



INTERNATIONAL
FOOD POLICY
RESEARCH
INSTITUTE

IFPRI Discussion Paper 01395

December 2014

Analysis of Agricultural Public Expenditures in Nigeria

Examination at the Federal, State, and Local Government Levels

Aderibigbe Olomola

Tewodaj Mogues

Tolulope Olofinbiyi

Chinedum Nwoko

Edet Udoh

Reuben Alabi

Justice Onu

Sileshi Woldeyohannes

Development Strategy and Governance Division

INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE

The International Food Policy Research Institute (IFPRI), established in 1975, provides evidence-based policy solutions to sustainably end hunger and malnutrition and reduce poverty. The institute conducts research, communicates results, optimizes partnerships, and builds capacity to ensure sustainable food production, promote healthy food systems, improve markets and trade, transform agriculture, build resilience, and strengthen institutions and governance. Gender is considered in all of the institute's work. IFPRI collaborates with partners around the world, including development implementers, public institutions, the private sector, and farmers' organizations, to ensure that local, national, regional, and global food policies are based on evidence. IFPRI is a member of the CGIAR Consortium.

AUTHORS

Aderibigbe Olomola (as_olomola@yahoo.com) is a senior economist and consultant for the Nigeria Strategy Support Program of the International Food Policy Research Institute (IFPRI), Abuja, Nigeria.

Tewodaj Mogues (t.mogues@cgiar.org) is a senior research fellow in the Development Strategy and Governance Division of IFPRI, Washington, DC.

Tolulope Olofinbiyi (t.olofinbiyi@cgiar.org) is a senior program manager in the Director General's Office of IFPRI, Washington, DC.

Chinedum Nwoko (chinedumnwoko@gmail.com) is consulting executive at Policy Associates, Abuja, Nigeria.

Edet Udoh (ej_udoh@hotmail.com) is a professor in the Department of Agricultural Economics and Extension, University of Uyo, Uyo, Nigeria.

Reuben Alabi (bayobimb@yahoo.com) is a professor in the Department of Agricultural Economics, Ambrose Alli University, Ekpoma, Nigeria.

Justice Onu (justiceonu@yahoo.co.uk) is a professor in the Department of Agricultural Economics and Extension, Federal University of Technology, Yola, Nigeria.

Sileshi Woldeyohannes (s.woldeyohannes@cgiar.org) is a senior research assistant in the Development Strategy and Governance Division of IFPRI, Washington, DC.

Notices

IFPRI Discussion Papers contain preliminary material and research results and are circulated in order to stimulate discussion and critical comment. They have not been subject to a formal external review via IFPRI's Publications Review Committee. Any opinions stated herein are those of the author(s) and are not necessarily representative of or endorsed by the International Food Policy Research Institute.

Copyright 2014 International Food Policy Research Institute. All rights reserved. Sections of this material may be reproduced for personal and not-for-profit use without the express written permission of but with acknowledgment to IFPRI. To reproduce the material contained herein for profit or commercial use requires express written permission. To obtain permission, contact the Communications Division at ifpri-copyright@cgiar.org.

Contents

Abstract	vii
Acknowledgments	viii
Abbreviations and Acronyms	ix
1. Introduction	1
2. Structure, Performance, and Policies of Agriculture in Nigeria	9
3. Trends in Public Expenditure in Agriculture	38
4. Efficiency and Effectiveness of Agricultural Public Expenditure	58
5. Summary, Recommendations, and Conclusions	81
Appendix: Supplementary Tables and Figures	89
References	116

Tables

1.1 Indicators of the extent of agricultural public spending in Nigeria as compared with other federal states, average 2000–2010	1
2.1 Quantity and growth of agricultural production by subsector in Nigeria, 2002–2012	10
2.2 Value, quantity, and production area of major crops produced in Nigeria, 2012	11
2.3 Agricultural value added per worker in Africa south of the Sahara	13
2.4 Roles of state government, local government, and the private sector in agricultural development in Ondo state	25
2.5 Trend in public expenditure on selected items as percentage of crop development expenditure by policy regime	28
2.6 Comparison of main sources of revenue, 2008–2012 (constant 1990 nairas, millions)	31
3.1 Average budget and spending in the agricultural sector across different states and regions of Nigeria, 2004–2012	40
3.2 Economic composition of agricultural spending, average 2008–2012	45
3.3 Decomposition of Federal Ministry of Agriculture and Rural Development overhead expenditures, 2008–2012 (%)	46
3.4 Decomposition of federal capital expenditures, constant 1990 nairas, millions, 2008–2010	49
3.5 Functional composition of agricultural expenditures in Cross River state, 2008–2012 (%)	51
3.6 Functional composition of agricultural expenditures in Niger state, 2008–2012 (%)	53
3.7 Functional composition of agricultural expenditures in Ondo state, 2008–2011 (%)	54
3.8 Functional composition of agricultural expenditures in Akamkpa local government area, 2008–2012 (%)	56
3.9 Functional composition of agricultural expenditures in Wushishi local government area, 2008–2012 (%)	57
4.1 Agricultural budget execution performance (%)	59
4.2 Share of overhead in recurrent expenditure (%)	62
4.3 Gender and geographical comparison of progressivity of benefits	69
4.4 Zonal comparison of progressivity of benefits	69
4.5 Quintile share of benefits by gender and geographic location	70
4.6 Quintile share of benefits by region	70
4.7 Cross-tier comparison of agricultural public expenditure in Nigeria, 2008–2012 (constant 1990 nairas, millions)	73
4.8 Cross-tier comparison of total public expenditure in Nigeria, 2008–2012 (constant 1990 nairas, millions)	73
4.9 Cross-tier comparison of share of agriculture in total public spending in Nigeria, 2008–2012 (percent)	74
A.1 Area of production of different crop categories in Nigeria (in hectares), 2002 and 2012	89
A.2 Cross River state revenue profile, 2008–2012 (million nairas)	89
A.3 Niger state revenue profile, 2008–2012 (million nairas)	90
A.4 Ondo state revenue profile, 2008–2012 (million nairas)	90

A.5 Akamkpa LGA revenue profile, 2008–2010 (million nairas)	91
A.6 Wushishi LGA revenue profile, 2008–2011 (million nairas)	91
A.7 Odigbo LGA revenue profile, 2008–2011 (million nairas)	91
A.8 Summary of institutional arrangements for budgeting and budget implementation in Cross River state	95
A.9 Summary of institutional arrangements for budgeting and budget implementation in Ondo state	97
A.10 Federal agricultural spending as share of total spending, 2008–2012 (%)	98
A.11 State agricultural spending as share of total spending, 2008–2012 (%)	98
A.12 Agricultural spending as share of total spending in Akamkpa and Odigbo LGAs, 2008–2012 (%)	98
A.13 Share of federal agricultural spending relative to that of other key sectors, 2008–2012 (%)	99
A.14 Sectoral allocation of federal agricultural spending, 2008–2012 (constant 1990 nairas, millions)	100
A.15 Sectoral allocation of economic affairs spending, 2008–2012 (constant 1990 nairas, millions)	101
A.16 Share of agricultural spending relative to that of other key sectors in Cross River state, 2008–2012 (%)	101
A.17 Agricultural spending relative to that of other key sectors in Akamkpa LGA, 2008–2012 (%)	102
A.18 Agricultural spending relative to other key sectors in Ondo state, 2008–2012 (%)	102
A.19 Agricultural spending relative to other key sectors in Odigbo LGA, 2008–2011 (%)	102
A.20 Federal Ministry of Agriculture and Rural Development overhead spending, 2008–2012 (million naira)	103
A.21 Decomposition of 2012 Federal Ministry of Agriculture and Rural Development headquarters overhead spending, million nairas	106
A.22 Economic composition of state agricultural expenditures, 2008–2012, million nairas	107
A.23 Economic composition of agricultural expenditures in Odigbo local government area, 2008–2012, million nairas	108
A.24 Decomposition of recurrent agricultural expenditures in Cross River and Ondo states, 2008–2012, million nairas	108
A.25 Decomposition of recurrent agricultural expenditures in Odigbo local government area, 2008–2012, million naira	109
A.26 Summary of releases and disbursements for federal capital expenditures, 1999–2010	109
A.27 Federal Ministry of Agriculture and Rural Development capital expenditures, 2012	110
A.28 Expenditures and budget execution in total agricultural and state spending, 2008–2012 (%)	112
A.29 Expenditures and budget execution in agricultural and state spending for Akamkpa and Odigbo local government areas, 2008–2012 (%)	113
A.30 Budget execution in agricultural spending by recurrent and capital expenditures for Cross River and Ondo states, 2008–2012 (%)	113
A.31 Budget execution in recurrent spending by personnel and overhead expenditures for Cross River and Ondo states, 2008–2012 (%)	113

Figures

2.1 Trend in agricultural GDP and its share	9
2.2 Agricultural gross domestic product, 2010 (2005 US\$)	12
2.3 Major sources of federal government revenue, 2008–2012 (constant 1990 nairas, millions)	29
3.1 Share of agriculture in total spending in Nigeria, 2008–2012	39
3.2 Sectoral shares of actual economic affairs spending, 2008–2012	42
3.3 Average share of agriculture in total government expenditure in Nigeria compared with that of other African countries, 2000–2010	44
3.1 Federal agricultural spending versus total spending, 2008–2012 (%)	46
4.1 Government spending in agriculture versus agricultural gross domestic product, 2008	63
4.2 Average spending in agriculture as percentage of agricultural gross domestic product in Nigeria compared with other countries in Africa south of the Sahara, 2000–2010	64
4.3 Agricultural expenditure as percentage of agricultural gross domestic product and total government expenditure in Nigeria	65
4.4 Expenditure in agriculture as share of total government expenditure, selected African countries, 2000–2010	66
4.5 Spending in agriculture as percentage of agricultural gross domestic product, selected African countries, 2000–2010	66
4.6 Share of agricultural GDP and annual agricultural GDP growth in Nigeria, 2003–2010	67
4.7 Public spending on fertilizer subsidy in Nigeria, 2003–2008	68
4.8 Fertilizer subsidy spending by selected states in Nigeria, 2003–2008	68
4.9 Regional comparison of farmers' participation in Nigeria's fertilizer subsidy program, 2009/2010	71
4.10 Comparison of share of agriculture in total public spending in Nigeria by level of government, 2008–2012	74
4.11 Agricultural public expenditure as percentage of gross domestic product in Nigeria, 2008–2012	75
4.12 Comparison of degree of government commitment to investment in agriculture and intensity of spending in Nigeria, 2008–2012	76
A.1 Comparison of Lorenz and concentration curves for public spending on fertilizer subsidy in Nigeria	114
A.2 Gender comparison of fertilizer subsidy expenditure benefit concentration curves	114
A.3 Rural-urban comparison of fertilizer subsidy expenditure benefit concentration curves	115
A.4 Zonal comparison of fertilizer subsidy expenditure benefit concentration curves	115

Boxes

2.1 The agricultural extension transformation agenda	17
A.1 Programs, strategies, and action plans for agriculture in Cross River State	92
A.2 List of Federal Ministry of Agriculture and Rural Development's parastatals	111

ABSTRACT

The level of public spending on agriculture in Nigeria remains low regardless of the indicator used. Agricultural spending as a share of total federal spending averaged 4.6 percent between 2008 and 2012 and has been trending downward precipitously. In contrast, Nigeria recorded an annual average agricultural growth rate of more than 6 percent between 2003 and 2010, and agricultural gross domestic product followed an increasing trend between 2008 and 2012. Budgetary allocation to agriculture compared with other key sectors is also low despite the sector's role in the fight against poverty, hunger, and unemployment and in the pursuit of economic development. Public investment has been stifled by the lopsided manner in which national revenue is being allocated among the three tiers of government that have responsibility for agricultural development. Subnational governments rely heavily on statutory allocations from the federation account to finance their budgets. Delays in concluding the transfer arrangements and periodic oil revenue shocks often account for delays or outright nonrelease of funds for budget implementation. Technical inefficiency in public spending has been more prevalent at the subnational level than at the federal level. In relative terms, however, the problem of technical inefficiency is far more acute than that of allocative inefficiency. At the federal level agricultural spending was aligned with development objectives in 2012 compared with previous years. During 2012, the federal budget allocated more than 73 percent of actual capital expenditures to crop agriculture, but a large part of the expenditure on crop value chains went to subsidies for inputs, including fertilizers, seedlings, and agrochemicals. But findings of the benefit incidence analysis of public spending on fertilizer subsidy suggest that the target population of the program has not benefited as intended. Allocative efficiency of overhead spending was generally poor between 2008 and 2012 because of the tendency for overhead spending to be used to support the bureaucracy rather than operations and service delivery. At the subnational level, the performance of state governments in terms of budget execution and the fact that larger deviations than at the national level are experienced between capital and recurrent budgets point to a need to address the quality of spending.

To develop the agricultural sector, all tiers of government—federal, state, and local—should increase spending. The state and local governments should step up efforts to increase internally generated revenue so as to reduce overdependence on allocations from the federation account. To enhance technical efficiency, effective monitoring frameworks for budget implementation should be established by all tiers of government. Procurement and cash management processes should also be strengthened to enhance value and avoid rushed commitments. Allocative efficiency should be improved by making budgetary allocations to agriculture more realistic. To improve the overall budget process, it is important for the three tiers of government to adopt a system of collaboration in agricultural development agenda setting and joint financing of projects that will minimize waste of financial resources and eliminate delays in the budget process. The house of assembly at the federal and state levels should enact a budget process act to give legal backing to the stipulated time frames relating to budget preparation, approval, and implementation. Because the dearth of information is likely to undermine the effectiveness of the budget as an economic management tool, the federal and state governments should strengthen the information system for agriculture public expenditure management.

Keywords: agriculture, public spending, federal and subnational expenditures, Nigeria, Cross River, Niger, Ondo

ACKNOWLEDGMENTS

This review of agricultural public expenditure in Nigeria involved many institutions, processes, and individuals. Covering federal, state, and local governments demanded considerable time and financial resources. We are grateful to the World Bank for providing the necessary financial resources and to all those who contributed their time in various ways to ensure that the review was successfully concluded. Procedurally, the World Bank commissioned four consultants to undertake the review at the federal level and in each of the case study states of Cross River, Niger, and Ondo. At the same time, the International Food Policy Research Institute (IFPRI) was commissioned to lead the review at the federal and subnational levels, supervising the state consultants, providing technical support, and interacting with officials at the state and local government levels, and to produce a report that presents a holistic picture of agricultural public expenditure in Nigeria.

We are grateful to Stephen Mink and Olayinka Babalola of the World Bank for their administrative support and guidance throughout the period of the review. Grateful acknowledgment is due to the Nigerian federal government and to the governments of Cross River, Niger, and Ondo states for their willingness to provide necessary information as well as their active participation and cooperation at various stages of the review. Our special thanks go to the minister of agriculture, the Honorable Akinwumi Adesina; to the director of finance and administration of the Federal Ministry of Agriculture and Rural Development (FMARD); and to other directors in FMARD who supplied information and gave us feedback at seminars and workshops during the review process. We acknowledge the assistance of officials from the Budget Office of the Federation, the Office of Accountant General, the Office of Auditor General, and the Federal Ministries of Water Resources and the Environment, who participated actively in our seminars and workshops and offered useful suggestions.

We appreciate the cooperation of the commissioner of agriculture and natural resources in Cross River state, the Honorable James Aniyom; and the chief statistician in the unit of Planning, Research, and Statistics, Christopher Igwe; as well as Enobong Ikong of Akamkpa local government. We owe a debt of gratitude to Dr. O. Adelola, the secretary to Ondo state government, for providing an enabling environment for conducting the study. The commissioner of agriculture in Ondo state, the Honorable Alhaji Lasisi Oluboyo; the permanent secretary of the ministry, Peter Ogunsuyi; and other members of the steering committee for the study deserve special commendation. We are also grateful to the permanent secretary of the Ministry of Economic Planning and Budget, Chris Kolawole, and his counterparts in the Ministry of Finance and Ministry of Local Government and Chieftaincy Affairs. The head of the department of agriculture in Odigbo local government and the director of budget showed tremendous enthusiasm in conducting our research team to project sites and providing relevant data for the study, and for this we are very grateful.

Special thanks go to the commissioner for agriculture in Niger state, who acted as chairman of the steering committee for the study; to Zakari Abubakar, who is permanent secretary of the ministry; and to the committee secretary, Julius S. Karma, who is director of planning, research and statistics. We express our deep appreciation for the cooperation of members of the committee who took the time to provide necessary data and participate in focus group discussions. We also thank the directors of agriculture and of finance and budget of the Wushishi Local Government Council for helping us to access public expenditure records at the local government level.

We offer immense gratitude to several other individuals who read drafts of this report and made useful contributions. We also recognize and deeply appreciate the efforts of Tolu Odetayo and Motunrayo Oyeyemi for the research assistantships they offered at various stages of the review.

ABBREVIATIONS AND ACRONYMS

ADP	Agricultural Development Project
AETA	Agricultural Extension Transformation Agenda
AfDB	African Development Bank
AgGDP	agricultural gross domestic product
AgPER	agricultural public expenditure review
ATA	Agricultural Transformation Agenda
CAADP	Comprehensive African Agricultural Development Programme
CADP	Commercial Agriculture Development Project
CARES	Cross River Agriculture and Rural Empowerment Scheme
COFOG	Classification of the Functions of Government
DAP	Development Action Plan
FAO	Food and Agriculture Organization of the United Nations
FDAE	Federal Department of Agricultural Extension
FGN	Federal Government of Nigeria
FMARD	Federal Ministry of Agriculture and Rural Development
FME _{env}	Federal Ministry of Environment
FMF	Federal Ministry of Finance
FMTI	Federal Ministry of Industry, Trade, and Investment
FMWR	Federal Ministry of Water Resources
FSP	fiscal strategy paper
GDP	gross domestic product
GESS	Growth Enhancement Support Scheme
GIFMIS	Government Integrated Financial Management Information System
ICT	information and communication technology
IFAD	International Fund for Agricultural Development
IFPRI	International Food Policy Research Institute
IGR	internally generated revenue
IPPIS	Integrated Personnel and Payroll Information System
LEEDS	Local Economic Empowerment and Development Strategy
LGA	local government area
MDAs	ministries, departments, and agencies
MDG	Millennium Development Goal
MTBF	medium-term budget framework
MTEF	medium-term expenditure framework
MTFF	medium-term fiscal framework
MTSS	medium-term sector strategy
NAIP	National Agricultural Investment Plan
NCA	National Council on Agriculture
NDDC	Niger Delta Development Commission

NEEDS	National Economic Empowerment and Development Strategy
NEPAD	New Partnership for Africa's Development
NIRSAL	Nigeria Incentive-Based Risk-Sharing System for Agricultural Lending
NPFS	National Program for Food Security
NPK	nitrogen (N), phosphorus (P), and potassium (K)
ODA	official development assistance
PDAs	parastatals, departments, and agencies
PER	public expenditure review
PFM	public financial management
PSFS	public spending on fertilizer subsidy
R&D	research and development
RBDA	river basin development authority
ReSAKSS	Regional Strategic Analysis and Knowledge Support System
SCRI	Songhai Cross River Initiative
SEEDS	State Economic Empowerment and Development Strategy
SPARC	State Partnership for Accountability, Responsiveness, and Capability
SPEED	Statistics for Public Expenditure for Economic Development
SSA	Africa south of the Sahara
TSA	Treasury Single Account
VAT	value-added tax

1. INTRODUCTION

Background

Expenditure in agriculture is critical to the transformation of the agricultural sector in Nigeria, especially in view of the low level of investment in the sector in spite of its huge potentials for wealth creation, employment generation, and poverty alleviation. Nigeria is the largest country in Africa in terms of population (177 million) and among the largest in terms of land area (910,770 km²). Nigeria has the 27th biggest economy in the world, with a gross domestic product (GDP) of US\$523 billion; its per capita GDP was US\$3,010 in 2013 (World Bank 2014). Agriculture is considered to be the sector with the greatest potential for pro-poor growth in the country. A large proportion of the agricultural labor force is engaged in subsistence farming rather than large-scale commercial agriculture, which has greater potential for accelerating economic growth. As recent poverty studies show, agriculture is the main source of livelihood for Nigeria's rural population. Moreover, a higher level of poverty is observed among households whose primary source of income is agriculture. Various studies, including the World Development Report on agriculture (World Bank 2007), assert that effective resource allocation to the agricultural sector, such as for the delivery of services like extension, credit, research and development (R&D), and plant and livestock disease control, are critical to the strong performance of the agricultural sector. Yet on average, less than 4 percent of total public spending in Nigeria is allocated to agriculture. This is far below the Comprehensive Africa Agriculture Development Programme (CAADP) target whereby African governments are expected to allocate a minimum of 10 percent of their national budgets to agriculture.

In Nigeria, intensity of public spending in agriculture—measured by percentage of agricultural expenditure in agricultural GDP—is among the lowest in the world. When we compare Nigeria with other federal states in the world (Table 1.1), intensity of public spending in Nigerian agriculture, at 1.5 percent, is far less than that of all the federal states considered. However, it needs to be noted that public spending in Nigeria is generally low (accounting for only 13.3 percent of the total GDP, while this figure for the majority of the federal states is more than 20 percent), which partially contributes to the low performance.

Table 1.1 Indicators of the extent of agricultural public spending in Nigeria as compared with other federal states, average 2000–2010

Country	Region	Agricultural expenditure in 2005 US\$million	Percent share of agriculture in total spending	Percent of total expenditure in total GDP	Percent of agricultural expenditure in agricultural GDP
Brazil	LAC	4,752	2.4	21.5	8.9
Ethiopia	SSA	361	11.9	24.1	5.7
India	South Asia	8,604	6.0	15.6	5.0
Malaysia	EAP	1,523	4.1	24.7	11.3
Mexico	LAC	4,123	2.7	18.0	12.5
Nepal	South Asia	82	5.8	16.4	2.7
Nigeria	SSA	583	3.8	13.3	1.5
Pakistan	South Asia	569	2.5	18.5	2.2
Russian Federation	ECA	1,409	0.8	25.1	3.6
Venezuela	LAC	380	1.0	26.0	6.5

Source: Authors' computation using IFPRI (2014).

Note: EAP = East Asia Pacific; ECA = Europe Central Asia; GDP = gross domestic product; LAC = Latin American countries, SSA = Africa south of the Sahara.

The public sector in Nigeria still plays a major role in providing and financing agricultural services, although private service providers are also central, for example in input supply and output processing and marketing. As in other countries, the public sector involved in agricultural investments in Nigeria is not monolithic but consists, horizontally, of different agencies and parastatals, as well as vertically of different tiers of government, that is, the federal, state, and local governments. Specifically, the 36 states of the Federal Republic of Nigeria, the Federal Capital Territory, and the 774 local governments in Nigeria all perform a critical role in service delivery and public expenditure outcomes.

However, the roles and responsibilities of the three tiers of government in public spending decisions are not clearly delineated, a situation that leads to overlaps and gaps in the provision of agricultural services (Mogues et al. 2012a). Specifically, it is not clear how responsibilities for activities such as research, extension, and input supply are allocated across government tiers. Moreover, it remains vague which government tier has the authority for certain coordination functions such as financing, agricultural services provision, and standard setting. The government, including the Federal Ministry of Agriculture and Rural Development (FMARD), is now keenly aware of the importance of coherence of public spending across government tiers. Part of the Agricultural Transformation Agenda (ATA), driven by FMARD, is focused on driving income growth, accelerating the achievement of food and nutrition security, generating employment, and creating wealth for farmers. Among the initiatives under the ATA are efforts to deconcentrate FMARD so as to achieve better coordination across federal, state, and local governments on agricultural policy in general and agricultural public spending in particular.¹

Although the ATA is being driven and coordinated by the federal government, it will require the support and cooperation of state and local governments in coordinating operations in each state and local government area (LGA), harmonizing subnational-level spending in agriculture to federal-level spending, and aligning agricultural policies at the subnational level with federal policies. In light of the World Bank's intention to support the ATA with a US\$200 million LGA development policy lending operation, it is critical that a public expenditure review (PER) focusing on the agricultural sector be carried out at both the federal and subnational levels. Such a review would be incomplete without an understanding of the policies, processes, and procedures guiding the allocation of public resources to agriculture at the federal, state, and local government levels in Nigeria. Thus, this agricultural PER (AgPER) seeks to understand the features of public spending in the agricultural sector in the context of Nigeria's federal structure and decentralized system. Specifically, the review aims to do the following:

- Examine the extent to which the level and composition of public spending in the agricultural sector is consistent with both national and subnational priorities.
- Analyze the efficiency of public resource allocation to agriculture in line with stated priorities at the federal and subnational levels.
- Understand the flow of funds between the federal, state, and the local governments as well as the level of autonomy granted to local governments in the formulation of policy, the design of projects and programs, and the allocation of funds to implement the local government budget.
- Develop a database of public expenditures in agriculture for the federal and subnational levels. The database will include a decomposition of public expenditures by economic (such as capital versus recurrent, and wage versus nonwage) and functional classifications. It will also include expenditures on fertilizer subsidy programs, any implicit subsidies, and agricultural credit programs.
- Provide recommendations on how to improve the efficiency and effectiveness of public agricultural spending in and contribute to the analytical work for the proposed US\$200 million development policy lending operation to support Nigeria's ATA.

¹ More details on this organizational restructuring is available in Nigeria, FMARD (2011b).

Rationale for Public Expenditure in Agriculture

The rationale for public investment in the agricultural sector emanates from the fundamental justifications for public-sector intervention in the economy. The most common arguments for public-sector involvement in the economy can be summarized as either (1) the market failure argument or (2) the inequality or poverty argument. According to the market failure argument, sometimes the particular characteristics of goods and services and the information asymmetries about these goods and services and about market actors bring economic inefficiency that can be corrected only through governmental, or generally public, interventions in the form of regulation, subsidy, and production. Similarly, undesirable levels of inequality and poverty—that negatively affect the capabilities of the poorest segment of the population—may be present and need to be corrected through public policy interventions (Mogues et al. 2012b).

Market failures are prevalent in developing economies and especially common in the agricultural sector of such economies. For instance, some agricultural public goods—such as agricultural technology and scientific knowledge—are essential for the development of the agricultural sector but cannot be produced by the private sector at a socially optimal level due to the nonrival and nonexcludable nature of the goods. These features of agricultural technologies can be taken as a rationale for public-sector involvement in agricultural research and development (R&D). Similarly, in the presence of positive or negative externalities—in which the producer does not capture the full value of the product or the full cost of production, respectively—the market produces too little or too much of the product, both of which are socially suboptimal levels. For example, increased use of fertilizer can reduce soil erosion, deforestation, and the need for expansion of agriculture into marginal lands, but these benefits of fertilizer use cannot be fully captured by fertilizer users. This imbalance calls for public intervention in the form of subsidies in the fertilizers market (Mogues et al. 2012b).

Information asymmetries and imperfect information could result in market failures in the agricultural sector as well as in other sectors that have relevance for the agricultural sector. A good example to show how imperfect information and information asymmetries distort markets is agricultural insurance and credit markets. Because insurers and creditors don't have full information about the degree of risk each farmer faces and about each farmer's creditworthiness, they set a common premium and interest rate based on an average level of risk and creditworthiness. This causes lower-risk and creditworthy farmers to not accept the contract and results in a high concentration of high-risk and non-creditworthy farmers in the agricultural insurance and credit markets, a situation called *adverse selection*; this condition further leads to rounds of adverse selection and renders the agricultural insurance and credit markets thin or totally absent. In this case, imperfect information calls for public intervention in the agricultural insurance and credit markets (Mogues et al. 2012b).

In many developing countries the poorest segment of the population gets its livelihood from agriculture, and therefore, the inequality and poverty argument for government intervention can also be taken as a rationale for public investment in agriculture. As indicated in *The State of Food and Agriculture*, the 2012 annual report of the Food and Agriculture Organization of the United Nations (FAO), smallholding farmers usually face extreme poverty and weak property rights, have poor access to markets and financial services, are vulnerable to shocks, and have limited ability to endure risk (FAO 2012). Public policy interventions to address poverty in the agrarian population take various forms including direct transfer of cash, food, and other in-kind transfers; subsidization of production costs for poor farmers; and gearing agricultural research toward improving the productivity of smallholders (Mogues et al. 2012b). Similarly, facilitating the formation of effective producer organizations is indicated as one possible intervention to overcome the constraints that smallholders face in relation to access to markets, natural resources, and financial services (FAO 2012).

As indicated in the 2008 World Development Report, past policy reforms on trade, price, and subsidy have improved price incentives for agricultural producers in developing countries. However, the report notes that considerable space still remains for further policy improvements and suggests the need for further trade liberalization in agriculture. The report also indicates the costs associated with

liberalization and argues for complementary policies and programs to compensate losers due to liberalization and to facilitate rapid and equitable adjustment to emerging comparative advantages. Similarly, it also points out that supply response to trade reforms depends on the availability of core public goods such as irrigation, roads, R&D, education, and associated institutional support. Both of these measures call for an increase in public investment in agriculture as well as improvement in the quality and efficiency of the spending. Moreover, in the face of dynamic new markets as well as far-reaching technological and institutional innovations is a need for coordination of effort and a comprehensive approach beyond price adjustment and public investment (World Bank 2007).

Today, private entrepreneurs are leading the emerging new agriculture. Agricultural products are passing through extensive value chains that link producers to consumers and include many entrepreneurial smallholders supported by their organizations. New markets are emerging for staple agricultural crops and traditional export commodities, and they are becoming more differentiated to meet changing consumer demands, to accommodate new uses, and to exploit benefits from regional market integration. In this new context, the role of the state and other actors in the economy is being redefined. In addition to correcting market failures and regulating competition, the state needs to be engaged in strategic public-private partnerships so as to promote competitiveness in the agribusiness sector and to make sure that smallholders, rural workers, and disadvantaged groups including women, tribal groups, and youth are able to take part (World Bank 2007).

Moreover, the current consensus is that agriculture continues to be a major instrument for sustainable development and poverty reduction, and promoting agriculture is taken as vital for meeting the Millennium Development Goal (MDG) of halving poverty and hunger by 2015 and continuing to reduce poverty and hunger for several decades thereafter. The 2008 World Development Report gives three reasons for the importance of agriculture, which complement each other: (1) three out of every four poor people in developing countries live in rural areas, where 2.1 billion people live on less than US\$2 a day and 880 million on less than US\$1 a day; (2) most of these people depend on agriculture for their livelihoods; and (3) although agriculture alone will not be enough to massively reduce poverty, it has been demonstrated to be uniquely powerful for that task (World Bank 2007).

In order to implement the agriculture-for-development agenda and due to the new roles of the state in the emerging new agriculture, there is an urgent need to strengthen the capacity of the state. In addition to coordinating across sectors and partnering with the private sector and civil society, implementation of the agriculture-for-development agenda also requires coordination across ministries. The agenda is cross-sectoral and encompasses both agricultural and nonagricultural issues of development. At the national level, ministries of agriculture are trending toward building coalitions across all the stakeholders of development. To this end, in most countries, ministries of agriculture are under reform to redefine their roles, change their structure, and develop new capacities that fit their new roles (World Bank 2007).

It should also be noted that there is some rolling back of the boundaries of the state. For instance, agricultural advisory services that require public finance but not necessarily public provision are increasingly being contracted out. Similarly, public-private partnership goes beyond outsourcing and creating joint responsibility for financing and provision of agricultural services and rural infrastructure. There are also areas where service cooperatives and producer organizations are effectively providing pro-poor agricultural services. Management authority over irrigation and natural resources is widely being devolved to user groups. Certain activities that do not necessarily require state involvement are being left to the private sector (World Bank 2007).

Public spending in agriculture could come from both domestic and external sources. One major domestic source of public investment in agriculture is government expenditures, which provide for spending in a range of areas including administration supervision and regulation; agrarian reform; agricultural land settlement, development, and expansion; food control; farm price and income stabilization programs; extension, veterinary, pest control, crop inspection, and crop-grading services; production and dissemination of general and technical information on agriculture; and compensation, grants, loans, and subsidies to farmers. Another important area of domestic public spending in agriculture

is R&D, which includes spending on research in different subsectors of agriculture and socioeconomic aspects of primary production as well as research on on-farm, postharvest activities and food processing. The major foreign source of public investment in agriculture is official development assistance (ODA), which is also used to finance most of the activities mentioned above (FAO 2012).

Although the distinction between foreign aid and public expenditure on agriculture in Nigeria can be made in principle, it is difficult to distinguish between the two funding sources analytically because no separate documentation shows the source of funds that go into the implementation of several agricultural development activities. During the period under review, a number of important agricultural projects such as Fadama II and III, commercial agriculture development project (CADP), and others have received financial support from the World Bank, International Fund for Agricultural Development (IFAD), African Development Bank (AfDB), and through bilateral ODA. In Africa, Nigeria has received one of the highest ODA amounts in the last decade. Available 2014 data from the Regional Strategic Analysis and Knowledge Support System (ReSAKSS) show that on average, the country has received US\$2.7 billion in net ODA between 2002 and 2012. This is more than threefold the average ODA amount received by an African country.

However, the total ODA amount that a country receives does not take in to account the population size of the recipient countries. When we look at the per capita net ODA that countries received, Nigeria received only US\$11.0 in net ODA in 2012. This figure is the lowest net per capita ODA flow in Africa, and far less than the average net ODA per capita Africa received (US\$81.0) in 2012. The share of the agriculture sector in total ODA flow is only 1.9 percent on average between 2002 and 2011. This figure is also far less than the continental average share of agriculture sector from total ODA flows. Nonetheless, this share has been increasing and showing a steady growth in Nigeria, rising from 0.26 percent in 2005 to 4.2 percent in 2011.

When we look at the actual impact of public investment in agriculture, evidence shows that returns on agricultural R&D investments are high and also shows significant underinvestment in the R&D subsector. Similarly, R&D public investment is found to be a high performer in terms of both improving agricultural outcomes and reducing poverty. However, when we compare returns on other types of investments in agriculture—such as in irrigation, extension, and markets—results are mixed, and public investments in agriculture can result in modest returns in aggregate. Similarly, because the impact of different functional investments in agriculture may vary in magnitude, the returns on agricultural public spending might also differ according to the commodity being targeted (FAO 2012).

Moreover, investment in agriculture has significant and observable effects on health and nutrition through access to own-produced food, both by lowering food prices and by raising incomes with which to buy more food, more nutritious food, and health services (FAO 2012).

Methodology

Essentially, this AgPER is diagnostic, with emphasis on examining the size, composition, efficiency, and effectiveness of agriculture public spending rather than its impact. The focus is not on causality but rather on understanding the performance of public spending with a view to identifying the nature of and ways of improving the key indicators. Thus, analytically, we adopt a methodological framework that is consistent with the standard guidance provided by the PER tool kit of the World Bank (2011). Specifically, it adopts a budget cycle framework focused on sector policies and development strategies, budget allocation, budget execution, and effectiveness. This involves the use of basic indicators for AgPERs such as levels of public spending, relative size of agricultural spending, functional composition of expenditure, economic composition of public spending (allocative efficiency), and a succinct description of the budgeting process.

Geographic Coverage

Previous studies suggest that the role of subnational governments in overall public spending is potentially large. According to the World Bank (2007), for example, state and local governments account for about 46 percent of public spending across all sectors in Nigeria. The share of subnational agricultural spending in total agricultural spending may possibly be even higher than that, given the relatively stronger role for state and local governments in agriculture as compared with several other sectors such as energy, defense, or certain types of infrastructure. However, resource constraints hinder this AgPER from covering a large number of states and LGAs; thus a case study approach is used.

In addition to the federal-level analysis, the review provides an analysis of agricultural public expenditures in three case study states: (1) Cross River, (2) Niger, and (3) Ondo. The review also covers three case study LGAs in the three states: (1) Akamkpa LGA in Cross River state, (2) Wushishi LGA in Niger state, and (3) Odigbo LGA in Ondo state. The states were selected on the basis of existing cooperation between the states and the World Bank, the importance of agriculture in the state economies, a need to obtain perspectives from different geographical zones in Nigeria, and the fact that public expenditure management systems in these states are relatively well developed in comparison with other states in Nigeria. The case study LGAs were selected based on similar criteria, including relevance of agriculture to the LGA's economy; anticipated good cooperation of the relevant LGA government offices; and the core socioeconomic, infrastructure, and agroclimatic characteristics that make the selected LGA fairly typical in the state. The period covered in this review is from 2008 to 2012.

Data Sources and Collection

The data used for this AgPER were obtained at the federal, state, and local government levels from ministries of agriculture; ministries responsible for agriculture-related activities; and other key ministries, departments, agencies, and offices responsible for finance, revenue, budget, planning, and local government affairs. This AgPER is guided by a definition of the scope and classification of agriculture based on the United Nations' Classification of the Functions of Government (COFOG). The COFOG-based agricultural sector scope and decomposition is specifically that of the CAADP definition of agriculture as articulated in the guidance note for agriculture expenditure tracking systems in African countries (AU and NEPAD 2005). Under this definition, agriculture covers crop and livestock production as well as production (not conservation) of forestry and fisheries.² Public expenditures include annual and supplementary appropriations, including revisions, special presidential initiatives, and transfers or grants received from the federal government or any other federal agency. Off-budget public expenditures from donor agencies such as the World Bank, IFAD, AfDB, and the Bill and Melinda Gates Foundation were also included.

The core data, which comprise both budget and actual expenditures on agriculture, were analyzed based on economic and functional classifications. Public finance data, as well public expenditure data from other key sectors, were also used as appropriate. As stated above, the functional classification sought to follow the COFOG classification. In many instances, however, expenditures were available disaggregated only by subsectors (such as crops, livestock, fisheries, and so on) rather than by subfunctions (agricultural research, extension, input subsidies, and so on), with functional classification available for some subsectors but not others. Similarly, economic classification categories differed in the extent to which functional breakdown was available. For example, capital expenditures were more readily available at a level of detail that allowed for a functional or quasifunctional breakdown, while recurrent expenditures in most cases could not be broken down in this way. The various subsectors covered (crops, livestock, forestry, and fisheries) involve multiple agencies in Nigeria, in particular the Federal Ministries of Agricultural Development (FMARD), of Water Resources (FMWR), and of the Environment (FMEnv); autonomous agricultural research institutes; and so on. They also include some nonfederal

² COFOG also includes hunting in its scope, though this area has not been found to apply in any nontrivial way in the empirical context of this report.

government agencies that execute federal programs on food security and on input subsidies such as fertilizer and seedlings.³ Some of these agencies are state-government owned. However, the scope of the sector excludes construction of rural roads, which FMARD sometimes undertakes. The definition covers all qualifying expenditures, whether on-budget items or off-budget expenditures on public goods, the latter mostly directly donor-financed projects.

At the subnational level, the data collection approach involved strong participation of the government. The review was carried out in close collaboration with counterparts in state-level and local government-level ministries and offices responsible for agriculture and agriculture-related activities, budget, planning, finance, and local government affairs, among other government agencies. The Ministry of Agriculture in each state set up a steering committee composed of representatives from the above-mentioned state and local government ministries and offices to ensure ownership and facilitate data collection and uptake of policy recommendations that may emanate from the review.

Prior to the commencement of the data collection process, all key stakeholders were briefed on the purpose and proposed outputs of the AgPER, and specific milestones and timelines were agreed upon. During the stakeholder briefing in each case study state, the local government to be studied was selected based on the core criteria mentioned earlier through a process initiated by the research team and counterpart state officials. Also at the briefing, state officials assigned counterpart staff to work with the research team. To ensure the validity of the AgPER results at the federal and subnational levels and to allow for feedback, a technical review and validation workshop for the analyses at the federal, state, and local government levels was held as soon as preliminary findings were available. Following the harmonization of the federal and subnational analyses, the major stakeholders were brought together in a debriefing seminar for an exchange of views on the emerging results. Thereafter, the report was processed for final technical validation by a larger audience to accommodate a second round of feedback prior to finalization of the review.

Data Challenges

Data gathering for this AgPER was quite challenging at both the federal and subnational levels. At the federal level, a major challenge was the loss of institutional memory in the finance and planning departments due to mass transfers and reposting of staff. Thus, it was impossible to obtain expenditure data from the current, but outdated, Accounting Transactions Recording and Reporting System. In addition, technology upgrades and migration to better platforms such as the Government Integrated Financial Management Information System (GIFMIS) and the Integrated Personnel and Payroll Information System (IPPIS) caused additional transition difficulties that introduced considerable delays to the data collection process. Since expenditure data had to be obtained from individual departments, discrepancies between published financial statements and aggregates from individual submissions by departments were inevitable. Furthermore, not all departments and agencies complied with the request to provide data.

These difficulties in data collection derive partly from complexities in institutional coordination. Given the absence of a functioning steering committee for the federal-level work, some of the data challenges encountered were difficult to overcome, though not totally insurmountable. A committee comprising FMARD, the Federal Ministry of Finance (FMF), the Budget Office of the Federation, and Office of the Accountant General might have assisted in resolving some of these constraints by contributing to the ownership of the data collection process and facilitating it. In addition, an inception workshop to agree on goals, processes, roles, and responsibilities could have been useful. Assistance from these agencies individually eventually offered some succor, although with considerable delays. Data collection was equally challenging at the subnational level, particularly in the LGAs. Examples of specific constraints include (1) inconsistency of data collected from different sources; (2) poor organization of data, particularly with regard to public expenditures; (3) use of a traditional ledger system

³ Examples include state ministries and agencies collaborating on the implementation of federal programs such as the National Programme for Food Security, distribution of fertilizers and inputs, administration of agricultural finance, and the like.

for bookkeeping, which is not systematic and precise; (4) poor attitude of keeping and preserving data due to the practice of destruction of account documents, particularly voting books, after three to five years; and (5) unavailability of audited accounts at the local government level. Nevertheless, efforts were made to ensure that the data used for the study came from credible sources. In addition to the data collected from the case study states, data from secondary sources such as the World Development Report, Statistics for Public Expenditure for Economic Development (SPEED), and State Partnership for Accountability, Responsiveness and Capability (SPARC) were used as appropriate in various parts of the analyses.

