rates, fish output, quantities of farm inputs used, agricultural capital formation and savings, and output and input prices. Among the issues to be addressed is the development of a data culture in the state and federal agricultural establishment that appreciates the inherent value of information in private and public decisionmaking. Economic education is required to inform public decisionmakers about the intrinsic value of data collection, storage, and analysis, and to teach them that data of no apparent immediate value still has large potential social returns.

Substantial resources are urgently needed for the collection, storage, and analysis of data to provide inputs into decisionmaking. Recognition of the data needs problem is the first prerequisite.

A second issue is the political will to consistently allocate resources at both state and federal levels to an activity with no "visible" output and use that must compete with other activities with political visibility and more immediate practical relevance. Agricultural data cultures in several countries such as India and the United States took root with the emergence of one or two strong personalities who combined technical competence with the ability to mobilize the political capital necessary for generating resources to start and sustain a national agricultural data system. Nigeria still awaits the arrival of such personalities.

Another issue is the failure to link macroeconomic policy with the underlying micro foundations. These micro foundations dictate the need for micro data on households, farming units, and individuals that will provide estimates of needed coefficients. The issues over which policymakers are likely to disagree are mostly empirical, not theoretical, and revolve around the signs and magnitudes of key parameters. Policymakers often do not appreciate the sense in allocating resources to estimate parameters of no immediate and obvious use.

The institutional arrangement for agricultural data generation and analysis is another factor. The location of the agricultural data unit in the Federal Ministry of National Planning (FMNP) is rooted in the historical responsibility of that ministry for the coordination of all agricultural research matters during the 1954-68 era. The creation of the Federal Ministry of Agriculture and Natural Resources in 1968 was not accompanied by the transfer of responsibility for agricultural data collection to the new ministry. A duality exists when the main users of the data—the agricultural establishment—are not involved in the design and supervision of the data collection of the federal office of statistics located in the FMNP.

Finally, why has the donor community not assisted with data collection? Almost every project document of the World Bank has bemoaned the acute data shortage, and yet, in about thirty years of agricultural lending that has produced the largest agricultural loan portfolio in Sub-Saharan Africa, the Bank has not identified a national agricultural data project to replace the existing system helplessly condemned by every user.

**Human Capital**

Cross-section studies of various national experiences have revealed that the single most important factor accounting for differences in per capita income is the level of human capital (Krueger 1968). The most important form of human capital in Nigerian agriculture is unskilled labor. The transformation of Nigerian agriculture requires the transformation of unskilled human capital into skilled, high pay-off human capital that is complementary with new high productivity physical inputs.

Several issues must be addressed. Policymakers at state and federal levels must understand the nature of the contribution of human capital to agricultural production. Unless policymakers can appreciate the contribution of education and on-the-job training to productivity and resource allocation (the "worker effect" and the "allocative effect"), they are unlikely to be able to design programs for effective manpower development. Traditional agriculture relies on human capital accumulation through the transfer to modern farming practices and the use of high-yielding inputs through formal education or a national extension service.

Another issue is the delineation of fiscal responsibility among local, state, and federal governments for training village extension agents, agricultural superintendents, and agricultural officers. The training of low-level extension staff traditionally has been a state responsibility, a natural corollary of the traditional responsibility of state government for agricultural extension. Through the training activities of state extension services, states have indirectly been responsible for farmer training. States train their extension staff in state-run schools and colleges of agriculture and polytechnics, while the federal government funds intermediate manpower development in the federal polytechnics. Since the takeover of state universities, the federal government also has been responsible for the colleges of agriculture of Ahmadu Bello University and the University of Ile
activities. This problem would not have arisen if the new-regulation. Instead, successive policy advisers and policymakers retrained for some new roles in the program’s noncore credit. Instead, successive policy advisers and policymakers have sought to introduce new programs through them, including from the state ministry of agriculture if their number First, policymakers have failed to seek an understanding of the "surplus" extension workers should be retrenched or a view to introducing new programs through them, including to the free flow of workers across state ADPs should absorb all extension workers transferred through the demographic structure of rural households, an inventory of existing trained manpower, wastage rates, training resources and facilities, output, dropout rates, staffing levels and requirements, and training costs per trained intermediate and graduate level staff.

Unacceptable employment conditions for nonindigenous workers have impeded the free flow of workers across state boundaries, creating a surplus of trained manpower in some states and a deficit in others. The federal government must facilitate lower transactions costs between states.

Obtaining practical training for undergraduates and intermediate manpower is another perennial problem. Although this problem has been recognized for decades, no funds have been allocated to correct it. States must work out a collaborative program with the federal government to absorb the students in various field projects during a year of practical training. An internship program similar to that under the Industrial Training Fund is urgently needed for agriculture. The experience gap has persisted because most agriculture graduates traditionally have gone into the public sector. Although some bureaucrats have grumbled about agriculture graduates with no practical experience, no vested interests were threatened seriously enough to translate these grumbles into increased budgetary allocations for practical training. The changed economic circumstances will force many graduates into the private sector, and its grumbles can be expected to be transformed soon into corrective policy action.

Another issue involves whether the new-phased state-wide ADPs were as intensive in extension coverage as the older ADPs; all ministry staff would have been automatically absorbed after retraining.

Another challenge is how extension services can have maximum impact on improving the training of women in production, processing, and trading, and raise the skills of the nation’s future farmers. The universal free primary education and the rural secondary schools should be used more effectively to develop new farming skills through the incorporation of agricultural science into the school curriculum.

Training of agricultural manpower at several levels has serious shortcomings, including the omission of the human element, rural sociology, agroclimatology, agrohydrology, fisheries, and social psychology, and the absence of a feedback mechanism between training institutions and farmers’ fields. Other shortcomings include the lack of retraining and on-the-job training, grossly inadequate training facilities in the forestry and fisheries industries, and the dearth of linkages between faculties of agriculture and research institutes, a situation that has frustrated the required complementary training of students in the research institutes. An integrated approach to manpower and training is needed to ensure that the same farmer is not under siege from different extension agents. In addition, programs like home economics, which require the assistance of several departments, often are neglected as nobody’s responsibility. What is required is a pooling together of the rural specialists scattered in different departments and ministries, covering crops and livestock, fisheries, farm management, home economics, forestry, soil conservation, land use, child and adult education, and rural welfare and health, always with an emphasis on the multidisciplinary approach.

Another problem is that extensionists reserve most of their contact hours for the “progressive” farmers or the “innovators.” Differential access to the extensionists makes the accumulation of human capital more unequal than it was before the introduction of new skills and technologies. Federal coordination has been useful in streamlining the relationships between different levels of agricultural training (OND, HND, B.Sc.), and in encouraging uniform standards in the training offered in the different state institutes. Whenever the “social/federal” returns from public investment in agricultural human capital exceed “private” or “state” returns, there is justification for federal funding to internalize some of the externality. Thus the federal government should fund the training of researchers engaged in basic agricultural research and in research in crops that cut across different agro-ecological zones that have economy-wide linkages such as maize, rice, yams, and cassava.