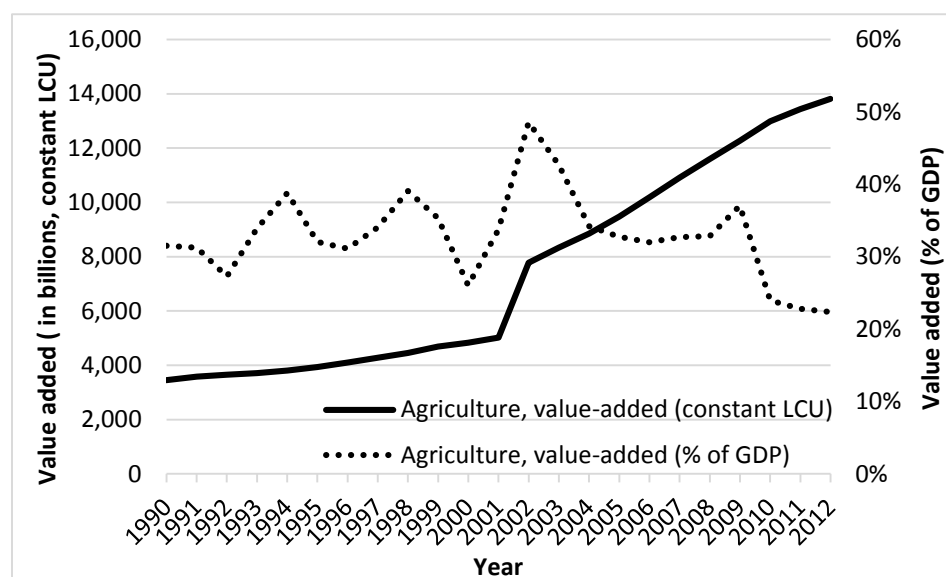
2. STRUCTURE, PERFORMANCE, AND POLICIES OF AGRICULTURE IN NIGERIA

Sector Description

Although Nigeria is a mineral- and oil-rich country, agriculture plays a big role in the national economy. In 2012, the sector accounted for 22.4 percent of GDP, and it contributed 44.5 percent of total employment in 2004. The agricultural sector in Nigeria has been growing continuously in the last decade and increased roughly threefold between 2002 and 2012 while growing annually at a 5.9 percent average growth rate. Similarly, agricultural value added per worker has increased by the same factor during the same period (World Bank 2014).

As shown by the solid line in Figure 2.1, agricultural GDP has been growing continuously throughout the past two decades. However, as depicted by the dotted line, its share in total GDP has been fluctuating throughout while showing a decline on average—indicating that other sectors are growing faster than agriculture. Particularly, the share of agriculture in total GDP has substantially declined since 2002.

Figure 2.1 Trend in agricultural GDP and its share



Source: Authors' graph using World Bank (2014).

Note: GDP = gross domestic product; LCU = local currency unit.

Agricultural production in Nigeria consists of crop, livestock, fishery, and forestry production (Table 2.1). In terms of subsector contribution as a proportion of total agricultural sector contribution to GDP, crop production captures the largest share. In 2012, provisional estimates from the Central Bank of Nigeria show that crop production accounted for close to 88 percent of total GDP from agriculture, followed by livestock production (CBN 2014).

Table 2.1 Quantity and growth of agricultural production by subsector in Nigeria, 2002–2012

Subsector	2002	2012	% change
Crops (metric tons)			
Roots and tubers	69,459,000	100,000,000	44.0
Cereals	21,373,000	26,333,000	23.2
Vegetables	8,673,803	11,940,600	37.7
Fruits and nuts	10,372,179	11,898,500	14.7
Oil crops	2,631,105	2,880,568	9.5
Pulses	2,404,789	2,560,000	6.5
Fiber crops	151,116	112,888	–25.3
Livestock (metric tons)			
Indigenous meat	1,168,366	1,491,163	27.6
Eggs	450,000	640,000	42.2
Milk	408,200	566,000	38.7
Sheep and goat meat	372,207	469,075	26.0
Beef and buffalo meat	357,425	390,000	9.1
Poultry meat	190,000	290,000	52.6
Fisheries (metric tons)			
Diadrom fish	187,242	312,009	66.6
Demersal fish	114,823	146,918	28.0
Pelagic fish	112,283	142,837	27.2
Crustaceans	35,711	31,976	–10.5
Marine fish, other	28,152	29,677	5.4
Mollusks	2,426	4,842	99.6
Cephalopods	419	495	18.1
Forestry (m³)			
Wood fuel	60,064,328	63,999,115	6.6
Industrial roundwood	9,418,000	9,418,000	0.0
Sawn wood	2,000,000	2,002,000	0.1
Wood-based panels	95,000	97,000	2.1
Wood pulp	23,000	23,000	0.0
Paper and paperboard	19,000	19,000	0.0

Source: Authors' data compilation and computation using FAO (2014).

In the crop subsector, the relative importance of root and tuber crops is high when compared with cereals—the next-most-important crop category—with the national production of root and tuber crops in 2012 nearly four times that of cereals. Fiber crops are the least important in Nigeria. As Table 2.1 shows, with the exception of fiber crops, production has grown in all crop categories over the last decade. Specifically, the highest growth was in the production of root and tuber crops (44 percent), followed by vegetables (38 percent), cereals (23 percent), and fruits and nuts (15 percent). However, the production of fiber crops declined by 25 percent.

However, cereal crops account for the lion's share of crop production land area in the country (Table A.1 in the Appendix). They cover an area that amounts to the production area of roots and tubers, primary oil crops, and vegetables combined. The fastest expansion in the production area of crops was that of vegetables (27 percent), followed by root and tuber crops (8.4 percent). Area under cereal crops grew only slowly (2.4 percent), while that under fiber crops significantly declined (51 percent).

Indigenous meat production is the highest in the livestock subsector, accounting for about two times the quantity of eggs produced in the country in 2012, by weight (Table 2.1). With respect to growth, the production of poultry meat grew the most (53 percent) in the last decade, followed by eggs (42 percent), milk (39 percent), indigenous meat (28 percent), and sheep and goat meat (26 percent).

As Table 2.1 shows, freshwater diadrom fish, mainly tilapia, dominate in the fishery subsector, along with demersal fish (such as catfish) and pelagic fish (such as mackerel), which are both marine aquaculture species. In terms of output growth, the production of mollusks was the highest and almost doubled in the last decade (99.6 percent), followed by diadrom fish (67 percent), demersal fish (28 percent), and pelagic fish (27 percent). During the same period, the production of crustaceans fell by 10.5 percent.

In the forestry subsector, wood fuel is the most important product (Table 2.1). Production growth in the subsector has, however, been stagnant or minimal in the past decade. Output of wood fuel and wood-based panels increased by only 6.6 percent and 2.1 percent, respectively, during this period.

The most recent data on crop production in Nigeria from the FAO's statistical unit (FAOSTAT) show that yam and cassava, followed by rice paddy and groundnuts, are the most important staple food crops produced in the country, in terms of both value and quantity of production. Maize, sorghum, and millet are also commonly produced cereal crops, while cashew is the most important among the commercial crops produced in Nigeria (Table 2.2).

Table 2.2 Value, quantity, and production area of major crops produced in Nigeria, 2012

Rank	Crop	Value (Int\$1,000)	Quantity (metric tons)	Area harvested (hectares)
1	Yams	7,753,338	38,000,000	2,900,000
2	Cassava	5,641,002	54,000,000	3,850,000
3	Fruits	2,278,295	4,760,000	932,000
4	Vegetables	1,744,854	7,760,000	1,015,000
5	Rice, paddy	1,309,354	4,833,000	2,685,000
6	Groundnuts, with shell	1,308,585	3,070,000	2,420,000
7	Maize	1,048,015	9,410,000	5,200,000
8	Sorghum	991,159	6,900,000	5,500,000
9	Millet	850,846	5,000,000	3,800,000
10	Cashew nuts, with shell	732,199	836,500	366,000
11	Taro (cocoyam)	731,700	3,450,000	500,000
12	Okra	703,442	1,100,000	385,000
13	Cowpeas, dry	633,956	2,500,000	3,200,000
14	Plantains	578,082	2,800,000	456,000

Source: FAO (2014).

Note: Int\$ refers to international dollars.

Nigerian agriculture is dominated by small-scale farming. The report of the Commercial Agriculture Development Project (CADP) baseline survey conducted in 2010 indicates that more than 90 percent of the agricultural output is accounted for by small-scale farmers with less than 2 hectares (ha) under cropping (Nigeria, NBS 2010). The other important characteristic of Nigerian agriculture is that the majority of the farm plots are owned by individual farmers. The report of the 2010 National Agricultural Sample Survey of Nigeria indicates that of the total land area cultivated by private farmers in 2010, owner-like possession accounted for 83.9 percent, followed by family land (10.6 percent) and rented/royalty land (4.1 percent). Nigeria also has corporate farms, though it is not exactly known how much area they account for. The majority of the corporate farms were classified under sole proprietorship (76 percent), followed by private limited company (10 percent) and partnership (9 percent). Cooperatives account for only 1 percent of the corporate farms (Nigeria, NBS and FMARD 2012).

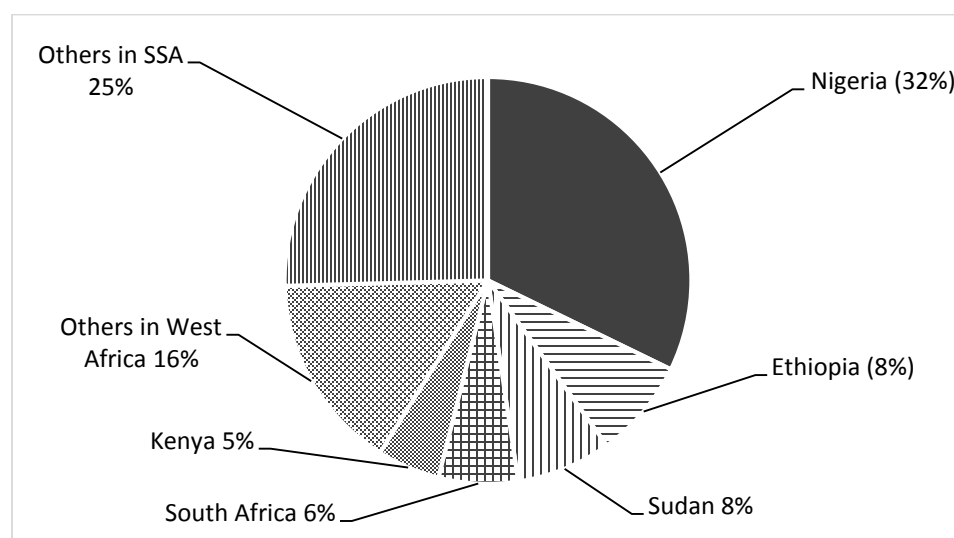
The use of modern inputs in Nigeria is still at a low level. Analysis of a representative dataset—at both the national and subnational levels—reveals that only 46 percent of all farm households in Nigeria use at least one type of modern agricultural input. Those using chemical fertilizer make up 42.8 percent. Only 7 percent of the farmers use improved seeds and 10.5 percent use pesticide. However, significant differences in agricultural input use are observed across different regions. In the Northwest Region, around 80 percent of the farmers use at least one type of modern agricultural input. In contrast, fewer than 40 percent of the farmers in the other regions use modern inputs (Akramov 2010).

Similarly, most farmers in Nigeria do not have access to credit. Of the total farm households in Nigeria, only 6.8 percent have access to formal or semiformal credit facilities (Akramov 2010). Of the total amount of financing committed to crop farming by private farmers in 2010, own funds accounted for the lion's share (90.1 percent), followed by funds from friends and relatives (4.8 percent). Funds obtained from a local money lender (0.9 percent) and from cooperative societies (0.7 percent) were insignificant. Surprisingly, the main source of financing for corporate crop farming are own funds (97.6 percent) (Nigeria, NBS and FMARD 2012)—an even higher share than the equivalent for small private farms.

Based on their review of a large collection of literature on agricultural productivity, Liverpool-Tasie, Kuku, and Ajibola (2011) indicated that with some exceptions, Nigerian farmers across all regions are below their production frontiers, and concluded that there is room to increase agricultural productivity above existing levels, even without a change in their current levels of input use.

In undertaking an AgPER, it is also useful to see the relative size of the agricultural economy under consideration as compared with its peers. In Africa south of the Sahara (SSA), Nigeria has the biggest agricultural economy, while Ethiopia, Sudan, South Africa, and Kenya follow far behind Nigeria. Nigeria's agriculture accounts for two-thirds of the agricultural value added in West Africa⁴ and nearly one-third of that in SSA (Figure 2.2).

Figure 2.2 Agricultural gross domestic product, 2010 (2005 US\$)



Source: Authors' computation using World Bank (2014).

Note: SSA = Africa south of the Sahara.

As seen in Table 2.3, Nigeria also performs better than most countries in SSA (and the best in West Africa) in terms of agricultural value added per worker, and ranked third following the best performers, Mauritius and South Africa.

⁴ Other West African countries are Benin, Burkina Faso, Cape Verde, Gambia, Ghana, Guinea, Liberia, Mali, Niger, Senegal, Sierra Leone, and Togo.

Table 2.3 Agricultural value added per worker in Africa south of the Sahara

Country/region	Agricultural value added per worker, 2010 (in constant 2005 US\$)
Ethiopia	235
Kenya	365
Others in West Africa, average	905
Sudan	1,175
Africa south of the Sahara, average	1,210
Nigeria	4,063
South Africa	5,510
Mauritius	7,355

Source: Authors' computation using World Bank (2014).

Agricultural Policies and Development Priorities

The 1999 constitution, the 2001 new agricultural policy thrust, the 2004 National Economic Empowerment and Development Strategy (NEEDS), the seven-point agenda of Vision 20:2020, and the Agricultural Transformation Agenda (ATA) all serve as the policy framework for agricultural development in Nigeria. These policy blueprints together provide insights on national priorities in agriculture, guiding policies, policy strategies, and responsibilities of the federal, state, and local governments in delivering public agricultural goods and services.

Overview of Sector Strategy and Policies at the Federal Level

In the past decade, the government of Nigeria has designed several policies, strategies, programs, and projects with the objective of spurring growth in the agricultural sectors. These include NEEDS, the National Special Program for Food Security, the seven-point agenda, the five-point agenda, the implementation of CAADP, and the ATA. Similarly, CADP and the Root and Tuber Expansion Program, as well as other programs specific to commercial crops (such as the presidential initiatives on cassava, rice, and other crops), were developed in the past decade (Nigeria, NBS 2010). Nigeria signed the CAADP compact in October 2009 (Nigeria, FMAWR 2009) and launched the National Agricultural Investment Plan (NAIP) in 2010 (Nigeria, FMARD 2010). FMARD developed NAIP guided by a five-point agenda, which is drawn from the economywide seven-point agenda and is largely consistent with the four CAADP principles (Nigeria, FMARD 2010).

The 2004 NEEDS signaled a new paradigm in development programming in Nigeria with the introduction of institutional reforms and holistic processes for more effective and sustainable development outcomes. Therefore, NEEDS is the first successful attempt to articulate the government's vision for national development and poverty reduction in a coherent manner, give it focus, and outline the role of the key institutions of the state in the process. This holistic development policy and strategy provided the framework and set the pace for the ongoing public financial management reforms and related reforms. The state governments followed suit with equivalent strategies known as the State Economic Empowerment and Development Strategy (SEEDS), and some local governments with the Local Economic Empowerment and Development Strategy (LEEDS).⁵

⁵ In 2007, NEEDS expired; and although the government prepared NEEDS II, it was not implemented. Subsequently, the seven-point agenda of Vision 20:2020 and the National Transformation Agenda have followed after NEEDS by adopting an integrated development paradigm.

Vision 20:2020 is Nigeria's current policy blueprint. Launched in 2010, it is a long-term planning framework that is intended to transform Nigeria into one of the top 20 economies by 2020 with at least US\$900 billion in GDP and a per capita income of at least US\$4,000 per annum (Nigeria, NPC 2010).⁶ The three strategic pillars of the vision are (1) guaranteeing the productivity and well-being of the citizens, (2) optimizing the key sources of economic growth, and (3) fostering sustainable social and economic development.⁷ Anchored to these strategic pillars are long-term national aspirations. For agriculture, the objective is to achieve a modern technologically enabled agricultural sector that fully exploits the vast agricultural resources of the country, ensures national food security, and contributes to foreign exchange earnings. As indicated in the Vision 20:2020 document, agriculture is central to the agenda. The document also notes that the envisioned accelerated development will be highly dependent on synergies between key sectors of the economy, including agriculture. However, Vision 20:2020 recognizes that agriculture is not nearly realizing its potential for spurring increased growth and employment. For example, the document notes that the sector has not fully exploited the nation's land and water resources, has low productivity with high losses, and continues to make suboptimal contributions to export earnings. The factors outlined as responsible for this are (1) failure to modernize agriculture on a large scale, (2) an outdated land tenure system, (3) low adoption of research findings and technologies due to weak extension services, (4) high cost of farm inputs, (5) poor access to credit, (6) piracy in coastal waters, (7) overemphasis on inefficient fertilizer procurement and distribution, (8) inadequate irrigation and storage, and (9) poor access to markets (National Technical Working Group on Agriculture and Food Security 2009).

Since 2011, these issues have been articulated in greater detail through the ATA. As a major component of the National Transformation Agenda, the ATA has the ambition to bring about a paradigm shift in the perception and planning of agriculture. The vision of the agenda is to "achieve a hunger-free Nigeria through an agricultural sector that drives income growth, accelerates achievement of food and nutritional security, generates employment and transforms Nigeria into a leading player in global food markets to grow wealth for millions of farmers" (Nigeria, FMARD 2011a, 3). The major targets of the agenda are to (1) create 3.5 million jobs in the agricultural sector by 2015, (2) provide more than US\$2 billion of additional income for Nigerian farmers, (3) increase domestic food production by 20 million metric tons,⁸ (4) make Nigeria self-sufficient in rice production by 2015, and (5) ensure that Nigeria shifts from being a net importer of food to a net exporter of food.

To attain success, FMARD is employing the following measures:

- Executing the ATA to support the National Transformation Agenda
- Putting an end to the era of treating agriculture as a development project and instead treating it as a business
- Eliminating isolated projects that do not clearly grow the agricultural sector in a demonstrable and measurable way
- Moving away from big government that crowds out the private sector
- Integrating food production, storage, food processing, and industrial manufacturing through value chains
- Focusing on value chains in which Nigeria has comparative advantages
- Leveraging the agricultural sector to create jobs, create wealth, and ensure food security

⁶ The vision statement is that "Nigeria will have a large, strong, diversified, sustainable and competitive economy that effectively harnesses the talents and energies of its people and responsibly exploits its natural endowments to guarantee a high standard of living and quality of life to its citizens by 2020" (Nigeria, NPC 2010, 1).

⁷ Vision 20:2020 will be implemented through three medium-term national implementation plans. The first was from 2010 to 2013, the second will run from 2014 to 2017, and the third will run from 2018 to 2020.

⁸ Tons refers to metric tons throughout the text.

- Promoting strategic partnerships to stimulate investments that drive a market-led agricultural transformation through state and local governments, interministerial collaboration, the private sector, farmer groups, and civil society
- Placing an emphasis on youth and women

Under the ATA, the transformation policies, institutions, and financing structures to drive growth in agriculture involve (1) deregulation of the seed and fertilizer sectors, (2) marketing reforms to structure markets, (3) innovative financing in agriculture, and (4) a new agricultural investment framework. Along the same lines, the four main components of the agenda are as follows:

- Nigeria Incentive-Based Risk-Sharing System for Agricultural Lending (NIRSAL)
- Growth Enhancement Support Scheme (GESS)
- Staple crops processing zones
- Commodity-marketing corporations

NIRSAL

This incentive-based risk-sharing system is a mechanism that seeks to de-risk lending to the agricultural sector. Developed in 2010 by the Central Bank of Nigeria in collaboration with the Alliance for a Green Revolution in Africa, NIRSAL aims to tackle bottlenecks that affect agricultural value chains and the agricultural financing value chain. To do this, it seeks to secure increased processing of agricultural production, and by so doing launch an agricultural industrialization process that boosts economic earnings across the entire value chain.

GESS

This program is a shift from the existing Fertilizer Market Stabilization Program that puts the resource-constrained farmer at the center of policy. The program delivers subsidized agricultural inputs to farmers through an electronic wallet. With unique voucher numbers that are delivered to their phones, farmers then redeem their input allocation from accredited agrodealers. It is expected that this program will improve agricultural input distribution and marketing. In addition, it should provide incentives to encourage actors along the fertilizer value chain to work together toward the common purpose of improving agricultural productivity, household food security, and incomes. The specific policy goals of GESS are to

- target 5 million farmers annually for four years for the delivery of agricultural inputs on their mobile phones;
- provide direct support to farmers to enable them to procure agricultural inputs at affordable prices, at the right time, and at the right place;
- increase productivity of farmers across the country through increased use of fertilizer—from 13 kilograms per hectare to 50 kilograms per hectare; and
- transform the role of government from a direct procurer and distributor of fertilizer to a facilitator of procurement, regulator of fertilizer quality, and catalyst of active private-sector participation in the fertilizer value chain.

Staple Crops Processing Zones

The main idea behind setting up these processing zones is to encourage private-sector agribusinesses to set up processing plants in zones of high food production to process agricultural commodities into food products. The staple crop processing zones link clusters of farmers to food manufacturing plants. The locations of the zones depend on the comparative advantage of the region to produce the identified commodity and the state government's support. The role of the government is to enable this system by putting in place appropriate fiscal, investment, and infrastructure policies for the zones as well as by

developing a code for agricultural investment. Such policies include tax breaks on import of agricultural processing equipment, tax holidays for food processors that are located in these zones, and supportive infrastructure, especially complementary investments by the government in roads, logistics, storage facilities, and power. The Agricultural Investment Code is developed by FMARD in partnership with FMF; the Federal Ministry of Industry, Trade, and Investment (FMTI); and the Central Bank of Nigeria.

Commodity-Marketing Corporations

The objective here is to establish commodity-marketing corporations to help strengthen the markets for agricultural commodities. The role of the federal government is to support the development of these private-sector-driven marketing organizations in order to grow the agricultural sector. The elimination of marketing boards during the implementation of the Structural Adjustment Program without the introduction of alternative institutions has made market access for millions of farmers very difficult. To address this challenge, these marketing corporations will coordinate production and export of target commodities; attract investment into the sector for R&D, infrastructure, and processing; and stimulate the development of tailored financial services. These private-sector-led but government-enabled marketing institutions would be owned by agricultural value chains and would empower farmers and other value chain actors to generate value. The agricultural value chains of focus under the ATA are cassava, cocoa, horticulture, fruit juice, sorghum, fisheries, dairy, cotton, and livestock. Each value chain has a particular line of activities and targets.

Despite the fact that extension is central to the dissemination of new knowledge and demonstration of new skills, FMARD did not have an extension service function until 2012, when the head of civil service of the federation approved an adjustment of the structure of FMARD to create a Federal Department of Agricultural Extension (FDAE). Compliance with the constitution limited FMARD's role in the provision of agricultural extension services. Instead, FMARD relied on states' extension service departments, known as agricultural development projects (ADPs). The services provided by ADPs include establishing demonstration farms; identifying lead farmers; providing lead farmers with information about improved farming practices; facilitating access to improved technology and inputs, such as improved seed varieties, fertilizer, crop chemicals, and machinery services; and helping lead farmers to train other farmers (Mogues et al. 2012a). Although concrete performance information is limited, it is apparent that FMARD is not satisfied with this relationship. Thus, FMARD launched the Agricultural Extension Transformation Agenda (AETA) in 2011 under ATA (Box 2.1). The budgets and actual expenditures that would be able to be fully compared against this policy are those starting 2013; however, the 2012 budget and spending data began to partially feature some aspects of the ATA and AETA.

Box 2.1 The agricultural extension transformation agenda

The Federal Ministry of Agriculture and Rural Development launched the Agricultural Extension Transformation Agenda (AETA) in 2011 under the Agricultural Transformation Agenda. The objectives of the AETA are to

- oversee, monitor, and provide the leadership needed for efficient and effective agricultural extension and advisory service delivery in Nigeria;
- review the agricultural extension policies within the subsisting agricultural policies and recommend appropriate policies that will ensure the effective participation of all stakeholders in a stable policy environment and adequate funding for the delivery of effective and efficient agricultural extension and advisory services;
- recommend appropriate institutional structures and arrangements for the delivery of effective and efficient agricultural extension and advisory services using a value chain approach; and
- Recommend demand-responsive extension systems or approaches and tools that will ensure the delivery of efficient and effective agricultural extension and advisory services for all multi-actors in the targeted commodity value chains of interest to the government.

The AETA is a road map for addressing critical challenges of agricultural extension and advisory services in Nigeria. The purpose is to transform agricultural extension into a participatory, demand-responsive, market-oriented, and information and communication technology (ICT)–driven service that provides for the extension needs of all actors along targeted commodity value chains.

- Features of the AETA include the following:
- Articulating a functional and inclusive agricultural extension policy, defining roles and responsibilities of stakeholders (such as tiers of government, the private sector, farmer groups, nongovernmental organizations, and civil society), and addressing issues of funding, institutional arrangements, and gender mainstreaming.
- Establishing a new Federal Department of Agricultural Extension to provide leadership, coordination, monitoring and evaluation, quality assurance, and appropriate extension methods and tools.
- Adopting an ICT-driven, market-oriented, and knowledge- and skills-based extension service delivery, including a farmers' ICT center or helpline complemented with other appropriate ICT tools suitable for rural communities.
- Recognizing existing state agricultural development projects (ADPs) as the best option for extension and advisory services. It is expected that state governments will revitalize and strengthen their ADPs to key into the AETA, with adequate staffing to attain a minimum ratio of one extension agent to 800–1,000 farmers, and improve infrastructure and facilities, with assistance from FMARD.
- Strengthening and scaling up of funding for the research-extension-farmer-inputs linkage system to fulfill its function of bringing all state and nonstate actors together with clearly defined roles and responsibilities in technology, development, adaptation, dissemination, and utilization.
- Building capacity through public–private partnerships with proper incentives for the adoption of a value chain approach that requires more knowledge- and skills-based, demand-responsive extension and advisory services. Capacity building covers the following groups: unemployed youths and graduates, extension field staff at all levels, farmers, producers, processors, and all other actors and service providers along the targeted value chains.
- Addressing the cross-cutting issues of women, youths, and vulnerable groups; Growth Enhancement Support Scheme items (such as fertilizers, agrochemicals, improved seeds, and credit); strengthening farmers' associations; and providing more conducive service conditions for extension staff, including mobility for better performance.

Source: "Final Report of the Agricultural Extension Transformation Agenda." Nigeria, FMARD (2011c).

In sum, the ATA has been closely aligned with the Vision 20:2020 plan and supports it through many of its objectives. It seeks a reconsideration of agriculture as a business and articulates the government's role as provider of an enabling policy environment. The ATA recognizes the important role of agricultural extension in achieving its objectives: the launch of the AETA and FDAE demonstrates concrete efforts aimed at extension policy implementation. Also on a positive note, FMARD's 2012 budget signaled attempts to match agricultural policies with resource allocation—a departure from previous years. However, concerns remain about the sustainability of the ATA. First, compared *with* Vision 20:2020, the consultations that led to the birth of the ATA seem inadequate. As a result, public awareness and understanding of the agenda also appear limited. This may eventually prove to be its Achilles' heel, particularly in terms of its marketability to stakeholders (including state governments, who must be key harbingers of its success), continued funding by the legislature, and sustainability beyond the current administration. Second, the ATA does not have an annual plan of investments, and FMARD has yet to do a detailed costing of the agenda's activities and programs. Financial implications of the agenda thus remain unknown. Consistency in public support and funding will depend, to some extent, on credible costing and a plan of annual investments.

The ATA also appears too ambitious and expensive, which suggests that its four-year life cycle could prove challenging due to funding and implementation capacity issues. The lack of a results framework will make it difficult to track the performance of the agenda in terms of output, outcomes, and efficiency. Results-based monitoring and evaluation frameworks with clear targets, timelines, and indicators enhance accountability. Furthermore, the institutional structure of the ATA is not clear. Success of the agenda will depend on clearly defined roles of all stakeholders, such as the federal, state, and local governments and nonstate actors, as well as effective coordination among them. Finally, continuity of the agenda beyond this administration could pose another challenge given the tendency for policy reversal by succeeding administrations in the country. This challenge makes it crucial for the agenda to demonstrate irreversible results for the duration of the current administration.

Overview of Sector Strategy and Policies at the Subnational Level: Cross River State

The agricultural policy direction of Cross River state is aligned to that of the federal government. As part of the state's action plan and in an attempt to be in tandem with the federal government's Vision 20:2020 plan, Cross River has been promoting a seven-point development agenda since 2007, the first point of which is to “make agriculture more productive and rewarding by encouraging the adoption of agricultural best practices and ensuring that investment in the sector is participatory and adaptable.” According to the policy document for agricultural development, the vision is to make agriculture the engine of growth and transformation of Cross River state's economy toward the achievement of overall economic development. The overarching goal is to harness diverse agricultural resources of the state so as to develop an agricultural sector that guarantees food security, reduces rural poverty, and facilitates agro-industrial growth. The document also sets out the action plans for agriculture and provides recommendations for the development of key subsectors.

Specifically, the broad strategic goals of agricultural policy in Cross River state include the following:

- Move farm sizes away from fragmented holdings to commercial farm sizes for each of the main crops
- Introduce high-value crops into the state's farming systems
- Increase and move to international average the yield per hectare of major crops such as cocoa, oil palm, cassava, and rice
- Access and expand markets for the state's agricultural produce
- Mechanize farming on a large scale
- Encourage growth in aquaculture, poultry, and animal husbandry
- Establish easy access to credit for farmers

Cross River state is vigorously pursuing policies and action plans in key subsectors for which it has comparative and competitive advantages. The state is the largest producer of oil palm in Nigeria with about 250,000 ha of land currently under wild groves, and 20,149 ha and 15,000 ha cultivated by estates and smallholder farmers, respectively. It is the second-largest producer of cocoa, with a production of more than 80,000 tons annually, and the third-largest producer of rubber, with about 21,545 ha under cultivation (64 percent by estates and 36 percent by smallholder farmers). Cross River state is also the second-largest fish and shrimp producer, with an annual catch estimated at 6,000 tons.

Value addition and increased private investments are critical components of the current agricultural policy direction in Cross River state. With the government creating an enabling environment through public–private partnerships, it is expected that the development of agriculture will be private-sector driven. Value addition and higher private-sector investments are aimed at ensuring technical changes that are characterized by improved input use efficiency and overall total factor productivity growth. The major enterprises targeted for value addition and for improved private-sector involvement include cocoa production and processing; cassava production, processing, and marketing; rice production and processing; citrus and mango production; poultry production; pig production; honey production; and aquaculture. To promote these objectives, major oil palm plantation estates have been privatized and leased to private investors.⁹ In addition, all the government-owned cocoa estates are presently under negotiations for privatization, with much interest from private businesses.

Policies to encourage strong participation by youth and women in agriculture through the modernization of agricultural production, processing, and marketing are also being pursued. The Cross River Agriculture and Rural Empowerment Scheme (CARES) and the Songhai Cross River Initiative (SCRI) are two vehicles through which the government promotes these policies.

The state and the local governments have keyed into the federal-government-led ATA. This is evident through active participation of Cross River state in GESS, a critical component of the ATA. GESS provides affordable and subsidized agricultural inputs such as fertilizer and hybrid seed, rice, maize, cocoa, and cassava to farmers across the state. For example, about 125 million Nigerian nairas (₦), ₦100 million, and ₦262 million were expended for the provision of subsidized fertilizer—urea and nitrogen, phosphorus, and potassium (NPK)—to 50,000, 33,327, and 87,600 farmers in 2010, 2012, and 2013, respectively, in the state. In addition, about 18 tons of maize and 10 tons of rice hybrid seeds were distributed to 33,327 farmers in 2012. In 2013, about 218 tons of maize hybrid seeds and 35 tons of rice hybrid seeds were distributed to 87,600 farmers. This initiative is aimed at increasing production yields per hectare to make average crop yields in Cross River state comparable to the international averages.

Similarly, all the LGAs, including Akamkpa LGA, tailor their rural and economic development agenda to be in consonance with the state’s development agenda. In Akamkpa, the policy objective for agriculture is the attainment of self-sufficiency in food production and expansion of agro-allied processing. Apart from the mandatory contributions to promote GESS, Akamkpa LGA supports the organization of local farmers into cooperatives for easy access to farm inputs.

Programs, Strategies, and Action Plans

Based on the policy direction of the Cross River state Ministry of Agriculture, specific programs, strategies, and action plans have been developed to expand the agricultural sector (see “Programs, Strategies, and Action Plans for Agriculture in Cross River State” in the Appendix). These are enterprise specific with the objective of removing bottlenecks along the value chains of targeted agricultural commodities. The specific areas targeted include cocoa development, oil palm development, citrus and mango development, farm mechanization, cassava and rice production, aquaculture, pineapple production, banana and plantain production, livestock production, a food and nutrition program, quality

⁹ For example, Calaro and Ibiae Oil Palm Estates (established between 1947 and 1950) were leased in 2012 to Wilmar International Limited, a Singaporean company. Prior to that, Kwa Fall Oil Palm Estate (established in the 1940s) was leased to IBAD Farms Limited in 2002. In 2001, Cross River Estate Limited, a rubber plantation established in the 1950s, was acquired by Enghuat Industries Limited.

control services, an agricultural credit program, and agricultural extension services. All of these areas constitute specific programs under CARES.

Donor-Assisted Projects

Cross River state currently has three donor-driven agricultural projects—Cross River CADP; Fadama III; and the Community-Based Natural Resource Management Program of IFAD, the federal government of Nigeria, and the Niger Delta Development Commission (IFAD/FGN/NDDC).

Cross River CADP is a World Bank–supported project with the aim of improving agricultural production in the state. The project has two main components: (1) agricultural production and commercialization aimed at complementing national food security and development of domestic and export markets for targeted crops, and (2) rural infrastructure aimed at providing resources for the construction of new roads and for rehabilitation and maintenance of selected access roads to farming communities. This component also aims to connect commercial farms to the electricity grid. Under the first component, the project targets three value chains—cocoa, oil palm, and rice. The main focus is on technology demonstration and adoption, support for staple crop production systems, market facilitation, capacity building, farm access road networks, and rural energy. Since its inception in 2005, the project has sensitized and registered 329 commodity interest groups and has so far disbursed more than ₦100 million in grants to 59 commodity interest groups consisting of 1,098 farmers. The project has also organized 27 training or capacity-building workshops for farmers.

Fadama III targets the rural poor, subsistence farmers, fishers, processors, and other economic interest groups along the agricultural value chain. The project has provided assistance to more than 2,050 farmers in the state. The objective is to sustainably increase the income of land and water users through support for asset acquisition and improved rural infrastructure access, input supply, and advisory services. Beneficiaries are encouraged to organize themselves into Fadama user groups and further as Fadama community associations. Project resources are disbursed directly to Fadama community associations, which total about 200 in the state.

The IFAD/FGN/NDDC Community-Based Natural Resource Management Program targets mostly women, youths, and vulnerable groups in the rural areas. The objective is to use a community development approach in improving the living standards and quality of life of rural families. The program aims to reach 57,000 rural households in 27 communities of nine LGAs. This assistance is in the provision of boreholes to rural communities, provision of agroprocessing mills, construction of roads and culverts, development of seed nurseries for plantations, and provision of farm inputs such as seeds (rice, maize, and cocoa) and cassava cuttings. So far the program has reached 71,667 households in the state, surpassing the target number of beneficiaries.

Overview of Sector Strategy and Policies at the Subnational Level: Niger State

The Development Action Plan (DAP) for Niger state for 2007–2011 stipulates the vision and mission of the state as well as the overall development strategy. The overall development strategy is to promote agro-based industrialization. This means that agriculture and allied industries and services form the fulcrum of the state’s development strategy. The DAP identifies great potentials and opportunities that are yet to be fully explored as well as some constraints to Niger state’s agricultural sector. The policy thrust of the DAP is

- to take advantage of the diverse agricultural resources of the state to develop an agricultural sector that will guarantee food security, reduce rural poverty, and accelerate economic development in the state; and
- to make agricultural development private-sector driven, with the government creating an enabling environment through public–private partnerships. Priority will be placed on sourcing private investments and promoting public–private partnerships not only for agricultural production but also for the production of farm inputs such as tractors, fertilizers, seedlings, and storage equipment.

The DAP includes targets to be achieved, strategies to be adopted, resources needed, responsibilities, and timelines for achieving each of the targets. The costs of achieving each target, intervention strategies, and performance indicators for effective monitoring and evaluation are also included in the action plan.

Niger state's Vision 3:2020 policy on agriculture is the means by which the state government works to achieve the goal of leveraging agriculture as a veritable tool for achieving food security, reducing rural poverty, and accelerating economic development in the state. The agricultural policy document states that the overall agricultural policy thrust of the state is the attainment of self-sustaining growth in all subsectors of agriculture, as well as realization of the structural transformation necessary for the overall socioeconomic development of rural areas. The goals for the development of the agricultural sector and its subsectors that are specified in the policy document align closely with the goals in the DAP, although the strategies proposed differ slightly. The Vision 3:2020 document outlines strategic initiatives of the agricultural sector. The scope of agricultural development in the state covers crops, livestock, fisheries, and forestry. The vision is to transform Niger state into one of the three top economies in Nigeria by the year 2020, by being a model and leader in agro-based industrialization and by making agriculture the engine of growth and transformation of the state's economy. It also stipulates the measurement of progress in achieving targets, expected changes, persons responsible for tracking progress, and funding options. The specific goals of agricultural policy in Niger state include the following:

- Attainment of self-sufficiency in basic commodities with particular reference to those commodities for which the state has comparative advantage
- Increased production of agricultural raw materials to stimulate growth of the industrial sector
- Higher production and processing of commercial or export crops such as cotton, groundnuts, and shea nuts with a view to contributing to the foreign exchange earnings of the nation
- Establishment of guaranteed minimum prices for agricultural commodities
- Modernization of agricultural production, processing, storage, and distribution through the infusion of improved technologies and management, so that agriculture can be more responsive to the demands other sectors
- Creation of increased rural employment opportunities through improvements in infrastructure so as to productively absorb a growing labor force
- Improved quality of life for rural residents through the provision of social amenities like potable water and improved health and educational facilities
- Improved protection of agricultural land resources from drought, desert encroachment, soil erosion, and flood
- Development of biofuel crops to produce alternatives to firewood, fossil fuel, and inorganic fertilizer, particularly on waste and marginal lands
- Increased private-sector investments in agriculture for food security (including increased production and processing) through public-private partnerships
- Expansion of commercial agriculture through the provision of timely and affordable credit to small-, medium-, and large-scale farmers
- Improved irrigation for year-round farming

The programs for promoting agricultural development as captured in Niger state's DAP and Vision 3:2020 plan are (1) farm mechanization, (2) fertilizer procurement and distribution, (3) a buffer stock program, (4) a farm institute program, (5) agrochemicals, (6) agricultural research and consultancy, (7) development of irrigation programs, (8) boosting crop production, (9) fruit tree crops development, (10) the Fadama III project, (11) Rural Access and Mobility Project II, (12) livestock development, and (13) fisheries development.

The agricultural policy thrust in Niger state is well aligned with that of the federal government. With respect to the federal-led ATA, high-value crops that have been identified for the value chain development initiative are the same at both the federal and state levels. In line with this coordination, a number of federal government programs are jointly carried out by the federal and Niger state governments. These programs include the Fertilizer Procurement and Distribution Program through GESS, the National Program for Food Security (NPFS), agricultural extension and research, commodity value chain development for selected high-value crops, agricultural credit programs of the Central Bank, and livestock and fisheries development, among others. As part of the ATA, Niger state is promoting a rice investment package. FMARD has earmarked 14,800 tons of NPK and urea fertilizer to be sold at a 50 percent subsidy price to farmers captured under the smallholder farmers' enumeration exercise conducted in the state. As part of the NPFS, the state government operates a buffer stock program. Under this program, farmers are not only encouraged to increase their production but are also assured of fair product prices and government support.

Overview of Sector Strategy and Policies at the Subnational Level: Ondo State

The main features of Ondo state's agricultural policy include the development of strategies that will bring about improvements in the levels of technical and economic efficiency of food and tree crop production. Ondo state offers tremendous potential to increase agricultural output. It is the largest producer of cocoa in Nigeria, accounting for about 60 percent of cocoa production. Higher-than-average yields in crops such as cassava, yam, sweet potato, and maize suggest that the state has comparative advantages in producing these food crops. Cassava, for example, has an average yield of about 22 tons/hectare compared with the national average of 12.8 tons/hectare. These food crops must continue to be prioritized in the state's agricultural policy agenda. The state embarks on different programs to help achieve its agricultural policy objectives, including those for (1) youth in agriculture, (2) input delivery, (3) food crops development, (4) tree crops development, (5) irrigation agriculture, (6) livestock production, (7) fisheries development, (8) sustainable forestry development, (9) agriculture extension services, and (10) rural development.

The role of the private sector in agricultural development is limited in Ondo state. The most visible initiative is the Leventis Foundation Agricultural Training School in Ido-Ani. Leventis Foundation (Nigeria) Limited has been conducting agricultural training for youth in Nigeria since 1987 through six agricultural training schools—one located in Ido-Ani. The Ido-Ani agricultural training school is cofinanced by the state government and Leventis Foundation. The school offers free training to young farmers desirous of making a good career in farming. The comprehensive one-year training program exposes participants to most areas of agriculture and farm business. The objective of the training program is to create a new generation of committed, young, hands-on farmers who will act as catalysts for agricultural development in their communities. In addition, the state government is currently constructing a large-scale abattoir for which the government intends to enter into a memorandum of understanding with the private sector to manage it for the state. However, it is doubtful that the private sector was involved in the planning process of the abattoir project given its exclusion from the agricultural development policy formulation process, in which it is supposed to play an active role.

Cross-Tier Fiscal and Planning Relationship between the Federal and Subnational Levels

Intergovernmental fiscal relationships in Nigeria are currently a subject of intense controversy and irrepressible conflict. The major areas of concern have been the inherent inequities, imbalances in the interplay of interjurisdictional forces, and inability of the seeming fiscal unitarism to contribute significantly to social, political, and economic development (Olomola 1999). Against this backdrop, this section provides a brief overview of the distribution across tiers of responsibilities in agriculture. It examines how cross-tier dynamics between the federal, state, and local governments affect agricultural policy formulation and how these dynamics bear on the delivery of goods and services in the agricultural sector. It also examines the extent to which the spending of each government tier is coordinated with that of other tiers to result in coherent aggregate public resource allocation for agriculture, the main barriers to expenditure coherence, and recent initiatives aimed at promoting such coherence. Theoretical and empirical literature show that proper fiscal and planning relationships aimed at promoting decentralization matter for efficiency of public spending. Empirical evidence from Fan, Lin, and Triesman (2009), for example, emphasizes that countries with a large number of administrative tiers and public employees are characterized by more rent-seeking expenditures and lower provision of public goods. The multiplicity of layers and cross-links in the planning and budget processes between higher and lower tiers of government, and between sectoral and cross-sectoral agencies, and the matrix relationship that these two dimensions represent have significant implications for expenditure decisions. These consequences matter for the smooth functioning of the budget process as well as for the de facto influence of the various tiers on ultimate allocation of resources in any sector.

In terms of resource allocation in Nigeria, the Federation Account Allocation Committee at the federal level meets monthly for revenue sharing among the three tiers of government, as mentioned earlier. At the state level, the joint local government account allocation committee for each state ensures that allocations made to local government councils are promptly paid into the joint state–local government account and distributed to the councils based on provisions under the laws enacted by each state’s house of assembly. The federal government can sometimes undertake projects on behalf of state governments and thereafter make deductions at source from the statutory allocations of the concerned state. In other instances the federal government and state governments embark on joint projects.

Recent reforms of the budget process in Cross River state, for example, seem to have spurred considerable coherence between the state and LGAs regarding income generation and expenditure arrangements, particularly with respect to shared responsibilities. Thus the state has a central budget coordinating system. In recognition of the strategic role of the local governments as the grassroots government, the state government insists on integration of local governments into the state’s fiscal and economic policies and programs. This integration is considered critical to realization of Cross River state’s vision. As it concerns revenue generation in Cross River state, the structure of the tax system is well defined at the state level, but not at the local government level. In reality, such a structure is virtually absent in local governments. As mentioned, both tiers of government depend on the flow of funds from the federation account. The observation is that the internally generated revenue (IGR) mechanism at both state and local levels is not strong enough to achieve consistent fiscal objectives. At the local government level, the fiscal policy mechanism is particularly poor. The annual 10 percent mandatory statutory allocation from Cross River state government to the local government level is consistent, but the actual amount disbursed usually reflects the financial position of the state government.

Cross-Tier Statutory Responsibilities for Agricultural Development

According to the constitution, agricultural production does not fall within the purview of the executive legislative list. This means it is treated as a residual item within the domain of state responsibility. The federal government cannot therefore participate directly in agricultural production or even legislate on it. However, it can participate in promoting agricultural development activities as provided under the concurrent legislative list. The constitution defines the extent of the federal government's involvement in agricultural activities with regard to (1) "the establishment of research centers for agricultural studies" and (2) "the establishment of institutions and bodies for the promotion or financing of industrial, commercial or agricultural projects." This is a limited role. Although the constitution limits the federal government's role to agricultural research, agricultural financing, and promotion of agricultural projects, it does not preclude participation of state governments in these activities. Essentially, the intention is to make all aspects of agriculture important responsibilities of state governments. However, the federal government has the responsibility to pursue the attainment of macroeconomic goals of sustainable growth, employment, and price stability. It cannot achieve these goals without setting targets for every sector of the economy, including agriculture, and deliberately encouraging the participation of subnational governments in the process. This means the federal government needs to find ways to harmonize subnational government activities in every important sector to avoid dysfunctional policies. This is the primary challenge of coordination.

In addition, the 2001 new agricultural policy thrust defines the roles of both public- and private-sector stakeholders in agriculture. It defines the role of the federal government to encompass three areas: development, support, and service delivery. The role of the private sector includes agricultural production, processing, storage, and marketing. According to the policy thrust, local governments are expected to take over the role of state governments over time in a progressive manner as they find their foothold.

In Ondo state, the state government has always been the major player in implementing the state's agricultural policy. The new focus is to develop a tripartite arrangement between the state government, local governments, and the private sector (Table 2.4 summarizes roles of each actor as indicated in the state's policy document). In accordance with the 2001 new agricultural policy thrust, Ondo state expects local governments to take over the responsibilities of the state government in the future. However, the process through which responsibilities will be agreed upon is not clear.

Table 2.4 Roles of state government, local government, and the private sector in agricultural development in Ondo state

State government	Local government	Private sector
Promoting primary production of agricultural produce through providing effective extension services and a supply of improved inputs for crops, livestock, fisheries, and forestry	Providing effective agricultural extension services	Investing in all aspects of agricultural production
Facilitating access to land for those who wish to engage in farming	Providing rural infrastructure	Storage, processing, and marketing of agricultural produce
Promoting appropriate farm mechanization strategies	Managing irrigated areas	Agricultural input supply and distribution
Training and manpower development	Mobilizing farmers for accelerated agricultural and rural development through cooperatives, local institutions, and communities	Producing improved seeds, seedlings, brood/breeding stock, and fingerlings under government certification and quality control
Liaising with appropriate institutions to secure credit for farmers	Facilitating access to land for new entrants into farming in accordance with the provisions of the state's land use laws	Agricultural mechanization
Controlling and preventing plant and animal pests and diseases		Supporting research in all aspects of agriculture
Investing in rural infrastructure, particularly rural feeder roads and water supplies		Providing enterprise-specific rural infrastructure
Partnering with communities to manage and control forest reserves		
Providing irrigation systems through dams, wells, or running streams		
Supporting research		

Source: Ondo State Ministry of Agriculture (2012).

Links from Policies and Strategies to Public Expenditure

Although considerable efforts have been made to identify development priorities and articulate policies and strategies for improved performance of the agricultural sector, no sharp connection has been made with the expenditure policy. It is usually difficult to see how the various policies and strategies dovetail into the budgetary process. The inherent disconnect with the budget cycle implies that government cannot easily keep track of the expenditure implications and realistically predict the implementation outcomes. At the federal level, the situation is beginning to improve in the aftermath of the articulation of the ATA and alignment of expenditures toward the attainment of targets set in various strategic components of the agenda. At the subnational level, expenditure decisions do not follow a results-based framework, and there is no analytical basis for a logical assessment of expenditure impact. What is more, no systematic monitoring and performance indicators are established to provide the basis for remedial actions in situations in which the budget process runs into troubled waters. Repeatedly over time, the country expresses concerns about the weakness in the budget process, the suboptimal performance, and the inability of the sector to surmount development challenges. Adherence to the development priorities outlined is essential in the design of budgets and in expenditure decisionmaking. It is by so doing that

claimants of the budget can appreciate the benefits of budget implementation and the services delivered. According to Olomola (2012), many states in Nigeria have a poor history of designing budgets to reflect key development priorities, and the problem seems to be worsening in recent times.

The defective linkage between expenditure decisions and prioritization of projects manifests in the selected states in particular where some activities that were not budgeted for ended up being funded whereas those already budgeted for receive no funding at all. This situation keeps recurring because no effective monitoring and evaluation system exists either in principle or in practice to provide both useful lessons to mitigate recurrence and a credible framework for monitoring progress and evaluating results. In addition, activities that are pronounced as priorities even through a rigorous procedure of prioritization end up being downgraded during budgeting; either they are not accommodated in the budget or no funding is released for their implementation. The notion of priority is another dimension of the dysfunctional relationship. Some activities are adjudged to be development priorities but are not recognized as spending priorities by the government during the budgeting exercise. For instance, in Cross River state, fertilizer, seeds, agrochemicals, a credit program, and extension are visible in the functional composition of the agricultural budget. Indeed, fertilizer falls within the topmost priority while agricultural credit falls within the second priority. However, no budget was allocated to fertilizer procurement from 2004 to 2007. In 2008 and 2011, some funds were allocated but none were released. No credit was funded from 2000 to 2009. No budget existed for seeds in 2001 and 2002, but some funds were allocated; whereas in 2005 and 2006 funds were allocated but not released. Extension was another activity adjudged to be a priority; nonetheless, this activity was not funded from 2000 to 2009.

In the same vein, agricultural activities that are regarded as priorities in Niger state have been poorly funded. For instance, agrochemicals received no funds from 2003 to 2012 except for three years, 2005, 2009, and 2010. Land clearing suffered the same fate except in 2006, and tractor hiring received no funds except in 2005 and 2008. Although tractor hiring was not directly funded from the budget of the Ministry of Agriculture in 2010, a number of tractors were purchased by the CADP, a World Bank–assisted project that is also involved in providing tractor hiring services. In the forestry subsector, the state accorded priority to pulpwood plantation, forest plant seed production, and industrial wood production; however, no funds were released for these activities from 2003 to 2008. There was also no funding release for fishery development from 2004 to 2012 except for one year (2010). The pattern is not different in Ondo state, where the key priority areas of development are just receiving budgetary attention in recent times. For example, there was no release of funds for food crop development activities from 2000 to 2003. Agricultural input services were not funded from the budget between 2000 and 2002, while extension services did not attract any funding from 2000 to 2004.

The fact that these problems are widespread and continue unabated shows that the root cause transcends the conceptualization of priority in understanding the relationship between planning and budget by policymakers. Procedural or methodological and governance issues are involved. First, government defines priorities without involving other stakeholders. Second, the farmers are easily convinced and manipulated by the political class. Third, the beneficiaries (farmers) hardly question the poor service delivery that arises from a lack of appropriate alignment between planning and budget. Farmers are powerless and worry less about demanding accountability than about eking out a living from the only business in which their economic and social background qualify them to engage. Yet unless there is appropriate linkage, no amount of money spent on the agricultural sector will result in a significant growth rate that is commensurate with the country's resource endowment and capable of lifting farmers out of poverty.

An important consideration in addressing planning and budget linkages and in articulating spending priorities is to identify possible collaborations and coordination of activities in the delivery of services that will promote growth and development of the agricultural sector. Are agencies of government other than those in the agricultural sector providing parallel services (such as credit/microfinance, private extension, capacity building and empowerment, and so on) to farmers? Where such opportunities exist, as is often the case, they need to be identified, integrated into the planning exercise, and brought to bear on decisionmaking during the budget process. At the federal level, such harmonization is imperative for

agriculture-related functions of FMWR and FMEnv. The same synergy in planning is also necessary in states such as Ondo and Niger, where the agricultural activities being financed with public funds do not emanate from a single ministry of agriculture. For instance, Niger state has a Ministry of Agriculture, a Ministry of Livestock and Fisheries Development, and a Ministry of Environment and Forestry. In Ondo state, agricultural services are rendered mainly by the Ministry of Agriculture and Rural Development and the Ministry of Natural Resources, the latter responsible for the development of livestock, fisheries, and forestry.

The lingering trend of a disconnect between planning and budgeting in spite of shifts in agricultural development strategies raises the question of whether the design and implementation of policies have any significant influence on the size and structure of agricultural public spending or indeed whether the varying policy regimes have been accompanied by adjustments in expenditure pattern. If such relationships are discernible at the federal and subnational levels, a better understanding of the performance of public expenditure in the country should be possible in terms of efficiency and cost-effectiveness. The relevance of varying policy regimes for public expenditure restructuring can therefore be ascertained with a view to maximizing the benefits of policies and strategies and having a regime of public spending that is more efficient and results oriented. With the available expenditure data, no clear-cut evidence exists as to whether or not sectoral policies and strategies really matter in agricultural public expenditure decisionmaking.

At the subnational level, for the period covered in this AgPER, are three important policy regimes: the era of NEEDS (associated with presidential initiatives for agricultural development) during the administration of President Obasanjo, the seven-point agenda era of President Yaradua, and the era of Vision 20:2020 of President Jonathan. The first implementation plan of the Vision (2010–2013) took off in 2010. We examine the trend in public expenditure on key items that have widespread visibility and are crucial to achieving the development objectives in the sector over these policy regimes (Table 2.5). In Cross River state, the pattern of expenditure on fertilizer, seed, and agrochemicals does not vary remarkably over the three policy junctures. In Niger state, the expenditure share of fertilizer dipped during the era of the seven-point agenda and rose considerably during the implementation of Vision 20:2020. However, the same cannot be said about seeds and agrochemicals, which received virtually no funding in 2010 and 2011. In Ondo state, tree crops received a boost in expenditure share following Vision 20:2020, whereas the share of agricultural inputs and produce services plummeted. These observations are contrary to expectation. Given the need for expansion in the use of agricultural inputs, the emphasis on agricultural transformation and modernization, and the participatory approach in the articulation of the Vision policies and strategies for agricultural development, an increasing trend in expenditure share of the various items and services is expected. These findings lead to the conclusion that changes in policies are not being effectively reflected in the budget process and expenditure decisionmaking. More often than not, policies change in a cosmetic fashion in such a way as to enhance the political influence of providers of associated services while the business and politics of public expenditure go on as usual. As we shall see shortly, it is not surprising that agricultural public spending has failed to attain the expected level in spite of the huge investment gaps and high priority often ascribed to the sector by successive administrations at the federal and subnational levels.

Table 2.5 Trend in public expenditure on selected items as percentage of crop development expenditure by policy regime

Item	2005	2006 NEEDS era	Average	2008	2009	Average	2010	2011	Average
				Seven-point agenda era				Vision 20:2020 era	
Cross River									
Fertilizer	0.00	0.00	0.00	0.00	20.87	10.44	100.00	0.00	50.00
Seeds	0.00	0.00	0.00	0.00	7.20	3.60	0.00	0.00	0.00
Agrochemicals	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Niger state									
Fertilizer	73.71	92.71	83.21	19.49	9.27	14.38	99.89	88.57	94.23
Tractor hire	22.66	0.00	11.33	80.32	0.00	40.16	0.00	0.00	0.00
Agrochemicals	0.41	0.00	0.20	0.00	86.18	43.09	0.11	0.00	0.05
Ondo state									
Agricultural inputs	24.59	26.19	25.39	59.9	78.60	69.25	49.44	26.00	37.72
Tree crops	10.79	9.70	10.25	14.31	6.46	10.39	6.29	37.12	21.71
Produce services	11.90	14.46	13.18	10.81	16.13	13.47	10.18	14.48	12.33
Federal capital expenditure (constant 1990 nairas, millions)									
Agriculture				0.0	0.5	0.25	0.5		
Livestock				0.2	1.1	0.65	0.2		
Fisheries				0.0	0.0	0.00	0.5		
Fertilizer subsidy				0.6	3.2	1.9	2.6		

Source: Authors' computations based on data from Federal Ministry of Agriculture and Rural Development, Cross River state Ministry of Agriculture, Niger state Ministry of Agriculture and Rural Development, and Ondo State Ministry of Agriculture and Rural Development (2005–2011).

Note: NEEDS = National Economic Empowerment and Development Strategy.

Resource Availability for Financing the Agricultural Budget

The sources of revenue available for financing agricultural budgets are important elements in understanding the drivers of public expenditure decisions. Several revenue sources come together as funds available to finance expenditures in the agricultural sector. More often than not, the focus of budget analysis is on the expenditure. The revenue component is not often adequately considered in making decisions about resource allocation and improved budget performance. Between 2008 and 2012, annual average revenue consists of 79 percent oil revenue, 19 percent nonoil revenue, and 2 percent federal government independent revenue. The oil revenue, which is the most important source of revenue to the federation account (distributable to all the three tiers of government), consists mainly of crude oil sales, oil taxes, and royalties. Of the total oil revenue between 2008 and 2012, crude oil and gas sales constitute an annual average of 54 percent, followed by petroleum profit tax at 33 percent, royalties at 12 percent, and rent and others at 1 percent. On the average, during the same period, the nonoil revenue consists of 37 percent company income tax, followed by 33 percent value-added tax (VAT), 21 percent customs and excise, and 9 percent federal government independent revenue (Nigeria, BOF 2014). The revenue that accumulates in the federation account is shared in the ratio of 52.68 percent to the federal government, 26.72 percent to the states, and 20.60 to the local governments. The revenue derived from VAT, which accumulates in the VAT pool account, is shared in the ratio of 15 percent to the federal government, 50 percent to the states, and 35 percent to the local governments.

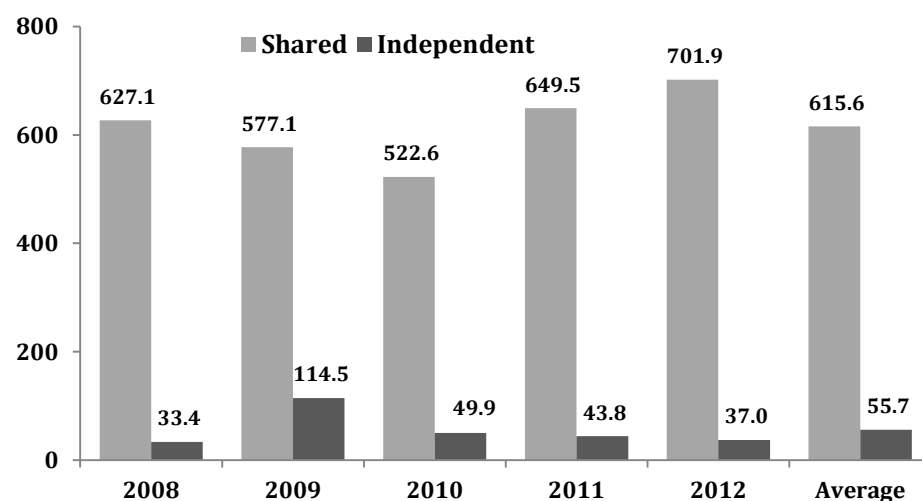
The horizontal allocation formula among states is based on derivation (50 percent), equality of states (40 percent), and population (10 percent). A similar arrangement applies to revenue sharing of the VAT pool account among local governments. For the federation account, the vertical and horizontal allocation formulas are more complex. Oil-producing states first enjoy 13 percent of revenue from oil sources only. This is deducted from the federation account as a first-line charge. The horizontal allocation formula for sharing the 13 percent derivation varies directly with the ratio by which states contribute to it.

Since the bulk of the revenue comes from the oil and gas sector, the volatility often experienced in international oil prices often has deleterious consequences on the performance of the budget. Not only does high volatility of revenue disrupt budget implementation and create slippages between budget and actual expenditure, but the attempt to hedge for such effects through a fiscal rule that benchmarks the oil price to annual revenue projections actually limits the resources available to the various tiers of government to finance their budgets. To make public spending less unpredictable in the face of uncontrollable oil revenue volatility, government adopts a notional price often lower than the current oil market price. If oil is sold above this budget benchmark price, the extra revenue is saved in the excess crude oil account. The savings are then available to finance future spending shortfalls in case the price of oil later falls below the budget benchmark price, or it may be used where other pressing spending needs arise. In this manner, the government can minimize the likely effects of periodic fluctuations in oil prices on its spending plans. In what follows we examine how the three tiers of government have fared in terms of the trends in resource availability for financing their budgets between 2008 and 2012. On account of recent developments in the international oil market, including the discovery of oil in commercial quantities in some African countries and the expansion in the production of shale oil in the United States, the potency of the fiscal rule of thumb of benchmarking oil price for budgetary purposes may be undermined and the country may face serious revenue shocks that can adversely affect economic growth and development. Rather than relying on this placebo, concerted efforts will need to be geared toward developing nonoil revenue sources, and in this regard the agricultural sector is a good candidate, although it requires huge private-sector investment and expansion in public spending.

Federal-Level Revenue Sources

Revenue available to finance the federal government's agricultural budget derives from two main sources—shared and independent (Figure 2.3). Shared revenue is mostly from crude oil-related earnings and VAT, which accrue jointly to the three tiers of government. Earnings from VAT accumulate in the VAT pool account, while other types of earnings accumulate in the federation account for formulaic sharing among the three tiers of government periodically. The Federation Account Allocation Committee, comprising representatives of the three tiers of government, convenes monthly to apply vertical and horizontal formulas to the balances of both accounts. The federal government depends mostly on shared revenue to finance its budget. This source of revenue constitutes the bulk of its earnings, contributing about 92 percent of total federal revenue on average between 2008 and 2012.

Figure 2.3 Major sources of federal government revenue, 2008–2012 (constant 1990 nairas, millions)



Source: Based on data from federal government budget books, financial statements, and audit reports (2008–2012).

Dependence on crude oil earnings exposes Nigeria's finances to external shocks and volatility and exerts pressure on budgetary expenditures. For example, the country seriously depleted sequestered excess crude oil earnings to finance budgetary expenditures in the wake of the 2008–2009 global financial crises. Oil prices fell sharply from an all-time high of US\$147/barrel to about US\$38/barrel in a few months. Even then, the contribution of crude oil to national finances was still high, at 78 percent in 2009, even while oil prices were at their lowest point.

Independent revenue comes from various sources, including taxes, licenses, mining rents and royalties, fees and fines, earnings and sales, and rent on government property, as well as interest and investment earnings. This source of revenue also includes reimbursements—refunds of expenses incurred on behalf of other governments. Here, the inclusion of reimbursements as revenue is merely to indicate their availability for financing expenditures rather than to endorse the accounting error of treating a financing item as revenue. The federal government has independent revenue sources that do not accrue to the federation and VAT pool accounts, which it administers on its own. These sources include the education tax¹⁰; personal income and capital gains taxes of residents of the Federal Capital Territory and Abuja, members of the Nigerian Armed Forces, and foreign service personnel; sale of federally owned assets¹¹; and investment earnings.

The trend in federal revenue between 2008 and 2012 does not seem to support a high degree of performance in public spending. In real terms, revenue grew haphazardly, declining by 17 percent in 2010 and thereafter growing at a decreasing rate to give an average growth rate of 3.8 percent over the period (Table 2.6. Moreover, independent revenue fell below the average annually except in 2009, and from then on its share of total revenue trended downward. Thus, the revenue constraints on budget implementation during the period have both external and internal dimensions.

Revenue Sources at the Subnational Level

At the subnational level, the major sources of revenue can be broadly categorized as coming from federal government statutory allocation (such as from the federation, VAT pool, excess crude, and mineral derivation accounts), IGR (such as from taxes, levies, and fines), and loans (such as from donor funds, domestic loans, and other foreign loans). Tables A.2 to A.7 in the Appendix show the major sources of revenue available to finance agricultural budgets in the three case study states (Cross River, Niger, and Ondo) as well as the respective case study LGAs (Akamkpa, Wushishi, and Odigbo). Overall, total state revenue has increased significantly over time, but unevenly across the three states. It grew the most in Niger state, by 8.6 percent on average between 2008 and 2012. In Cross River state and Ondo state, revenue grew on average by 4.1 and 1.5 percent, respectively, during the same period. In general, reliance is heavy on statutory allocations to finance state budgets. As shown in Table 2.6, total revenue also witnessed considerable fluctuations. These fluctuations are popularly attributed to instability of the federal government's sources of revenue, especially the uncertainties surrounding international crude oil prices. Basically, the prioritized areas of the federal government, relative population, and the economic buoyancy of federating units constitute major determinants of federal transfers to states.

¹⁰ The education tax accumulates in the tertiary education tax fund, an independent fund managed solely for funding tertiary education.

¹¹ Sale of nationally owned assets accrues to the federation account.

Table 2.6 Comparison of main sources of revenue, 2008–2012 (constant 1990 nairas, millions)

Source	2008	2009	2010	2011	2012	Average 2008–2012
Federal government						
Total revenue	66,044.2	69,164.9	57,255.8	69,326.1	73,889.0	67,136.0
Total revenue growth (%)	—	4.7	–17.2	21.1	6.6	3.8
Independent revenue	3,337.8	11,451.6	4,994.2	4,378.5	3,701.6	5,572.7
Independent revenue share (%)	5.1	16.6	8.7	6.3	5.0	8.3
Cross River state						
Total revenue	2,072.0	1,336.6	1,078.2	1,765.2	1,896.6	1,629.7
Total revenue growth (%)	—	–35.5	–19.3	63.7	7.4	4.1
Internally generated revenue	183.3	206.0	175.6	204.2	279.2	209.7
IGR share (%)	8.8	15.4	16.3	11.6	14.7	13.4
Niger state						
Total revenue	1,306.8	1,428.2	1,178.8	1,767.2	1,634.7	1,463.1
Total revenue growth (%)	—	9.3	–17.5	49.9	–7.5	8.6
Internally generated revenue	74.2	86.0	73.5	80.7	86.3	80.1
IGR share (%)	5.7	6.0	6.2	4.6	5.3	5.6
Ondo state						
Total revenue	2,433.1	2,250.4	1,660.5	2,061.0	2,381.1	2,157.2
Total revenue growth (%)	—	–7.5	–26.2	24.1	15.5	1.5
Internally generated revenue	134.4	124.5	143.1	167.8	103.9	134.7
IGR share (%)	5.5	5.5	8.6	8.1	4.4	6.4
Akamkpa LGA						
Total revenue	54.9	60.5	45.9	0.0	0.0	32.3
Total revenue growth (%)	—	10.2	–24.1	0.0	0.0	–3.5
Internally generated revenue	0.0	0.0	0.0	0.0	0.0	0.0
IGR share (%)	0.0	0.0	0.0	0.0	0.0	0.0
Wushishi LGA						
Total revenue	35.1	0.1	1.0	72.7	0.0	21.8
Total revenue growth (%)	—	–99.7	770.3	7,490.3	0.0	2,040.2
Internally generated revenue	0.0	0.0	0.1	0.1	0.0	0.0
IGR share (%)	0.0	0.0	6.5	0.1	0.0	1.3
Odigbo LGA						
Total revenue	15.5	15.4	23.9	20.0	0.0	15.0
Total revenue growth (%)	—	–0.5	55.3	–16.4	0.0	9.6
Internally generated revenue	0.0	0.0	0.0	0.0	0.0	0.0
IGR share (%)	0.0	0.0	0.0	0.0	0.0	0.0

Source: Authors' compilation using data from federal, state, and local government budget books, financial statements, and audit reports (2008–2012); and SPARC (2014).

Note: IGR = internally generated revenue; LGA = local government area.

Allocations from the federation account dominate total federal transfers to state governments, ranging from about 78 to 86 percent of total state revenue on average during the periods for which data are available. In addition to being volatile, these transfers are not always disbursed in a timely manner. This implies that any disequilibrium to revenue sources of the federal government will significantly affect the revenue of the states, impacting both the timeliness and the quality of budget implementation. As an oil-producing state, Ondo state enjoys federal transfers from the mineral derivation account in addition to other federal transfers.

Another important source of revenue is IGR. It can be used to ameliorate economic shocks and risks associated with overdependence on federal transfers. Between 2008 and 2012, IGR followed an uneven trend. In real terms, Cross River state has the highest average (₦209.7 million) followed by Ondo state (₦134.7 million) and Niger state (₦80.1 million). As share of total revenue, IGR is also highest in Cross River state (13.4 percent), followed by Ondo state (6.4 percent) and Niger state (5.6 percent). Within IGR, taxes constitute the major component, ranging from 46 to 58 percent, on average. This shows the importance of taxes as one of the fiscal instruments used in financing government budgets. The irregular patterns in levels of IGR observed across states suggests either that the institutions and agencies tasked with the responsibilities of generating internal revenue for the state are not doing a good job or that issues of corruption prevail. Loans from domestic and foreign lenders, including from major donor agencies, represent the third major category of revenue sources used to finance state budgets, representing approximately 3 percent to 11 percent of state revenue, on average. Domestic and foreign loans are for either short or long terms with concessionary or market-determined interest rates. Domestic loans are mostly used to make up for shortfalls of federal allocations in meeting recurrent expenditures, such as salaries. Loans from foreign donors, on the other hand, are usually project based. The accumulation of loans can pose a serious obstacle to economic development, with loan repayment becoming a major disincentive to investments. It is worth noting, however, that data on loans are irregular across the years, implying that a true assessment of trends is not likely.

At the local government level, federal statutory allocations are also the major sources of revenue available to finance local government budgets, averaging about 98 percent across both years and states. State statutory allocations, which should represent 10 percent of state IGR, are about the second-largest source of revenue. But a combination of limited data availability at the local government level and inadequate transfers from states hampers an accurate and comparative assessment of this source of revenue. The IGR base of the LGAs is much lower than that of the states, as the magnitude of dependence on federal transfers shows. Of the three case study LGAs, Akamkpa in Cross River state had the highest average total revenue (₦32.3 million) between 2008 and 2012, followed by Wushishi in Niger state with ₦21.8 million, while Odigbo in Ondo state had the lowest (₦15.00 million) (Table 2.6).

The Budget Process

The Budget Process at the Federal Level

To begin the budget process, federal ministries, departments, and agencies (MDAs) submit their budget proposals to the Budget Office of the Federation in response to a call circular. The call circular follows the completion of the fiscal strategy paper (FSP), which is approved by the Federal Executive Council. The FSP includes the medium-term fiscal framework (MTFF) and the medium-term expenditure framework (MTEF) at an aggregate level. The National Assembly must also approve the FSP as required by the Fiscal Responsibility Act 2007. Without this approval, the National Assembly will not allow a presentation of the budget. The idea behind this constraint is to approve a binding fiscal framework for budget formulation and implementation in the medium term, which will then form the basis of the budget. However, it could sometimes cause practical difficulties that contribute to delays in approving the budget.

The Budget Office of the Federation conducts first-level budget negotiations with the MDAs, during which discussions of the capital budget feature prominently. Within the recurrent budget, the personnel budget is fairly straightforward, with the parameters and variables easy to determine. But one

major complicating factor with personnel costing is the perennial problem of ghost workers. Overhead costs also pose some challenge during negotiations, with no clear rules for determining appropriate levels. The main cause of the problem is that overheads cover mostly the cost of running the administration and rarely, if ever, include operations and maintenance costs, which are classified under capital expenditures. When a resolution is reached, the Federal Executive Council then reviews and forwards the draft proposals to the National Assembly for final approval.

Each chamber of the National Assembly conducts a detailed review of the proposed MTFF and MTEF. The Committee on Finance and Appropriation of each chamber conducts a detailed review of the budget proposals using specialized sectoral committees as subcommittees. These specialized committees scrutinize the budget proposals and invite the MDAs to defend or negotiate their proposals. Capital expenditure proposals feature prominently in these negotiations. The National Assembly then presents a harmonized appropriation bill to the president for approval. The approved appropriation act has the power of law, and the executive is to implement it as made. After budget approval, the federal minister of finance releases funds through quarterly warrants to the federal treasury. The warrants authorize payment for expenditures listed in them. Nowadays, warrants may not always represent cash availability, as was the case in the past. Consequently, the treasury has devised a process of cash backing for capital projects, which transfers funds to MDA accounts at the Central Bank of Nigeria. The MDAs use these funds to implement their capital projects, although they may not be able to utilize all of these funds for various reasons. The difference between the cash backing and balances in the MDA accounts at the end of the period thus represents the actual funds expended by the MDAs.

Further, FMF produces quarterly implementation reports in compliance with the Fiscal Responsibility Act 2007. The act requires FMF to submit quarterly budget performance reports to the Joint Finance Committee of the National Assembly and the Fiscal Responsibility Commission. FMF also publishes implementation reports on the website of the Budget Office of the Federation.¹² However, these reports get published too late to be effective as budget monitoring reports, despite assertions to that effect.

Delays in budget approval have negatively affected budget implementation over the years. Late completion of proposals, untimely legislative review, and late presidential approval due to disagreements with the legislature are some of the factors responsible for these delays. These delays affect the implementation of the capital budget only, because the recurrent budget is usually disbursed fully. Delayed implementation of the capital budget complicates the tracking and reporting of expenditures because financial reports have to compare budget and actual expenditure figures of different periods. Specifically, while reported budget figures are for the current year, some of the actual expenditures are part of the preceding year's budget executed in the current year. It is thus difficult to distinguish between the preceding and current year's budget. The recently passed 2013 budget attempts to correct this by automatically integrating any unexecuted portion of the 2012 budget into the 2013 budget. This will, however, not entirely correct the issues of budget tracking.¹³

Budget Process at the Subnational Level

Cross River State

The budget process in Cross River state has undergone several modifications following economic, institutional, and political imperatives. The seemingly unending and huge variance between budgetary allocations and actual spending in the state over the years necessitated a rethinking of the state's public finance management. Prior to 2006, the budget process adopted in Cross River state involved budget incrementalism at different levels of aggregation and use of different thresholds for small changes. The state initiated a budget reform process in 2006 and after a successful pilot program adopted the MTEF

¹² The report is a sampling of capital projects and programs carried out by the Budget Office of the Federation. It is put together in collaboration with selected MDAs, civil society organizations, and the media.

¹³ To further improve the budget process, continuing reforms include introduction of additional modules in GIFMIS, the IPPIS, and Treasury Single Account (TSA).

approach of budgeting. This budgeting approach is inherently designed and structured to ensure both horizontal and vertical coordination of activities among different key government institutions, from policy formulation to budget implementation. Each of the institutions has specific roles to perform in ensuring that the different phases of the budget cycle are undertaken. These institutions are statutory and hierarchical in the flow and sharing of fiscal information. Basically, 12 distinct institutions and three committees are involved in budgeting and budget execution in the state (see Table A.8 in the Appendix).

Cross River state develops a multiyear medium-term budget framework, which encompasses three separate, but related, frameworks—MTFF, medium-term budget framework (MTBF), and MTEF.¹⁴ Adoption of the MTEF approach has entrenched the principles of accountability, transparency, and performance-based budgeting. These principles, in turn, led to the creation of the Department of Budget, Monitoring and Evaluation, which is headed by a state executive member (special adviser) in the state and the Department of Budget Monitoring and Due Process at the local government level. Under this system, the Department of Budget, Monitoring and Evaluation of the state, in conjunction with the Ministry of Local Government Affairs, conducts an annual local government budget stakeholders' consultative forum to solicit the input of different stakeholders for the state budget. Periodic training of local government budget officers builds their capacities for the MTEF budgeting approach. With proper identification, documentation, and review of relevant policy documents,¹⁵ the annual budget allocation process in the Ministry of Agriculture usually begins with a statewide budget stakeholder's consultative forum. The forum brings together different stakeholders including civil society organizations, nongovernmental organizations, farmers' associations, leaders of the state elders' forum, bureaucrats from the ministry, and departments and agencies of agriculture to examine the performance of the previous year's budget and contribute to the expected budget.

The medium-term sector strategy (MTSS) document sets in motion the basis for fiscal direction in the Ministry of Agriculture. It begins with a review of existing budget commitments. The budget review involves comparing current budget execution and commitments against the state's targets for improved service delivery. This specifically involves the review of both capital and recurrent budget items. The review of relevant policy documents as well as external and internal environments thus provides the basis for setting new targets. The criteria are that these new targets be consistent with the state's agricultural policy objectives and be properly aligned with the Ministry of Agriculture's vision, mission, core values, and strategic issues, and with stakeholders' needs or expectations. Based on the new set of targets, specific budget commitments are scored based on five criteria: clarity of current justification for budget commitment, risk of current budget commitment's failing to perform due to negative events, current impact of budget commitment, likelihood of the time frame and budget, and expected future impact of budget commitments. Assessing the performance of existing budget commitments requires giving consideration to initiatives that are not performing well but have the potential to be improved for better service delivery. Potential steps to improve such initiatives are clearly documented and given a higher score contingent on revision of the current level of spending.

The Ministry of Agriculture then develops specific strategies based on the new targets that have been agreed upon and formulated. These strategies are usually in two parts for each target: (1) continuation of existing programs included in the previous year's budget and (2) new initiatives that the ministry decides on to bridge the gap between existing programs and new targets. Each initiative may consist of one or more programs, and it may combine more than one budgeting approach. If a noticeable gap exists between services provided under existing programs and the MTSS targets, actions to be taken can include the following: expansion of the existing program; modification of an existing program to improve coverage and performance; introduction of a new program, in parallel with the existing program, to supplement the current level of service; and introduction of a new program to offer a new service. Any

¹⁴ According to OPM (2000), MTFF, the first step toward an MTEF, contains a report of fiscal policy objectives and a set of integrated medium-term macroeconomic and fiscal targets and projections. An MTBF builds on the MTFF and contains medium-term budget estimates for individual spending agencies. An MTEF develops the approach further, adding elements of activity and output-based budgeting to the MTBF.

¹⁵ Such documents include the economic blueprint, MDG documents, SEEDS, and LEEDS.

of the stated actions may involve an increase in the recurrent budget alone or an increase in the capital budget accompanied by an increase in the recurrent budget. Outcomes to indicate results of initiatives, budget impact from additional costs on both recurrent and capital budgets, and value for money are the three main criteria specified against each initiative when developing strategies. After all initiatives have been prioritized, the Ministry of Agriculture then costs the MTSS in a clear and transparent manner based on credible and complete information from various relevant sources. Activity-based budgeting is the standard method used by all MDAs for developing strategies the cost of which are assessed.

Finally, the costed MTSS is integrated into the Ministry of Agriculture's budget, prepared according to the format prescribed by the state Ministry of Finance. After review and approval by the commissioner of agriculture, the MTSS and budget are submitted to the Department of Budget, Monitoring and Evaluation. This department then prepares a consolidated MTEF and the state government budget at the same time and convenes a meeting to resolve any inconsistencies and cross-cutting issues. When all issues have been resolved, the Department of Budget, Monitoring and Evaluation then submits the consolidated MTEF to the state Budget and Performance Review Committee for review. The MTEF is then submitted to the governor for comments and later to the Executive Council for deliberation. On the Executive Council's recommendation, the governor approves the MTEF and then submits the MTEF and MTFF to the House of Assembly for approval as the state multiyear medium-term budget framework. The annual budget proposal is then submitted for legislative review and enactment at the same time.

Niger State

The budget process in Niger state is both policy driven and priority determined, depending on the availability of funds. It involves the State Planning Commission, MDAs, and the state legislature. Each MDA formulates its programs based on its sector-level policies. The beginning of the budget process in Niger state involves efforts to link sector-level policy, planning, and budgeting. This requires, at its core, the development and effective implementation of a comprehensive MTFF as well as a sector-level MTFF. To formally commence the process, the Niger State Planning Commission sends out call circulars requesting that all MDAs submit budget proposals for the upcoming financial year. The MTSS is used to develop the budget proposal on the basis of the priorities of MDAs. Budget proposal submissions must take into account existing guiding documents (strategy papers) that have been produced by the Niger state government. These guiding documents include the DAP and Vision 3:2020. For the agricultural sector, these guiding documents include the Niger state agriculture and rural development policy and Niger state ATA. These documents lay out goals, objectives, and challenges for all sectors of the state economy. Each proposed project is then costed, after which the budget is submitted to the State Planning Commission. From the overarching policies and strategies that come in the form of the MTFF, the stakeholders then link the upcoming financial year's activities with the medium- and long-term priorities of the state government.

Niger state government is now in the second phase of implementing an MTFF. The state uses the MTFF for linking its development policies for education, health, agriculture, or any other sector to planning. The MTFF is critical in the budget process. It guides resource allocation during budget-screening exercises that follow submission of budget proposals. Budget proposals received by the State Planning Commission are then subjected to an internal screening process by key stakeholders from all MDAs. These stakeholders include the commissioner, permanent secretary, directors, and other heads of departments. The next stage is the resubmission of the proposed budget to the State Planning Commission for further screening. Each MDA usually appears before a budget defense panel on a scheduled appointment to defend its submission. During the screening, priority projects are identified and agreed upon using the MTFF as a guide. In addition, strategies for implementation of the projects are clearly outlined. Further, the state observes an expenditure ceiling or envelope for every MDA, which is decided upon by the Ministry of Finance. This envelope is usually discussed at the screening forum. Once a ministry has finalized its budget and the final structure of the budget is established, it is submitted to the

Ministry of Finance for additional intersectoral meetings and revisions before the finalized copy is sent to the House of Assembly for approval.