Institutional Credit

Despite the federal government’s involvement with institutionalized credit for almost fifteen years and the state government’s involvement for almost thirty years, the average farmer still has no access to such credit in the amounts and at the time he needs it most. These issues revolve around three factors.

First, policymakers have failed to seek an understanding of the structure and goals of existing rural institutions with a view to introducing new programs through them, including credit. Instead, successive policy advisers and policymakers all along have been hooked to the propagation of cooper-
atives. That cooperatives have repeatedly failed in rural Nigeria while other rural institutions continue to flourish suggests that, rather than impose a foreign organizational form, policymakers should explore the organizational and management potential of traditional rural institutions. This is the natural domain of local and state governments, with the federal government serving as a catalyst.

Second, the commercial banking industry continually has failed to devise innovative programs to cater to the rural sector. Commercial banks would not have gone into rural banking without prodding from the government. The rural banking scheme introduced in 1977 has progressed rather slowly. During Phase I (1977-80), 200 rural branches were allocated to twenty commercial banks; 266 more rural branches were allocated to twenty commercial banks during Phase II (1980-83), which had to be extended by one year because of the slow pace of implementation. During Phase III (August 1985-July 1989), 300 rural branches are to be opened by twenty-eight commercial banks. The government also has stipulated that at least 40 percent of the loan portfolio of rural branches should go to local residents. Most of the loans of these rural branches tend to be made to nonagricultural enterprises run by urban-based businessmen and women.

Until very recently, commercial banks failed to meet the minimum targets set for lending to agriculture, as shown in the data in Table 8. Some of these banks have preferred to pay a penalty rather than comply on the ostensible grounds that rural branches do not pay. Several policy options are open. The government could continue with the present policy on the implicit assumption that banks can use their high operating margins in the urban branches to cover operating losses in the rural branches. For an industry that has higher-than-average returns, this is plausible. Alternatively, government could subsidize rural infrastructures like electricity, water supplies, and so on, for rural branches. Still another alternative is regional banks that are restricted to given localities or states and cannot engage in interstate banking. In return for settling for lower operating margins, such regional banks would require some government assistance with respect to tax treatment, infrastructures, and depreciation allowances.

To encourage the flow of loanable funds into agriculture, the government introduced the Agricultural Credit Guarantee Fund in 1978. A major provision of the scheme is that the Central Bank of Nigeria guarantees up to 75 percent of the unpaid balance on loans to agriculture by commercial and merchant banks. One issue is how to reconcile banks' profitability criterion with national food and nutrition priorities: bank lending has been concentrated on poultry enterprises (see Table 9) with a short payback period and has neglected long-gestation activities like cattle ranching, tree crop production, and grain production. An analysis of loan recipients suggests that even small-scale poultry

### Table 8
**Commercial bank lending to Nigerian agriculture, 1972-83**

<table>
<thead>
<tr>
<th>Year</th>
<th>Prescribed minimum share of total loan portfolio that must go to agriculture (%)</th>
<th>Actual share of total local portfolio that went to agriculture (%)</th>
<th>% Shortfall</th>
</tr>
</thead>
<tbody>
<tr>
<td>1972</td>
<td>4.00</td>
<td>3.10</td>
<td>22.50</td>
</tr>
<tr>
<td>1973</td>
<td>4.00</td>
<td>2.87</td>
<td>28.25</td>
</tr>
<tr>
<td>1974</td>
<td>4.00</td>
<td>2.9</td>
<td>27.50</td>
</tr>
<tr>
<td>1975</td>
<td>6.00</td>
<td>2.4</td>
<td>60.00</td>
</tr>
<tr>
<td>1976</td>
<td>6.00</td>
<td>3.8</td>
<td>36.67</td>
</tr>
<tr>
<td>1977</td>
<td>6.00</td>
<td>4.5</td>
<td>25.00</td>
</tr>
<tr>
<td>1978</td>
<td>6.00</td>
<td>5.5</td>
<td>8.33</td>
</tr>
<tr>
<td>1979</td>
<td>6.00</td>
<td>7.1</td>
<td>-18.33</td>
</tr>
<tr>
<td>1980</td>
<td>6.00</td>
<td>7.3</td>
<td>-21.67</td>
</tr>
<tr>
<td>1981</td>
<td>8.00</td>
<td>6.9</td>
<td>13.75</td>
</tr>
<tr>
<td>1982</td>
<td>8.00</td>
<td>7.7</td>
<td>3.75</td>
</tr>
<tr>
<td>1983</td>
<td>10.00</td>
<td>8.0</td>
<td>20.00</td>
</tr>
</tbody>
</table>


### Table 9
**Agricultural loans under the agricultural credit guarantee scheme Nigeria, 1979-1985 (in N mill, with percentage of total loan under the scheme)**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>% Total scheme</td>
<td>63.9</td>
<td>58.1</td>
<td>70.1</td>
<td>68.9</td>
<td>64.2</td>
<td>51.3</td>
<td>-30.6</td>
</tr>
<tr>
<td>% Total scheme</td>
<td>59.2</td>
<td>63.2</td>
<td>57.0</td>
<td>64.1</td>
<td>55.5</td>
<td>43.4</td>
<td>-25.7</td>
</tr>
<tr>
<td>Cattle</td>
<td>0.537</td>
<td>0.341</td>
<td>3.297</td>
<td>0.447</td>
<td>0.588</td>
<td>0.920</td>
<td>1.517</td>
</tr>
<tr>
<td>% Total scheme</td>
<td>1.6</td>
<td>1.1</td>
<td>10.0</td>
<td>1.4</td>
<td>1.6</td>
<td>3.7</td>
<td>-3.4</td>
</tr>
<tr>
<td>Other livestock</td>
<td>1.001</td>
<td>1.182</td>
<td>1.051</td>
<td>1.083</td>
<td>2.610</td>
<td>1.021</td>
<td>1.995</td>
</tr>
<tr>
<td>% Total scheme</td>
<td>3.1</td>
<td>3.8</td>
<td>3.1</td>
<td>2.9</td>
<td>7.1</td>
<td>4.2</td>
<td>-4.5</td>
</tr>
<tr>
<td>Mixed farming</td>
<td>2.220</td>
<td>2.761</td>
<td>1.090</td>
<td>0.078</td>
<td>1.999</td>
<td>0.228</td>
<td>2.180</td>
</tr>
<tr>
<td>% Total scheme</td>
<td>6.6</td>
<td>8.9</td>
<td>3.3</td>
<td>0.2</td>
<td>5.5</td>
<td>0.9</td>
<td>-4.9</td>
</tr>
<tr>
<td>% Total scheme</td>
<td>22.2</td>
<td>16.7</td>
<td>20.0</td>
<td>18.0</td>
<td>22.6</td>
<td>19.4</td>
<td>-30.6</td>
</tr>
<tr>
<td>% Total scheme</td>
<td>20.0</td>
<td>12.1</td>
<td>16.9</td>
<td>15.5</td>
<td>16.1</td>
<td>13.7</td>
<td>-23.3</td>
</tr>
<tr>
<td>Tuber and root crops</td>
<td>0.749</td>
<td>1.430</td>
<td>1.052</td>
<td>0.786</td>
<td>2.345</td>
<td>1.406</td>
<td>3.251</td>
</tr>
<tr>
<td>% Total scheme</td>
<td>2.2</td>
<td>6.1</td>
<td>3.1</td>
<td>2.5</td>
<td>6.5</td>
<td>5.7</td>
<td>-7.3</td>
</tr>
<tr>
<td>Other crops</td>
<td>2.478</td>
<td>1.943</td>
<td>2.174</td>
<td>4.104</td>
<td>2.742</td>
<td>7.002</td>
<td>13.618</td>
</tr>
<tr>
<td>% Total scheme</td>
<td>7.3</td>
<td>6.3</td>
<td>6.6</td>
<td>12.9</td>
<td>27.3</td>
<td>27.3</td>
<td>-26.1</td>
</tr>
</tbody>
</table>