The IGR component of the budget is screened by the Niger state Board of Internal Revenue, while the Department of Budget of the Ministry of Finance screens the personnel costs. Subsequently, the Planning Commission harmonizes all MDA submissions and forwards them to the state Executive Council for further screening. Next, the proposed budget is sent back to the State Planning Commission for additional harmonization and afterward presented to the state legislature. Copies of the proposed budget as presented are distributed to every MDA. Circulars for screening are then issued to all MDAs inviting them to go before the legislative committees for budget defense. The House of Assembly Committee on Agriculture screens the agriculture budget, while the MDAs, Board of Internal Revenue, State Planning Commission, other stakeholders, and the press are in attendance. After this budget defense exercise, the house committee presents the budget to the House of Assembly for approval of the appropriation bill. The bill is then presented to the governor for approval.

After the governor's approval of the appropriation bill, the budget is then ready to be implemented. The procedure to access funds then follows a due process. First, the MDAs obtain clearance, in principle, from the Planning Commission, and the Planning Commission verifies whether the MDAs have budgetary allocations for the proposed projects. The MDAs then prepare memos and attach them to the clearances, which are then submitted to the Executive Council. Typically, expenditure limits are set. For example, if the governor has a spending limit of ₦10 million, any amount above this spending threshold would have to be submitted to the state Executive Council for approval.

Each MDA has a Resident Due Process Team that examines projects for approval. The Resident Due Process Team comprises the following: (1) permanent secretary (chairman); (2) director of planning, research, and statistics (secretary); (3) director of administration; (4) director of engineering services; (5) chief accountant; (6) chief store officer; and (7) representative of the State Public Procurement Board. Attendance at the due process meeting is mandatory for members of the Resident Due Process Team, and the directorate undertaking the procurement must be represented. The project is then passed to the Procurement Board, which issues a certificate of no objection to execute the project. Request for release of funds is then submitted to the Ministry of Finance through the State Planning Commission. Each MDA then conducts an open competitive bidding process for public procurement of goods and services. The State Planning Commission records all requests made by the MDAs and tracks expenditures.

Ondo State

Based on NEEDS¹⁶ and Vision 20:2020¹⁷ and in consultation with the state governor, the Ministry of Economic Planning and Budget prepares an envelope for each ministry in the state (the limit for each ministry's budget). Each commissioner or permanent secretary then allocates the envelope to various departments and units within each ministry. Directors and heads of units in each ministry are allowed to provide inputs into the budget at this stage, but they are not allowed to exceed the envelope limits. The budgets allocated to various ministries are then harmonized and submitted as the proposed budget to the state governor through the Ministry of Economic Planning and Budget, which assesses the accuracy of the proposed capital and recurrent expenditure estimates.

¹⁶ SEEDS in Ondo State is a derivative of NEEDS. It is a follow-up action plan of the state's Road Map to Progress. The document was put together with the full participation of a cross-section of people in the state and through a broad consultation with various interest groups and stakeholders. For the first time in the history of development plan formulation in Nigeria, people are being involved in charting the way they want to be governed. It is a reform development strategy subscribed to as a home-grown initiative in response to development challenges.

¹⁷ To develop this medium-term plan, subject matter specialists and budget officers were drawn from various MDAs. The specialists were grouped into teams according to their sectors of expertise, responsible for reviewing initiatives or programs in the Ondo state component of Nigeria Vision 20:2020, developing activities that are required to implement the initiatives or programs, and also costing these activities.

The governor then submits the proposed budget to the House of Assembly for review. The House of Assembly Committee on Finance and Appropriation then screens the budgets of the MDAs. The heads of MDAs defend their budgets with a presentation to the committee, which is expected to be backed up with the necessary documents to ensure accuracy and accountability. Next, needed modifications are made at the secretariat of the committee, and the committee presents the revised budget to the full house for approval. At this stage of the approval process, little or no amendment is made to the budget. The budget process in Ondo state occurs as fast as possible.¹⁸

¹⁸ For example, the 2013 budget defense at the Ondo State House of Assembly commenced on January 21, 2013, and by February 5, 2013, the governor had signed the appropriation bill into law.

3. TRENDS IN PUBLIC EXPENDITURE IN AGRICULTURE

The magnitude of funds allocated to agriculture either at the federal, state, or local government level depends on the amount of funds available to the tiers of government and priorities of the current government, among other considerations. An analysis of the levels and composition of spending is important to determine the allocative efficiency of agricultural spending. Such analysis provides information on whether agricultural public expenditures are strategically prioritized across policies, programs, and projects (World Bank 1998; 2011). In other words, it provides answers to the question of whether public funds for agriculture are being allocated for the right expenditure items. In addition, the types of agricultural expenditure that each government tier undertakes can reveal the de facto distributions of spending responsibilities across tiers. An understanding of the levels of agricultural spending is a starting point in determining allocative efficiency. The size of agricultural spending in relation to total spending indicates the fiscal costs of agricultural policies (World Bank 2011).

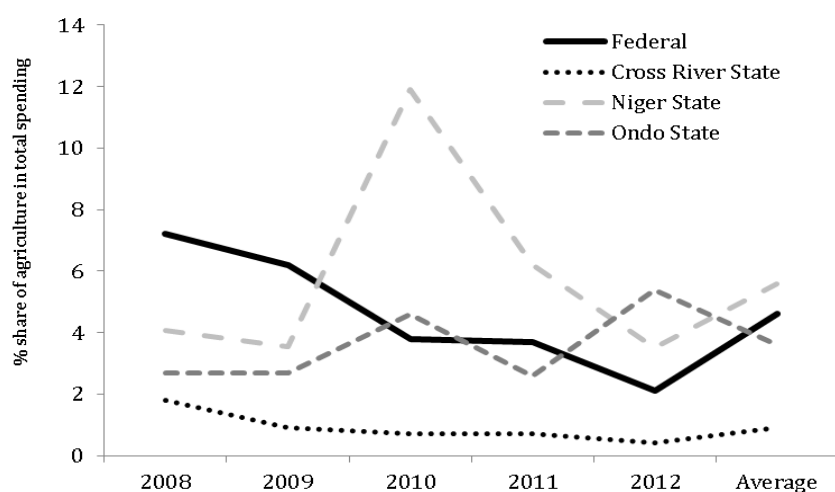
Relative Size of Agricultural Spending at the Federal Level

On the basis of the CAADP target, which recommends that 10 percent of the national budget be allocated to agriculture, federal agricultural spending is low in Nigeria. Between 2008 and 2012, federal agricultural budget and actual expenditure shares averaged 5.5 and 4.6 percent, respectively (Table A.10 in the Appendix), showing an overall declining trend during the same period (Figure 3.1).¹⁹ Actual expenditure on agriculture rose by 57.7 percent in 2009 from its 2008 level, but it consistently declined after that until 2012. This declining trend in spending suggests a waning emphasis on the agricultural sector. However, the breakup of agriculture and water resources into two distinct ministries in 2010 also contributed to this decline. Therefore agricultural expenditures for 2008 and 2009 include an indeterminate amount of nonagricultural spending. Attempts in this analysis to isolate nonagricultural spending were unsuccessful for 2008 and only partially successful for 2009. Agricultural spending for 2009 excludes capital expenditures of nonagriculture parastatals that could be identified from the 2009 financial statements. Relatively few such parastatals exist because the 12 river basin development authorities (RBDAs) are parastatals of the water subsector under the current arrangement. An attempt to isolate nonagricultural recurrent spending was also not successful.

Agricultural spending for 2008–2012 thus includes expenditures by the RBDAs. Because these authorities supervise the 12 dams and about 42 irrigation projects of the federal government, their expenditures are an important component of agricultural spending. However, 2010–2012 agricultural spending (after the breakup) does not include expenditures incurred on the construction of new dams and irrigation projects. Expenditures of the RBDAs also include nonirrigation- and nonagriculture-related costs such as water supply to the community and desertification and erosion control programs, but inadequate information made it impossible to isolate these expenditures from the agricultural spending data for 2010–2012.

¹⁹ Specifically, the decline in 2011 would have been more pronounced but for a revolving treasury loan of ₦22.3 billion to FMARD to help fund its fertilizer subsidy program and the investment of ₦3.2 billion into the Nigeria Agricultural Cooperative and Rural Development Bank. The books do not show any new fertilizer loan in 2012, and the federal government injected only ₦0.77 billion into the bank in 2012.

Figure 3.1 Share of agriculture in total spending in Nigeria, 2008–2012



Source: Authors' computation based on data from the ministries of agriculture and finance of the federal government, Cross River, Niger, and Ondo states (2008–2012).

Relative Size of Agricultural Spending at the Subnational Level

Both budget and actual shares of agricultural spending in total state spending for all three case study states are presented in Table A.11 in the Appendix. In Cross River state, the agricultural sector budget accounted for 1.2 percent of the total state budget, on average, between 2008 and 2012. The share of actual agricultural expenditure in actual total state expenditure was 0.9 percent in the same period. Both budget and actual shares show a general down trend, with actual agricultural spending falling to less than 1 percent from 2009 to 2012 (Figure 3.1). In Ondo state, the budget and actual shares of agricultural expenditure in total state expenditure (although a little higher, at 3.8 percent and 3.6 percent, respectively, compared with Cross River state) have been more variable, with a highly uneven trend between 2008 and 2012. In Niger state, budget share has been unstable while actual shares trended downward, from an all-time high of 11.9 percent in 2010 to 3.5 percent in 2012. Nonetheless, the average budget and actual shares (4.6 and 5.6 percent, respectively) are the highest among the three states.

Insufficient data hamper a proper assessment of the size and pattern of agricultural spending in the three case study LGAs. For this analysis and others where data gaps are many, it is not clear whether it is due to poor budget reporting or whether the items were not budgeted for or spending just did not occur. In such cases and subsequent ones, the assumption in this report is that spending did not occur. For Wushishi LGA, data were not available at all. In Akamkpa LGA, average agricultural spending as share of total Akamkpa LGA expenditure was 2 percent between 2008 and 2012. The trend of agricultural spending in Odigbo LGA (with the most data) mirrors that at the state level, showing similar variability (Table A.12 in the Appendix). The share of actual agricultural expenditure in actual total Odigbo LGA expenditure was 0.9 percent during the same period.

Of the three case study states, Niger state had the highest share of agricultural spending in total public spending when compared with other selected states across different regions of the country during the period under review (Table 3.1). Niger state's average level of agricultural spending compares favorably with that of states like Anambra, Enugu, Lagos, Jigawa, Kaduna, and Yobe. The level of agricultural spending in Ondo state is suboptimal, falling below that of six out of the nine comparator states. Cross River state's level of agricultural spending is the lowest, falling below that of eight of the nine comparator states. These trends provide only a comparison of magnitude of spending; it is the importance of agriculture in each state that determines performance across states. The expectation is that higher spending should be observed in states where agriculture is more important and lower spending in states where agriculture is less important.

Table 3.1 Average budget and spending in the agricultural sector across different states and regions of Nigeria, 2004–2012

State	Region	Population*	All sectors			Agricultural sector			Share of agriculture in budget	Share of agriculture in spending	Spending per capita in agriculture (naira)
			Average annual budget (MN)	Average annual spending (MN)	Variance	Average annual budget (MN)	Average annual spending (MN)	Variance			
Zamfara	NW	3,259,846	43,660	28,170	–35.5%	4,459	2,913	–34.7%	10.2%	10.3%	894
Katsina	NW	5,792,578	58,239	42,970	–26.2%	4,395	3,264	–25.7%	7.5%	7.6%	563
Kano	NW	9,383,682	69,813	62,087	–11.1%	7,234	4,037	–44.2%	10.4%	6.5%	430
Niger	NC	3,950,249	68,494	41,388	–39.6%	3,146	2,052	–34.8%	4.6%	5.0%	519
Kaduna	NW	6,066,562	100,453	59,410	–40.9%	8,335	2,653	–68.2%	8.3%	4.5%	437
Yobe	NE	2,321,591	49,565	37,096	–25.2%	2,343	1,629	–30.5%	4.7%	4.4%	701
Jigawa	NW	4,348,649	57,117	51,121	–10.5%	2,418	1,875	–22.5%	4.2%	3.7%	431
Enugu	SE	3,257,298	46,944	39,152	–16.6%	1,542	869	–43.6%	3.3%	2.2%	267
Anambra	SE	4,182,032	53,929	36,347	–32.6%	1,223	656	–46.4%	2.3%	1.8%	157
Lagos	SW	9,013,534	295,371	230,372	–22.0%	1,127	1,234	9.5%	0.4%	0.5%	137

Source: Authors' computation based on data from SPARC (2014).

Notes: MN = million naira; NC = north central; NE = northeast; NW = northwest; SE = southeast; SW = southwest. * Population figures are from Nigeria's 2006 census.

Among the comparator states, average agricultural expenditures range between 0.5 percent and 10.3 percent of total expenditure for the period between 2004 and 2012. The highest share is observed in Zamfara state (10.3 percent), followed by Katsina (7.6 percent) and Kano (6.5 percent), while the lowest share of agriculture in total expenditure is observed in Lagos state (0.5 percent), followed by Anambra (1.8 percent) and Enugu (2.2 percent).

One common feature observed when budget and actual expenditures are compared is that actual expenditures are almost always less than those in the budget. In addition, the variance is even higher for the agricultural sector, implying that the share of agriculture in actual expenditure is usually less than the share of agriculture in the budget. In a given year, the variance between budget and actual expenditures could reach as high as 61 percent when all sectors are considered and 99 percent for agriculture.

Share of Agricultural Spending Relative to That of Other Key Sectors

The importance that governments assign to agriculture compared with other sectors is evident when the share of agricultural spending in total spending is used to assess the relative allocations of funds to other key sectors in the economy (World Bank 2011). Given the stated agricultural policy objectives of the governments of the three case study states, the expectation would be that adequate public funds will be provided to fund agricultural programs and projects. Generally, however, the allocation of government resources for agricultural development has not been one of the key priorities in the three states.

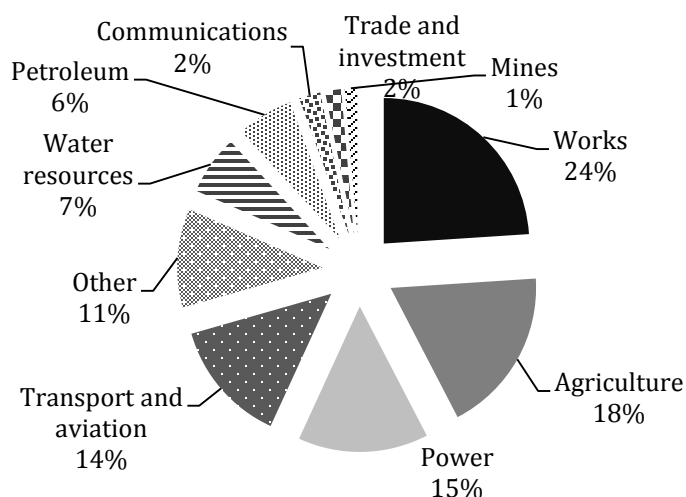
Comparing the Share of Agriculture in Total Federal Spending with Spending in Other Key Sectors

At the federal level, the share of agricultural spending in total spending is lower than the corresponding shares of most of the sectors (Table A.13 in the Appendix). For example, compared with an average of 4.6 percent for agriculture, corresponding shares for economic affairs, public order and safety, general public services, and defense averaged 24.4 percent, 15.3 percent, 13.3 percent, and 9.0 percent, respectively, between 2008 and 2012. Spending shares for similar key sectors such as education and health are relatively closer in magnitude to that of agriculture, averaging 7.4 percent and 5.4 percent, respectively, during the same period. However, agriculture was the only sector that saw a decline in spending, falling on average by 14.8 percent from 2008 to 2012. In contrast, spending on education and health increased on average by 41.4 percent and 33.8 percent, respectively (see Table A.13 in the Appendix).

These trends suggest that budgetary allocation to agriculture is low compared with that of other key sectors despite its recognized role in the fight against poverty, hunger, and unemployment, and in the pursuit of economic development. It may seem that related sectors (health and education) have some sort of protection compared with agriculture, given that both sectors see upward trends in spending despite declines in total federal spending (see Table A.14 in the Appendix). For more in-depth inquiry, it is necessary to examine how agricultural spending fared in comparison with other subsectors within the economic affairs sector. Economic affairs is the largest functional sector of the federal government in terms of expenditure share (Table A.13 in the Appendix). However, the sector is not a single sector similar to education and health but instead comprises several activities, including works (roads and public infrastructure), agriculture, power, petroleum, transport and aviation, water, communication, and mines. An assessment of spending trends within the economic affairs sector shows that works is the top-priority subsector, accounting for 24 percent of total spending on average between 2008 and 2012 (Figure 3.2). Agriculture ranks second, accounting for 18 percent of total spending in the economic affairs sector, followed by power (15 percent) and transport and aviation (14 percent). It is important to note that expenditures for the 12 RBDAs are included here as agricultural expenditures rather than as expenditures incurred for the water resources subsector. Spending on the power and the trade and investment sectors also declined alongside spending for agriculture, falling by 14.5 percent and 1.2 percent, respectively, on average from 2008–2012. Conversely, spending on communications, transport and aviation, and mines

increased on average by 24.1 percent, 18 percent, and 17.2 percent, respectively (see Table A.15 in the Appendix).

Figure 3.2 Sectoral shares of actual economic affairs spending, 2008–2012



Source: Based on data from Federal Ministry of Finance (2008–2012).

There are, however, good justifications for the large expenditures in the works, power, and transport and aviation subsectors within economic affairs. Infrastructure deficits in roads, power, energy, transport, and aviation constitute some of the most critical impediments to achieving sustainable growth and development in Nigeria. Public investments in these subsectors have suffered neglect in the past, and these infrastructures are in dire need of rehabilitation and even new investments. This perhaps explains the increase in expenditures in those subsectors. However, the challenges to agriculture are no less daunting, and the performance of the sector remains inconsistent. Sustainable development is barely possible without exploiting the potentials of the agricultural sector to achieve food self-sufficiency, promote employment and economic growth, and enhance foreign exchange earnings. However, achieving the ambitious goals set out for agriculture both in the ATA and CAADP requires no less spending commitment.²⁰

Comparing the Share of Agriculture in Total Spending with That of Other Key Sectors at the Subnational Level

In Cross River and Ondo states, the shares of actual agricultural expenditures in total expenditures are low compared with those of other key sectors such as education, health, and works. In Cross River state, while the share of actual agricultural spending in actual total spending averaged 0.9 percent from 2008 to 2012, the corresponding shares for education, works, and health averaged 9.7 percent, 5.9 percent, and 2.6 percent, respectively, during the same period (Table A.16 in the Appendix). The agricultural sector is also less favored in Ondo state; with an average of 3.6 percent in actual agricultural spending, corresponding shares for education, works, and health averaged 11.6 percent, 10.7 percent, and 5.5 percent, respectively, between 2000 and 2012 (Table A.18 in the Appendix). These findings show that among the critical sectors examined, the majority of Ondo state funds were expended on education and works.

²⁰ It is important to note that aggregate agricultural spending discussed in this section does not represent the country's total consolidated expenditure on agriculture because agricultural development is a concurrent function of the federal government and subnational governments.

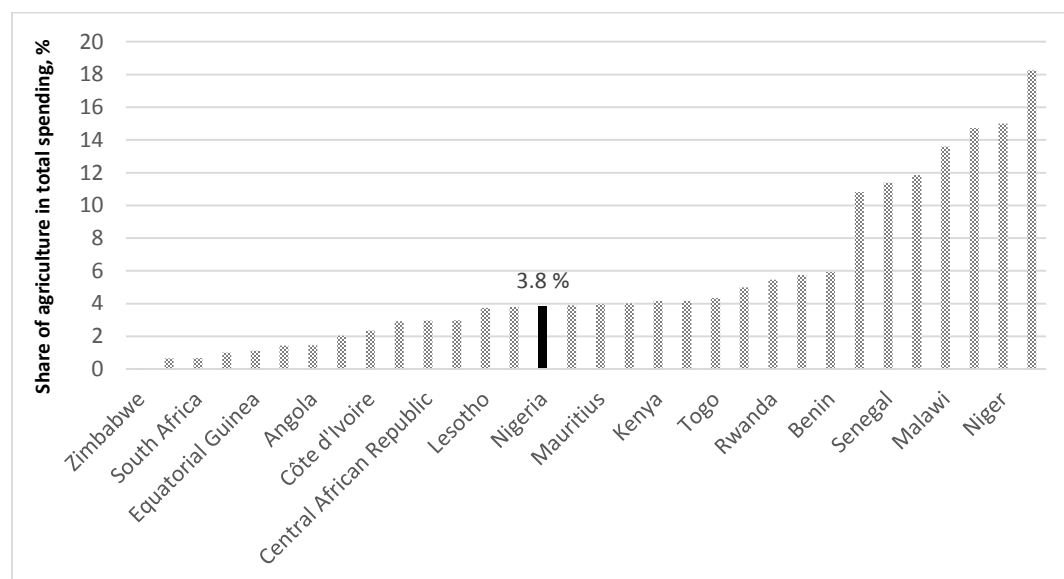
Similar to that at the state level, agricultural spending as a share of total LGA spending compares unfavorably with that of other sectors. In Akamkpa LGA, agriculture received the least attention in terms of actual expenditures (1 percent on average between 2008 and 2012), while most of the funds (29.1 percent on average during the same period) were expended on works (Table A.17 in the Appendix). In Odigbo LGA, agriculture is also clearly not a top priority. Actual spending on agriculture as a share of total LGA spending was 1.1 percent on average compared with about 21.2 percent and 3.4 percent for health and works, respectively, for the period 2008–2011 (Table A.19 in the Appendix). It should not be surprising that these local governments are not able to maintain agricultural programs and projects in their domains or initiate new ones. Odigbo LGA, for example, is no longer able to supply seedlings to farmers, a function it had performed previously. The thin allocation of funds to agriculture is also evident in other areas such as the inability of the local government to maintain the only tractor that it owns.

Agricultural Public Expenditure in Nigeria Compared with That of Other African Countries

In the last decade, the agricultural sector in Africa has received more attention than previously. A decade has already passed since the New Partnership for Africa's Development (NEPAD) launched its Africa-wide initiative, CAADP, in Maputo, and many African countries including Nigeria pledged to allocate at least 10 percent of their national budgets to the agricultural sector in an effort to boost the growth of the sector by at least 6 percent annually (NEPAD and AU 2003). In fact, ReSAKSS dedicated its 2012 Africa-wide Annual Trends and Outlook Report to looking at trends and patterns in public agricultural expenditures, and in particular examining how countries are performing against the Maputo Declaration benchmarks (Benin and Yu 2013).

Compared with many African countries, Nigeria's government expenditure in agriculture as a percentage of total government expenditure and in proportion to agricultural GDP is small. As depicted in Figure 3.3, of the total government expenditure of Nigeria, the share of the agricultural sector is only 3.8 percent—on average—for the period between 2000 and 2010. This figure is less than the continental average of 5.4 percent, the West African average of 7.4 percent, and the 10 percent target set by CAADP. In this regard, the country is ranked 18th out of the 32 African countries south of the Sahara (SSA) countries included in the SPEED 2012 dataset (IFPRI 2013). Several countries in West Africa, including Burkina Faso (18.3 percent), Niger (15 percent), Mali (14.7 percent), Senegal (11.4 percent), and Benin (5.9 percent), as well as countries in other parts of the continent, including Malawi (13.6 percent), Ethiopia (11.9 percent), and Zambia (10.8 percent), have spent a far higher share than Nigeria has during the period. However, compared with the 1.8 percent share registered for the period between 2000 and 2005 (Mogues et al. 2012a), the 3.8 percent share of agriculture in total government spending is an improvement. Moreover, the country's relative position has also improved over time. As presented in Mogues, Morris, and others (2012), in 2000 Nigeria's agricultural public spending as a share of total spending was the lowest of all African countries for which data were available.

Figure 3.3 Average share of agriculture in total government expenditure in Nigeria compared with that of other African countries, 2000–2010



Source: Authors' computation based on data from IFPRI (2014).

Note: DRC = Democratic Republic of Congo.

The percentage of agricultural spending in total government spending can be taken as an indicator to measure how much attention government gives to the sector. However, it does not tell us how much the agricultural sector gets vis-à-vis its contribution to the national economy. In this regard, the standard method for measuring the adequacy of agricultural spending relative to its contribution to the economy is to measure government spending in agriculture as a percentage of agricultural GDP, which is called intensity of spending (Mogues et al. 2012a).

Composition of Agricultural Public Expenditure

The composition of public spending provides further insights into allocative efficiency in relation to priorities, level, and balance (World Bank 2011). The economic composition of public expenditures is based on the types of expenditures made according to the economic process involved. Such expenditures are classified mainly as capital and recurrent, and within recurrent, expenditures are classified mostly as wage and nonwage or personnel and overhead costs. The functional composition, on the other hand, is based on the purpose or function for which expenditures are made by governments (IMF 2014).

Economic Composition of Agricultural Spending

Economic Composition of Agricultural Spending at the Federal Level

Nigeria still uses the dual approach to budgeting with separate (and mostly unrelated) recurrent and capital expenditure components. Recurrent expenditures consist mainly of personnel expenditures (including workers' benefits) and overhead costs (mainly administrative expenses). Capital expenditures include investment spending, although a significant but indeterminate proportion of these expenditures also include noninvestment spending. Noninvestment spending includes items such as repair of motor vehicles; purchase of computers; furniture, fittings, and office equipment; workshop expenses; and operations and maintenance costs, including those for agriculture, water resources, and roads. However, these items cannot be regarded as noninvestment in *all* circumstances, implying that considerable effort must be made to understand the classification of public expenditure activities into recurrent and capital.

For illustrative purposes, if FMARD undertakes an investment project for small-scale irrigation and during the investment period expends it to establish a project implementation unit, with vehicles and office, computers, and so on, to run the investment phase, say, over three years, these expenditures are appropriately counted as investment. However, if the same project establishes extension capacity to support the farmers in the new irrigation areas and hires extension agents, provides them with vehicles, and so on, these costs will continue to be needed beyond the investment phase and are therefore recurrent costs, which should not be carried on the investment budget. This classification distinction is pretty clear in theory but hard to implement in practice, so most countries' investment budgets carry some recurrent costs inaccurately.

Another expenditure item that can easily be classified both in theory and practice but is still not being accurately classified in Nigeria relates to public spending on input subsidies. On account of its huge size in Nigeria, over the years the tendency has been for the government to continue to refer to it as capital expenditure. Essentially, subsidies on inputs are transfers from the public sector to private-sector entities who, in agriculture, are expected to be farmers. Clearly, such transfers are current expenditures, not capital expenditures. Thus, spending on input subsidies (for fertilizer, seeds, and agrochemicals as well as relevant inputs for fisheries and livestock) needs to be classified henceforth as a recurrent expenditure, and wherever it is recorded in the budget books it should not be counted as capital or investment expenditure. Invariably, many so-called capital expenditures do not create new assets or prolong the life of existing assets, or are otherwise completely consumed in the year the expenditures are incurred. According to a recent World Bank–commissioned study, a substantial share of costs recorded as capital expenditures are not real investments (World Bank 2012). This is a common practice that cuts across all sectors of government in Nigeria. In the agricultural subsector, for example, nearly all of the capital expenditures of the RBDAs are incurred for operations and maintenance and should therefore be classified instead as recurrent expenditures.

At the federal level, capital expenditures account for the largest share of federal agricultural spending, with budget and actual expenditure shares averaging 79.2 percent and 82.3 percent, respectively, between 2008 and 2012 (Table 3.2). Before the split of agriculture and water resources into two separate ministries in 2010, the capital expenditure share of agricultural spending was even higher, but this share has steadily tapered since then. This tapering trend suggests that agriculture has a higher recurrent cost component than water resources. The capital-to-recurrent expenditure ratio for agriculture, however, exceeds the rule of thumb, which is a 60:40 balance. But the ratio for agricultural spending is higher than that of total federal spending. The capital expenditure share of total federal spending²¹ averaged just 34.3 percent between 2008 and 2012.

Table 3.2 Economic composition of agricultural spending, average 2008–2012

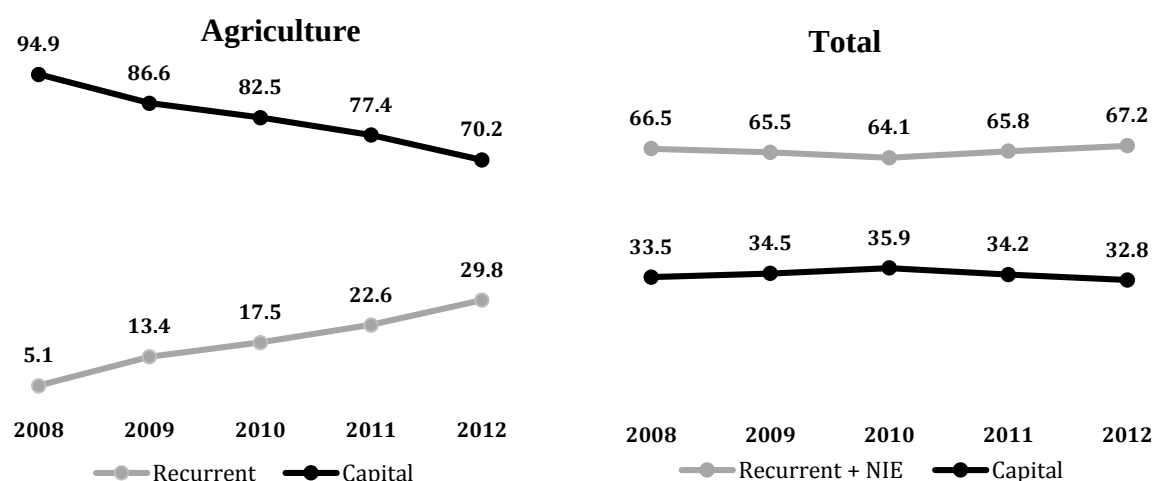
Division	Recurrent		Capital		Total		Share of recurrent		Share of capital	
	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual
	(Constant 1990 nairas, millions)						(%)			
Federal government	713.6	580.0	2,948.9	2,992.6	3,662.4	3,572.6	20.8	17.7	79.2	82.3
Cross River state	10.5	11.1	20.3	9.5	30.8	20.7	36.6	63.7	63.4	36.3
Niger state	23.8	23.3	79.7	51.8	103.5	75.1	27.5	37.5	72.5	62.5
Ondo state*	27.3	25.8	78.8	38.0	106.1	63.7	28.2	43.7	71.8	56.3

Source: Based on data from Federal Ministry of Agriculture and Rural Development, Cross River state Ministry of Agriculture, Niger state Ministry of Agriculture and Rural Development, and Ondo State Ministry of Agriculture and Rural Development (2008–2012).

Note: *Data for Ondo state in 2012 are from January to June.

²¹ Federal Ministry of Agriculture and Rural Development.

Figure 3.1 Federal agricultural spending versus total spending, 2008–2012 (%)



Source: Based on data from Federal Ministry of Agriculture and Rural Development and Federal Ministry of Finance (2008–2012).

Note: NIE = not included elsewhere.

Decomposition of recurrent expenditures by personnel and overhead expenditures provides additional insights into the efficiency of spending (World Bank 2011). Inadequate data restricted the level of analysis that was possible for the decomposition of recurrent expenditures in agriculture at the federal level.²² Detailed personnel expenditures were not available. Though incomplete, a disaggregation of FMARD's overhead expenditures was provided (see Table A.20 in the Appendix). As Table 3.3 shows, expenditures on travel and transport accounted for the largest share (20.6 percent) of overhead spending at FMARD, on average, between 2008 and 2012. Expenditures for materials and supplies were the second-highest priority (18.6 percent) followed by miscellaneous expenditures (14 percent).²³

Table 3.3 Decomposition of Federal Ministry of Agriculture and Rural Development overhead expenditures, 2008–2012 (%)

Category	2008	2009	2010	2011	2012	Average
Travel and transport	21.6	23.5	20.7	16.1	20.9	20.6
Materials and supplies	17.9	12.1	16.3	32.1	14.8	18.6
Miscellaneous	11.2	16.4	16.9	12.3	14.0	14.2
Maintenance	14.8	13.5	13.9	10.7	13.0	13.2
Fuel and lubricants	10.5	11.6	11.8	9.0	10.5	10.7
Utilities	8.1	7.7	6.1	7.8	9.0	7.7
Training	7.1	6.7	6.0	5.4	6.7	6.4
Other services	4.1	4.0	3.7	3.7	6.5	4.4
Consulting services	2.5	2.0	2.5	2.2	2.3	2.3
Financials	2.2	2.5	2.1	0.6	2.3	1.9

Source: Based on data from Nigeria, FMARD (2008–2012).

²² As a result, this review could not investigate the size of personnel expenditures for technical and professional staff salaries versus administrative staff salaries.

²³ Miscellaneous expenditures include grants and contributions (including membership subscriptions to international organizations) for ease of analysis. These grants and contributions are small, however.

Although operations and maintenance expenditures should be classified as part of overhead expenditures, it appears that public officials classify these costs as part of capital expenditures. For example, a new and ongoing study in FMWR shows that the capital expenditure budget of the RBDAs comprises almost exclusively operations and maintenance expenditures. The RBDAs currently do not award contracts for new investments because FMWR headquarters does that. The RBDAs only award contracts for the maintenance of existing dams, canals, and drainages, and they make provision for these expenditures in their capital expenditure budgets. The overhead budgets are, however, for regular administrative expenses. Further inquiries show that the practice is the same in FMARD and its parastatals (see Table A.20 in the Appendix for overhead spending of FMARD's parastatals) and across all sectors of the federal government. This practice differs from international practices, which regard operations and maintenance costs as recurrent rather than capital expenditures. International practices reserve capital budgets for commitments that create new investments or new development assets, a definition that Nigerian public officials also agree with. Yet no official government policy stipulates that operations and maintenance costs be classified as capital expenditures. The practice has just evolved unofficially out of staff desire to protect their operations and maintenance budgets for work purposes. The standard practice within the ministries is that political heads (ministers and permanent secretaries) cannot interfere with capital costs, but must release them to the director under whose mandate the activity falls. The ministries are expected to properly account for capital expenditures to show that the disbursement of funds was for the intended purpose. Once a director secures admittance of an item into the capital budget, however, the funds become sacrosanct once released, and political heads do not accord the same accountability criteria to overhead expenditures, which are simply spent and accounted for with receipts and any documentation necessary.

Examination of the structure of FMARD's overhead spending in 2012 suggests that overhead expenditures mainly support the bureaucracy, rather than operations and service delivery. For instance, travel and transport costs covered mostly nonoperational costs and accounted for 16 percent of overhead spending.²⁴ These costs include travel costs to international and local events and for other travel. Of this 16 percent, travel to attend training (both international and national) accounted for 37 percent while other international and local travel accounted for the rest (see Table A.21 in the Appendix).²⁵ Because FMARD's parastatals have a similar structure of overhead spending, it may be fair to assert that overhead spending constitutes very little real operational costs.

It is important to stress that the budgeting process and expenditure decisions should be made with regard to the essential role of recurrent expenditure. It has to be adequate and complementary to investment spending within the sector. Recurrent expenditures (salaries, overhead) are essential to fund adequately so as to provide the agricultural sector with appropriate levels of important public goods, some of which need regular maintenance year in and year out. Many public goods in the agricultural sector are basically recurrent activities and therefore require recurrent budgeting. Extension (personnel and travel costs), much of research (scientist salaries), seed and fertilizer regulatory functions to ensure quality products in markets (inspectors, travel, laboratory analysis of samples), and animal health through public vaccination campaigns for contagious diseases (veterinarians, travel, vaccines) are all recurrent activities. Governments neglect adequate funding of such recurrent activities at the peril of negative results for agricultural sector performance.

Economic Composition of Spending at the Subnational Level

Details of the economic composition of agricultural spending, by recurrent and capital expenditures, for the three case study states are presented in Tables A.22–A.25 in the Appendix. However, data for budget

²⁴ It is possible to argue that FMARD headquarters does not allocate its spending in exactly the same way as its parastatals, since it is mainly the administrative headquarters. The counterargument to this would be that the headquarters comprises both the technical and service divisions and the divisions that perform technical coordination and supervisory functions. Besides, the breakdown of overhead spending does not suggest that there is a significant difference between the pattern of overhead spending of FMARD's parastatals and that of the headquarters. The main drawback for this inference, however, is the use of only 2012 FMARD data, which may not be sufficiently representative of all the years.

²⁵ Other items of FMARD's overhead spending are not really operational costs either (Table A.21 in the Appendix).

recurrent and capital expenditures in agriculture are not available for Niger state on an annual basis. In Cross River state, the budget provisions for capital expenditures (63.4 percent on average) are much larger than those for recurrent expenditures (36.6 percent) from 2008 to 2012. For actual spending, however, the reverse is the case. Recurrent expenditure shares (63.7 percent on average) were larger than capital expenditure shares (36.3 percent) during the same period (Table A.22 in the Appendix). For Ondo state, budget provisions for capital expenditures were also larger (71.8 percent) than those for recurrent expenditures. In the case of actual spending, capital expenditure remains consistently larger. It stood at an average of 56.3 percent compared with 43.7 percent for recurrent expenditure between 2008 and 2012. A similar pattern, in which both capital budget and capital spending were larger than recurrent budget and recurrent expenditure, is observed in Niger state. Average capital budget during the same period stood at 72.5 percent, compared with 27.5 percent recurrent budget. Also, capital spending averaged 62.5 percent, compared with 37.5 percent recurrent expenditure.

Functional Composition of Agricultural Spending

Further data challenges made it difficult to present a uniform functional composition analysis of agricultural spending at the federal level across the years.²⁶ For example, budgetary allocations from 2012 followed the distinct priorities established under the ATA, which were different from those of previous years. As a result, this review analyzes 2012 FMARD data separately from other data.

Functional Analysis of Agricultural Spending at the Federal Level

To better understand FMARD's functions, it is important to note that the ministry comprises 13 departments (8 technical departments and 4 service departments).²⁷ The technical departments are (1) Crop Agriculture (trees and crops), (2) Fisheries, (3) Livestock, (4) Land Resources, (5) Fertilizer, (6) Food Reserve and Storage, (7) Rural Development, and (8) Cooperatives. The service departments are (1) Human Resources, (2) Finance and Accounts, (3) Planning, Policy, and Statistics, and (4) Procurement.²⁸ Nigeria has about 42 parastatals, consisting of 17 research institutes, 20 colleges of agriculture,²⁹ and 13 agencies.³⁰ Various technical departments within FMARD coordinate the activities of these parastatals and agencies. In addition, the Knowledge-Based Management Unit of the Agricultural Research Council of Nigeria coordinates the activities of the research and training institutes, except for the cooperative colleges, coordinated by the Department of Cooperatives.

As Table 3.4 indicates, average expenditures on irrigation (40.9 percent), fertilizer subsidy (17.2 percent), and FMARD parastatals (15.7 percent) account for the largest shares of capital expenditures from 2008 to 2010. Actual capital spending did not exactly follow appropriation. Consequently, actual spending increased nearly threefold in 2009 over its level in 2008, to ₦19.6 million, before falling by about half in 2010, to ₦9.74 million. The pronounced increase of 2009 over 2008 is because of the particularly poor funds disbursement rate in 2008. Analysis of available data shows that utilization of released funds was at its lowest in 2008 (Table A.26 in the Appendix) at only 32.7 percent. Utilization or disbursement of released funds was 100 percent from 1999 to 2005, and at least 80 percent in every other year up to 2010.³¹

²⁶ It was not possible attempt a uniform (re)classification of all agricultural spending, after due consultation with and receiving additional relevant information from FMARD.

²⁷ Each of these departments is led by a director. The directors report to the permanent secretary, who is the administrative head of the ministry.

²⁸ The FMARD website lists a fifth service department as Planning, Research, and Statistics, but it is not clear how this department is different from the Planning, Policy, and Statistics department.

²⁹ This number may not be definitive because the list includes only one of the three universities of agriculture in the country.

³⁰ See the Appendix for a comprehensive list of the parastatals, culled from the ministry's website.

³¹ It is not exactly clear what to attribute this development to, but coincidental occurrences at the time may provide some insight. The federal government first announced the merger of the Ministries of Agriculture and Water Resources in 2006 as part of its public service restructuring reforms that took effect in January 2007. However, pressures and uncertainties trailed this merger, and the government briefly unmerged and remerged them in 2008/2009. The ministries finally became separated in April

Table 3.4 Decomposition of federal capital expenditures, constant 1990 nairas, millions, 2008–2010

Category	2008		2009		2010		Average	
	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual
Crop agriculture	2.1	0.0	0.5	0.5	0.5	0.5	1.0	0.3
Livestock	0.6	0.2	1.1	1.1	0.2	0.2	0.7	0.5
Fisheries	0.2	0.0	0.3	0.0	0.5	0.5	0.3	0.2
National Agricultural Quarantine Service	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
National Agricultural Food Reserve Agency	2.4	0.0	0.0	0.0	3.2	3.3	1.9	1.1
Administration	0.7	0.0	0.2	0.1	0.1	0.1	0.3	0.1
Monitoring and evaluation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rural development	0.0	0.0	1.2	0.2	1.5	1.5	0.9	0.5
Irrigation	18.9	3.8	15.4	12.7	0.0	0.0	11.4	5.5
Agricultural research	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.0
NFRA—fertilizer subsidy	0.0	0.6	3.2	3.2	2.6	2.6	1.9	2.1
NFRA—cooperatives	0.1	0.0	0.1	0.1	0.0	0.0	0.1	0.0
NFRA—National Program for Food Security	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.1
Parastatals—colleges and research institutes	2.5	2.0	1.8	1.5	1.7	1.0	2.0	1.5
Contribution to international organizations	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
Total	27.6	6.6	24.1	19.6	10.3	9.7	20.7	12.0

Source: Based on data from Nigeria, FMARD (2008–2012).