years. Interest rates on commercial bank loans need to be Federal Ministry of Agriculture—their statutory obligation is monetary and fiscal policies that resulted in negative real development plans as components of their respective state agriculture have stemmed the flow of loan money into still are not functionally integrated.

Tangible collateral to secure loans constitutes a major problem, which is particularly acute in Nigeria due to the poor preparation and servicing of loan documentation. Recovery rates have been abysmally low. Unfortunately, these loans have been poorly prepared and serviced, and recovery rates have been abysmally low.

Third, a "loans-need-not-be-repaid" syndrome afflicts all public credit institutions, in which loan recipients have come to see loans from public agencies as subsidies or outright gifts. The pervasive influence of this syndrome has forced commercial banks to be excessively risk-averse in their lending operations. Their continued insistence on tangible collateral to secure loans constitutes a major hurdle to increased commercial bank lending to agriculture. The federally-funded National Agricultural Credit and Cooperative Bank (NACB), established in 1973, lends directly to farmers, as well as to cooperative societies and state governments for loans to farmers. The central issue is how to reconcile the NACB's centralized bureaucratic structure with the credit requirements of a highly decentralized smallholder agriculture. Failure to do so has meant that the average small-scale farmer continues to be denied access to production and marketing credit. The problem is illustrated by the fact that NACB has only one branch in each state capital, far away from the farming communities, its intended clients. It is paradoxical that while government embarks on schemes to distribute credit to farmers, as well as to cooperative societies and state governments for loans to farmers, these schemes are bogged down in bureaucratic snarls that prevent loans from being made when they are most needed. As a result, a significant proportion of the loans, purely due to late disbursement, goes to finance consumption and nonagricultural purposes. Loan processing and recovery costs remain prohibitive, especially with the poor supervision and monitoring of loan utilization. Also, no institutional mechanism exists for a continuous exchange of agricultural loan experiences between different public credit institutions, with the result that some states are not able to learn from the experiences of other states. The federal government alone can play this coordination and information archival role, and further strengthen state-federal relations in agricultural credit.

The perennial failure to develop a viable agricultural credit system has led to excessive reliance on other policy instruments such as farm input subsidies. The government finds itself in a "subsidy trap": heavy subsidies have been granted on fertilizers, pesticides, seeds, and farm machinery, which are fiscally no longer sustainable in the face of steep budgetary shortfalls. In a recent exercise in which the government was involved, it became obvious that the wild intra- and interseasonal variation in grain prices had less to do with the inadequate on-farm storage facilities than with the acute lack of rural institutional credit, especially the cash requirements to meet the social consumption needs of farmers immediately after harvest. The long-awaited new small-scale farmer credit scheme announced in the 1986/87 federal government budget has yet to take off. Federal authorities, lacking the requisite grassroots field organization, must avoid the ever present temptation to single-handedly formulate a small-scale farmer credit program without involving the states and local governments.

### Institutional Arrangements

Two elements of institutional arrangements relate most directly to state-federal relations: functional and horizontal integration and the definition of appropriate roles to remove institutional ambiguity and role confusion.

A major structural defect of existing arrangements is that after twenty-five years of development planning experience, the ministries of agriculture at the state and federal levels still are not functionally integrated. State and federal ministries of agriculture draw up five-year sector development plans as components of their respective state development plans without any reference whatsoever to the Federal Ministry of Agriculture—their statutory obligation is to submit the proposals to the Federal Ministry of National Planning. There are no mechanisms for synchronizing state plans with the federal sector plan for agriculture at the Federal Ministry of Agriculture level. Similarly, there are no mechanisms for functionally integrating the planning work of the agriculture division of the Federal Ministry of Planning with the planning work of the Federal Ministry of Agriculture.
The lack of horizontal integration has posed serious problems. The present macro-institutional arrangements for managing agricultural research means, for example, that if the federal minister of agriculture is on an official visit to Ibadan and is informed by Oyo state ministry of agriculture officials of some urgent capsid infestation problems in cocoa, he cannot pay an on-the-spot visit to the Cocoa Research Institute of Nigeria, the research institute statutorily responsible for cocoa research, also located in Ibadan, for an urgent diagnosis of the problem. Such a visit may incur the wrath of the federal minister of science and technology, who may accuse him of breach of protocol for visiting an institute under his ministry without his clearance. The technology minister could report the agriculture minister for “meddling” in the affairs of the science and technology ministry. Under these parallel institutional arrangements, state ministries of agriculture are confused about which federal agency they should approach on pressing technological problems.

The lack of functional integration between state and federal ministries of agriculture in medium-term development plans manifests itself in an even greater “integration gap” between state and federal ministries of agriculture during annual budget allocations, often resulting in inconsistent priorities. For many years, in the late 1970s and early 1980s, while the federal government strived to raise agriculture’s relative share of the total federal budget, many state governments were according low budgetary priority to agriculture. While the Babangida administration declared in the 1986 federal budget that the government would divest its holdings in all parastatals engaged in direct production and distribution, many state governments have maintained or increased their programming and budgetary support for agricultural parastatals. The budgetary process and cycle as it is now operated makes it extremely difficult for functional consultation between state and federal sectors in a given budget year, as each sector often is bogged down in the annual struggle for a fair share of the budget. We recommend intergovernmental consultation on budgetary guidelines and principles; the federal government should circulate to all state governments well in advance the guiding principles that will serve as a policy frame for the next budget. This will help to minimize program inconsistencies between state and federal governments and ensure conformity of state budgetary allocations with national food and fiber priorities.

Defining appropriate roles of institutions involves several subsidiary issues. One is the sequencing of institutions created in response to changing circumstances, with a tendency for recent institutions to duplicate the roles and functions of existing institutions. Part of the problem lies in the absence of an overall framework in which roles and functions can be comprehensively defined to avoid overlapping and duplicated roles. Such a framework would minimize the frequency with which new institutions were created and abolished in response to pressing problems of the moment. Vague specification of the roles of institutions makes accountability and monitoring difficult.

Another issue is the tendency for bureaucrats to draft enabling decrees and acts to define roles too broadly. The RBDA may not have fallen into disrepute if the 1979 River Basins Development Authority Decree had not given them such wide-ranging roles to perform in irrigated and rainfed agriculture. If those who drafted the decree had stayed within the spirit of the constitution regarding the development of interstate rivers, the RBDA would not have converted themselves into the major instruments they became for awarding land development and other contracts for rainfed agriculture. The constitutional provisions are sufficiently broad and flexible to allow for responses to changing circumstances. The authors of the enabling policy instruments, laws, and decrees introduced excessive institutional ambiguities from the overlapping and duplication of roles.

But why does institutional pluralism persist from one regime to another, even when many of these institutions cannot pay salaries? One reason is the development of vested interests opposed to any attempts to rationalize the existing institutional structures. These interests embrace the direct beneficiaries of the public institutions and the public bureaucrats who benefit from the power to appoint general managers and members of boards of directors. The beneficiaries of continued institutional pluralism, ambiguities, and role confusion are small coalitions of vested groups in the private and public sectors that can easily organize and articulate their positions for institutional reform (see Table 11).

Table 11
Federal and state government control of decisionmaking in Boards of River Basin Development Authorities (RBDA), Nigeria, 1976 and 1979

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sokoto-Rima</td>
<td>50</td>
<td>50</td>
<td>60</td>
<td>Sokoto, Kaduna</td>
</tr>
<tr>
<td>Hadzor-Jama'are</td>
<td>50</td>
<td>50</td>
<td>60</td>
<td>Kano, Kaduna, Borno</td>
</tr>
<tr>
<td>Chad Basin</td>
<td>50</td>
<td>50</td>
<td>60</td>
<td>Borno, Gongola, Kano</td>
</tr>
<tr>
<td>Upper Benue</td>
<td>50</td>
<td>50</td>
<td>60</td>
<td>Gongola, Bauchi, Borno</td>
</tr>
<tr>
<td>Lower Benue</td>
<td>50</td>
<td>50</td>
<td>60</td>
<td>Benue, Plateau, Gongola</td>
</tr>
<tr>
<td>Cross</td>
<td>50</td>
<td>50</td>
<td>60</td>
<td>Cross River, Imo, Anambra</td>
</tr>
<tr>
<td>Anambra-Imo</td>
<td>50</td>
<td>50</td>
<td>60</td>
<td>Imo, Anambra, Benue</td>
</tr>
<tr>
<td>Niger</td>
<td>50</td>
<td>50</td>
<td>60</td>
<td>Niger, Kwara, Kaduna</td>
</tr>
<tr>
<td>Ogun-Oshun</td>
<td>50</td>
<td>50</td>
<td>60</td>
<td>Oyo, Ogun, Lagos</td>
</tr>
<tr>
<td>Benin</td>
<td>50</td>
<td>50</td>
<td>60</td>
<td>Bendel, Ondo</td>
</tr>
</tbody>
</table>

Note: Chairman and General Manager of each RBDA appointed by the federal government. All the RBDA were funded by the federal government. Source: River Basins Development Authorities Decree No. 25, 1976; River Basins Development Authorities Decree No. 87, 1979.
The Demand and Supply-Side Approaches to State-Federal Relations in Nigerian Agriculture

State-federal relations in Nigerian agriculture can be explained in terms of institutional arrangements, structures, and procedures. Constitutional arrangements provide the framework for delineating fiscal responsibilities for agriculture between state and federal governments. Disputes over constitutional provisions are referred to the law courts for adjudication. The celebrated case in 1981, when six state governments dragged the federal government into court, charging it with violating the constitution by engaging in grassroots agricultural projects, vividly illustrates the potential dangers that could arise for intergovernmental relations. The constitutional arrangements ideally should be the result of competing articulation of the wishes of different segments of society, representing different vested interests. Enabling acts and decrees provide specific institutional policy instruments that define functions and the degree of state-federal collaboration in decisionmaking. Successive Nigerian constitutions (up to 1979) confined the federal government to agricultural research and the development of interstate rivers and basins, while leaving most of agriculture to the states and regions.

State-federal relations in agriculture have been significantly determined by statutory arrangements for sharing revenue from the federation account between state and federal governments. Revenue sharing arrangements under the oil boom regime boosted federal revenues when the principle of derivation was discarded in favor of the common distributable pool. Larger federal revenues have tended to favor new activist federal roles in agriculture, at the expense of traditional state roles (Table 12).

Table 12
Statutory allocations from the federation account to state and local government, 1978/79-1979/80

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Anambra</td>
<td>113,166</td>
<td>77.88</td>
<td>9,242</td>
<td>15,437</td>
</tr>
<tr>
<td>Bauchi</td>
<td>110,015</td>
<td>90.72</td>
<td>6,887</td>
<td>16,892</td>
</tr>
<tr>
<td>Bendel</td>
<td>173,729</td>
<td>84.45</td>
<td>6,947</td>
<td>14,657</td>
</tr>
<tr>
<td>Benue</td>
<td>97,760</td>
<td>90.31</td>
<td>6,879</td>
<td>18,144</td>
</tr>
<tr>
<td>Borno</td>
<td>114,024</td>
<td>88.12</td>
<td>8,029</td>
<td>15,289</td>
</tr>
<tr>
<td>Cross River</td>
<td>114,50</td>
<td>84.89</td>
<td>9,022</td>
<td>16,892</td>
</tr>
<tr>
<td>Gongola</td>
<td>108,413</td>
<td>90.17</td>
<td>7,239</td>
<td>16,598</td>
</tr>
<tr>
<td>Imo</td>
<td>129,584</td>
<td>84.30</td>
<td>9,596</td>
<td>16,355</td>
</tr>
<tr>
<td>Kaduna</td>
<td>124,530</td>
<td>84.68</td>
<td>10,255</td>
<td>16,750</td>
</tr>
<tr>
<td>Kano</td>
<td>150,115</td>
<td>84.44</td>
<td>13,644</td>
<td>21,864</td>
</tr>
<tr>
<td>Kwara</td>
<td>94,815</td>
<td>90.30</td>
<td>5,437</td>
<td>12,322</td>
</tr>
<tr>
<td>Lagos</td>
<td>89,801</td>
<td>51.35</td>
<td>4,892</td>
<td>13,382</td>
</tr>
<tr>
<td>Niger</td>
<td>83,333</td>
<td>92.81</td>
<td>4,387</td>
<td>13,342</td>
</tr>
<tr>
<td>Ogun</td>
<td>86,325</td>
<td>82.51</td>
<td>5,108</td>
<td>11,873</td>
</tr>
<tr>
<td>Ondo</td>
<td>104,711</td>
<td>76.61</td>
<td>7,491</td>
<td>14,136</td>
</tr>
<tr>
<td>Oyo</td>
<td>138,918</td>
<td>83.62</td>
<td>12,500</td>
<td>19,760</td>
</tr>
<tr>
<td>Plateau</td>
<td>100,910</td>
<td>86.79</td>
<td>6,070</td>
<td>14,080</td>
</tr>
<tr>
<td>Rivers</td>
<td>170,858</td>
<td>85.48</td>
<td>5,450</td>
<td>13,370</td>
</tr>
<tr>
<td>Sokoto</td>
<td>129,670</td>
<td>83.37</td>
<td>11,146</td>
<td>18,856</td>
</tr>
</tbody>
</table>