Note: NFRA = National Food Reserve Agency.

It is not surprising that irrigation accounted for the largest share of capital expenditure in 2008 and 2009, when agriculture and water resources formed one ministry. Indeed, irrigation almost crowded out other agriculture-related spending in these years, more so in fiscal 2008 than in 2009. Irrigation expenditure here includes costs of dams (both large and small earthen dams), drainage, and the expenditure of the numerous RBDAs. The functions of RBDAs are wide, falling beyond the scope of agriculture, but the manner of record keeping makes it difficult to isolate the portions not specific to the agricultural sector. Usually, RBDAs design integrated projects with various components. The scope of RBDA functions includes development of water resources for multiple purposes but with particular emphasis on the provision of irrigation infrastructure, control of floods and erosion, and watershed management. Consequently, RBDAs are responsible for the construction, operation, and maintenance of dams, dykes, polders, wells, boreholes, and irrigation and drainage systems, among others. Regarding fertilizer payments, Druilhe and Barreiro-Hurlé (2012) emphasize that expenditures on subsidies do not represent a suitable policy option in the long run, because such expenditures do not address the root causes of low fertilizer use in input or output markets and lead to unsustainable fiscal costs to the economy. Direct government involvement in the procurement and distribution of fertilizers and corruption, aggravated by the use of intermediaries, amplify these inefficiencies.

Expenditures on crop agriculture (crops and trees), livestock, and fisheries were low between 2008 and 2010, accounting for only 3.4 percent, 2.5 percent, and 1.7 percent, respectively, of capital expenditures, on average. This trend suggests that agricultural policy did not sufficiently focus on agricultural development before introduction of the ATA. Crop agriculture (crops and trees) dominates 2012 FMARD capital expenditure, accounting for 59.4 percent of actual spending (Table A.27 in the Appendix). When other agricultural value chains are included, the share becomes 63.6 percent.

2010. Whether and to what extent these developments influenced the coincidental outcomes during this period is not clear.

Allocations to parastatals of the ministry follow at a distant second with 18.9 percent, followed by rural development, which accounts for 7.9 percent. Expenditures for agricultural R&D and monitoring and evaluation are low (1.6 percent and 1.8 percent, respectively) but show improvements compared with previous years. This trend suggests the increasing recognition of these components under the ATA.

Functional Analysis of Agricultural Spending at the Subnational Level

The functional composition of spending within the agricultural sector in Cross River state is presented in Table 3.5. A breakdown of expenditures by function was available only for crop development and general services, making it impossible to assess trends in other key areas such as livestock, fishery, and forestry development. Concerning crop development in Cross River state, fertilizers accounted for the biggest share of actual nongroup spending, averaging 44.2 percent from 2008 to 2012. Because many farmer groups regularly demand these inputs, several fertilizer and seed distribution points across the state provide these inputs at subsidized prices. Irrigation has not really been a top priority of the state government owing to good rainfall in Cross River state, which explains why there was no spending on irrigation from 2008 to 2012. Overall, miscellaneous expenditures accounted for the largest share of crop development expenditures, averaging 54.4 percent during the same period, and have been relatively consistent. The large share may be due to increased expenditures on contingencies as well as unaccounted for expenditures incurred for crop development by the Ministry of Agriculture.

Table 3.5 Functional composition of agricultural expenditures in Cross River state, 2008–2012 (%)

Category	2008		2009		2010		2011		2012		Average	
	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual
<i>Share of total crop development</i>												
Seeds	5.7	0.0	6.7	7.2	22.7	0.0	0.0	0.0	10.4	0.0	9.1	1.4
Fertilizers	4.0	0.0	33.3	20.9	28.7	100.0	89.5	0.0	41.4	100.0	39.4	44.2
Agrochemicals	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Irrigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Miscellaneous	90.3	100.0	60.0	71.9	48.6	0.0	10.6	100.0	48.2	0.0	51.5	54.4
<i>Share of total general services</i>												
Research	5.0	0.0	14.1	50.8	6.6	0.0	3.6	0.0	4.5	0.0	6.7	10.2
Extension	0.0	100.0	69.9	0.0	14.0	9.8	6.0	0.0	23.8	0.0	22.7	22.0
Credit program	95.0	0.0	0.0	0.0	8.6	12.9	1.8	2.1	5.0	7.1	22.1	4.4
Rural infrastructure	0.0	0.0	10.0	39.7	32.5	48.5	71.0	79.0	45.1	63.9	31.7	46.2
Agroprocessing	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	1.1	0.0	0.3	0.0
Advocacy program	0.0	0.0	0.4	0.0	33.7	28.2	16.1	17.9	17.0	24.0	13.4	14.0
Market development	0.0	0.0	5.6	9.5	4.5	0.6	1.0	1.1	3.6	5.1	2.9	3.3

Source: Based on data from Cross River state Ministry of Agriculture and Natural Resources (2008–2012).

As Table 3.5 shows, expenditure items under general services in agriculture have been given priority. Since 2008, the Cross River state government consistently budgeted for and expended on items such as a credit program, rural infrastructure, and an advocacy program. This is a reflection of the new policy thrust of the current state government, which aims to fully privatize and commercialize agriculture and achieve the first of Cross River state's seven-point development agenda, among other objectives. Within the general services portfolio, actual expenditures on rural infrastructure, extension, and research had the largest shares, averaging 46.2 percent, 22 percent, and 10.2 percent, respectively, between 2008 and 2012. Compared with rural infrastructure expenditures, which were consistently prioritized from 2009 to 2012, expenditure on research occurred only in 2009 despite the fact that budget provisions were made. While spending on extension constituted a significant share of general services expenditures, actual disbursements occurred in only 2008 and 2010. But presumably all of the funds available in 2008 for the general services portfolio were directed toward extension.

In Niger state, fertilizer procurement also gets the highest priority in the crop development portfolio, averaging 63.2 percent between 2008 and 2012 (Table 3.6). The next major priorities were agrochemicals and a tractor hire program, averaging 17.1 and 16.3 percent, respectively, during the same period. Despite the fact that budget allocations were made for several items under livestock development, actual spending did not occur. For the exceptions—livestock improvement and breeding center, and research and consultancy—all available funds were expended only in 2012. The trend is similar for forestry development—budgetary allocations were generally made, but actual spending did not occur. Here the exception is that of expenditures incurred for forest plant seed production in 2008. For fishery development, actual expenditures on fish conservation and multiplication averaged 20 percent, but these expenditures were incurred only in 2010. Given the large potential of fish farming in Niger state, spending on fishery development needs to be better prioritized.

Data on the functional composition of agricultural expenditures in Ondo state are much more consistent compared with those from Cross River and Niger states. In Ondo state, expenditures on forestry accounted for the largest share of spending (72.1 percent on average from 2008 to 2011) on natural resources development (Table 3.7). The fact that the state has a lot of forestry potential may explain why it is given top priority in the expenditure portfolio of natural resources development. The forestry policy thrust in Ondo state is to promote conservation practices and forest regeneration as vehicles for sustainable development. Although spending on produce services is next to forestry in terms of priority (averaging 12.9 percent from 2008 to 2011), the observation is that there is room for improvement. The produce service unit enforces and maintains good quality standards for both export and local products such as cocoa, palm kernel, and coffee. In addition to serving as a quality control unit, it also generates revenue for the state. During the same period, produce services contributed about 24 percent of total IGR from agriculture. Fishery is accorded the least priority in natural resources development, averaging 2 percent during the period 2008–2011.

Table 3.6 Functional composition of agricultural expenditures in Niger state, 2008–2012 (%)

Category	2008		2009		2010		2011		2012		Average	
	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual
<i>Share of crop development</i>												
Agrochemicals	0.2	0.0	0.0	86.2	0.6	0.1	2.1	0.0	0.7	0.0	0.7	17.3
Land clearing	0.0	0.0	0.0	0.0	9.5	0.0	0.0	0.0	0.0	0.0	1.9	0.0
Tractor hire program	62.3	80.3	0.0	0.0	8.9	0.0	4.2	0.0	35.5	0.0	22.2	16.1
Home economics multipurpose	0.2	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.1	0.0
College of agriculture	5.8	0.2	7.0	4.6	4.3	0.0	8.4	0.0	10.6	0.0	7.2	1.0
Fertilizer procurement	28.8	19.5	93.0	9.3	74.6	99.9	84.0	88.6	53.2	98.6	66.7	63.2
Nigerian agricultural insurance corporation	0.1	0.0	0.0	0.0	0.4	0.0	0.0	11.4	0.0	0.0	0.1	2.3
Research & consultancy	2.6	0.0	0.0	0.0	1.4	0.0	1.3	0.0	0.0	1.4	1.0	0.3
<i>Share of livestock development</i>												
Grazing reserve & range management	6.1	0.0	80.0	0.0	56.3	0.0	16.6	0.0	7.7	0.0	33.3	0.0
Stock route & control post	4.1	0.0	0.0	0.0	8.3	0.0	27.0	0.0	6.2	0.0	9.1	0.0
Poultry production	12.1	0.0	20.0	0.0	9.9	0.0	18.4	0.0	23.1	0.0	16.7	0.0
Regional cattle market	69.6	0.0	0.0	0.0	13.3	0.0	0.0	0.0	0.0	0.0	16.6	0.0
Livestock improvement & breeding center	8.1	0.0	0.0	0.0	11.9	0.0	36.8	0.0	61.5	100.0	23.7	20.0
Research & consultancy	0.0	0.0	0.0	0.0	0.3	100.0	1.2	0.0	1.5	0.0	0.6	20.0
<i>Share of forestry development</i>												
Pulpwood plantation	33.3	0.0	0.0	0.0	27.8	0.0	22.2	0.0	0.0	0.0	16.7	0.0
Forest plant seed production	66.7	100.0	100.0	0.0	33.3	0.0	22.2	0.0	37.5	0.0	51.9	20.0
Industrial wood production	0.0	0.0	0.0	0.0	39.0	0.0	55.6	0.0	62.5	0.0	31.4	0.0
<i>Share of fishery development</i>												
Fish conservation and multiplication	0.0	0.0	0.0	0.0	73.3	100.0	100.0	0.0	100.0	0.0	54.7	20.0
Fishing inputs	0.0	0.0	0.0	0.0	26.7	0.0	0.0	0.0	0.0	0.0	5.3	0.0
Oxbow lakes, dams	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	0.0

Source: Based on data from Niger state Ministry of Agriculture and Rural Development (2008–2012).

Table 3.7 Functional composition of agricultural expenditures in Ondo state, 2008–2011 (%)

Category	2008		2009		2010		2011		Average	
	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual
Produce services	10.7	10.8	16.3	16.1	8.4	10.2	14.9	14.5	12.6	12.9
Forestry	81.3	82.0	52.1	68.3	52.7	68.0	58.1	69.9	61.0	72.1
Afforestation	1.6	1.5	26.3	8.6	36.8	20.0	10.6	8.9	18.8	9.7
Agroclimatology	4.8	4.1	3.4	2.7	1.5	1.0	11.7	5.6	5.3	3.3
Fishery	1.6	1.6	2.1	4.3	0.6	0.8	4.7	1.1	2.2	2.0
<i>Share of crop development</i>										
Food crops	13.1	8.8	2.1	1.6	2.7	1.6	2.3	3.8	5.0	3.9
Extension services	1.4	0.6	0.4	0.0	0.0	0.0	0.3	0.0	0.5	0.2
Tree crops	21.1	14.3	11.2	6.5	5.9	6.3	25.9	37.1	16.0	16.0
Agricultural inputs	39.9	59.9	66.9	78.6	61.9	49.4	9.0	26.0	44.4	53.5
Agricultural engineering	24.5	16.4	19.5	13.3	29.6	42.7	62.6	33.1	34.0	26.4
<i>Share of livestock development</i>										
Livestock	34.2	62.7	41.5	53.3	38.8	54.5	20.7	54.9	33.8	56.4
Veterinary services	65.8	37.3	58.6	46.7	61.2	45.5	79.3	45.1	66.2	43.6
<i>Share of rural development</i>										
Rural development	0.0	0.0	9.0	10.0	7.9	13.6	11.6	22.2	7.1	11.5
Agricultural service unit	100.0	100.0	91.0	90.0	92.1	86.4	88.4	77.8	92.9	88.5
<i>Share of general administration</i>										
Administration and finance	65.7	38.9	20.7	100.0	17.2	70.0	80.4	0.0	46.0	52.2
Planning and research	34.3	61.1	79.4	0.0	82.8	30.0	19.6	100.0	54.0	47.8

Source: Based on data from Office of Accountant General of Ondo state (2008-2011).

For crop development, expenditures on subsidized agricultural inputs such as fertilizers, seeds, and seedlings constituted the largest share (averaging 53.5 percent between 2008 and 2011). Actual spending on agricultural engineering services, such as subsidized tractor hire, and on tree crops follows, averaging 26.4 and approximately 16.0 percent of total crop development expenditure, respectively, during the same period. In contrast, very little funding was actually expended on extension services (about 0.2 percent on average in the period 2008–2011). This explains the high ratio of one extension agent to about 2,000 farmers in Ondo state, while the recommended ratio is one extension agent to 800 farmers (Ondo state ADP 2012).³² To achieve this recommended ratio, improvements in spending levels as well as efficiency for extension services are needed.

With respect to livestock development, the expenditure pattern is more balanced between livestock and veterinary services. From 2008 to 2011, spending on livestock averaged 56.4 percent and spending on veterinary services averaged 43.6 percent (Table 3.7). For rural development, spending on the agricultural service unit was the most prioritized expenditure item, averaging 54.5 percent during the same period. The unit is responsible for farm settlement and generation of new programs for farmers. The farm settlement programs, however, have not been successful and have been abandoned by farmers. The observation is that factors that led to the failure of earlier farm settlement programs seem not to have been addressed in the newly introduced programs. For general administration, the largest share of funds was spent on administration and finance activities, averaging 52.2 percent in the period 2008–2011.

At the local government level, functional composition of agricultural public expenditures is available only for Akamkpa and Wushishi LGAs. Data at this level are even sparser than at the state level, making the assessment of specific priorities limited. Although budget proposals were prepared for some years from 2008 onward in Akamkpa LGA, nearly all of the budgets were not implemented (Table 3.8). Between 2008 and 2012, purchase of seeds (only in 2008) and miscellaneous expenditures (only in 2011 and 2012) were the only items under crop development that received the priority of having used all funds available in these years. The pattern is similar for general services spending: Extension was prioritized only in 2008 and the advocacy program in 2011. In Wushishi LGA, none of the expenditure items under agricultural and rural development received priority (Table 3.9). Construction of poultry houses (the single expenditure item under livestock development) was prioritized in only 2012. For forestry development, the pattern is no different with parks and gardens spending, which was also prioritized only in 2012. Similar to the state level, fishery development was also not prioritized; and for the period 2008–2012, no expenditure was reported.

³² The national average is one extension agent to 1,700 farmers, and this ratio is also very high.

Table 3.8 Functional composition of agricultural expenditures in Akamkpa local government area, 2008–2012 (%)

Category	2008		2009		2010		2011		2012		Average	
	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual
<i>Share of total crop development</i>												
Seeds	66.7	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.3	20.0
Fertilizers	33.3	0.0	0.0	0.0	0.0	0.0	40.7	0.0	64.3	0.0	27.7	0.0
Agrochemicals	0.0	0.0	0.0	0.0	0.0	0.0	25.9	0.0	35.7	0.0	12.3	0.0
Irrigation	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.2	0.0
Miscellaneous	0.0	0.0	0.0	0.0	0.0	0.0	32.6	100.0	0.0	100.0	6.5	40.0
<i>Share of total general services</i>												
Research	23.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.7	0.0
Extension	0.0	100.0	0.0	0.0	0.0	0.0	13.2	0.0	20.8	0.0	6.8	20.0
Credit program	23.5	0.0	0.0	0.0	0.0	0.0	32.2	0.0	37.5	0.0	18.6	0.0
Rural infrastructure	15.1	0.0	0.0	0.0	0.0	0.0	2.1	0.0	0.0	0.0	3.4	0.0
Agroprocessing	15.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Advocacy program	21.9	0.0	0.0	0.0	0.0	0.0	52.6	100.0	0.0	0.0	14.9	20.0
Market development	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.7	0.0	8.5	0.0

Source: Based on data from Department of Agriculture, Akamkpa local government area, Cross River state (2008–2012).

Table 3.9 Functional composition of agricultural expenditures in Wushishi local government area, 2008–2012 (%)

Category	2008		2009		2010		2011		2012		Average	
	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual
<i>Share of agricultural and rural development</i>												
Tractor hire program	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	84.8	0.0	17.0	0.0
Tractor equipment	0.0	0.0	0.0	0.0	0.0	0.0	55.6	0.0	8.5	0.0	12.8	0.0
Fertilizers	0.0	0.0	0.0	0.0	0.0	0.0	44.4	0.0	6.8	0.0	10.2	0.0
Staff training and development	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Consultancy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Entertainment and hospitality	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Miscellaneous	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Share of livestock development</i>												
Poultry houses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	20.0	20.0
<i>Share of forestry development</i>												
Parks and gardens	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	20.0	20.0
<i>Share of fishery development</i>												
Fisheries	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	20.0	0.0

Source: Based on data from Department of Agriculture, Wushishi local government area, Niger state (2008–2012).

4. EFFICIENCY AND EFFECTIVENESS OF AGRICULTURAL PUBLIC EXPENDITURE

Budget predictability is crucial to the assessment of technical efficiency in spending or the efficiency of budget system implementation and programs (World Bank 2011). One of the ways to determine the predictability of a budget is to assess the relationship between the budget as approved and planned vis-à-vis actual spending. This section examines budgeted and actual agricultural expenditures by national and state spending and also by economic and functional classifications to note any divergence. The timeliness of budget releases based on final approved budgets is also assessed. Timeliness is important because large time lags between actual releases and approved budgets lead to the accrual of expenditure arrears and undermine public spending efficiency.

Analysis of Technical Efficiency

Technical Efficiency at the Federal Level

Analysis of the technical efficiency of spending asks whether implementation of the budget has been effective. Thus, it investigates the efficiency of achieving strategic outputs and outcomes. It examines (1) the relationships in budget execution, that is, between planned and actual spending; (2) development and trends in unit costs; and (3) sources and extent of leakages and wastes. It also reviews key thematic issues, such as input subsidies, irrigation, private/public goods, and the like. However, some of these issues are beyond the scope of this study and require different kinds of tools to assess, for example, public expenditure tracking surveys, cost-efficiency analysis, incidence analysis, impact evaluation, and so on. As far as execution of budgets from 2008 to 2012 is concerned, current evidence suggests a low level of technical efficiency, as explained below.

Budget deviations. Annual deviations between budgeted and actual spending were high, except in 2010, but some important issues arose with the manner of the disbursement that year. During fiscal 2010, more than 55 percent of the budget was committed and disbursed in the last two weeks of the fiscal year. The level of deviation was at least 55 percent two weeks from the end of the fiscal year. High budget deviations connote fiscal indiscipline, which is inimical to stable growth. They may also embody waste.

Trends in unit costs. Information on physical outputs, outcomes, population of target beneficiaries or participants, and so on, is necessary to calculate unit costs and establish a trend. This information is not currently available.

Sources and extent of leakages. More information on procurement and cash management practices, as well as audit reports, is important to understand leakages and their sources, but such information is currently unavailable. However, the manner of disbursement of funds in fiscal 2010 suggests a high level of waste. As already indicated variously in this section, data supplied by FMARD suggest commitment and disbursement of up to 55 percent of the budget in the last two weeks of the extended fiscal year. It will be useful to read what the audit report has to say about the level of haste involved in this process. There is no indication that the manner of fiscal 2010 disbursements is representative of what happened in other years; otherwise, disbursements would embody a high degree of waste.

Technical Efficiency at the Subnational Level

The main focus in analyzing technical efficiency at the subnational level is budget implementation. This stage of the budget cycle is very critical since all claimants to the budget wait to see what they are likely to gain from the goods and services being provided by the government. It also shows the extent to which an important arm of the government (the legislature) is committed to the performance of its oversight functions. Details of the performance of the states and LGAs are presented in Tables A.28–A.31 in the

Appendix, broken out by year. The emerging results show a direct relationship between budget performance and the hierarchical status of the three tiers of government with constitutionally mandated joint responsibility for agricultural development in the country. In other words, budget execution is best at the federal level, followed by the state level, and lowest at the local government level. This also has a direct bearing on the resources available to each tier of government based on the revenue-sharing formula elaborated in an earlier section of this report.

Between 2008 and 2012, federal government budget execution averaged 104.0 percent in terms of the capital budget and 98.1 percent in terms of total budget. At the state level, capital budget execution was highest in Niger state (62.4 percent), followed by Ondo and Cross River states, with 53.0 percent and 43.8 percent, respectively. In terms of total budget execution, however, the best performer is Niger state (74.8 percent), followed by Cross River and Ondo states, with 68.3 percent and 63.2 percent, respectively (Table 4.1). Whereas the average budget execution rate seems to be reasonably high, the rates at the subnational level are substandard.

Table 4.1 Agricultural budget execution performance, 2008–2012 (%)

Division	2008	2009	2010	2011	2012	Average (2008–2012)
Capital budget						
Federal government	99.9	112.7	90.2	157.2	60.0	104.0
Cross River state	99.5	69.1	20.9	19.2	10.3	43.8
Niger state	73.7	35.8	75.6	83.6	43.3	62.4
Ondo state*	91.9	46.1	71.0	21.6	34.6	53.0
Total budget						
Federal government	99.5	108.2	90.3	131.3	61.1	98.1
Cross River state	106.9	96.6	60.2	39.3	38.5	68.3
Niger state	89.8	71.2	79.3	91.6	42.0	74.8
Ondo state*	89.9	61.7	74.6	38.5	51.1	63.2

Sources: Authors' computation based on data from Ministries of Agriculture and Finance of the federal government, Cross River, Niger, and Ondo states (2008–2012).

Note: * Data for Ondo state in 2012 are for January–June.

Despite the fact that some states perform better than others, the observed budget execution rates for the three case study states are quite below international standards. According to the Public Expenditure and Financial Accountability partnership, actual expenditures should not deviate by more than 10 percent from the budget to qualify as efficient budget execution (World Bank 2011). At the local government level, budget execution in agriculture is lower and even more unpredictable than at the state level. With virtually no allocation in some of the years, it is impossible to have a meaningful average figure of performance for the case study LGAs during the period under review. Deviations between budget provisions and actual spending tend to be larger with capital expenditures than with recurrent expenditures, as previous AgPERs show (World Bank 2011). In other words, the tendency is to execute recurrent budget provisions at the expense of capital budget provisions. This implies that since the last AgPER in Nigeria there has been no significant improvement in the efficiency of public spending at the subnational level.

The explanation for the varying level of budget execution across the three tiers of government and the persistent inefficiency cannot be limited to variations in available revenue from statutory sources. There are other revenue-related arguments that generally account for the substandard performance of states in budget execution. Apart from the problem of dwindling revenue accruable to some states, diversion of available revenue constitutes a major threat to their fiscal capacity. Some state governors have threatened to deal with civil servants found tampering with IGR or siphoning the revenues through

dubious means. In general, availability of revenue also depends on the level of indebtedness of states. Some debt repayments are deducted right from the source, implying that the net flow of statutory allocation to states concerned may actually not be adequate to meet their requirements for development financing. In recent times many states have been carrying out verification exercises of their accounting systems, including staff audits and biometrics, with the expectation that the savings in personnel cost arising from discovering fraudulent practices will be channeled to offset the shortfall in statutory allocations (Olomola 2012).

Moreover, previous studies have also considered other dimensions of the problem of poor budget execution. As argued by the World Bank (2011), variance in budget execution rates can occur for two reasons. First is the divergence between approved budgets and actual funds disbursed to the ministries. This occurs from delays in funding releases and reductions in approved budgets as a result of revenue deficits, unexpected demands on available funds, or other factors. Second is the low disbursement of funds by ministries for planned activities. This arises from delays in procurement, low accountability, lack of transparency between state and local governments, weak monitoring systems to track late disbursement of funds, poor expenditure recording systems, and unauthorized expenditures. Cash flow availability affects the timing of funds releases and thus budget execution. Delays in the release of funds from the federation account, cutbacks in federal statutory transfers, unavailability of donor funds within capital receipts, and low IGR are some of the factors that weaken budget execution at the subnational level. For example, when most of the approved capital budgets for agriculture are not released to ministries of agriculture until near the end of the year, these ministries may not be able to execute important projects or may execute them haphazardly. Because agricultural activities are time bound, and because Nigerian agriculture is mainly rainfed, the release of approved capital budgets in the latter part of the year (the dry season for agriculture) may negatively impact the performance of agricultural expenditures. Delays in the release of approved capital budgets may also lead to unspent budgets.

In point of fact, the case study states are not alone in their record of weak technical efficiency in budget execution. A recent study of 12 states across the country made a similar observation (Akande, Olomola, and Olokesusi 2013). The authors examined state-level implementation of budgets in the selected states beginning with the views of various categories of respondents on the timeliness of activities (budget preparation, screening, approval, and release of funds) in the budget cycle, as well as compatibility with development priorities, over a period of four years (2007 to 2010). The results showed that there was a major problem with timeliness of budgetary activities in a majority of the states. Overall, the poor budget performance was attributed to dwindling revenue flow from the federation account, a low level of IGR, and untimeliness of release of available funds quite apart from leakages and weak capacity in the MDAs.

Analysis of Allocative Efficiency

Allocative Efficiency at the Federal Level

Analysis of the allocative efficiency of spending addresses the basic question of whether the budget allocates money to the right things. It does this by addressing several ancillary questions: (1) Do budget allocations align with national development objectives and strategies? (2) Do the allocations address identifiable constraints? (3) How has allocation changed from previous years? (4) What are the relationships between wage and nonwage, and recurrent and capital expenditures, and are these optimal? For this AgPER, we ask, Did the budget allocate money to the right things between 2008 and 2012? The answer is mixed. For ease of discussion, we differentiate between capital and overhead costs; detailed personnel costs were not available for this analysis. Allocative efficiency in overhead spending was generally poor between 2008 and 2012. Spending did not focus on operating or running costs, but on supporting the bureaucracy. Thus, overhead spending stressed nonoperational travel and office utilities, materials, and supplies, among other such costs. Spending must deemphasize these bureaucratic tendencies to improve its level of efficiency; otherwise, it needs to expand reasonably to accommodate

operations spending. Discontinuing the current uniform classification of overheads across government will help MDAs to include operation-related spending. Budget classification must be sufficiently flexible to allow for inclusion of sector-specific overhead items.

Allocative efficiency of the capital budget was greater in the fiscal 2012 budget than in the 2008–2010 budgets. Nonavailability of fiscal 2011 data makes it hard to learn whether the observations in fiscal 2012 started in 2011, at the commencement of the new ATA. It is therefore too early to establish a trend and positively assert that fiscal 2012 performance heralds a sustainable shift in practice. Such a conclusion will be too hasty, especially in a system where policy tumbles and reversals are usual occurrences with every change in administration. However, it is apparent that efforts were made to support policy with the budget in 2012. Analysis of future results will determine the extent to which the government intends to sustain this effort.

Alignment of Spending with Development Objectives

This analysis shows that the 2012 budget allocated the bulk of its resources to the 10 or so value chains it earlier defined in its policy. The 2012 budget also allocated resources to development of youth and women in agribusiness. Further, it supports establishment of market corporations for key products. In addition, the 2012 budget attempted, though only partially successfully, to “correct” the trend of peripheral activities dominating the capital budget. Consequently, rural development did not dominate the budget, and fertilizer policy became entrenched within the value chains. The budget allocated more than 73 percent of actual expenditures to crop agriculture (trees and crops) and about 79 percent to value chains, including crop agriculture, livestock, fisheries, and development of land resources; rural development (construction of rural feeder roads) attracted only about 10 percent of spending.³³ Thus, the expenditure on crop agriculture (trees and crops) encompassed a wide spectrum of activities, including (1) supply of improved seedlings, (2) fertilizer, (3) agrochemicals, (4) market development, (5) R&D, (6) food processing, and (7) establishment of processing zones. However, a big part of the value chain expenditure was government subsidy of private goods in the form of input subsidies: fertilizers, seedlings, agrochemicals, and the like.

The Extent to Which Allocations Address Identifiable Constraints

Fiscal 2012 capital allocations attempted to address some inherent challenges facing agricultural production, but not the 2008 to 2010 budgets. The 2012 budget included identifiable measures to address the following: (1) modernization of agriculture and large-scale production, (2) commercialization of agriculture, (3) high cost of farm inputs and access to improved seedlings, (4) improving access to markets, and (5) inefficiency in fertilizer procurement and distribution. In addition, of the constraints identified in Section 3, the 2012 budget sought to give agricultural research new impetus, but the extent to which it secured adoption of research findings and technologies is not clear. Efforts are ongoing to address poor access to credit, but budget allocations do not track them. However, the 2012 budget had no identifiable measures to address the following three constraints: the outdated land tenure system, piracy in coastal waters, and inadequate irrigation and storage. These are issues outside the control of the ministry, being either constitutional or handled by other agencies. However, 2009 and 2010 budget allocations stressed irrigation.

Variability in Allocation of Spending

Capital spending showed a high degree of variability between 2008 and 2012. Year-after-year variability was high in both budgeted and actual expenditures. The level of variability was so high as to make spending unpredictable, as this section has shown. Managers dislike unpredictability of resources because it affects their ability to plan resource commitment. It is no consolation that agriculture was not alone in being unpredictable; indeed, the entire public spending of the federal government was.

³³ However, allocations to forestry, irrigation, and so on, are not yet available. They are outside the control of FMARD, which provided the data used here.

Optimality in Economic Classification of Spending

Spending maintained a good relationship between recurrent and capital expenditure between fiscal 2008 and fiscal 2011. Capital spending was an average of about 60 percent of the budget, much higher than the average achieved economywide of below 30 percent. Capital expenditure was 85 percent in both 2008 and 2009, when water spending formed part of agriculture. However, capital spending does not always imply investment; a lot of it is operations spending and expenditures that do not create enduring assets. MDAs find a way of passing off operations expenditure as capital, since regular overhead spending includes little operational expenditure.

Allocative Efficiency at the Subnational Level

Based on the performance of the states in terms of execution of the total budget and the fact that larger deviations are experienced in the capital compared with the recurrent budget, there is a need to address the quality of spending first in terms of striking the appropriate balance between recurrent and capital, as noted earlier, and maintaining adequate allocation of resources to overhead within the recurrent budget. Personnel costs are more or less an obligation that must be fulfilled; thus, room to maneuver is available only for overhead. This does not detract from the fact that many states do not even find it easy to pay staff salaries as and when due, and they even resort to borrowing to meet such obligations whenever they experience a revenue crunch.

Three intriguing findings arise when considering the allocation of resources between personnel and overhead: First, the overhead share is generally low across the three tiers of government. Second, slippages in the budget share and the share in actual spending seem to be within acceptable limits. Third, between 2008 and 2012, positive deviation is recorded on the average only at the federal level, but it is marginal. Among the states, Ondo state has the highest overhead share (21.3 percent of the budget), exceeding that of Cross River state (with the lowest) fivefold. In terms of the share of overhead in actual agricultural spending, Ondo state also has the highest (16.7 percent), rising almost six times above that of Cross River state, which has the lowest share, at only 2.6 percent (Table 4.2). Given the nature of agricultural services that have to be provided by the public sector (as elaborated upon earlier), the share of overhead in public spending observed in the case study states is unlikely to be adequate at the state level. The usual complaints of inadequate monitoring of facilities in terms of transportation and other logistic requirements, lack of maintenance of storage infrastructure, and suspension of some extension activities are indicators of inefficiency in the allocation of resources. Even the weaknesses in executive capacity for project implementation, record keeping, and expenditure tracking suggest that allocative efficiency can be very challenging across the tiers of government. These issues have to be addressed if budget performance is to witness significant improvement to propel the transformation of the agricultural sector in Nigeria.

Table 4.2 Share of overhead in recurrent expenditure, 2008–2012 (%)

Division	2008		2009		2010		2011		2012		Average (2008–2012)	
	B	A	B	A	B	A	B	A	B	A	B	A
Federal	41.3	38.5	8.4	10.8	10.0	11.5	8.7	10.1	6.4	9.7	15.0	16.1
Cross River state	5.4	3.6	5.1	3.5	2.2	2.0	3.2	1.9	2.8	2.0	3.7	2.6
Niger state	5.4	4.4	6.2	1.7	4.5	0.7	3.5	5.6	2.5	5.1	4.4	3.5
Ondo state	21.8	18.7	19.1	14.9	26.4	21.5	26.8	17.8	12.1	10.7	21.3	16.7
Odigbo LGA	0.00	0.00	0.00	12.0	0.00	0.00	0.00	38.7	0.00	0.00	0.00	10.1

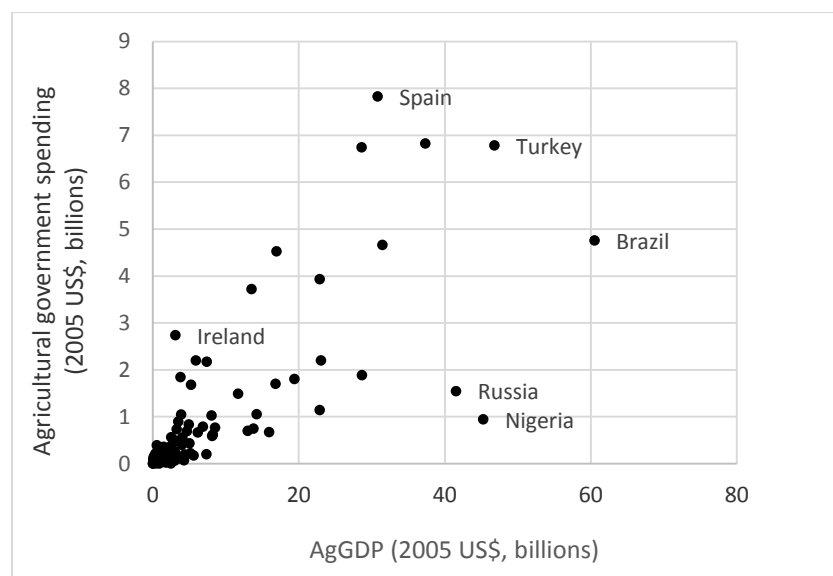
Source: Authors' computation using data from ministries of Agriculture and Finance of the federal government, Cross River, Niger, and Ondo states and the Departments of Agriculture and Finance of Odigbo local government area (2008–2012).

Note: A = actual; B = budget; LGA = local government area.

International Comparison of Agricultural Public Expenditure Performance in Nigeria

This section undertakes an assessment of the efficiency of agricultural public expenditure in Nigeria relative to that of other countries across the world by mapping the latest available data on the degree of association between government spending in agriculture and agricultural GDP (Figure 4.1). In addition, we assess the average spending in agriculture in Nigeria as a percentage of the agricultural GDP in comparison with other SSA countries over the period 2000–2010.

Figure 4.1 Government spending in agriculture versus agricultural gross domestic product, 2008



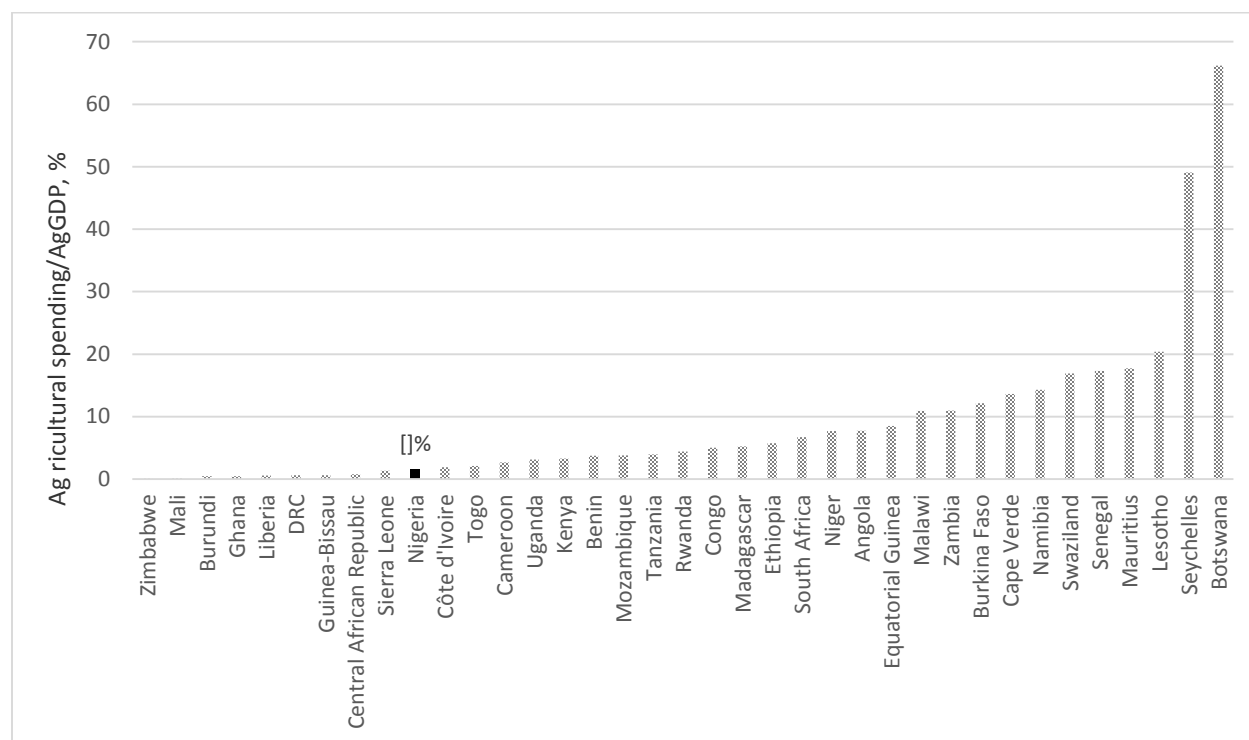
Source: Authors' computation based on data from World Bank (2014) and IFPRI (2014).

Note: AgGDP = agricultural gross domestic product.

On average, government spending in agriculture and agricultural GDP have a positive association, and most countries lie either above or near the diagonal line. This suggests a linear relationship between agricultural public spending and agricultural GDP. However, Nigeria—with only few other countries—is an outlier. As compared with its agricultural GDP, Nigeria is the country that spends the least in agriculture. For instance, Turkey—which lies along the diagonal line and has an agricultural GDP more or less equal to Nigeria's—spends around seven times more than Nigeria does on its agricultural sector.

Similarly, Nigeria's government expenditure in agriculture as a percentage of the agricultural GDP is among the least when we consider a longer period. As seen in Figure 4.2, Nigerian government expenditure in the agricultural sector as a share of the agricultural GDP was only 1.5 percent on average over the period between 2000 and 2010. This figure is also far less than the continental average of 9.0 percent, the West African average of 4.9 percent, and that of many African countries, and the country is ranked 28th out of the 37 African countries in this regard. During this decade, West African countries including Senegal (17.3 percent), Cape Verde (13.6 percent), Burkina Faso (12.1 percent), Niger (7.7 percent), and Benin (3.7 percent), as well as countries in other parts of the continent, including Namibia (14.3 percent), Zambia (11 percent), and Malawi (10.9 percent), have spent in their agricultural sector far more than Nigeria has in proportion to the size of their agricultural economy.