The first consideration is the convenient division of the country after the 1954 federal constitution into three regional export crop economies: the cocoa West, the oil palm East, and the groundnut and cotton North. Regional governments, based on the clearly demonstrated fiscal potential of marketing boards for accumulating huge revenue surpluses from export crop taxation, demanded that agriculture become a regional responsibility. Agriculture was an item on the residual list and therefore a regional responsibility. The drastic reforms that resulted in the scrapping of regional marketing boards was the logical extension of a trend of rapidly declining export crop production that had begun in the late 1960s. When agriculture, through the marketing board system, became irrelevant to the fiscal fortunes of state governments, regional governments no longer demanded that agriculture should remain a matter of state concern. At the constituent assembly to draft the 1979 Constitution, state interests acquiesced to demands for a greater federal role in agriculture. We already have seen the landmark provision in the 1979 constitution that placed agricultural development on the concurrent legislative list, meaning that both state and federal governments could constitutionally promote agricultural development. Unless major fiscal rearrangements occur, state interests will not demand a greater role in agriculture—or more correctly, state interests will not fight to exclude federal authorities from an activist role in agriculture.

Another factor is the absence of competitive party politics through which political parties normally compete for votes by purporting to advance farmers' causes. There have been no grassroots organizations to articulate the demands and wishes of the farming population on the political plane. When a new constitution is being drafted, there are no political or farmers' organizations to articulate a farmer's position for incorporation into the constitution, especially with regard to the relative roles of state and
federal governments in agriculture.

The post-1976 "Operation Feed the Nation" (OFN) witnessed the influx of a new generation of farmers consisting of retired influential public servants from within and outside the armed forces. This generation of farmers, completely new in scientific agriculture, required all possible forms of federal government assistance which could only materialize if the federal government played a more activist role in agriculture.

The interests and demands of this class of farmers, particularly with respect to mechanized agriculture, were beginning to be manifested in the specific concessionary measures spelled out in federal budgets during 1976-79, the last three years before the military handed over power to the civilians in 1979. Small coalitions were able to articulate more clearly their demands for a more activist federal role than widely dispersed small-scale farmers who were trying to argue for a reduced federal role and an increased state role.
Summary and Conclusions

A discussion of state-federal relations in Nigerian agriculture must necessarily begin with the historical foundations of state agricultural policy. The colonial economy was perceived as a source of agricultural raw materials conveniently divided into three regional economies: cocoa from the West, oil palm from the East, and cotton and groundnuts from the North. The export crop economies came to assume fiscal importance, first through the pan-territorial produce marketing boards created in the late 1940s, and then through the regional marketing boards after the adoption of the federal constitution in 1954.

The regional governments demanded that agriculture be a regional matter in both the 1954 and 1963 constitutions, as they considered agriculture too important to relinquish to federal authorities. An assessment of the post-1954 era is best done against the background of a normative framework for delineating fiscal responsibilities for agriculture between state and federal governments. Suggested criteria or guidelines include externalities, indivisibilities, multiplier effects, public goods attributes, risk, and national security. Other criteria include agro-ecological diversity, international politics, regional equity, special ecological circumstances, political economy variables, and foreign exchange constraints.

Four case studies were selected for detailed analysis: fertilizer procurement and distribution, agricultural research, river basin development authorities, and the World Bank-assisted agricultural development projects. The focus in the case studies was on local-state-federal relations.

Four observations can be made. First, states were willing to abdicate their responsibilities in agriculture to the federal government if it meant an increased inflow of federal funds. It is remarkable that not one state is on record as opposing federal government moves to take over all agricultural research as contained in the Research Institutes Decree (1973) and the Research Institutes Establishment Order (1975). Second, the creation of twelve states in 1967 brought in new administrations that had little or no knowledge of the traditions and culture of state-federal relations in Nigerian agriculture. Third, inherent unitary government tendencies of military administrations have drastically eroded state powers and responsibilities for agriculture. When a new ministry was created in 1965 to coordinate agricultural matters at the federal level, care was taken not to mention the word "agriculture" in the title—it was called the Federal Ministry of Natural Resources and Research. Federal authorities during a civilian regime did not want to hurt the political sensibilities of the then-politically powerful regions by declaring publicly that a federal ministry had been created for agriculture, which under both the 1954 and 1963 constitutions was a regional responsibility. In 1968, the federal military government created the Federal Ministry of Agriculture and Natural Resources. Under a military government, not a single protest or could protest. Other examples of erosion include the scrapping of regional marketing boards and the takeover of regional universities, together with their agriculture faculties that had hitherto served regional agriculture (the Institute for Agricultural Research, Ahmadu Bello University serving the northern region, the Institute of Agricultural Research and Training of the University of Ile-Ife serving the western region). Fourth, institutional pluralism and ambiguities are often created by the enabling decrees, edicts, and acts that transform constitutional intent into concrete provisions for action. These institutional instruments often assign overlapping, duplicated, and extensive roles to new parastatals and agencies.

Several issues were isolated after the analysis of the case studies. These include the perceived role of government in agriculture, the relationship between state-federal revenue sharing arrangements and state-federal relations in agriculture, and the recurrent problem of how to tailor enabling acts, decrees, and edicts to achieve desired objectives without further complicating state-federal relations in agriculture. Others issues include the development of political will and commitment, reconciliation of the features of centralized public bureaucracies with the requirements of a decentralized smallholder agriculture, and the issue of sustainability. The challenge is to evolve stable local-state-federal relations with emphasis on the complementarities between different levels of government.
Annex Table 1
Major landmarks in the evolution of state and federal responsibility for agriculture, Nigeria, 1899-1986
Events and Remarks

Pre-Federal Constitution

1899 Creation of the Nigerian Forest Department with Olokomeji as headquarters and a director also responsible for agricultural matters under the Colony of Lagos. Initial activities included control of timber and rubber trade and establishment of forest estates.

1910 Agricultural department established at Moor Plantation for the southern provinces. Facilities acquired from the British Empire Growing Association. Focused on cotton, rubber, and agricultural cotton exports.

1912 Agricultural department established at Zaria; moved in 1915 to Kaduna for the northern provinces under a director. Focused initially on cotton, tobacco, kola, ostrich works, and horticulture. It is surprising that kola research had to be started in the North, a nonproducing area.

1914 Agricultural department established at Zaria, later moved to VOM. Focused initially on hygiene of livestock.

1914 Nigerian Veterinary Department established in Zaria, later amalgamated to form the Colony and Protectorate of Nigeria.

1921 Agricultural department established in Lagos by merging the two agricultural departments of southern and northern provinces. Focused on cotton, cocoa, oil palm, kola, tobacco, rice, and agricultural education, as well as a fisheries development branch.

1937 Agriculture ordinance passed to regulate the planting and growing of agricultural crops and the control of plant diseases and pests.


1954 Federal Constitution: federal government and three regional governments. Regionalization of agriculture which had been occurring even prior to 1951 now formalized. Multi-commodity regional marketing boards replaced national boards: Western Nigeria Marketing Board, Eastern Nigeria Marketing Board, Northern Nigeria Marketing Board, and a Nigerian Central Marketing Board responsible for export marketing arrangements.

1955 Council of Natural Resources established comprising federal and regional ministers and officials to formulate national research programs and coordinate federal and regional research activities.

1958 Nigerian Produce Marketing Company established to replace central marketing board. Policies and operations of new company were under the control of the regional marketing boards which provided its entire share capital and board of directors. The Federal Department of Marketing and Exports was abolished, while the boards and the marketing company maintained their executive organizations.

1962 Niger Dam Act established an authority responsible for the construction and maintenance of dams and other works on the River Niger to provide for generating electricity and for improving irrigation, fisheries, and irrigation.

1964 Research Institutes Act No. 33.

1965 Federal Ministry of Natural Resources and Research established from existing divisions and departments of the Federal Ministry of Economic Development. Ministerial Committee on Agriculture established under chairmanship of the federal minister of natural resources and research to advise the National Economic Council through comments and reviews of agricultural development proposals.

1968 Federal Ministry of Agriculture and Natural Resources created.

1971 Landmark seminar organized by FMNAR comprising state and federal officials to review the national food and fiber situation and to draw up short- and long-term plans for agricultural transformation.

1971 Sea Fisheries Decree No. 30 to regulate sea fishing.

1973 Agricultural Research Institutes Decree.

1974 National accelerated food production program launched in four pilot states. Incremental costs borne by the federal government.

1975 Launching of three pilot agricultural development projects (ADPs) at Funtua Gusau (April 1975) and Gombe (November 1975), jointly funded by the state government, the federal government, and the World Bank.

1976 River Basin Development Authorities Decree No. 25.

1976 Launching of strategic grain reserves scheme and establishment of National Grains Production Company.

1976 Launching of "Operation Feed the Nation" by the federal government as mass mobilization campaign for national food self-reliance.

1976 Centralization of all fertilizer imports and procurement in FMARD and the launching of a massive fertilizer subsidy scheme.

1977 National Fertilizer Board Decree No. 8; board never took off.

1977 Commodity Boards Decree No. 29, which created national commodity boards.

1977 Launching of agricultural credit guarantee scheme fund by the federal government.

1977 Launching of rural banking scheme.

1980 Launching of Green Revolution Program by the federal government.

1984 River basin development authorities increased from 11 to 18, leaving each state except Lagos with one.

1986 Creation of Directorate of Food, Roads, and Rural Infrastructures within presidency to construct national networks of feeder roads, rural water supplies, rural markets, and rural electrification projects, with corresponding directorates in each state.

1986 ADPs declared the principal instrument for implementing agricultural development projects. RBDA’s stripped of their agricultural roles and confined to water resources development. Small-scale farmer the centerpiece of agricultural development strategy.

1986 New commercial bank lending targets set for subsectors of agriculture to correct for past concentration of lending on livestock and poultry.
### Annex Table 2

**Constitutional provisions for state-federal responsibility for agriculture, Nigeria, 1954-1979**

<table>
<thead>
<tr>
<th>1954 Constitutional period</th>
<th>Federal legislative jurisdiction only</th>
<th>Concurrent (Federal/State) legislative jurisdiction</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Banks and banking; bills of exchange and promissory notes; borrowing of monies outside Nigeria for the purposes of the federation or any region, other than by borrowing by the government of a region for a period not exceeding 12 months on the security of any funds or assets of that government held outside Nigeria; borrowing of monies for the purposes of the federation; control of capital issues; customs and excise duties; including export duties; exchange control; meteorology; public debt of the federation; railways, including ancillary transport and other services; trade and commerce among the regions, the Southern Cameroons and Lagos; the construction, alteration, and maintenance of roads declared by the governor general to be federal trunk roads, water from sources declared by the governor general, by order, to be sources affecting more than one region or a region and the Southern Cameroons; weights and measures.</td>
<td>Electric; insurance; labor, including conditions of labor, industrial relations, trade unions, and the welfare of labor; movement of persons between regions, the Southern Cameroons and Lagos; quarantine; scientific and industrial research; statistics; traffic on federal trunk roads.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1963 Federal Constitution period</th>
<th>Federal legislative jurisdiction only</th>
<th>Concurrent (Federal/State) legislative jurisdiction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bills of exchange and promissory notes; borrowing of monies outside Nigeria for the purposes of the federation, or of any region, other than by borrowing by the government of a region for a period not exceeding 12 months on the security of any funds or assets of that government held outside Nigeria; borrowing of monies for the purposes of the federation; control of capital issues; customs and excise duties; including export duties; insurance other than insurance undertaken by the government of a region; meteorology; the public debt of the federation; railways, including ancillary transport and other services; taxes on amounts paid or payable on the sale or purchase of commodities except produce and hides and skins; the construction, alteration, and maintenance of such roads as may be declared by Parliament to be federal trunk roads; water from such sources as may be declared by Parliament to be sources affecting more than one territory; weights and measures.</td>
<td>Control of voluntary movement of persons between territories; labor, including conditions of labor, industrial relations, trade unions, and the welfare of labor; quarantine; scientific and industrial research; statistics; traffic on federal trunk roads.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1979 Federal Constitution period</th>
<th>Federal legislative jurisdiction only</th>
<th>Concurrent (Federal/State) legislative jurisdiction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banks and banking; bills of exchange and promissory notes; borrowing of monies within or outside Nigeria for the purposes of the federation or any state; customs and excise duties; drugs and poisons; export duties; exchange control; fishing and fisheries, other than fishing and fisheries in rivers, lakes, waterways, ponds and other inland waters within Nigeria; insurance; labor, including labor unions, industrial relations, conditions, safety, and the welfare of labor; industrial disputes, prescribing a national minimum wage for the federation or any part thereof and industrial arbitrators; meteorology; public debt of the federation; quarantine; railways, trade and commerce between Nigeria and other countries, including import of commodities into and export of commodities from Nigeria and trade and commerce between states; establishment of a purchasing authority with power to acquire for export or sale in world markets such agricultural produce as may be designated by the National Assembly; inspection of produce to be exported from Nigeria and the enforcement of grades and standards of quality in produce so inspected; establishment of a body to prescribe and enforce standards of goods and commodities offered for sale; control of prices of goods and commodities designated by the National Assembly as essential goods or commodities; registration of business names; traffic and federal trunk roads; and water from such sources as may be declared by the National Assembly to be sources affecting more than one state.</td>
<td>A. The National Assembly may enact provisions for: a. the division of public revenue between the states and local government councils and among the local government councils in states; and b. grants or loans from the imposition of charges upon the consolidated revenue fund or any other public fund of the federation for or the imposition of charges upon the revenue and assets of the federation for any purpose, notwithstanding that it relates to a matter with respect to which the National Assembly is not empowered to make laws. B. Subject to the provisions of this Constitution, any House of Assembly can make provisions for grants or loans from and the imposition of charges upon any of the public funds of that state for the purpose, notwithstanding that it relates to a matter with respect to which the National Assembly is empowered to make laws. C. The National Assembly may make laws for the federation or any part thereof with respect to the regulation of the right of any person or authority to dam up or otherwise interfere with the flow of water from sources in any part of the federation; the establishment of research centers for agricultural studies and the establishment of institutions and bodies for the promotion or financing of industrial, commercial, or agricultural projects. D. Subject to the provisions of this constitution, a House of Assembly may make laws for that state with respect to industrial, commercial, or agricultural development of the state. &quot;Agricultural&quot; includes &quot;fishery.&quot; E. The National Assembly may make laws to regulate or coordinate scientific and technological research throughout the federation. Nothing herein shall preclude a House of Assembly from establishing or making provisions for an institution or other arrangement for the purpose of scientific and technological research. F. Statistics.</td>
<td></td>
</tr>
</tbody>
</table>
Notes