Figure 4.2 Average spending in agriculture as percentage of agricultural gross domestic product in Nigeria compared with other countries in Africa south of the Sahara, 2000–2010



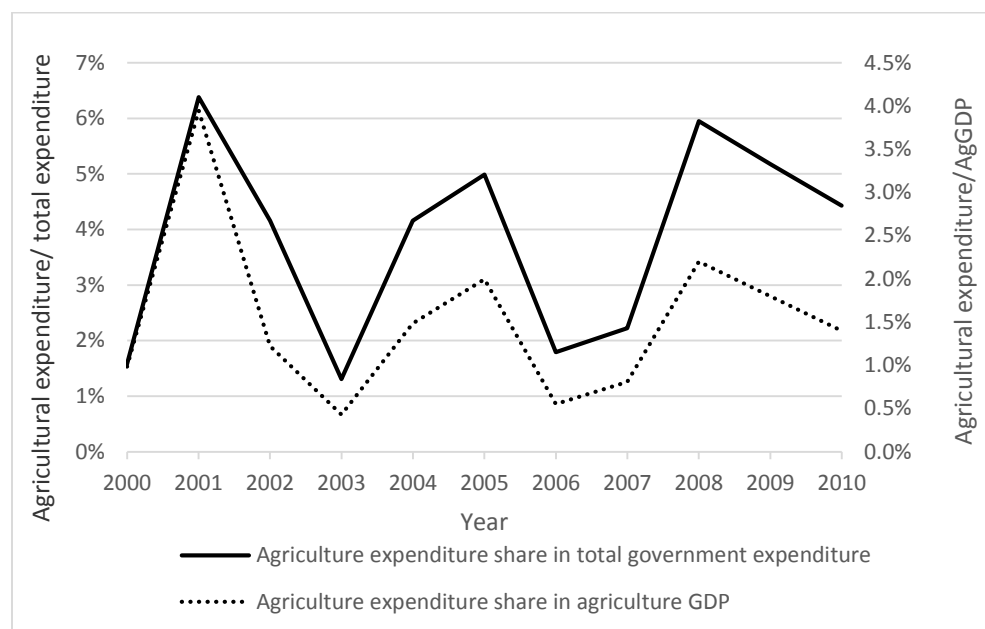
Source: Authors' computation based on data from IFPRI (2014).

Note: AgGDP = agricultural gross domestic product.

Even in the distant past, between 1980 and 2000, Nigerian government expenditure in the agricultural sector as a share of the agricultural GDP had been between 1 and 2 percent, except for the observed surge in 1986, and the average share was less than the Africa-wide average (Mogues et al. 2012a). This suggests that Nigeria did not do much to improve the adequacy of agricultural public spending relative to the contribution of the sector to the national economy.

Moreover, in most of the years between 2000 and 2010, both the trend in the share of the agricultural sector in total government spending and the trend in government spending in agriculture as a percentage of the agricultural GDP do not show a clear pattern in Nigeria. However, the two indicators were commoving throughout the decade. As depicted in Figure 4.3, the lowest shares of the agricultural sector in government spending were registered in 2000 (1.6 percent) and 2003 (1.3 percent), while the highest were recorded in 2001 (6.4 percent) and 2008 (6.0 percent). Similarly, the trend in spending as a percentage of agricultural GDP has been fluctuating throughout the last decade.

Figure 4.3 Agricultural expenditure as percentage of agricultural gross domestic product and total government expenditure in Nigeria

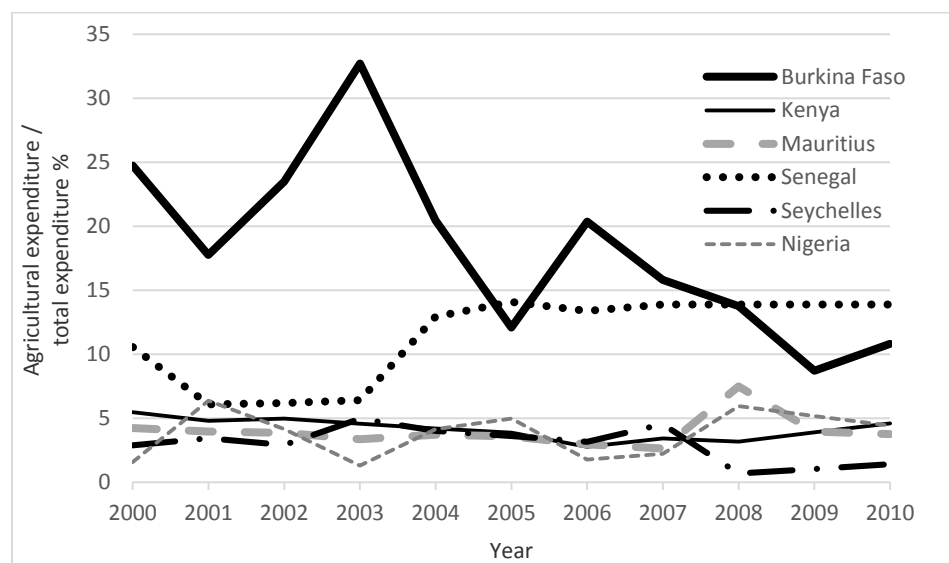


Source: Authors' creation based on data from IFPRI (2014).

Note: AgGDP = agricultural gross domestic product.

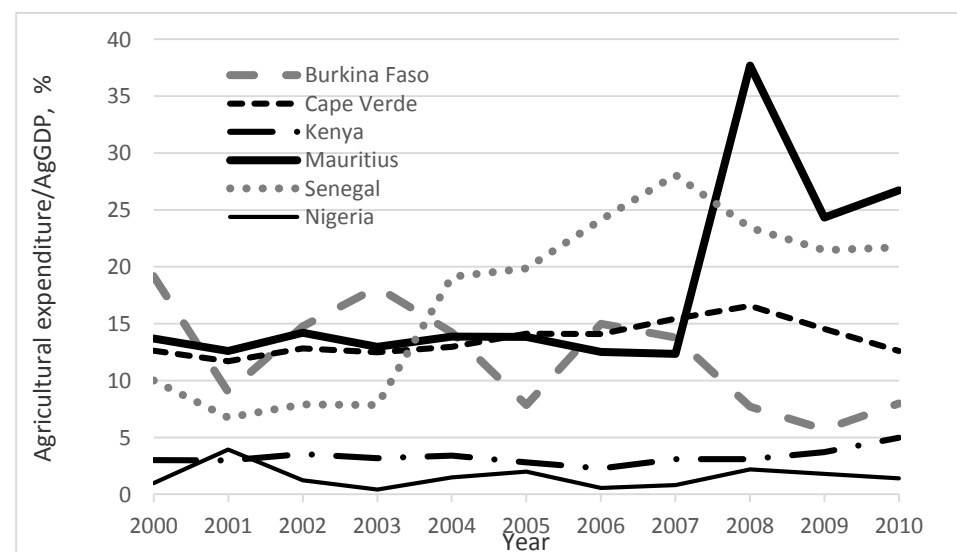
However, the fluctuations observed in the share of the agricultural sector in total government spending and in the share of agricultural government spending as a percentage of the agricultural GDP are not unique to Nigeria. In this regard, what is observed between 2000 and 2010 is mixed, and this is true both in West Africa as well as in other parts of SSA. For instance, among West African countries, Burkina Faso has shown dramatic swings in both indicators that are marked by a long-term average decline, while Senegal's trend in both indicators was characterized by moderate swings marked by a long-term average increase. Cape Verde's agricultural government spending as a percentage of the agricultural GDP has shown a more or less stable trend over the decade. Among countries in the other parts of SSA, Kenya has shown stable trends in both indicators, while Seychelles has shown moderate swings marked by a long-term average decline in its trend in the share of the agricultural sector in total government spending (Figures 4.4 and 4.5).

Figure 4.4 Expenditure in agriculture as share of total government expenditure, selected African countries, 2000–2010



Source: Based on data from IFPRI (2014).

Figure 4.5 Spending in agriculture as percentage of agricultural gross domestic product, selected African countries, 2000–2010

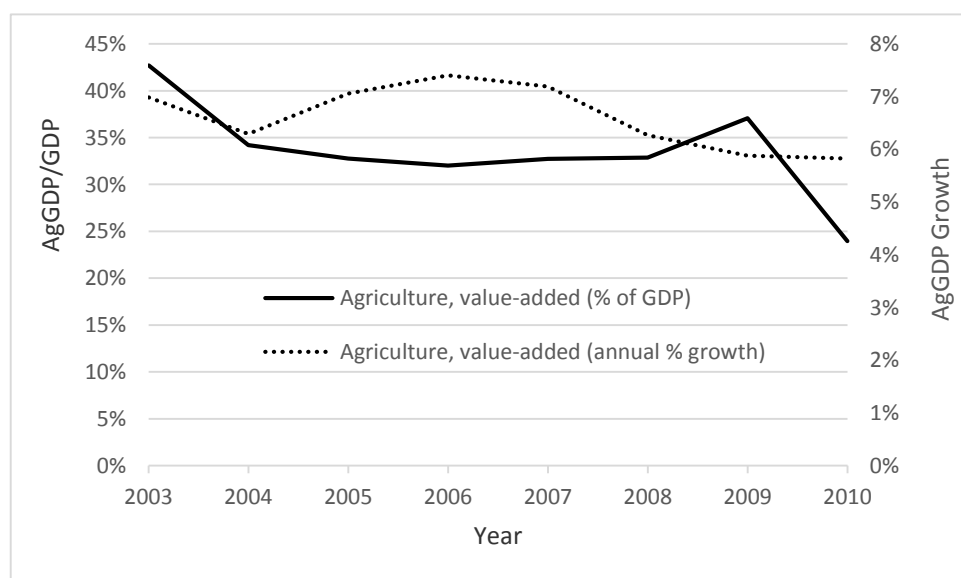


Source: Based on data from IFPRI (2014).

Note: AgGDP = agricultural gross domestic product.

In contrast to the low level of public expenditure in Nigerian agriculture, the share of agriculture in total GDP and growth in agricultural GDP were high and more or less stable during the same period in Nigeria (Figure 4.6). Pursuant to the target set by CAADP in 2003, Nigeria has registered an annual average agricultural growth rate of more than 6 percent between 2003 and 2010 (World Bank 2014).

Figure 4.6 Share of agricultural GDP and annual agricultural GDP growth in Nigeria, 2003–2010



Source: Based on data from World Bank (2014).

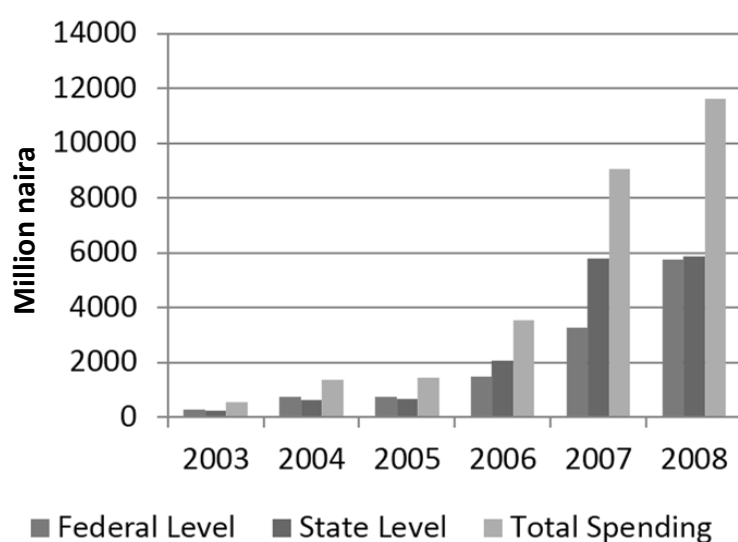
Note: AgGDP = agricultural gross domestic product; GDP = gross domestic product.

Benefits of Agricultural Public Expenditure

Trend in Government Spending on Fertilizer Subsidy

Due to paucity of data, the analysis of public spending on fertilizer subsidy (PSFS) covers the period 2003 to 2008 at both the federal and state levels. Whereas the federal government provided a 25 percent subsidy annually over the period, the states provided different rates of subsidy, which even varied from year to year, ranging from 10 percent to 74 percent. Federal government spending on fertilizer subsidy rose from ₦290.8 million in 2003 to ₦5.7 billion in 2008 while the total during the period stood at ₦12.3 billion. Spending on fertilizer subsidy by all the states rose from ₦256 million to ₦5.8 billion with a total of ₦15.3 billion during the same period. As shown in Figure 4.7, state-level spending continued to be higher than federal spending from 2006 to 2008, even though in terms of political visibility the federal subsidy program has tended to attract greater prominence. This discrepancy underscores the need to always account for the efforts of state governments in evaluating public agricultural expenditure and its benefits.

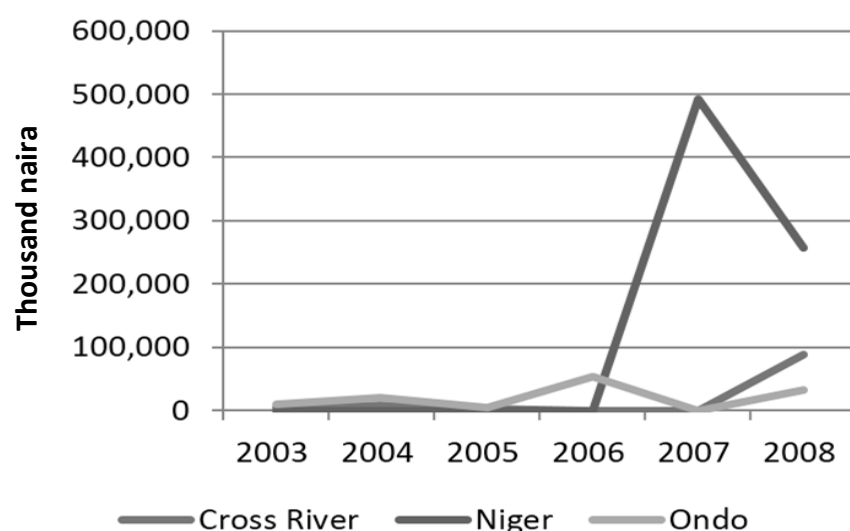
Figure 4.7 Public spending on fertilizer subsidy in Nigeria, 2003–2008



Source: Based on data from Nigeria, FMARD (2003-2008).

With regard to the selected states, no state has a full record of fertilizer subsidy spending annually during the period, implying that the price of fertilizer might not have been subsidized on a regular annual basis. Cross River state has no record of a subsidy in 2006 and 2007, and Niger state has no record from 2003 to 2006. Available data show that the fertilizer price was subsidized in Ondo state in all years except 2007. Spending on fertilizer subsidy rose from ₦4.0 million in 2003 to ₦88.7 million in 2008 in Cross River state and from ₦9.7 million to ₦32.0 million in Ondo state during the same period. For the two years for which Niger state provided subsidy, spending declined sharply, from ₦493.0 million in 2007 to ₦257.0 million in 2008 (Figure 4.8). The decline is not necessarily due to a reduction in the quantity of fertilizer but due largely to the reduction in the subsidy rate from 47 percent to 26 percent.

Figure 4.8 Fertilizer subsidy spending by selected states in Nigeria, 2003–2008



Source: Authors' computation based on data from Nigeria, FMARD (2003-2008).

Benefit Incidence of Government Expenditure on Fertilizer Subsidy

In analyzing the benefits of public spending on fertilizer subsidy (PSFS), we employ a methodology for analyzing benefit incidence that uses standard tools, Lorenz curves, and benefit concentration curves based on data from the 2009/2010 Living Standards Measurement Study—Integrated Survey on Agriculture in Nigeria. Benefit incidence analysis considers the distribution of public subsidies for services among different groups in the population, in particular among different income categories. In determining the benefit of PSFS, farmers are considered in quintile groups ranked from the poorest to the richest. In assessing the share of each group, we emphasize ascertaining whether PSFS is pro-poor or pro-rich, progressive or regressive, with a view to gaining an insight into the expenditure performance of the subsidy program based on targeting and equity considerations.

How Pro-Poor Is the PSFS Benefit?

The results of the benefit incidence analysis are presented in the form of computed coefficients (Gini coefficients and concentration coefficients) and graphics. The concentration coefficient, also called the Suits index, is the most common summary measure of benefit incidence. It is estimated in like manner as the Gini coefficient, but it is based on a concentration curve instead of a Lorenz curve. The Gini coefficient is computed as the ratio of the area between the diagonal (45-degree line) and the Lorenz curve to the total area below the diagonal, but the concentration coefficient is the ratio of the area bounded by the diagonal and the concentration curve to the total area below the diagonal (Rosario, Cuenca, and Villanueva-Ruiz 2008). Benefits from government spending on a service are considered to be pro-poor if the concentration curve for the benefits is above the 45-degree line (Davoodi, Tiongson, and Asawanuchit 2003). As shown in Figure A.1 in the Appendix, the concentration curve is below the diagonal, implying that the benefits are unlikely to be pro-poor in general.

As expected, such a concentration curve should result in a positive concentration coefficient. As shown in Table 4.3, our results are consistent with this theoretical expectation, judging by the Suits index of 0.116. With further disaggregation of the data, we find more variation in the Suits index and in the shape of the concentration curve. The variation is far more pronounced on the basis of geopolitical zones than on the basis of gender and rural–urban disparities (Table 4.4).

Table 4.3 Gender and geographical comparison of progressivity of benefits

Category	Gini coefficient	Concentration coefficient (Suits index)
All farmers	0.425	0.116
Male	0.423	0.124
Female	0.430	0.001
Urban	0.405	0.025
Rural	0.402	0.136

Source: Authors' computation based on data from Nigeria, FMARD (2003–2008).

Table 4.4 Zonal comparison of progressivity of benefits

Zone	Gini coefficient	Concentration coefficient (Suits index)
Northwest	0.381	0.263
Northeast	0.410	0.063
North central	0.387	0.042
Southwest	0.381	–0.263
Southeast	0.437	–0.007
South-south	0.428	–0.124

Source: Authors' computation based on data from Nigeria, FMARD (2003–2008).

With regard to gender, the Suits index is 0.124 for male farmers and 0.001 for females. This implies that even though targeting of farmers is generally poor, some groups of female farmers may have benefited more than their male counterparts. This possibility is more clearly revealed in Figure A.2 in the Appendix, where the concentration curves of the male farmers falls below the 45-degree line, whereas certain portions of the curve for female farmers appear to be convex while others are concave.

As regards targeting in the rural and urban areas, the distribution of benefits is also unlikely to be pro-poor in line with the general national pattern. The Suits index for urban areas is 0.025 compared with 0.136 for the rural areas. As shown in Figure A.3 in the Appendix, the benefit concentration curves are clearly below the diagonal for rural farmers and male farmers. Although that of urban farmers seems to be close to the diagonal, it lies generally below the diagonal, implying that on the whole, the benefits cannot be said to be pro-poor. Similarly, the larger part of the benefit concentration curve for female farmers lies either below or on the diagonal line. A disaggregation of the analysis by region (zone) shows that the incidence of benefit is pro-poor in the southern zones and pro-rich in the northern zones (Figure A.4 in the Appendix). In sum, the lowest income group has not received a proportionate share of PSFS, implying that in general, spending has been poorly targeted at the farming population. The analysis of the benefits on the basis of geopolitical zones, however, indicates that targeting has been better in the southern zones than in the northern zones.

Progressivity of Benefits

We further assess the benefit of PSFS to determine whether it is progressive (inequality reducing) or regressive (inequality increasing). By *progressivity* is meant that lower-income groups get a larger share of the benefits from government spending than they do of either income or consumption. The share of benefits from PSFS being analyzed here across quintile groups of farmers is presented in Tables 4.5 and 4.6. Three aspects of the analysis—namely, graphics and the Lorenz and Suits indexes—and computed benefit shares across the quintile groups are considered in determining the progressivity of PSFS. At the national (aggregate) level, the results show that (1) the benefit concentration curve is above the Lorenz curve but (2) below the diagonal, and (3) the Suits index is less than the Gini index, implying that benefits of PSFS are progressive in relative terms. On the other hand, the Suits index is positive and, as shown in Table 4.5, the share of benefits is lower for the poorest quintile than the richest quintile; these facts imply that in absolute terms the benefits are regressive.

Table 4.5 Quintile share of benefits by gender and geographic location

Category	Quintile 1 poorest	Quintile 2 poor	Quintile 3 average	Quintile 4 rich	Quintile 5 richest	All groups
Nigeria	0.185	0.200	0.204	0.213	0.199	1.000
–Male	0.188	0.197	0.210	0.206	0.199	1.000
–Female	0.089	0.119	0.257	0.267	0.267	1.000
By location						
–Urban	0.203	0.193	0.182	0.188	0.234	1.000
–Rural	0.189	0.192	0.212	0.213	0.193	1.000

Source: Authors' computation based on data from Nigeria, FMARD (2003–2008).

Table 4.6 Quintile share of benefits by region

Zone	Quintile 1 poorest	Quintile 2 poor	Quintile 3 average	Quintile 4 rich	Quintile 5 richest	All groups
Northwest	0.182	0.183	0.196	0.207	0.232	1.000
Northeast	0.169	0.167	0.231	0.219	0.214	1.000
North central	0.156	0.209	0.170	0.230	0.234	1.000
Southwest	0.154	0.115	0.308	0.231	0.192	1.000
Southeast	0.126	0.168	0.244	0.256	0.206	1.000
South-south	0.140	0.221	0.209	0.209	0.221	1.000

Source: Authors' computation based on data from Nigeria, FMARD (2003–2008).

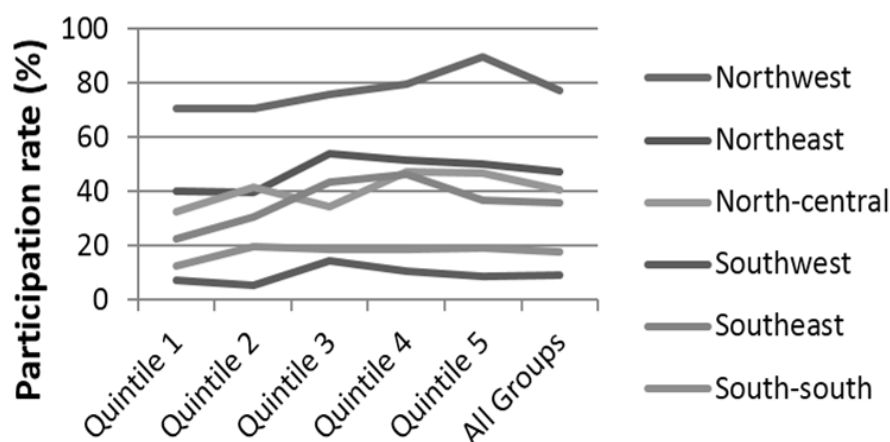
Disaggregation of the analysis on the basis of gender and geographic location shows that the benefits of PSFS are regressive in absolute terms for both male and female farmers and for both urban and rural areas.

On a regional basis, the share of benefits follows an increasing trend from the poorest to the richest quintile (Table 4.6) in all six geopolitical zones. The results show that the benefits of PSFS in the southern zones are progressive in absolute terms, whereas in the northern zones the benefits are regressive in absolute terms.

Reach of Benefits of Fertilizer Subsidy Program

From the participation rates obtained from the benefit incidence analysis, we can gain an insight into the extent to which the government fertilizer subsidy program is reaching the intended beneficiaries or target population. The participation rate is the proportion of fertilizer users in the total number of eligible users in a particular quintile group. The results show that on the aggregate, the participation rate is 43.1 percent in the country. Although the variation between rural and urban areas is more or less imperceptible, it is slightly higher in rural areas (43.2 percent) than in urban areas (42.2 percent). On the other hand, the gender disparity is remarkable. The participation rate is higher for males (45.6 percent) than for females (24.9 percent). In general, participation rate and welfare are directly related. Put differently, participation rates increase as expenditure per capita increases. Evidently, the participation rate among the rich (quintile 4) is 45.8 percent, compared with 39.8 percent for the poorest group (quintile 1). In each quintile group, participation is higher for males than for females. Moreover, with the exception of the poorest and richest groups, participation rates are higher in rural than in urban areas. As shown in Figure 4.9, in each of the regions, the participation rate is an increasing function of welfare, with the rate being higher among the richest than among the poorest group of farmers. However, no remarkable difference is seen in the participation rates of the richest and poorest groups in the southwest. In general, participation rates are higher in the north than in the south. On average, participation is highest in the northwest (77.3 percent), with the northeast coming in a distant second (47.1 percent), followed by north central (40.6 percent), southeast (36 percent), and south-south (17.9 percent), while the lowest participation rate (9.2 percent) is recorded in the southwest.

Figure 4.9 Regional comparison of farmers' participation in Nigeria's fertilizer subsidy program, 2009/2010



Source: Authors' computation based on data from Nigeria, FMARD (2003–2008).

In light of the above findings, we can safely conclude that the target population of the fertilizer subsidy program has not benefited as intended. In absolute terms, the benefit is regressive, implying lower benefits to the poorest compared with the relatively well-to-do groups. The findings tend to substantiate the rationale for reform of the fertilizer subsidy program that started in 2011 and sought to ensure that the subsidy is better targeted and, indeed, delivered directly to farmers. It remains to be seen, however, whether the subsidy transfer is indeed pro-poor and whether the delivery is actually effective, judging by the participation rate of the small-scale farmers, who are expected to be the direct beneficiaries. An application of this type of benefit incidence analysis to the input subsidy program under the current GESS is therefore instructive considering that the resources allocated to the program are far larger than those during the last couple of years preceding the reform, and given the implications of the program on the overall budget of the agricultural sector.

Comparison of Agricultural Public Expenditure and Agricultural GDP in Nigeria

One way of assessing budget performance, or the effectiveness of a government's expenditure decisions, is to analyze the changes in two key indicators during the period under review. These are the degree of government commitment to financing service delivery in the sector and the intensity of investing public funds in the sector, in this case the agricultural sector. The latter gives an indication of the degree of funding the agricultural sector attracts relative to its contribution to the national economy. Since GDP is involved in the analysis, public expenditure from the three tiers of government is involved in the assessment.

As shown in Table 4.7, the subnational government has been making a substantial contribution in terms of agricultural spending. Between 2008 and 2012 the proportion of budgetary allocation to agriculture at the subnational level has been rising steadily above that of the federal level and on average stood at 62.41 percent during this period. In terms of actual spending, however, the proportion (47.19 percent) at the subnational level is much lower than that at the federal level. This discrepancy implies that the intention to finance agriculture is rather pronounced at the subnational level, but translating such intention into reality has been far more challenging at the subnational level than at the federal level. However, in terms of resource allocation to the totality of sectors, the contribution at the subnational level has been generally higher for both the budget and actual spending (Table 4.8). Between 2008 and 2012, budgetary allocation at the subnational level averaged 69.80 percent while actual spending averaged 55.18 percent. This finding is a reflection of both the different priorities of the various tiers of government in the allocation of resources for development purposes and variations in the commitment to agricultural development. Indeed, judging by the share of agriculture in total spending at the federal and subnational levels, the commitment is low, and it has also been on the decline over the years (Table 4.9).

Table 4.7 Cross-tier comparison of agricultural public expenditure in Nigeria, 2008–2012 (constant 1990 nairas, millions)

Division	2008		2009		2010		2011		2012		Average (2008–2012)	
	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual
Federal government	3,338.95	3,321.13	4,841.24	5,238.98	4,515.57	4,077.19	2,559.06	3,358.91	3,057.38	1,866.85	3,662.44	3,572.61
States	2,500.16	1,880.53	3,239.93	1,750.25	3,765.64	2,428.83	3,168.49	1,738.78	3,730.10	923.90	3,280.86	1,744.46
LGAs	2,008.80	1,609.67	3,092.35	1,402.10	3,135.47	1,848.11	2,472.65	1,466.43	2,972.34	739.51	2,736.32	1,413.16
Total	7,847.90	6,811.33	11,173.51	8,391.33	11,416.68	8,354.13	8,200.20	6,564.12	9,759.81	3,530.26	9,679.62	6,730.24
Share of subnational (%)	57.45	51.24	56.67	37.57	60.45	51.20	68.79	48.83	68.67	47.12	62.41	47.19

Source: Authors' computation based on data from ministries of agriculture of federal government, Cross River, Niger, and Ondo states; departments of agriculture of Akamkpa and Odigbo local government areas (2008–2012); and SPARC (2014).

Note: LGA = local government area.

Table 4.8 Cross-tier comparison of total public expenditure in Nigeria, 2008–2012 (constant 1990 nairas, millions)

Division	2008		2009		2010		2011		2012		Average (2008–2012)	
	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual
Federal government	46,433	45,954	72,224	84,852	79,453	106,852	82,689	90,655	66,694	87,399	69,499	83,142
States	98,570	75,044	109,080	76,574	98,042	69,531	101,357	69,661	114,595	60,691	104,329	70,300
LGAs	45,685	31,857	62,324	42,528	60,272	36,155	56,460	34,698	56,888	14,992	56,326	32,046
Subnational	144,255	106,902	171,403	119,102	158,315	105,686	157,816	104,358	171,483	75,683	160,654	102,346
Total	190,688	152,855	243,627	203,954	237,768	212,537	240,505	195,014	238,178	163,082	230,153	185,488

Source: Authors' computation based on data from ministries of finance of federal government, Cross River, Niger, and Ondo states; departments of finance of Akamkpa and Odigbo local government areas (2008–2012); and SPARC (2014).

Note: LGA = local government area.

Table 4.9 Cross-tier comparison of share of agriculture in total public spending in Nigeria, 2008–2012 (percent)

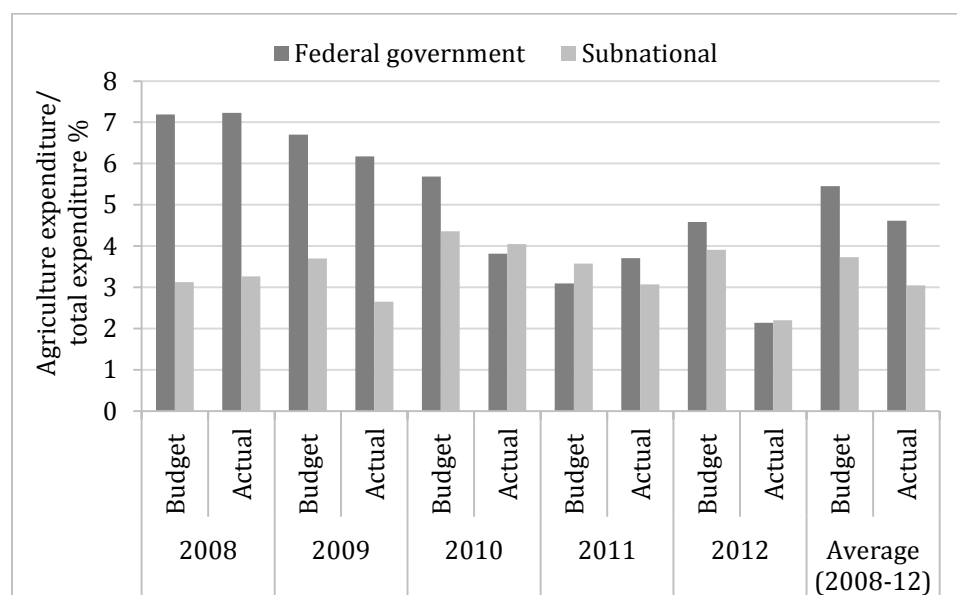
Division	2008		2009		2010		2011		2012		Average (2008–2012)	
	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual
Federal government	7.19	7.23	6.70	6.17	5.68	3.82	3.09	3.71	4.58	2.14	5.45	4.61
States	2.54	2.51	2.97	2.29	3.84	3.49	3.13	2.50	3.26	1.52	3.15	2.46
LGAs	4.40	5.05	4.96	3.30	5.20	5.11	4.38	4.23	5.22	4.93	4.83	4.52
Subnational	3.13	3.26	3.69	2.65	4.36	4.05	3.57	3.07	3.91	2.20	3.73	3.05
National	4.12	4.46	4.59	4.11	4.80	3.93	3.41	3.37	4.10	2.16	4.20	3.61

Source: Authors' computation based on data from ministries of agriculture and finance of federal government, Cross River, Niger, and Ondo states; departments of agriculture and finance of Akamkpa and Odigbo local government areas (2008–2012); and SPARC (2014).

Note: LGA = local government area.

As illustrated in Figure 4.10, the agricultural share of the total budget at the federal level followed a declining trend from 2008 to 2011 and moved upward in 2012 but still fell below the 2008 level. The share of agriculture in total spending at the federal level fell from an all-time high of 7.19 percent in 2008 to as low as 2.14 percent in 2012, a performance far from commensurate with the public pronouncement that the government has accorded a very high priority to the agriculture sector. At the subnational level, the agricultural share of the total budget climbed from 3.12 percent in 2008 to 4.60 percent in 2010, from where it trended downward to 3.91 percent in 2012. The share of agriculture in actual total spending rose from 3.26 percent in 2008 to a peak of 4.36 percent in 2010 and plunged to 2.19 percent in 2012. Thus, even though the level of commitment seems to be higher at the federal level on average during the period, the downward trend is common to both levels of government.

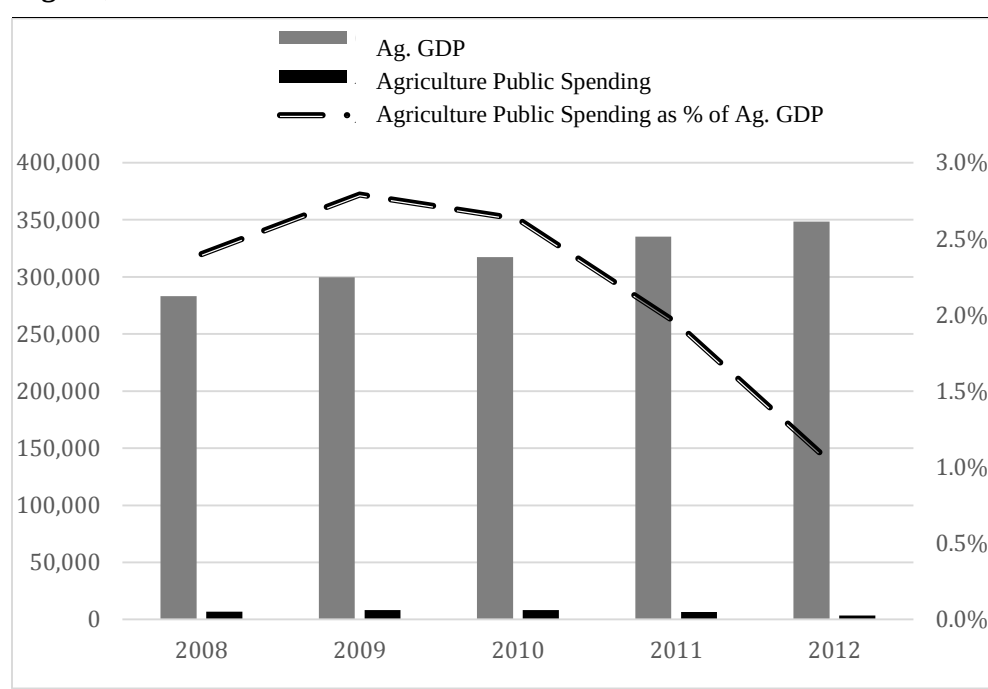
Figure 4.10 Comparison of share of agriculture in total public spending in Nigeria by level of government, 2008–2012



Source: Authors' computation based on data from ministries of agriculture and finance of federal government, Cross River, Niger, and Ondo states; departments of agriculture and finance of Akamkpa and Odigbo local government areas (2008–2012); and SPARC (2014).

The waning commitment of government at all levels to invest in the agricultural sector is further revealed in Figure 4.11, which illustrates the relationship between agricultural GDP and agricultural public spending in the country. Whereas agricultural GDP followed an increasing trend annually from 2008 to 2012, agricultural public spending trended downward precipitously. This paradox is an indication that the agricultural sector was underfunded during the period. It is little wonder, therefore, that the sector remains a dominant habitat for the poor, while at the same time huge opportunities and resource endowments remain untapped. Also illustrated in Figure 4.11 is the trend of agricultural public spending as percentage of agricultural GDP, which explains the intensity of spending during the period under review. Between 2008 and 2009, when GDP was growing, intensity of spending was also moving in the same positive direction. However, whereas GDP maintained an increasing trend thereafter, spending intensity moved down the slope, plunging from 3 percent in 2010 to merely 1 percent in 2012.

Figure 4.11 Agricultural public expenditure as percentage of agricultural gross domestic product in Nigeria, 2008–2012

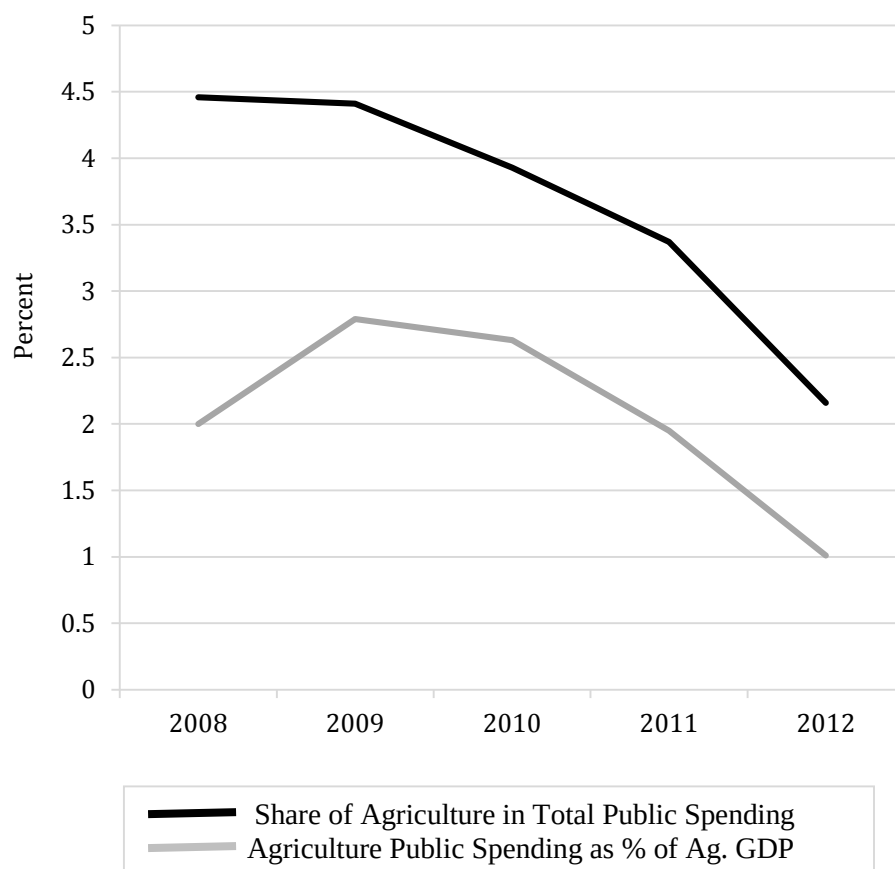


Source: Authors' graph based on data from IFPRI (2014).

Note: Ag. GDP = Agricultural gross domestic product

By and large, the revelation of the two indicators, government commitment to agricultural investment and intensity of spending, is that the agricultural sector has witnessed considerable underfunding during the period under review. As illustrated in Figure 4.12, both indicators followed a downward trend, highlighting the enormity of the neglect of the sector over the years. Government commitment was at a very low level yet still trending downward over the period, while at the same time intensity of spending nosedived dramatically. The vigor that has gone into reviving the sector and promoting investment from various sources since 2012 is indeed well deserved and well timed. Given the initial conditions of funding neglect, government commitment to transform the sector and to attract private-sector investment from within and outside the country provides a ray of hope. The expectation is that agricultural development will be accorded priority within the medium to long term—priority in the real sense of providing funding to capitalize, modernize, and industrialize the sector. This will enable the agricultural sector to fulfill its modern role of economic diversification, wealth creation, and employment generation.

Figure 4.12 Comparison of degree of government commitment to investment in agriculture and intensity of spending in Nigeria, 2008–2012



Source: Authors' graph based on data from IFPRI (2014).

Note: Ag. GDP = agricultural gross domestic product.

Public Financial Management of Agricultural Expenditure

Building adequate capacity for public financial management (PFM) in FMARD is particularly critical, and is well under way, to overcome the constraints in mobilizing basic expenditure information for decisionmaking, as revealed by the initiation of the AgPER. The federal government of Nigeria is currently implementing three major PFM reform initiatives to strengthen the management of public funds in Nigeria. As a priority ministry of the current government administration, FMARD is one of the pilot MDAs selected for the initial phase of rolling out the PFM reform programs. Through the Office of the Accountant General of the Federation, the Federal Ministry of Finance (FMF) is leading the reform program, and the three initiatives under implementation are GIFMIS, IPPIS, and Treasury Single Account (TSA). The objective of the introduction of these online computerized systems is to automate government financial transactions with a view to improving efficiency and effectiveness in the management of public resources by introducing stronger financial controls, improved cash management processes, monitoring mechanisms, and standard reporting formats.

Rollout of these systems started first with central FMARD departments before turning to the more logistically difficult task of extending them to the nearly 40 public-sector agencies that are scattered spatially across the nation. FMARD headquarters has been integrated into the GIFMIS and TSA platforms since April 2012. The capital and overhead operations of the ministry headquarters are channeled through TSA, which runs on the GIFMIS platform. At present, the Office of the Accountant

General of the Federation is rolling out GIFMIS and TSA to all parastatals, departments, and agencies (PDAs) of government by state, and 14 states had been covered as of March 2014, with an additional 8 states to be included by the end of that month. The integration of all 36 states on the GIFMIS and TSA platform is scheduled for completion by the end of June 2014, according to the implementation calendar for the rollout, and thus all 40 PDAs of FMARD will be fully integrated into both systems. This is particularly important for FMARD, whose PDAs account for 75 percent of FMARD payroll and overhead expenditure. The extension of the rollout of IPPIS to all PDAs of FMARD is largely on schedule. The ministry headquarters is one of the initial 7 pilot MDAs selected for implementation of the system, which commenced in 2006. FMARD has made an official request to the IPPIS secretariat requesting that its PDAs be included under IPPIS. In response, IPPIS has gathered the biometric information of FMARD staff to be captured in the system, and training workshops have been held to prepare the ministry for the transition. The target date for completion of the rollout of IPPIS was postponed from July 2013 to early 2014. So far, 23 PDAs have been enrolled on IPPIS with the remaining PDAs at various stages of the integration process into the system. Thus, the expectation is that FMARD would have completed its integration into the three PFM initiatives by the end of 2014.

Mechanisms for Fiscal Cooperation and Agricultural Expenditure Coordination

Effectiveness of public spending can be enhanced upon coordination of efforts and institutions involved in the implementation of agricultural projects. This section examines the various mechanisms of achieving coordination as well as the nature of agricultural spending in which various tiers of government are involved.

Policy Coordination through the National Council on Agriculture

To address the problem of synchronizing sectoral policies between the federal and subnational levels, the federal government established and sponsors vertical policy coordination councils in major sectors of the economy. For the agricultural sector, the coordination council is known as the National Council on Agriculture (NCA). These national councils are semiformal structures of governance in the Nigerian Federation, comprising political and technical leadership in each sector at the federal and state levels. They meet at least once a year to agree to sectoral policies and targets. The expectation is that once a consensus is reached, these policies and targets should influence sectoral development planning and programming at all levels of government. The NCA has performed creditably in the promotion of agricultural policies and development strategies over the years. It has served as a forum for the sharing of information and coordination of matters of interest to various levels of government as far as all subsectors of agriculture are concerned. The ATA was approved on March 15, 2012, during an NCA meetings. The endorsement of the ATA at this level gave it an aura of a national agenda recognized and accepted by all levels of government.

Institutional Restructuring for Agricultural Program Implementation

Two major approaches to institutional restructuring are worthy of consideration in view of their relevance to effective implementation of agricultural projects in recent times. First is the decentralization of the bureaucracy within FMARD as a major institutional reform to strengthen the implementation of agricultural activities at state and regional levels. Each of the six geopolitical zones has a zonal office, and a state office—the Green House—has been established in each state. The offices commenced operations by May 2012. In each zone, the federal officials are expected to coordinate and monitor the ATA activities in all the states and provide feedback to the headquarters in Abuja, where urgent decisions would be made if necessary. Each office is headed by a regional director, who is assisted by subject matter specialists in key areas such as crops, livestock, fisheries, infrastructure, cooperatives, and land, as well as a regional accountant. They are to provide explanations to state officials and other stakeholders

about the various policy changes and initiatives under the ATA. The regional offices monitor the implementation of GESS for on-the-spot resolution of issues, especially in relation to registering farmers.

Evidence from the north central regional office shows that an important avenue for interaction with stakeholders is the preseason meeting to strategize for agricultural-production-related activities, including access to fertilizers, seeds, agrochemicals, and relevant information and procedures. Participants included state directors, representatives of ADPs, agrodealers, directors from the ministries of agriculture in the region, representatives of the state planning commissions, and representatives from the National Seed Council. Even though the regional offices are not directly involved in project implementation, they are relevant in strengthening linkages horizontally among states in their respective regions and vertically between states and the federal government. For instance, as the 2013 dry farming season approached, the North Central regional office identified three states (Kogi, Niger, and Nasarawa) within the region that were interested in rice cultivation. The office is communicating with the headquarters and state offices to ensure easy access to the relevant incentives under the ATA.

Each of the state offices is headed by a state director, who is assisted by project support officers covering key components such as crops, livestock, fisheries, engineering, strategic grain reserve, accounts, and administration. The establishment of state offices is a major institutional reform that has helped to reduce wasteful expenditure and harness resources for effective project implementation at the state level. It is expected to reduce the bureaucratic bottlenecks in communication between each state and FMARD in Abuja. Prior to the establishment of the state offices, each of the 10 departments of FMARD in Abuja had a different corresponding office in each of the 36 states of the federation. With this reform, all the concerned staff are brought together in one (state) office so that their activities can be harmonized and reporting to headquarters is streamlined, with considerable reduction in cost and time. This form of coordination therefore not only is cost-effective but also has led to better utilization of time—a feature that is actually consistent with the needs of farmers due to the time specificity of their production activities. Specifically, the state office is to (1) facilitate the implementation of federal government projects in the states, (2) forge partnerships with state governments and create synergy between the two levels of government concerning all aspects of federal government projects, and (3) ensure accountability and proper use of funds. For instance, in LGAs where value chain activities are going on (about 10 out of the 25 LGAs in Niger state, for example), staff are deployed to ensure compliance with stipulated procedures and rules, and they send reports to the state office for forwarding to FMARD in Abuja for necessary actions. Other areas of operation since inception of the state office include supervision of GESS activities, farmers' registration, working with stakeholders to ensure success of various projects, and managing the operations of the strategic grain reserve.

The institutional reform has, to a large extent, changed the orientation of staff and their commitment to effective project monitoring and implementation. The work environment, including office infrastructure, has improved and thus serves as a motivation for the staff to work hard. There is a sense of direction among staff as far as government policies are concerned, and farmers can feel the impact of their presence in terms of their increased access to inputs under GESS in particular.

The second important component of the institutional reform relates to the Agricultural Transformation Implementation Council that was inaugurated in October 2012 at the federal level. Along with implementation at the subnational level is a need for a similar framework. In this regard, the formation and operationalization of ATA implementation committees at the state and local government levels according to the ATA design should be pursued since achievement in this respect is rather limited.

Input Subsidy Financing

A typical example of required cooperation between federal and state governments is financing of the fertilizer subsidy under the ATA. The two tiers of government share equally in payment of the 50 percent incentive subsidy to small-scale farmers. The amount due to each state is deducted by the federal government at source, that is, from each state's share of statutory allocations based on the provisions of the National Food Reserve Agency.

Joint Financing of Projects

Where donor-assisted projects are involved (for example, Fadama, IFAD, and NPFS) and with the participation of many states, the federal government takes advantage of its exclusive power on borrowing issues to coordinate preparation of the projects and facilitate negotiation of the loans. The procedure for loan repayment by participating states follows the same principle of deduction at source at the appropriate time.

Expenditure Coordination by the Millennium Development Goals Office

Following successful negotiation of an exit from the Paris Club in 2005, the country was granted a substantial debt relief (US\$18 billion) from the Paris Club of creditors. With this relief, the amount of annual debt service payment fell from US\$1.8 billion to US\$0.8 billion (which represents debt service payment due to multilateral institutions and the London Club). Therefore a gain of about US\$1.0 billion (about ₦126 billion) has accrued from the debt relief. This amount was channeled into poverty reduction and the attainment of the MDGs. The US\$1.0 billion paid annually on debt service to the Paris Club prior to the granting of debt relief represents 70 percent of the total education budget and 110 percent of the combined federal and state health budgets in 2004 (see Muhtar 2005). FMF put in place an initiative for the oversight of public expenditure on NEEDS, or “virtual poverty fund,” to ensure proper allocation, utilization, and monitoring of the debt relief savings. Under the arrangement, expenditure on the construction of rural earthen roads within the purview of FMARD is coordinated by the MDGs office. Another agriculture-related area of interest of the MDGs office is the newly introduced project of funding 148 agricultural cooperatives, one in each of the targeted LGAs across the country (Gbeneol 2013).

Coordination at the Subnational Level

At the subnational government level are also several coordination strategies, although they vary from one state to another. In general all local governments operate a common service account and a joint allocation account with their state governments to ensure coordination of the fiscal responsibilities of local governments. Cross River state has agricultural projects that require counterpart funding by both the state and local governments. The funding arrangement for Fadama III, for example, requires compulsory financial commitments by the 18 LGAs in Cross River state. Between 2009 and 2010, the state government was required to contribute a total of ₦112.4 million (about ₦56.5 million per year), while the 18 LGAs were required to contribute a total of ₦72 million (₦2 million per LGA per year). The state also developed mechanisms to monitor the fiscal responsibilities of local governments through the operations of the state assembly and Ministry of Local Government Affairs. The Department of Project Planning, Monitoring, and Evaluation under the governor’s office and the Inspectorate Department of the Ministry of Local Government Affairs carry out monthly monitoring of projects and of the general utilization of local government council funds to ensure effective budget implementation. It is doubtful, however, whether such mechanisms have been effective in ensuring adequate project funding under partnership arrangements involving state and local governments. For instance, in the case of the Fadama III project, available records show that the state’s last contribution was in 2010, while that of the LGAs was in 2009.

In Niger state, collaboration between the state government and local governments also exists. Sometimes the state makes deductions at source for joint projects between itself and local governments. The state government supplies agricultural inputs in collaboration with local governments. As part of the federal government’s ATA, the state cooperates with local governments to implement GESS. For example, the funding of farmer enumeration for the implementation of GESS was shared on a 50-50 basis by the state and local governments. The local governments also have responsibilities to procure tractors jointly with the state government. The buffer stock program, Fadama III project, and NPFS are examples of programs that are also jointly funded by the state and local governments. Though LGAs are mainly concerned with agricultural extension services in Niger state, they have the liberty to formulate and finance agricultural projects within the limits of available resources. For example, Wushishi LGA has in the past provided in-kind support to irrigation farmers. Furthermore, the federal government’s One-Stop

Multipurpose Shop for agricultural inputs is an example of a collaborative effort with the state government, local governments, and the private sector. The land for this project was provided by the state and LGAs, the federal government built the center, and the private sector manages the center.

In contrast, local governments in Ondo state have little or no input in the formulation of agricultural policies in the state. These local governments depend fully on the state for agriculture policy direction and focus, which can sometimes lead to a situation of idle capacities. In Odigbo LGA, for example, some of the staff of the Department of Agriculture have little or nothing to do because of the lack of capital funds for development projects and programs. In Ondo state, donor-initiated-and-funded projects such as the Root and Tuber Expansion Program, NPFS, Fadama, and IFAD/FGN/NDDC Community-Based Natural Resources Management Program are major agricultural initiatives that link federal, state, and local governments. Each government tier has counterpart roles to play in these donor-funded projects.³⁴ However, while the state has been contributing its counterpart funds when due, LGAs have not been doing well in this regard. In Odigbo LGA, counterpart funds for the last two years have not been paid due to scarcity of funds at the local government level. Another area where Ondo state government has cooperated with Odigbo LGA is in input supply. The Agricultural Input Supply Agency of the Ministry of Agriculture has a desk office in Odigbo LGA and in the farmer center adjacent to the LGA secretariat. This is expected to keep Odigbo LGA abreast of activities that relate to fertilizer and agrochemical delivery to farmers.

³⁴ Only nine LGAs are participating in the IFAD/FGN/NDDC Community-Based Natural Resources Management Program, one of which is Odigbo LGA.

5. SUMMARY, RECOMMENDATIONS, AND CONCLUSIONS

This study sought to examine the extent to which the level and composition of public spending in the agricultural sector is consistent with both national and subnational priorities, to analyze the efficiency of budget implementation processes in the allocation of public resources to agriculture in line with stated priorities at the federal and subnational levels, and to provide recommendations on how to improve the efficiency and effectiveness of public agricultural spending in Nigeria. It is a diagnostic assessment of trends, composition, and efficiency of public spending with a view to providing a better understanding of the intensity, adequacy, and implications of efficient allocation of financial resources for the development of agriculture. This section highlights the key findings and proffers suggestions for improved performance.

Main Findings

Level and Composition of Public Agricultural Expenditure

Federal agricultural spending is low in Nigeria. Between 2008 and 2012, the federal agriculture budget and actual expenditure shares of total expenditure averaged 5.5 and 4.6 percent, respectively. Actual expenditure on agriculture rose by 57.7 percent in 2009 from its 2008 level but consistently declined after that until 2012. This declining trend in spending suggests a waning emphasis on the agricultural sector. The share of agricultural spending in total spending is lower than the corresponding shares of most of the sectors at the federal level. For example, compared with an average of 4.6 percent for agriculture, corresponding shares for economic affairs, public order and safety, general public services, and defense averaged 24.4 percent, 15.3 percent, 13.3 percent, and 9 percent, respectively, between 2008 and 2012. Spending shares for similar key sectors such as education and health are relatively closer in magnitude to that of agriculture, averaging 7.4 percent and 5.4 percent, respectively, during the same period. However, agriculture was the only sector that saw a decline in spending, falling on average by 14.8 percent from 2008 to 2012. In contrast, spending on education and health increased on average by 41.4 percent and 33.8 percent, respectively.

At the subnational level, the trend is no different. In Cross River state, the agricultural sector budget accounted for 1.2 percent of the total state budget on average between 2008 and 2012. The share of actual agricultural expenditure in actual total state expenditure was 0.9 percent in the same period. Both budget and actual shares show a general downward trend, with actual agricultural spending falling to less than 1 percent from 2009 to 2012. In Ondo state, the budget and actual shares of agricultural expenditure in total state expenditure (although a little higher at 3.8 percent and 3.6 percent, respectively, compared with Cross River state) have been more variable, with a highly uneven trend between 2008 and 2012. In Niger state, budget share has been unstable while actual shares trended downward from an all-time high of 11.9 percent in 2010 to 3.5 percent in 2012. Nonetheless, the average budget and actual shares (4.6 and 5.6 percent, respectively) are the highest among the three states. Niger state's average level of agricultural spending compares favorably with that of states like Anambra, Enugu, Lagos, Jigawa, Kaduna, and Yobe. The level of agricultural spending in Ondo state is suboptimal, falling below that of six out of the nine comparator states. Cross River state's level of agricultural spending is the lowest, falling below that of eight of the nine comparator states. These trends provide only a comparison of magnitude of spending; the importance of agriculture in each state is what determines performance across states. The expectation is that higher spending should be observed in states where agriculture is more important, and lower spending in states where agriculture is less important.

In Cross River and Ondo states, the shares of actual agricultural expenditures in total expenditures are low compared with those of other key sectors such as education, health, and works. In Cross River state, while the share of actual agricultural spending in actual total spending averaged 0.9 percent from 2008 to 2012, the corresponding shares for education, works, and health averaged 9.7 percent, 5.9 percent, and 2.6 percent, respectively, during the same period. The agricultural sector is also

less favored in Ondo state, with an average of 3.6 percent in actual agricultural spending compared with shares for education, works, and health averaging 11.6 percent, 10.7 percent, and 5.5 percent, respectively, between 2000 and 2012. These findings show that among the critical sectors examined, the majority of Ondo state funds were expended on education and works.

Similar to the state level, agricultural spending as a share of total LGA spending compares unfavorably with that of other sectors. In Akamkpa LGA, agriculture received the least attention in terms of actual expenditures (1 percent on average between 2008 and 2012), while most of the funds (29.1 percent on average during the same period) were expended on works. In Odigbo LGA, agriculture is also clearly not a top priority. Actual spending on agriculture as a share of total LGA spending was 1.1 percent on average compared with about 21.2 percent and 3.4 percent for health and works, respectively, for the period 2008–2011. It should not be surprising that these local governments are not able to maintain agricultural programs and projects in their domains or initiate new ones.

Compared with many African countries, the government's expenditure on agriculture as a share of total government expenditure and in proportion to agricultural GDP is small in Nigeria. The share of total agricultural spending is only 3.8 percent on average for the period between 2000 and 2010. This figure is less than the continental average of 5.4 percent, the West African average of 7.4 percent, and the 10 percent target set by CAADP.

Composition of Agricultural Public Expenditure

At the federal level, capital expenditures account for the largest share of agricultural spending, with budget and actual expenditure shares averaging 79.2 percent and 82.3 percent, respectively, between 2008 and 2012. Expenditure on fertilizer is classified as part of capital expenditure. This apparent misclassification accounts for the high share of capital compared with recurrent expenditure. Moreover, analysis of the structure of FMARD's overhead spending in 2012 suggests that overhead expenditures mainly support the bureaucracy rather than operations and service delivery. The essential role of recurrent expenditure seems not to have been given due recognition. It has to be adequate and complementary to investment spending within the sector. In terms of functional allocation, average expenditures on irrigation (40.9 percent), fertilizer subsidy (17.2 percent), and FMARD parastatals (15.7 percent) accounted for the largest shares of capital expenditures from 2008 to 2010.

At the subnational level, the results show that recurrent expenditure shares (63.7 percent on average) were larger than those of capital expenditures (36.3 percent) from 2008 to 2012 in Cross River state. In Ondo state, however, capital expenditure remains consistently larger. It stood at an average of 56.3 percent compared with 43.7 percent for recurrent expenditure between 2008 and 2012. A similar pattern is observed in Niger state, where capital spending averaged 62.5 percent compared with 37.5 percent recurrent expenditure. As regards functional allocation at the subnational level, capital spending is dominated by the crop sector, with little or no attention to the livestock and fisheries sectors. Within the crop sector, expenditure on fertilizer got the highest priority, averaging 58.2 percent between 2003 and 2012 in Niger state. With regard to crop development, expenditures on subsidized agricultural inputs such as fertilizers, seeds, and seedlings constituted the largest share (averaging 35.1 percent between 2000 and 2011) in Ondo state. Actual spending on agricultural engineering services, such as subsidized tractor hire and tree crops, followed closely, averaging 29.5 and 22 percent, respectively, of total crop development expenditure during the same period. In contrast, very little funding was actually expended on extension services (about 0.3 percent on average over 2000–2011). Concerning crop development in Cross River state, fertilizers and seeds accounted for the biggest shares of actual nongroup spending, averaging 22.2 and 14.1 percent, respectively, from 2000 to 2012.

Effectiveness and Efficiency of Spending

The FMARD 2012 budget exhibited many improvements over those of previous years in relation to prioritizing key challenges in agricultural development and allocating the funds necessary to meet those challenges. The 2012 FMARD budget supported policy with appropriate allocations more than earlier budgets did.³⁵ The capital budget allocated resources to support the agenda programs, including the following: (1) treating agriculture as a business rather than a development project, (2) utilizing the transformation of agriculture to create jobs and wealth and ensure food security, (3) concentrating on value chains where Nigeria has comparative advantage, and (4) placing sharp emphasis on youth and women. The budget also allocated resources for establishing market corporations for key products. These objectives have strong links with the Nigeria Vision 20:2020 program.

Unlike previous budgets, the 2012 budget emphasized the role of core agricultural issues. For example, rural development, special programs, and public-sector procurement and distribution of fertilizers dominated capital spending in earlier years, while spending on improved seed and technologies and on agrochemicals was marginal. In contrast, the fiscal 2012 budget allocated more than 73 percent of actual capital expenditures to agriculture (trees and crops)³⁶ and about 79 percent to value chains, including agriculture, livestock, fisheries, and development of land resources. The 2012 capital allocations addressed constraints to agricultural productivity.³⁷ Such constraints include the modernization of agriculture and large-scale production, the commercialization of agriculture, access to improved seedlings, access to markets, and inefficiency in fertilizer procurement and distribution. Additionally, the 2012 budget allocations gave fresh impetus to agricultural research, although it is not clear to what extent it secured the adoption of research findings and technologies, FMARD having had no extension services functioning until 2012.

However, overall analysis of expenditures points to a high level of inefficiency and a dearth of information necessary to arrive at a complete understanding of agricultural spending. Annual deviations between actual and budgeted expenditures were generally high, except in 2010. However, in fiscal 2010 the government committed and disbursed more than 55 percent of the budget in the last two weeks of the fiscal year. The high budget deviations and the hastened disbursement raise questions of fiscal discipline and quality, especially relating to procurement and cash management practices.³⁸

Allocative efficiency of overhead spending was generally poor (even in 2012) and appears to have had inadequate links with the functional allocations of the capital budget. Overhead spending supported bureaucracy more than operations and maintenance, stressing nonoperational travel and office utilities, materials, and supplies. The FMARD 2012 budget allocations did not track the following four constraints: (1) poor access to credit,³⁹ (2) the outdated land tenure system, (3) piracy in coastal waters, and (4) inadequate irrigation and storage. Some of these measures are outside of FMARD control, but budget allocation stressed irrigation in 2008 and 2009, when water resources and agriculture formed one ministry.⁴⁰ Variability was high in capital spending between 2008 and 2012. Year-on-year variability was high in both budgeted and actual expenditures. The high level of variability made spending unpredictable, potentially affecting planning and commitment.

Agricultural capital spending was an average of about 60 percent of the budget between fiscal 2008 and 2011, much higher than the economywide average of less than 30 percent. However, capital spending does not always imply investment: a lot of it involves operations spending, subsidy payments, and expenditures that do not create enduring assets. Information on physical outputs, outcomes, and the

³⁵ Detailed 2011 allocations were not available.

³⁶ Trees and crops encompass a wide spectrum of activities, including (1) supply of improved seedlings, (2) fertilizer, (3) agrochemicals, (4) market development, (5) research and development, (6) food processing, and (7) establishment of processing zones.

³⁷ Section 2 identified several of the constraints.

³⁸ The audit report should shed light on this issue but was unavailable at the time this report was written.

³⁹ However, measures are ongoing to address this.

⁴⁰ The study aims to gather information from FMWR to be able to include irrigation expenditure, consistent with the COFOG scope of agriculture per CAADP.

population of target beneficiaries was unavailable, making it impossible to calculate unit costs and identify trends. There was a high level of subsidies, especially for fertilizer. Input subsidies constituted 78 percent of the capital budget commitment in 2012. In 2012, subsidies were provided for fertilizers and supply of improved seeds, agrochemicals, and new technologies.

Similar to the findings at the federal level, there is a high level of inefficiency in public agriculture expenditure at the subnational level. There was wide disparity between approved budgets and the actual expenditure on agriculture generally. This is, however, not peculiar to the agricultural sector; across all the sectors in the state and local government, the level of budget execution was low. The problems of inadequate monitoring facilities in terms of transportation and other logistics requirements, lack of maintenance of storage infrastructure, and suspension of some extension activities are some of the indicators of inefficiency in the allocation of resources.

The Budget Process

At the federal level, the key agencies and institutions involved in the budget process are the line MDAs, FMF, Budget Office of the Federation, Federal Executive Council, and National Assembly. The budget is prepared by the executive arm of government, scrutinized and approved by the National Assembly (legislative arm), and assented to by the president before implementation by the MDAs. Usually delays take place at the budget approval stage, which have negatively affected budget implementation over the years. Late completion of proposals, untimely legislative review, and late presidential approval due to disagreements with the legislature are some of the causes of these delays. These delays affect the implementation of only the capital budget, the recurrent budget usually being disbursed fully. Delayed implementation of the capital budget complicates the tracking and reporting of expenditures because financial reports have to compare budget and actual expenditure figures of different periods.

At the subnational level, the procedure is basically the same. The budget process is policy driven and priority determined, given the availability of funds. It involves the state executive council, state planning commission (where available), MDAs, and state legislature. An MTSS is used to develop the budget proposal on the basis of the priorities of MDAs. The states adopt a multiyear medium-term budget framework that encompasses three separate but related frameworks—MTFF, MTBF, and MTEF. Adoption of the MTEF approach has entrenched the principles of accountability, transparency, and performance-based budgeting. States provide an expenditure ceiling or envelope for every MDA through FMF. Once a ministry has finalized its budget, it is submitted to FMF for additional intersectoral meetings and revisions before the finalized copy is sent to the House of Assembly for approval. The governor of the state then assents to the appropriation bill, after which the budget is implemented. Each MDA has a resident due process team that ensures that projects comply with procurement procedures before they are financed.

By and large, it was found that the budget approved by the legislature was often higher than what the executive presented at both the federal and the subnational levels. This is one of the factors responsible for the variations often observed between the actual expenditure and approved budget. The executive might have considered the revenue sources and presented only projects that could be financed by the available revenue. However, the legislature might disagree with the number and scope of projects in the budget and make adjustments without full consideration of the adequacy of revenue to finance the mandatory provisions. Delays in budget approval arising from such disagreements are more pronounced at the federal than the subnational level. Moreover, there is no time frame for budget implementation because much depends upon the availability of funds in the common pool. The release of funds for budget implementation is generally irregular and unpredictable because the quantity of resources available can also be unpredictable at any point in time. As a result, disbursement of funds is done as and when resources are available. The deleterious effect of this unpredictability on budget execution is greater at the subnational than at the federal level, especially in view of the high dependence of the state and local governments on statutory allocations from the federation account, which itself can also fluctuate due to vagaries in the international oil market.

Information Systems

The information system required for a complete understanding of public agriculture expenditure is still inadequate. The dearth of information manifests at various stages in the budget cycle. More often than not, decisions are based on estimates rather than actual data in project planning and budget preparation. Data on certain components of the budget are not kept in appropriate format or are not even recorded for analytical and planning purposes. For instance, the recurrent expenditure component of capital projects is not separated from the capital investments, while some expenditure items (fertilizer, seeds, chemicals) that should be recorded as recurrent are lumped in with capital expenditure. This complicates the assessment of effectiveness of expenditure decisions and makes international comparison of some variables in agriculture expenditure review virtually impossible.

Implications of the Findings in the Context of the Agricultural Transformation Agenda

Since the inception of the ATA, alignment seems tighter between agricultural spending and development strategies over the three years of implementation of key components of the transformation agenda. Also, in nominal terms, the amount of funds invested in agriculture is trending upward. An important lesson arising from the findings of this AgPER is that the ongoing spending should not be underreported; otherwise, the quality of spending may turn out to be underestimated in future AgPERs. It is gratifying to note that the information system is witnessing some improvement following the institutionalization of GIFMIS, TSA, and other financial management information systems. There is need to intensify the spread of these initiatives from federal to subnational levels within the limit of available resources.

Although capital spending is much more explicitly organized along agricultural commodity value chains under the ATA than ever before, the reporting of certain expenditure items (public spending on input subsidies) that constitute a substantial proportion of such spending is tantamount to a misclassification. Fortunately, while this age-old practice continues unabated, the subsidy delivery system has changed significantly under the ATA, with the federal government divesting itself from direct procurement and distribution of fertilizer and other inputs.

The practice of carrying the input subsidy bill on the capital budget will always affect agriculture expenditure performance in terms of beclouding the true picture of allocative efficiency. Viewed in the context of the ongoing ATA, the implication is that the share of capital spending in total agricultural spending may appear to have increased since 2012; however, the situation may not be so glaring if public expenditure on inputs is classified as a recurrent expenditure in the real sense of it, as theory and best practice demand.

The reform in the input subsidy program that is entrenched in GESS (a major component of the ATA) has resulted in a revamping of the delivery mechanism of subsidies in Nigerian agriculture, and makes use of an ICT-based approach to input provision, even though the size of subsidy spending may be difficult to sustain. As GESS is gradually moving into its second phase, modification in the composition of public spending is imperative in terms of shifting emphasis from subsidizing private goods to providing financial support for agricultural projects with public good characteristics, as compared with the inputs currently being subsidized. This is apt to improve not only the quality of public spending but also the prospects for private investment in Nigerian agriculture.

Another important aspect of the study from which useful lessons can be drawn for improving the performance of public agriculture spending under ATA relates to the budget process. In view of the multiplicity of agencies involved in the process, effective collaboration is required horizontally among relevant ministries (FMARD, FMWR, FMEnv) and vertically across tiers of government as well as between FMF and the line ministries. This is all the more important in view of the fact that other stakeholders such as development partners that are also supporting agricultural financing, especially those providing budget support, often base their decisions on the effectiveness of the budget process for allocating, implementing, and accounting for agricultural public spending. Other participating agencies in the budget process need to recognize the time specificity associated with carrying out many agricultural production activities and do whatever is necessary under the law to expedite action on the preparation,

screening, and approval of the budget and in releasing the approved funds in a timely fashion. An implication of this is that an effective budget process is required if technical efficiency of spending is to improve. Indeed, if the practice of releasing funds in the last quarter of the financial year persists, even ministries with satisfactory absorption capacity may not necessarily be able to utilize all allocated funds in the shortened time frame. Thus, before funds are allocated to capacity building among budget and procurement officers, government should ascertain whether the observed technical inefficiency (especially divergence between approved and released funds) depends on delays in fund release or on weak absorption capacity in the MDAs. If the former is the root cause, for example, committing funds to capacity building (when capacity is actually reasonably adequate) may worsen the efficiency of spending.

Finally, the size of budget available for analysis is crucial in appreciating the results of a PER and in taking steps to strengthen budget performance. To arrive at a conclusive result concerning the adequacy of spending, all expenditures must be captured in the analysis. When off-budget expenditures are not included in the analysis, it is difficult to have a complete picture of the level and efficiency of spending. This underscores the need under the ATA to adopt an information system and documentation approach that captures off-budget expenditures. This is a crucial factor in ensuring that future AgPERs in Nigeria will continue to be effectively deployed to offer proper guidance in directing or redirecting public financial resources to promote investments in the agricultural sector.

Policy Recommendations

Improve the Level and Composition of Public Spending

- All tiers of government—federal, state, and local—should increase spending to develop the agricultural sector. This can be achieved by strengthening weak absorptive capacity by upgrading the skill of budget officers through training. This will free more funds that can be effectively deployed in critical areas of need and also create an enabling environment for more budgetary allocation and actual spending.
- State governments should establish revenue stabilization mechanisms to address volatility in statutory transfers and IGR flows. Specifically, state governments can establish a revenue stabilization fund. The state house of assembly needs to pass necessary legislation to provide legal backing for its operations.
- State and local governments should step up efforts to increase IGR so as to reduce overdependence on allocations from the federation account. This can be done by strengthening the tax base and intensifying revenue collection drives. The mass media can be used to sensitize potential taxpayers to their civic responsibility of paying their taxes at the appropriate time to government coffers.

Enhance the Effectiveness and Efficiency of Public Spending

- All tiers of government should establish effective monitoring frameworks for budget implementation. Funds should be provided in the budget for the monitoring of projects. Reports of monitoring exercises should be used to refine and strengthen expenditure decisions for better results.
- Procurement and cash management processes should be strengthened to enhance value and avoid rushed commitments. Specifically, FMARD, FME, and the Office of the Head of Civil Service need to work together to identify bottlenecks created by the procurement process in the implementation of projects, to identify skill gaps of procurement officers, and to finance training of the officers who are found to be deficient.

- FMARD and FMF at the federal level and similar agencies at the subnational levels should embark on strengthening absorptive capacity in the MDAs by working together to determine skill gaps and finance the training of relevant budget officers. Through their oversight mechanisms, the Office of the Head of Civil Service and the legislative arm of government will also have a role to play in this regard. The complexity of this process notwithstanding, it should be noted that unless urgent and decisive steps are taken to strengthen the absorptive capacity in the public sector, insofar as public spending is concerned, it may not be possible to work toward having a significant increase in the efficiency of agricultural public spending in Nigeria.
- Public-private partnership is highly recommended for financing new dam and irrigation projects. The federal government should articulate partnerships with state governments and the private sector in this regard.
- Government should refrain from unrealistic or overambitious budgeting. In preparing budgets, government must avoid biting off more than it can chew. More often than not, budget estimates are by far too ambitious vis-à-vis the actual funding expended. Allocative efficiency can be improved by making budgetary allocations to agriculture more realistic, adopting the philosophy of cutting one's coat according to the cloth rather than according to one's size.

Improve the Budget Process

- The three tiers of government should henceforth adopt a system of collaboration in agricultural development agenda setting and joint financing of projects to minimize waste of financial resources.
- At the budget preparation stage is the need for policy linkage and interagency collaboration among FMWR, FMARD, FMTI, and FMEnv. These ministries need to streamline and reconcile their budgets to allow joint financing and proper coordination to achieve the desired objectives.
- Government at all levels should eliminate delays in the budget process. This can be achieved by stipulating specific time frames to accomplish the tasks at different stages of the budget cycle.
- A budget process act should be enacted by the National Assembly for the federal government and by each state house of assembly for the state governments to give legal backing to the stipulated time frames relating to budget preparation, approval, and implementation.

Strengthen the Information System for Agriculture Public Expenditure Management

Since the dearth of information is likely to undermine the effectiveness of the budget as an economic management tool, government at all levels should come to grips with this challenge. In order to improve the flow of information and availability of necessary data for improved expenditure management, the following actions are recommended:

- The federal government should establish and mainstream functional financial management information systems (GIFMIS, IPPIS, and TSA) for improved record keeping and information retrieval. Meaningful economic planning hinges on accurate and up-to-date data. Governments at both state and local government levels should set up an institution responsible for keeping financial and other relevant records for the state and local government authorities. Budget records, along with other government records,

should be stored in electronic form and managed by an ICT manager. This will ease the difficulties MDAs have in accessing public financial records.

- The federal and state governments should adopt proper classification of expenditure items and embark on regular documentation of spending. At the federal and state levels, government should provide funds for upgrading the capacity of budget officers in MDAs and projects through regular training to improve their understanding of proper classification of expenditure items and documentation of budgetary transactions.
- FMARD should establish an agriculture expenditure database, which should be supervised and updated regularly by the Department of Finance and Accounts. All parastatals of FMARD as well as regional and state offices should be provided with templates to capture spending on various aspects of their operations, and they should submit data to FMARD headquarters quarterly.

Conclusions

Despite the importance of the agricultural sector in the Nigerian economy and the priority often accorded it in development strategies, the sector remains grossly underfunded. Fortunately, it has been growing steadily in recent times. The impact of growth of the sector would have been more pronounced if the level of investment had been commensurate with the huge potentials in various agroecological zones of the country. Public investment has been stifled by the lopsided manner in which national revenue is being allocated among the three tiers of government that have responsibility for the development of the sector. Invariably allocation of budgetary resources remains inefficient at various levels of government.

The subnational governments rely largely on statutory allocations from the federation account to finance their budgets. Delays in concluding the transfer arrangements, along with periodic oil revenue shocks, often account for delays or outright nonrelease of funds for budget implementation. Therefore, technical inefficiency in public spending has been more prevalent at the subnational level than at the federal level. Overall, there is a high level of inefficiency in agricultural expenditure and a dearth of information necessary to arrive at a complete understanding of the high level of unpredictability of public spending.

In relative terms, the problem of technical inefficiency is far more acute than that of allocative efficiency. Whereas the 2012 capital budget performance shows some improvement in this regard, allocative efficiency of recurrent expenditure (especially overhead) is still a big challenge. The problem is exacerbated by the difficulty of identifying specific overhead items to be associated directly with the capital budget. This is not unique to the agricultural sector. It is a general problem with the public expenditure reporting format in the country that must be corrected so that the country can improve its rating in public spending performance based on international best practices and expenditure tracking system requirements of the African Union.

More often than not, information about the share and magnitude of public expenditure on agriculture in Nigeria is often based solely on public spending by the federal government. This approach is not tenable anymore. Even though the federal government's share of the federation account is almost double that of the states, spending on agriculture does not follow the same pattern of lopsidedness. Substantial public investment has also been flowing from the subnational governments, contributing to the production expansion and growth being witnessed in the sector over the last past decade. Therefore it is advisable for the states to commit to proper documentation of expenditure activities for effective monitoring and better performance of the agricultural budget.

Finally, it is important to stress that despite its constitutional mandate to develop agriculture, the local government has no capacity to formulate policies; neither does it have the financial independence to meaningfully execute an agricultural budget. This conundrum has to be resolved by the ongoing constitutional review and the National Conference in order to achieve the goals of the sector and maximize the gains of intergovernmental interactions for agricultural transformation in the country.

APPENDIX: SUPPLEMENTARY TABLES AND FIGURES

Table A.1 Area of production of different crop categories in Nigeria (in hectares), 2002 and 2012

Crop	2002	2012
Cereals	17,027,000	17,440,000
Roots and tubers	7,957,000	8,627,000
Oil crops	7,247,000	7,729,000
Pulses	3,846,282	3,330,000
Fruits and nuts	2,226,804	2,226,700
Vegetables	1,496,387	1,896,000
Fiber crops	612,000	301,000

Source: Authors' data compilation using FAO (2014).

Table A.2 Cross River state revenue profile, 2008–2012 (million nairas)

Item	2008	2009	2010	2011	2012
Total state revenue	74,881	46,100	47,205	79,187	86,504
Federal statutory	66,887	36,456	38,740	61,791	59,174
Federation account	45,684	24,188	27,601	49,575	45,232
VAT account	4,108	4,677	5,631	6,464	7,180
Excess crude account	14,598	7,155	5,368	5,474	4,466
Miscellaneous	2,498	435	141	278	2,297
Internally generated revenue	6,625	7,106	7,686	9,160	12,735
Taxes	2,589	4,142	4,632	5,900	8,589
Fines	723	582	610	864	1,546
Miscellaneous	3,313	2,383	2,444	2,396	2,599
Loans	1,368	2,539	778	8,237	14,596
Foreign	1,331	2,213	469	0	0
Domestic	0	4	0	7,458	13,382
Donor	37	322	309	779	1,214

Source: Based on data from Cross River state Ministry of Finance (2008–2012).

Note: VAT = value-added tax.

Table A.3 Niger state revenue profile, 2008–2012 (million nairas)

Item	2008	2009	2010	2011	2012
Total state revenue	41,015	50,157	54,418	66,709	141,423
Federal statutory	38,420	39,361	44,664	61,371	54,789
Federation account	31,763	28,218	32,724	47,246	44,052
VAT account	4,442	5,201	6,540	7,236	7,901
Excess crude account	2,214	5,943	5,401	6,889	2,836
Internally generated revenue	2,595	2,887	3,168	3,618	3,783
Taxes	2,407	2,725	2,843	3,154	2,955
Fines and fees	80	62	59	100	294
Miscellaneous	108	99	266	364	533
Grants	0	0	0	0	0
Loans (donor)	0	7,910	6,586	1,719	82,852

Source: Based on data from Cross River state Ministry of Finance (2008–2012).

Note: VAT = value-added tax.

Table A.4 Ondo state revenue profile, 2008–2012 (million nairas)

Item	2008	2009	2010	2011	2012*
Total state revenue	2,681	2,165	2,051	2,103	2,395
Federal statutory	2,507	1,793	1,846	1,664	877
Federation account	728	479	647	703	352
VAT account	135	139	183	159	86
Excess crude account	888	764	468	369	189
Mineral derivation	756	411	548	426	225
Miscellaneous	0	0	0	7	25
Internally generated revenue	134	125	143	168	103
Taxes	87	58	103	134	77
Levies	2	2	2	2	1
Fines and fees	12	11	13	11	6
Miscellaneous	33	54	25	21	19
Loans	40	71	51	271	1,404
Foreign	0	0	0	0	132
Domestic	0	0	0	223	373
Donor	40	71	51	48	307
Miscellaneous	0	0	0	0	592
Miscellaneous	0	176	11	0	11

Source: Based on data from the Office of Accountant General of Ondo state (2008–2012).

Notes: VAT = value-added tax. Data for 2012 are for January–June.

Table A.5 Akamkpa LGA revenue profile, 2008–2010 (million nairas)

Item	2008	2009	2010
Total LGA revenue	1,983.3	2,086.4	2,008.9
Federal statutory	1,940.4	2,059.0	2,001.2
Federation account	1,079.4	1,473.2	884.1
VAT account	140.6	173.8	193.8
Excess crude account	720.4	412.0	923.3
State statutory	42.9	27.4	7.7
Internally generated Revenue	0.0	0.0	0.0
Loans	0.0	0.0	0.0

Source: Based on data from Department of Finance, Akamkpa local government area (2008–2010).

Note: LGA = local government area; VAT = value-added tax.

Table A.6 Wushishi LGA revenue profile, 2008–2011 (million nairas)

Item	2008	2009	2010	2011
Total LGA revenue	1,269.9	379.4	41.9	3,260.2
Federal statutory	1,264.5	379.4	0.0	3,255.6
Federation account	1,264.5	379.4	0.0	3,255.6
State statutory	5.4	0.0	39.2	0.0
Internally generated revenue	0.0	0.0	2.7	4.6
Taxes	0.0	0.0	0.0	0.0
Fines and fees	0.0	0.0	1.8	1.9
Other	0.0	0.0	1.0	2.7

Source: Based on data from Department of Finance, Wushishi local government area (2008–2011).

Note: LGA = local government area.

Table A.7 Odigbo LGA revenue profile, 2008–2011 (million nairas)

Item	2008	2009	2010	2011
Total LGA revenue	15.4	15.3	23.9	19.9
Federal statutory	15.4	14.9	23.8	19.9
Federation account	15.4	14.9	23.8	19.9
VAT account	0.0	0.0	0.0	0.0
Excess crude account	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0
State statutory	0.0	0.3	0.0	0.0
Internally generated revenue	0.0	0.1	0.1	0.0
Taxes	0.0	0.0	0.0	0.0
Levies	0.0	0.0	0.0	0.0
Fines and fees	0.0	0.1	0.1	0.0
Other	0.0	0.0	0.0	0.0

Source: Based on data from annual financial statements of Odigbo local government area, Ondo state (2008–2011).

Note: LGA = local government area; VAT = value-added tax.