1. One extension of this argument is that pests and diseases that cross international boundaries require supranational institutions to coordinate the international funding of research and control programs by all countries concerned.

2. Allocation is now by market forces through an auction system.

3. The 1979 constitution of the Federal Republic of Nigeria states that the fundamental objectives and direct principles of state policy include, among others: the promotion of a planned and balanced development; the provision for all citizens of suitable and adequate shelter and food, reasonable national minimum wages, old age care, pensions, and unemployment and sick benefits; and the national ethic comprising discipline, self-reliance, and patriotism. This was a strong mandate for almost any degree of federal intervention in Nigerian agriculture, by implication.

4. A core message of the Agricultural Development Committee Seminar held at the University of Ibadan in 1971 was the need for the federal government to assume a greater role in Nigerian agriculture, especially since the traditional posture of the old regions over agriculture appeared to have been irreversibly "weakened" by the new twelve state structure.

5. The Second National Development Plan said: "Given the various problems and policies outlined above in respect of specific crops, it is clear that agricultural development in Nigeria needs a strong concerted action by all institutions and persons that have any influence on the sector. Under the active leadership and support of the federal government, the various state governments will be guided during the Plan period" (p. 109).

"Under the restrictions imposed by the Constitution, the Federal Government has hitherto confined itself to research activities in primary production. Although agriculture continues to be the mainstay of the economy, yet the traditional methods of cultivation, problems of transportation, storage, credit, marketing, and a host of other problems continue to make the agricultural sector a major bottleneck to national development, since the past and present rates of growth are much lower than those of the other sectors. The Federal Government has therefore decided to play a more dynamic role in the development of primary production" (p. 12).

6. The All-India Coordinated Research Projects in India were organized under the aegis of the Indian Council of Agricultural Research.

7. See for example, The International Bank for Reconstruction and Development, The Economic Development of Nigeria: All basic research on livestock, crops, fisheries and forests should be done by the federal government while the regions should concentrate on applied research or the experimental application of research findings.

The 1962-68 First National Development Plan articulated this division of research responsibility between regional and federal governments further: "The general policy of the Research Division remains basically unchanged. It continues to be advisory and to conduct applied research making practical results adapted to prevailing conditions available to the Ministry as a whole. The Federal as well as International Research Institutes have responsibility for the basic aspect of agricultural research, so that the Regional Research contribution is primarily of an applied nature."

8. Allison Ayida, former Permanent Secretary in the Federal Ministry of Economic Development, said: "When I took over that Ministry in 1963, the Federal Government research effort was being supervised, certainly not coordinated. In Lagos by one Assistant Secretary who briefed me that he did not have enough work to do. His main function was to liaise with the Public Service Commission and the Ministry of Establishments on personnel matters arising from the research departments. It required a major political decision... to establish a 'Federal Ministry of Natural Resources and Research' (the word 'Agriculture' could not be used in its designation so as not to violate the Constitution of the political sensibility of the old regions).... The Federal Government was not expected to play any role in agricultural development. Its half-hearted research efforts were inconvenient inheritances from the former colonial administration's extra-territorial research institutes" (Ayida 1971).

9. Reports now indicate that owing to recent hikes in the cost of spare parts and vehicle replacement costs, states are beginning to experience difficulties in getting transporters to haul their fertilizers from the ports at the going rate.

10. In the Gusau ADP sales in the project area accounted for 45.2 percent of all fertilizer sales in Sokoto state during the 1977-78/1979/80 period, even though the Gusau ADP accounted for only 6.6 percent of the state's total land area and 15.1 percent of its population.

The index of availability is defined as the quantity of fertilizer sold at each farm service center by the end of May divided by the total sold for the whole season. The end of May is chosen because it is regarded as the beginning of "effective rains" in the project areas, when agronomists say that planting should commence. The fertilizer availability indices in the Funtua ADP by districts, were:

<table>
<thead>
<tr>
<th>District</th>
<th>Fertilizer availability index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bakori District Mean</td>
<td>44.4</td>
</tr>
<tr>
<td>Funtua District Mean</td>
<td>36.2</td>
</tr>
<tr>
<td>Malumfashi District Mean</td>
<td>24.5</td>
</tr>
<tr>
<td>Faskari District Mean</td>
<td>24.4</td>
</tr>
<tr>
<td>Kankara District Mean</td>
<td>8.5</td>
</tr>
</tbody>
</table>

The corresponding means for Gusau ADP, by development areas, were:

<table>
<thead>
<tr>
<th>Development area</th>
<th>Fertilizer availability index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chafe Development Area Mean</td>
<td>20.6</td>
</tr>
<tr>
<td>Kotorokoshi Development Area Mean</td>
<td>32.3</td>
</tr>
<tr>
<td>Bungudu Development Area Mean</td>
<td>19.1</td>
</tr>
<tr>
<td>Kaura Namoda Development Area Mean</td>
<td>24.3</td>
</tr>
</tbody>
</table>

Source: Okorie and Idachaba 1983.

II. Complaints over inefficiencies of federal government procurement operations and alleged politicalization of fertilizer allocations to states during the civilian regime forced many states to demand to break away from the centralized procurement system to import their own requirements directly.
12. These were the Sokoto-Rima River Basin Development Authority, the Hadejia-Jama'are RBDA, the Chad Basin Development Authority, the Upper Benue RBDA, the Lower Benue RBDA, the Cross River Basin Development Authority, the Anambra-Imo RBDA, the Ogun-Osun RBDA, and the Benin RBDA. The Niger Delta Basin Development Authority was added two months later in August 1976.

13. Federal capital allocations to irrigation in the early years were: Chad Basin Commission (18,090 in 1967/68; 20,000 pounds in 1968/69). Two pilot schemes of the federal government were the Chad Basin and the Sokoto River Basin projects.

14. A simple t-test of differences between means confirms that RBDAs were favored more than state agencies in the allocation of fertilizers as a proportion of requests.

15. For more discussion on the centralization tendencies of military regimes, see Bienen 1986.


17. This will be true if government expenditures on ADPs are revenue elastic.

18. Fortunately, from Table 5, state governments were the greatest source of funding shortfalls.

19. Paddy Fleming, pioneer project manager of the Funtua ADP, Ayangba ADP, and Bauchi state ADP, said of his methods during the civilian regime in Bauchi state: “When I received requests from the top echelons of government to sink bore holes in some villages, I usually concurred, but always making sure that immediately after the commissioning, I presented my urgent funding needs to government which, in return for my ‘good works’ in rural water supplies, provided needed funds for me to operate. In this way, we secured needed funds though with some distortion of rural water supply priorities—distortions that we could live with” (personal communication).

20. A full evaluation of the “School to Land Programme” surely belongs elsewhere, but suffice it to say that the program as conceived lacked any basis for long-run sustainability on grounds of capital and recurrent costs and the commitment of young school-leavers to farming.

21. In the case of FGN releases to the projects, the following steps are involved in allocating funds to the projects from the time the allocation to the Federal Ministry of Agriculture is received.

1. The accounts department of the Federal Department of Rural Development (FDRD) prepares vouchers.

2. The FDRD finance department passes the vouchers to the finance department of the ministry (some two kilometers away).

3. The finance department of the ministry checks and, once ratified, passes vouchers to the chief internal auditor of the ministry (some two kilometers away).

4. The chief internal auditor verifies, registers, and passes on the vouchers to the accountant general, Federal Ministry of Finance.

5. The vouchers are further checked and when approved for payment are passed to the finance department of the Federal Ministry of Agriculture.

6. Checks are drawn by the finance department of the Federal Ministry of Agriculture and paid into project transit accounts in Lagos or collected directly by the projects.

22. This is a special case of the general problem of the long gestation of the World Bank project pipeline, as depicted in the data below:

<table>
<thead>
<tr>
<th>Project</th>
<th>Lag between preparation report and loan approval (in months)</th>
<th>Lag between loan approval and loan effectiveness (in months)</th>
<th>Lag between preparation report and loan effectiveness (in months)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bauchi</td>
<td>29.0</td>
<td>8.0</td>
<td>28.0</td>
</tr>
<tr>
<td>Bida</td>
<td>19.0</td>
<td>13.0</td>
<td>12.0</td>
</tr>
<tr>
<td>Ekiti-Akoto</td>
<td>22.0</td>
<td>18.0</td>
<td>40.0</td>
</tr>
<tr>
<td>Ilorin</td>
<td>19.0</td>
<td>13.0</td>
<td>32.0</td>
</tr>
<tr>
<td>Kaduna</td>
<td>56.0</td>
<td>13.0</td>
<td>27.0</td>
</tr>
<tr>
<td>Kano</td>
<td>19.0</td>
<td>8.0</td>
<td>27.0</td>
</tr>
<tr>
<td>Oyo North</td>
<td>21.0</td>
<td>25.0</td>
<td>46.0</td>
</tr>
<tr>
<td>Sokoto</td>
<td>20.0</td>
<td>10.0</td>
<td>30.0</td>
</tr>
<tr>
<td>Multistate ADP</td>
<td>54.0</td>
<td>13.0</td>
<td>67.0</td>
</tr>
</tbody>
</table>

Source: Derived from relevant project documents.


24. I must mention here the political risk involved in direct federal allocations to the LGAs, which is the acceleration of unitary government tendencies and the pronounced erosion of the federal structure.

25. For details on the role of competitive party politics in articulating the demands of western Nigeria cocoa farmers for cocoa pesticide subsidies in 1957/58, see Idachaba 1981.

26. These included abolition of duties on imported farm machinery, chicken incubators, and all other machinery used in food and agricultural processing; use of an approved user scheme through which all raw materials used in the manufacture of feed mill enter duty free; the transfer of integrated agricultural production and processing from schedule II to schedule III; and other measures.
Bibliography


**THE MADIA STUDY**

Although many generalizations have been made about the agricultural crisis in Africa, relatively few detailed country and cross-country studies of African agriculture based on systematic data analysis have been conducted. Similarly, although foreign aid has constituted a large part of total government expenditures in Africa for close to fifteen years, there has been little analysis of the role of external assistance in African countries that goes beyond political criticism of official assistance or the alleged self-serving objectives of donors. The impetus for the study "Managing Agricultural Development in Africa" (MADIA) was to begin the process of filling this gap and to explain the nature and sources of the agricultural crisis, particularly the extent to which it originated in resource endowments, historical and contemporary events, external and internal policies, and the economic and political environment.

The MADIA study involved detailed analysis of six African countries—Kenya, Malawi, Tanzania, Cameroon, Nigeria, and Senegal. In addition to the World Bank, seven donors, USAID, UKODA, DANIDA, SIDA, the French and German governments, and the EEC participated in the study. The analysis of country policies and performance during the last 20-25 years was carried out with the benefit of substantial input from the governments and nationals of each of the countries represented. The study had three main areas of focus: (1) the relationship between domestic macroeconomic and agricultural policy and agricultural performance, (2) donors' role in the development of agriculture, and (3) the politics of agricultural policy.

The MADIA study was the result of encouragement and support from many people. Anne Krueger, former Vice President for Economic Research Staff in the World Bank, encouraged the establishment of these studies on aid and development in 1984. Gregory Ingram, former Director of the Development Research Department, provided unstinting support for the study. During the reorganization of the World Bank in 1986, the strong support from Benjamin King, then acting Vice President for Economic Research Staff, proved invaluable. Barber Conable, President of the World Bank, and Mr. Edward V. K. Jaycox, Vice President for the Africa Region, have played a key role by ensuring support for the study's completion, as did Stanley Fischer, the Vice President for Development Economics. Yves Rovani, Director General of the Operations Evaluation Department, was particularly helpful as the MADIA study drew heavily on the works of OED.

A special debt of gratitude is owed to the World Bank's Research Committee, which provided the initial funding for the study, and to the MADIA Steering Committee. In particular the strong support of the chair of the Steering Committee, Stephen O'Brien, has been of critical importance.

Finally, without the active and continued encouragement of many African policymakers and donor officials, including numerous colleagues in the World Bank, this study would not have provided new perspectives. This support has taken the form of numerous reactions to written and oral presentations, and refinement of the analysis to identify the areas of consensus and continuing controversy.
The World Bank

Headquarters
1818 H Street, N.W.
Washington, D.C. 20433, U.S.A.
Telephone: (202) 477-1234
Facsimile: (202) 477-6391
Telex: WUI 64145 WORLDDBANK
       RCA 248423 WORLDBK
Cable Address: INTBAFRAD
              WASHINGTONDC

European Office
66, avenue d'Iéna
75116 Paris, France
Telephone: (1) 40.69.30.00
Facsimile: (1) 47.20.19.66
Telex: 842-620628

Tokyo Office
Kokusai Building
1-1, Marunouchi 3-chome
Chiyoda-ku, Tokyo 100, Japan
Telephone: (3) 214-5001
Facsimile: (3) 214-3657
Telex: 781-26838