Box A.1 Programs, strategies, and action plans for agriculture in Cross River State

1. *Cocoa development program:* Average cocoa yield in the state is estimated to be less than 250 kilograms per hectare (ha) mainly due to aged cocoa farms and lack of access to modern inputs. To reverse the low and declining yield trend and to ensure production of about 150,000 tons in eight years, the focus of the program is to replant all old farms with new varieties; expand and intensify extension services to ensure good farming, agronomic, and postharvest practices; and make pesticides easily available to farmers. Strategies and action plans for this program have been streamlined into seven activities and corresponding benchmarks to measure success. One of the activities is providing assistance to farmers to replace old cocoa varieties in a total of about 20,000 ha of farmland. Establishment of cocoa seed gardens on 5 ha of land and planting new farms on 5,000 ha of land under the Cross River Agriculture and Rural Empowerment Scheme (CARES) are also activities of this program. Some the action plans for implementation include increasing yields in old farms by 25 to 50 percent and raising hybrid seedlings for distribution to farmers.
2. *Oil palm development program:* Increasing yields of existing farms to optimal levels, achieving good-quality processed oil, and expanding oil palm farms through private initiatives are three cardinal objectives of this program. To meet these objectives, activities and strategies of the program include assisting about 14,200 farmers in the development of new oil palm plantations in the south and central senatorial districts and raising 2 million improved oil palm seedlings for sale to farmers at subsidized prices. Other activities include rehabilitation of government oil palm estates by planting about 5,454 seedlings and expansion of existing oil palm estates under CARES by planting about 10,150 ha of land. To ensure good-quality oil processing, small oil mills are to be replaced with more efficient mills.
3. *Citrus and mango project:* This project is restricted to the northern senatorial district and is a homestead-based project developed to plant more than 1 million trees of both citrus and mango. Under this project, revitalized extension will support farmers in planting between 20 and 50 trees in their compounds and farms. The main activity is to raise 500,000 budded seedlings of both citrus and mango and distribute them to farmers at subsidized prices.
4. *Farm mechanization:* The objective is to achieve a 25 percent level of mechanization of farm operations by the year 2014 with an emphasis on the mechanization of pineapple farms in the south and parts of the central senatorial districts, and mechanization of cassava farms in the central and northern senatorial districts. The central activity involves collaboration with the private sector to rehabilitate Cross River farm mechanization services through the purchase of new tractors of various specifications for distribution to the three senatorial districts in such a way that the northern senatorial district gets 60 percent, central gets 30 percent, and southern gets 10 percent of the equipment purchased.
5. *Cassava development program:* This program is aimed at strengthening production and expanding market opportunities through seed multiplication, mechanization, input supply, credit provision, and adaptive extension services. In particular, the action plans include cultivation of about 560 ha of land (10 ha in 14 local government areas [LGAs] per year) with improved cassava varieties and assistance to individual farmers or cooperatives for the procurement of cassava processing mills.
6. *Rice development program:* The thrust of this program is to dramatically increase rice production and improve processing and packaging by strengthening the skills, capacities, and productivity of smallholder farmers through providing regular training, credit, and flood management. The general goal of the program is to increase yields from as low as 1.0–1.5 tons per hectare to about 5.0–6.0 tons per ha. To achieve this goal, about 10,000 tons of high-yielding, disease-resistant rice seed from National Seed Center is to be procured and sold to rice farmers at subsidized prices. Also, 1 ha demonstration farms in all rice-producing communities across the state are to be established and assistance will be given to individual farmers or cooperatives to procure and install rice processing mills.

Box A.1 Continued

7. *Aquaculture development program:* The objective of this program is to take advantage of the enormous potential of freshwater and marine resources of the state as the second largest fish and shrimp producer. The development strategies include completion of fish hatcheries at Ugboro and Ibonda for fish seed multiplication to stock privately owned fish farms, and expansion of extension services to fish farmers so as to build their capacities. Specific action plans include producing and distributing 8 million fingerlings and supporting the establishment of 1,000 new fish farms.
8. *Pineapple project:* Commercial cultivation of pineapple was popularized in the state in 1999, and since then the government has continued to promote increased production through public–private partnerships. To further develop pineapple as a foreign-exchange-earning crop, its production, processing, and marketing are taken as key development issues. Specific action plans under this project include mechanization of 1,500 ha of land for pineapple cultivation, mobilization of 500 youths and women to engage in pineapple cultivation, establishment of a 150-hectare nursery for sucker multiplication, and export of about 1 million whole fruits.
9. *Banana and plantain project:* This project is aimed at developing new enhanced varieties through culture tissue to meet the increasing demand for banana and plantain suckers. In this regard, specific action plans include establishment of fully mechanized 5,000-hectare integrated banana and plantain farms through public–private partnership initiatives and the development of a 1,000-hectare plantation under CARES.
10. *Livestock production project:* The focus of this project is homestead poultry production, swine production, and apiculture. Both poultry and swine are popular among farmers in the state, and their production can easily respond to incentives. With the establishment of a honey factory at Obudu Cattle Ranch, apiculture has become acceptable to farmers. The strategies involve reactivation of the Ikot Effanga hatchery farm to produce 25,000 day-old chicks weekly, development and upgrade of veterinary and ambulatory clinics in all LGAs, production of 48,000 weaner pigs for distribution to pig farmers, and support to rural farmers for the acquisition of 5,000 hives for expanded honey production.
11. *Cross River Farm Credit Scheme:* This program assists farmers and investors across the agricultural value chain to increase their output by providing single-digit loans. These include soft loans to small- and medium-scale commercial farmers and agrobusiness owners. The specific objectives of the program include (1) to fast track the development of the agricultural sector in the state by providing credit facilities to commercial agricultural enterprises; (2) to enhance national food security by increasing food supply, thereby reducing the prices of agricultural produce in the state and country; (3) to increase access to affordable credit in agricultural production so farmers can exploit the full potentials of the sector; (4) to increase productivity of farmers, thereby improving the living standards of rural dwellers; and (5) to ensure a sustainable supply of farm inputs for processing plants and agro-allied industries in the state. The action plans include mobilization of state funds as a trust fund model of credit for farmers to the tune of ₦250 million and also mobilization of about ₦1 billion (in the current fiscal year) under the Central Bank of Nigeria’s Commercial Agricultural Credit Scheme for more than 600 farmers and food processors. The program has secured another ₦2 billion, for which disbursement should begin soon.

Box A.1 Continued

12. *Cross River Agriculture and Rural Empowerment Scheme (CARES)*: CARES was established to assist the government in securing financing and partnerships in the agricultural sector. The main objective is to improve the investment climate for agricultural businesses through developing inclusive public–private partnerships and smallholder linkages targeted at increasing on-farm productivity and adding value to the crops for which the state has comparative advantages. Specific objectives of the program are (1) to promote the adoption of commercial agriculture, (2) to identify suitable farmland that can be allocated to small rural farmers and other investors, (3) to provide technical support to rural farmers through training in modern agricultural practices, (4) to partner with the state in ensuring increased accountability in the execution of agricultural projects, (5) to partner with financial institutions and development partners in facilitating rural farmers’ access to finance, and (6) to create employment opportunities in rural communities through participation in farming. The program focuses on large commercial farmers operating in the state and farmer cooperatives in 18 LGAs by organizing them into outgrowers’ and smallholders’ programs. These farmers get the requisite inputs for their farms and are paid commensurate market rates for their produce.
13. *Songhai Cross River Initiative (SCRI)*: SCRI is a partnership with the Songhai Regional Center in Porto Novo, Republic of Benin, to build an integrated world-class center for agribusiness and entrepreneurship in the state. The center, which is still under construction in the Abi LGA, will be for training, production, research, demonstration, and development of sustainable agricultural practices. The specific objectives of the initiative are (1) to develop human, technical, infrastructural, and organizational capacities in order to improve and scale up production; (2) to provide services and training to young agroentrepreneurs in the state on a sustainable basis; (3) to develop well-defined processes and tools to support the establishment of Songhai farms in other LGAs; (4) to improve advocacy and knowledge sharing on small-scale agribusiness and related small and medium enterprises; (5) to support the government in promoting access of youth and women to needed skills required for their effective participation in wealth creation and commercially viable agribusiness investments in rural communities; and (6) to strengthen the administrative and technical capacities of all state agricultural centers to serve as the basis for development of a statewide network of agricultural youth enterprises, support centers, and linkages to rural development. The initiative is expected to assist the state in efforts at transforming agriculture and reducing poverty through job creation for the youths and provision of requisite skills needed by farmers. Recently, the government sent 100 youths to Songhai farms in Port Novo for training on modern farming practices.
14. *Cross River Agriculture Development Project*: This project was established in 1997 through Edict No. 4 of 1997. The project is the principal means with which the Cross River state Ministry of Agriculture provides extension services to all categories of farmers in urban and rural areas. The specific objectives of this project are (1) to provide and maintain an integrated agricultural extension service; (2) to initiate and develop agricultural projects in line with the national policy on agriculture; (3) to enhance the development of agriculture through improving farming methods, research, and farm management techniques; (4) to initiate and manage projects that will raise the living standards of the rural population; and (5) to implement projects that will support increased agricultural production.
15. *Project Awake*: This project was developed to assist Cross River state in meeting MDG 3, given the key role that women play in agriculture and the fact that they have been neglected in most programs on agriculture. The objective of the project is to provide soft loans to women in agribusiness. The government intends to use the project to promote gender equality and women’s empowerment.

Source: Authors.

Table A.8 Summary of institutional arrangements for budgeting and budget implementation in Cross River state

Actor or institution	Responsibility
Governor	• Approves government policies on economic development and fiscal regimes, budget call circulars, MDAs' budget proposals, and revised budgets • Approves warrants, guidelines for usage of margins and capital services, budget manual, and new SPI • Presents budget proposals and amendments to House of Assembly • Gives assent to the appropriation bill
State Executive Council	• Deliberates on government policies, budget call circulars, and MDAs' budget and revised budget proposals • Deliberates on guidelines for usage of margins and capital services; deliberates on budget manual, new SPIs, and other amendments; and performs other fiscal oversight functions
Budget, Monitoring, and Evaluation Department	• Mainstreams budget process • Drafts for approval budget call circulars and issues approved call circulars • Organizes public forums that impact on its functions, for example, stakeholders' forum • Ensures that MDAs' budgets and local government councils have adequate capacity in developing MTSS and multiyear budget • Reviews reports of MDAs' budget committees as input into its activities • Collates MDAs' medium-term framework documents and produces state reports • Collates budget submissions of MDAs, summarizes, and presents budget to Executive Council • Advises Executive Council on budget matters • Issues queries to MDAs relating to violation of the Appropriation Act • Keeps the Appropriation Act • Collaborates with Office of the Auditor General on issues relating to the Appropriation Act • Issues warrants • Ensures approved requests for release of funds complying with budgetary provisions • Leads budget performance review exercises; produces quarterly budget performance review reports • Serves as secretariat of state's Fiscal Strategy Committee • Provides breakdown/analysis of annual budget to the public
Ministry of Finance	• Formulates policies and strategies for all revenue and accounting matters; raises all funds from capital markets • Countersigns warrant issued by Budget Department; ensures prudent and transparent management of financial assets of MDAs
Office of the State Accountant General	• Manages state's accounts codes and charts of accounts • Receives and reports on revenues from all sources; receives clearance from Budget Department for release of funds to MDAs • Receives general and provisional warrants issued by Budget Department and Ministry of Finance; issues recurrent and special impress warrants • Responds to budget queries, for example, payment above budgetary provisions; collates MDAs' returns on usage of funds
Internal Revenue Service	• Collects and reports on all taxes • Receives revenue returns of MDAs; manages tax collection machinery • Projects and sets revenue targets for MDAs; makes necessary inputs into state budget
Department of Debt Management	• Manages state internal and external debts; categorizes and classifies state debts • Projects future financing of the budget through debt • Advises the government on settlement of outstanding debt commitments
Office of Auditor-General	• Receives and audits approved requests for release of funds from Budget Department; audits MDAs' returns on usage of funds • Collaborates with Budget Department on issues relating to Appropriation Act; issues audit queries to MDAs as they relate to budget

Table A.8 Continued

Actor or institution	Responsibility
State Planning Commission	• Develops action plans for all MDAs • Coordinates MDAs' SEEDS initiatives; produces state's SEEDS documents • Makes necessary inputs into budget
Department of International Donor Support	• Handles external donor component of budget • Identifies and categorizes various development support programs • Liaises with all development partners on their projects and programs in the state and makes such information available to Budget Department
MDAs	• Implement budgets • Prepare and submit MTSS and other medium-term documents in the specified formats to Budget Department • Prepare action plans, sets out milestones, and submit same to Budget Department • Prepare and submit budget implementation returns in specified formats to Budget Department • Prepare and submit requests for release of funds to Budget Department and respond to queries • Maintain vote books on all capital and recurrent expenditures • Defend budget proposals before Budget Department and House of Assembly's Finance and Appropriation Committee • Respond to queries from Budget Department • Form MDAs' Budget Committees
MDAs' budget committees	• Comprise senior technocrats of respective MDAs, including commissioner; permanent secretary; all directors and deputies; heads of accounts and planning, research, and statistics units; one member each of reputable civil society organization and organized private sector • Review government policy regarding medium-term frameworks in relation to budget call circulars; review reports of MDAs • Cost, prioritize, and recommend programs of each MDA to chief executive (commissioner) responsible for the MDA
Fiscal Strategy Subcommittee	• Comprises commissioner of finance (chairman), special adviser to the governor on budget (vice chairman), economic adviser to the governor, accountant general, and chairman of Internal Revenue Service • Advises governor on all fiscal strategy matters • Reviews socioeconomic situation in the country and state • Assesses effect of fiscal strategy of federal government on state government; reviews and publishes implementation of current state's fiscal strategy and effects on the state's economy • Develops state's medium-term fiscal strategy framework
State Budget and Performance Review Committee	• Comprises all members of Fiscal Strategy Subcommittee and other special advisers and technocrats in relevant MDAs at both state and local government levels • Conducts quarterly and year-end budget implementation and performance reviews • Deliberates on amendments to budget manual and budget call circulars • Conducts hearing sessions for better articulation of MDAs' budget proposals
State House of Assembly	• Provides legislative backing to budget process • Receives governor's budget proposal and medium-term expenditure framework • Deliberates on governor's budget proposals and invites MDAs for budget defense • Screens governor's budget proposals and amendments • Passes appropriation bill for governor's assent • Deliberates on budget and budget implementation issues that may arise

Source: Authors' compilation based on personal communication with several institutions.

Note: MDAs = ministries, departments, and agencies; MTSS = medium-term sector strategy; SEEDS = State Economic Empowerment and Development Strategy; SPI = standard practice instruction.

Table A.9 Summary of institutional arrangements for budgeting and budget implementation in Ondo state

Actor/institution	Responsibility
Governor	• Submits proposed state budget to House of Assembly • Approves appropriation bill
State Executive Council	• Deliberates on government policies, budget call circulars, and MDAs' budget and revised budget proposals • Deliberates on guidelines for usage of margins and capital services; deliberates on budget manual, new SPIs, and other amendments on it; performs other fiscal oversight functions
Ministry of Economic Planning and Budget	• Comprises Planning Department; Budget Department; Finance and Administration; and Plans, Budget Performance, Monitoring and Evaluation
Planning Department	• Initiates and coordinates state's development plans in line with state's policy orientation
Budget Department Plans, Budget Performance, Monitoring and Evaluation	• Coordinates state's medium-term plan (for example, Ondo State Economic Empowerment and Development Strategy) and long-term plan (for example Ondo State Vision 20:2020) • Liaises with federal government commission, MDAs, and donor agencies • Advises local government councils on preparation of LGA budgets, medium- and long-term plans • Prepares state budget • Collates revenue and expenditure data for budget preparation and economic planning • Monitors budget performance through rendition of revenue and expenditure returns by MDAs • Publishes state budget on the Internet for public access • Appraises viability and relevance of capital projects and establishes basis for accountability • Evaluates and analyzes level of implementation of capital projects in relation to budget estimates
House of Assembly Committee on Finance and Appropriation	• Screens budgets of MDAs • Passes appropriation bill for governor's approval
Ministry of Finance	• Disburses funds to MDAs quarterly as specified in appropriation law (guided by Fiscal and Responsibility Act, and Public Procurement Act of 2009) • Provides custody to state funds and liaises with federal agencies on fund allocations and disbursement • Generates revenue through Board of Internal Revenue

Source: Authors' compilation based on personal communication with several institutions.

Notes: LGA = local government area; MDAs = ministries, departments, and agencies; SPI = standard practice instruction.

Table A.10 Federal agricultural spending as share of total spending, 2008–2012 (%)

Year	Total spending (constant 1990 nairas, millions)		Agricultural spending (constant 1990 nairas, millions)		Agricultural spending (% of total)	
	Budget	Actual	Budget	Actual	Budget	Actual
2008	464.3	459.5	33.4	33.2	7.2	7.2
2009	722.2	848.5	48.4	52.4	6.7	6.2
2010	794.5	1,068.5	45.2	40.8	5.7	3.8
2011	826.9	906.6	25.6	33.6	3.1	3.7
2012	666.9	874.0	30.6	18.7	4.6	2.1
Average	695.0	831.4	36.6	35.7	5.5	4.6

Source: Based on data from ministries of agriculture and finance, 2008 to 2012.

Table A.11 State agricultural spending as share of total spending, 2008–2012 (%)

Year	Cross River		Niger		Ondo*	
	Budget	Actual	Budget	Actual	Budget	Actual
2008	1.6	1.8	3.8	4.1	2.9	2.7
2009	0.7	0.9	3.0	3.5	3.2	2.7
2010	0.8	0.7	6.6	11.9	5.1	4.6
2011	1.8	0.7	3.4	6.2	4.1	2.6
2012	0.9	0.4	6.1	3.5	3.9	5.4
Average	1.2	0.9	4.6	5.6	3.8	3.6

Source: Based on data from ministries of agriculture and finance of Cross River and Niger states, and Office of Accountant General of Ondo state (2008–2012).

Note: *Data for Ondo state in 2012 are for January–June.

Table A.12 Agricultural spending as share of total spending in Akamkpa and Odigbo LGAs, 2008–2012 (%)

Year	Akamkpa LGA		Odigbo LGA	
	Budget	Actual	Budget	Actual
2008	0.0	9.8	0.0	0.0
2009	0.0	0.0	1.0	2.0
2010	0.0	0.0	0.0	0.9
2011	2.4	0.0	2.8	1.6
2012	8.0	0.2	0.0	0.0
Average	2.1	2	0.8	0.9

Source: Based on data from departments of finance of Akamkpa and Odigbo local government areas (2008–2012)

Note: LGA = local government area.

Table A.13 Share of federal agricultural spending relative to that of other key sectors, 2008–2012 (%)

Sector	2008		2009		2010		2011		2012		Average	
	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual
Agriculture	7.19	7.23	6.70	6.17	5.68	3.82	3.09	3.71	4.58	2.14	5.45	4.61
Defense	10.11	11.45	7.95	8.94	8.15	6.37	8.23	8.56	11.22	9.16	9.13	8.90
Economic affairs	21.17	29.85	23.52	27.32	23.92	22.24	19.78	19.75	20.71	22.84	21.82	24.40
Education	4.07	3.93	6.71	7.28	7.07	6.69	7.99	8.83	5.16	10.28	6.20	7.40
Environmental protection	0.04	0.40	1.89	2.27	2.63	3.84	2.31	1.92	1.94	2.77	1.76	2.24
General public services	15.78	17.50	10.25	10.27	13.74	13.51	16.19	12.85	16.65	12.16	14.52	13.26
Health	2.70	3.60	4.61	5.28	4.89	4.47	5.97	6.41	3.84	7.15	4.40	5.38
Housing and community amenities	0.30	0.09	0.00	0.00	0.00	0.00	0.90	0.83	1.01	1.21	0.44	0.42
Public order and safety	16.99	19.75	13.71	13.63	13.83	11.51	15.32	15.27	17.77	16.14	15.52	15.26
Recreation, culture, and religion	0.64	1.29	1.06	1.06	0.88	0.84	1.02	0.92	0.56	0.80	0.83	0.98
Social protection	0.50	0.68	1.91	1.77	1.48	4.47	1.37	1.30	0.87	2.08	1.23	2.06
Other*	27.71	11.47	18.56	20.81	19.59	23.57	13.85	14.72	13.61	14.25	18.66	16.97

Source: Based on data from ministries of agriculture and finance of the federal government (2008–2012).

Note: * These expenditures are not identified elsewhere—servicewide vote payments that the review could not track to the various ministries, departments, and agencies that utilized them. Examples of these expenditures include pensions and gratuities.

Table A.14 Sectoral allocation of federal agricultural spending, 2008–2012 (constant 1990 nairas, millions)

Sector	2008		2009		2010		2011		2012		Average		Actual average growth (%)
	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	
Defense	46.92	52.60	57.43	75.86	64.72	68.04	68.05	77.58	74.84	80.09	62.39	70.84	9.02
Public order and safety	78.89	90.74	98.99	115.69	109.88	122.94	126.71	138.42	118.54	141.07	106.60	121.77	11.20
Economic affairs	98.31	137.18	169.89	231.85	190.04	237.64	163.55	179.06	138.11	199.64	151.98	197.07	5.04
Education	18.90	18.08	48.45	61.81	56.19	71.47	66.10	80.06	34.43	89.81	44.82	64.25	41.40
Environmental protection	0.18	1.84	13.66	19.26	20.90	40.99	19.06	17.44	12.96	24.20	13.35	20.75	65.72
General public services	73.27	80.41	74.05	87.14	109.19	144.40	133.84	116.53	111.06	106.32	100.28	106.96	8.86
Health	12.53	16.56	33.30	44.83	38.87	47.81	49.33	58.12	25.62	62.48	31.93	45.96	33.85
Housing and community amenities	1.39	0.42	0.00	0.00	0.03	0.00	7.41	7.48	6.74	10.55	3.11	3.69	—
Recreation, culture, and religion	2.96	5.91	7.66	9.02	7.00	8.95	8.44	8.33	3.74	6.95	5.96	7.83	2.49
Social protection	2.34	3.11	13.78	15.06	11.77	47.81	11.36	11.75	5.82	18.20	9.01	19.19	38.86
Other*	128.68	52.72	134.05	176.61	155.68	251.87	114.49	133.46	90.76	124.54	124.73	147.84	15.48
Total	464.33	459.54	722.24	848.52	794.53	1,068.52	826.89	906.55	666.94	873.99	694.99	831.42	14.47
Agriculture	33.39	33.21	48.41	52.39	45.16	40.77	25.59	33.59	30.57	18.67	36.62	35.73	– 14.76

Source: Based on data from the Nigeria, FMARD (2003–2008).

Note: * These expenditures are not identified elsewhere—servicewide vote payments that the review could not track to the various ministries, departments, and agencies that utilized them. Examples of these expenditures include pensions and gratuities.

Table A.15 Sectoral allocation of economic affairs spending, 2008–2012 (constant 1990 nairas, millions)

Sector	2008		2009		2010		2011		2012		Average		Actual average growth (%)
	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	
Agriculture	33.4	33.2	48.4	52.4	45.2	40.8	25.6	33.6	30.6	18.7	36.6	35.7	–14.8
Communications	1.7	1.7	4.1	5.2	4.8	6.2	1.5	6.8	1.6	4.3	2.7	4.8	24.1
Mines	1.5	1.7	2.2	2.9	2.3	1.8	2.9	3.2	1.8	3.6	2.1	2.7	17.2
Petroleum	8.0	8.5	9.2	15.5	11.8	14.2	11.9	10.6	10.2	13.0	10.2	12.3	4.9
Power	8.1	31.3	28.6	29.4	22.3	40.1	20.4	20.3	24.4	17.2	20.8	27.7	–14.5
Trade and investment	1.7	2.4	3.2	4.6	4.5	5.1	2.3	3.1	1.5	2.7	2.6	3.6	–1.2
Transport and aviation	5.0	12.6	10.5	23.1	33.7	53.5	16.1	21.4	16.9	30.0	16.4	28.1	18.0
Water resources	0.0	0.0	0.0	0.0	15.3	35.8	18.6	15.7	10.1	18.5	8.8	14.0	—
Works	27.8	37.2	42.3	69.3	39.1	19.3	45.9	42.0	37.4	62.4	38.5	46.0	5.4
Other	11.2	8.6	21.4	29.4	11.0	20.9	18.5	22.4	3.6	29.3	13.1	22.1	24.4
Total	98.3	137.2	169.9	231.9	190.0	237.6	163.5	179.1	138.1	199.6	152.0	197.1	5.0

Source: Based on data from the Federal Ministry of Finance (2008–2012).

Table A.16 Share of agricultural spending relative to that of other key sectors in Cross River state, 2008–2012 (%)

Year	Agriculture		Education		Health		Information		Water		Works		Women	
	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual
2008	1.60	1.80	16.98	11.77	8.94	2.93	1.01	0.10	0.00	0.00	19.10	0.66	0.17	0.02
2009	0.70	0.90	12.07	15.15	3.76	4.72	1.38	1.74	0.00	5.12	11.88	0.94	0.00	1.02
2010	0.80	0.70	14.91	12.32	6.62	3.55	0.23	1.12	7.69	0.52	14.66	5.10	0.64	0.12
2011	1.80	0.70	3.59	8.36	65.76	1.49	1.52	0.65	1.67	1.73	12.60	14.68	0.23	0.04
2012	0.90	0.40	15.84	0.65	4.82	0.44	0.99	0.15	5.66	0.00	17.78	7.98	0.28	0.03
Average	1.20	0.90	12.68	9.65	17.98	2.63	1.03	0.75	3.00	1.47	15.20	5.87	0.26	0.25

Source: Based on data from ministries of agriculture and finance of Cross River State (2008–2012).

Table A.17 Agricultural spending relative to that of other key sectors in Akamkpa LGA, 2008–2012 (%)

Year	Agriculture		Education		Health		Information		Water		Works		Women	
	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual
2008	0.0	9.8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2009	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2010	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2011	2.4	0.0	8.60	0.01	0.15	0.01	3.40	1.40	2.70	0.00	71.00	94.00	0.50	0.57
2012	8.0	0.2	3.40	1.70	7.70	2.00	2.10	0.04	1.40	0.00	74.40	96.00	0.54	0.60
Average	2.08	2.00	2.40	0.34	1.57	0.40	1.10	0.29	0.82	0.00	29.08	38.00	0.21	0.23

Source: Based on data from departments of agriculture and finance of Akamkpa local government area (2008–2012).

Note: LGA = local government area.

Table A.18 Agricultural spending relative to other key sectors in Ondo state, 2008–2012 (%)

Year	Agriculture		Education		Health		Works		Industry	
	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual
2008	2.90	2.75	23.49	22.28	4.78	6.06	7.95	11.84	1.32	3.61
2009	3.19	2.66	19.14	19.84	6.58	6.97	6.03	13.68	3.17	3.30
2010	5.09	4.61	16.96	11.25	5.51	6.92	10.79	10.55	3.84	3.72
2011	4.05	2.63	16.35	4.84	19.82	7.73	8.13	17.40	8.47	0.47
2012	3.93	5.43	14.88	0.00	8.48	0.00	7.25	0.00	0.00	0.00
Average	3.83	3.62	18.16	11.64	9.03	5.54	8.03	10.69	3.36	2.22

Sources: Based on data from the Ondo state Ministry of Agriculture and Office of Accountant General of Ondo state (2008–2012).

Note: Data for 2012 are for January–June.

Table A.19 Agricultural spending relative to other key sectors in Odigbo LGA, 2008–2011 (%)

Year	Agriculture		Education		Health		Works	
	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual
2008	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2009	1.0	2.0	0.0	0.0	0.0	46.3	0.0	9.6
2010	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0
2011	2.8	1.6	0.0	0.0	0.0	38.4	0.0	3.9
Average	1.0	1.1	0.0	0.0	0.0	21.2	0.0	3.4

Source: Based on data from departments of agriculture and finance of Odigbo LGA, Ondo state, 2008–2011.

Note: LGA = local government area.

Table A.20 Federal Ministry of Agriculture and Rural Development overhead spending, 2008–2012 (million naira)

Category	2008			2009			2010		
	Budget	Actual	Deviation	Budget	Actual	Deviation	Budget	Actual	Deviation
FMARD headquarters									
College of Land Resources	49.80	34.42	(15.38)	48.09	33.53	(14.56)	48.11	43.97	(4.14)
College of Veterinary and Medical Lab	98.87	98.83	(0.04)	88.87	88.84	(0.03)	97.88	98.48	0.60
National Animal Production Research Institute, Zaria	80.26	54.18	(26.07)	70.27	51.08	(19.19)	169.40	169.40	—
National Cereals Research Institute	210.00	68.70	(141.30)	—	43.82	43.82	136.80	85.54	(51.26)
National Agricultural Seeds Council	—	—	—	18.18	18.12	(0.06)	90.18	90.15	(0.03)
National Veterinary Research Institute, Vom	330.00	220.00	(110.00)	480.00	480.00	—	550.00	510.00	(40.00)
Institute for Agricultural Research	72.85	72.85	—	62.85	56.78	(6.07)	106.55	72.12	(34.43)
Federal College of Produce Inspection and Stored Products Technology, Kano	35.00	36.81	1.81	45.50	78.44	32.94	41.14	95.70	54.55
NAERLS, Zaria	140.83	113.46	(27.37)	112.98	105.23	(7.75)	131.65	130.71	(0.94)
ARMTI, Ilorin	—	144.43	144.43	107.01	107.06	0.05	137.03	137.02	(0.01)
NCAM, Ilorin	81.35	75.94	(5.41)	76.83	73.26	(3.57)	126.47	120.68	(5.79)
Freshwater Fisheries Technology College, Baga	55.37	52.73	(2.64)	63.00	53.77	(9.22)	78.62	74.87	(3.74)
Veterinary Council of Nigeria	115.11	124.98	9.88	59.79	124.03	64.24	65.77	111.89	46.12
Animal Health and Production	65.58	55.73	(9.85)	99.92	102.10	2.18	87.22	89.43	2.21
NIHORT, Ibadan	—	72.72	72.72	—	63.10	63.10	—	125.29	125.29
Cocoa Research Institute of Nigeria, Ibadan	109.06	109.06	—	72.22	72.22	—	240.57	240.57	—
Nigerian Stored Product Research	193.50	193.50	—	52.19	45.19	(7.00)	—	81.82	81.82
Freshwater Fisheries Tech College, New Bussa	46.53	45.32	(1.21)	46.53	44.64	(1.89)	60.18	54.10	(6.08)
Nigeria Institute for Oceanography and Marine Research, Lagos	333.50	66.33	(267.18)	130.60	187.87	57.27	366.81	350.00	(16.81)
Federal College of Horticulture, Dadinkowa, Gombe	61.45	40.00	(21.45)	40.59	40.59	—	45.50	45.50	—
National Institute for Oil Palm Research, Benin	160.50	153.19	(7.31)	162.22	161.37	(0.85)	172.22	160.60	(11.62)
Federal College of Cooperative Studies, Akure	51.63	54.28	2.64	55.48	52.68	(2.80)	130.46	121.60	(8.86)
FERCOLART, Owerri	13.39	13.39	(0.00)	30.08	30.08	(0.00)	63.27	63.27	(0.00)

Table A.20 Continued

Category	2008			2009			2010		
	Budget	Actual	Deviation	Budget	Actual	Deviation	Budget	Actual	Deviation
Federal College of Cooperative Studies, Oji River	9.71	9.71	—	13.33	13.33	—	14.67	14.67	—
Federal College of Cooperative Studies, Kaduna	14.87	14.87	—	14.87	14.87	—	16.36	16.36	—
NIFFR, New Bussa	125.72	125.72	(0.00)	100.72	100.71	(0.00)	124.46	124.46	(0.00)
Federal College of Animal Health, Ibadan	79.59	79.59	—	52.04	52.04	—	90.26	90.26	—
Federal College of Agriculture, Akure	48.48	48.95	0.46	51.19	48.60	(2.59)	110.49	102.31	(8.17)
National Root Crops Research Institute, Umudike	120.00	120.00	—	199.17	199.17	—	203.21	203.21	—
Federal College of Agriculture, Ishiagu	52.29	52.29	—	42.29	42.29	—	60.51	55.46	(5.05)
National Institute for Animal Science	—	—	—	—	76.68	76.68	—	93.05	93.05
Nigeria Agricultural Insurance	22.00	22.00	—	20.00	20.00	—	22.00	19.80	(2.20)
Total	2,777.22	2,373.95	(403.27)	2,416.80	2,681.49	264.69	3,587.76	3,792.28	204.52

Category	2011			2012			Average (2008 – 2012)		
	Budget	Actual	Deviation	Budget	Actual	Deviation	Budget	Actual	Deviation
FMARD headquarters				208.64	205.36	(3.28)	208.64	205.36	(3.28)
College of Land Resources	49.91	49.28	(0.63)	50.01	35.01	(15.00)	49.18	39.24	(9.94)
College of Veterinary and Medical Lab	90.07	90.07	(0.00)	72.75	57.31	(15.43)	89.69	86.71	(2.98)
National Animal Production Research Institute, Zaria	96.21	92.61	(3.60)	77.70	44.40	(33.30)	98.77	82.33	(16.43)
National Cereals Research Institute	147.28	70.98	(76.30)	104.08	66.48	(37.60)	119.63	67.10	(52.53)
FMARD headquarters	103.09	103.07	(0.02)	83.26	72.75	(10.50)	58.94	56.82	(2.12)
College of Land Resources	330.99	330.99	—	234.62	234.62	—	385.12	355.12	(30.00)
College of Veterinary and Medical Lab	77.64	77.64	—	54.87	54.87	—	74.95	66.85	(8.10)
National Animal Production Research Institute, Zaria	41.03	56.16	15.13	29.00	52.74	23.75	38.34	63.97	25.64
National Agricultural Seeds Council	126.44	126.44	—	89.35	93.19	3.84	120.25	113.81	(6.44)
National Veterinary Research Institute, Vom	163.91	140.81	(23.10)	99.51	99.51	(0.00)	101.49	125.77	24.27
Institute for Agricultural Research	112.00	85.21	(26.79)	65.02	54.08	(10.94)	92.33	81.83	(10.50)
Federal College of Produce Inspection and Stored Products Technology, Kano	59.31	59.28	(0.03)	53.12	50.29	(2.83)	61.88	58.19	(3.69)
NAERLS, Zaria	63.24	82.93	19.69	77.03	—	(77.03)	76.19	88.77	12.58

Table A.20 Continued

Category	2011			2012			Average (2008 – 2012)		
	Budget	Actual	Deviation	Budget	Actual	Deviation	Budget	Actual	Deviation
ARMTI, Ilorin	93.90	67.08	(26.82)	66.36	66.33	(0.03)	82.59	76.13	(6.46)
NCAM, Ilorin	—	66.27	66.27	—	50.52	50.52	—	75.58	75.58
Freshwater Fisheries Technology College, Baga	117.35	117.35	—	78.02	78.02	—	123.44	123.44	—
Veterinary Council of Nigeria	473.62	474.15	0.53	55.01	48.12	(6.88)	154.87	168.56	13.69
Animal Health and Production	64.79	57.85	(6.94)	62.29	45.01	(17.28)	56.07	49.39	(6.68)
NIHORT, Ibadan	338.03	200.38	(137.65)	152.85	154.89	2.05	264.36	191.89	(72.46)
Cocoa Research Institute of Nigeria, Ibadan	72.04	72.04	—	66.18	57.91	(8.27)	57.15	51.21	(5.94)
Nigerian Stored Product Research	178.50	178.50	0.00	126.14	125.47	(0.67)	159.91	155.83	(4.09)
Freshwater Fisheries Tech College, New Bussa	110.96	96.47	(14.49)	97.13	66.50	(30.64)	89.13	78.30	(10.83)
Nigeria Institute for Oceanography and Marine Research, Lagos	81.10	81.10	(0.01)	57.27	57.27	(0.00)	49.02	49.02	(0.00)
Federal College of Horticulture, Dadinkowa, Gombe	29.50	29.50	—	25.00	25.00	—	18.44	18.44	—
National Institute for Oil Palm Research, Benin	27.55	27.55	—	25.00	25.00	—	19.73	19.73	—
Federal College of Cooperative Studies, Akure	122.99	121.99	(1.00)	126.14	126.13	(0.00)	120.00	119.80	(0.20)
FERCOLART, Owerri	117.03	117.03	—	83.04	83.04	—	84.39	84.39	—
Federal College of Cooperative Studies, Oji River	89.46	79.88	(9.57)	76.78	57.70	(19.08)	75.28	67.49	(7.79)
Federal College of Cooperative Studies, Kaduna	194.57	194.57	—	137.29	137.29	—	170.85	170.85	—
Federal College of Agriculture, Ishiagu	58.64	55.64	(3.00)	41.44	40.44	(1.00)	51.03	49.22	(1.81)
National Institute for Animal Science	—	84.83	84.83	—	117.38	117.38	—	74.39	74.39
Nigeria Agricultural Insurance	21.32	21.32	—	17.22	17.22	—	20.51	20.07	(0.44)
Total	3,652.47	3,508.97	(143.50)	2,592.10	2,499.87	(92.24)	3,172.18	3,135.60	(36.58)

Source: Based on submissions from Nigeria, FMARD and its parastatals (2003–2008).

Notes: ARMTI = Agricultural and Rural Management Training Institute, FERCOLART = Federal College of Land Resources Technology, FMARD = Federal Ministry of Agriculture and Rural Development, NAERLS = National Agricultural Extension and Research Liaison Services, NCAM = National Center for Agricultural Mechanization, NIFFR = National Institute for Freshwater Fisheries Research, and NIHORT = National Horticultural Research Institute. Discrepancies in the totals result from inherent disharmony in the figures provided by the parastatals—the sum of the parts did not always equal the totals

Table A.21 Decomposition of 2012 Federal Ministry of Agriculture and Rural Development headquarters overhead spending, million nairas

Category	Budget	Actual	Deviation	% Performance	% Budget	% Actual
1. Travels and transport	34.37	34.37	(0.00)	100.0%	16%	16.7%
Training (local)	5.61	5.61	—	100.0%	16.3%	16.3%
Others (local)	9.28	9.28	—	100.0%	27.0%	27.0%
Training (international)	7.24	7.24	—	100.0%	21.1%	21.1%
Others (international)	12.24	12.24	(0.00)	100.0%	35.6%	35.6%
2. Utilities	38.51	38.41	(0.10)	99.7%	18.5%	18.7%
Electricity charges	30.75	30.65	(0.10)	99.7%	79.8%	79.8%
Telephone charges	4.99	4.99	(0.00)	100.0%	13.0%	13.0%
Satellite broadcasting access charges	—	—	—	-	0.0%	0.0%
Water rate	2.08	2.08	(0.00)	100.0%	5.4%	5.4%
Sewage charges	0.69	0.69	(0.00)	100.0%	1.8%	1.8%
3. Materials and supplies—general	32.40	31.60	(0.80)	97.5%	15.5%	15.4%
Office stationeries/computer consumables	15.77	15.77	—	100.0%	48.7%	49.9%
Books	5.72	5.72	—	100.0%	17.7%	18.1%
Printing of nonsecure documents	1.47	1.47	—	100.0%	4.5%	4.6%
Printing of security documents	9.44	8.64	(0.80)	91.5%	29.1%	27.3%
4. Maintenance—general	22.40	22.40	(0.00)	100.0%	10.7%	10.9%
Maintenance of MVs / transport equipment	8.13	8.13	(0.00)	100.0%	25.1%	25.7%
Maintenance of office furniture	3.94	3.94	—	100.0%	12.2%	12.5%
Maintenance of official building / res. quarters	5.28	5.28	(0.00)	100.0%	16.3%	16.7%
Other maintenance services	5.06	5.06	—	100.0%	15.6%	16.0%
5. Training—general	14.69	14.69	(0.00)	100.0%	7.0%	7.2%
Local training	8.47	8.47	(0.00)	100.0%	57.7%	57.7%
International training	6.21	6.21	(0.00)	100.0%	42.3%	42.3%
6. Other services—general	42.93	42.52	(0.40)	99.1%	20.6%	20.7%
Security services	12.46	12.46	—	100.0%	29.0%	29.3%
Office rent	19.29	18.89	(0.40)	97.9%	44.9%	44.4%
Security vote (including operation)	11.18	11.18	—	100.0%	26.0%	26.3%
7. Consulting and professional services	7.34	7.34	0.00	100.0%	3.5%	3.6%
Financial consulting	0.16	0.16	0.00	100.0%	2.1%	2.1%
Information technology consulting	3.87	3.87	—	100.0%	52.8%	52.8%
Legal services	3.31	3.31	—	100.0%	45.1%	45.1%
8. Fuel and lubricant—general	16.00	14.03	(1.98)	87.6%	7.7%	6.8%
Motor vehicle fuel costs	13.81	12.02	(1.79)	87.0%	86.3%	85.7%
Other transport fuel costs	0.12	0.09	(0.03)	73.5%	0.8%	0.7%
Plant/generator fuel	2.07	1.91	(0.15)	92.7%	12.9%	13.7%
Total overhead	208.64	205.36	(3.28)	98.4%	100.0%	100.0%

Source: Nigeria, FMARD (2012).

Note: MV = motor vehicle.

Table A.22 Economic composition of state agricultural expenditures, 2008–2012, million nairas

State/category	2008		2009		2010		2011		2012		Average	
Cross River	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual
Recurrent (R)	9.53	12.26	9.34	12.84	10.61	10.25	10.45	10.38	12.42	9.99	10.47	11.14
Capital (C)	28.31	28.18	13.85	9.57	9.84	2.06	31.10	5.96	18.42	1.89	20.30	9.53
Total	37.84	40.44	23.19	22.41	20.45	12.31	41.55	16.34	30.84	11.88	30.77	20.68
R share (%)	25.2	30.3	40.3	57.3	51.9	83.3	25.2	63.5	40.3	84.1	36.58	63.7
C share (%)	74.8	69.7	59.7	42.7	48.1	16.7	74.8	36.5	59.7	15.9	63.42	36.3
Niger												
Recurrent (R)	—	1.27	—	0.42	—	0.11	—	0.67	—	0.19	0.00	0.53
Capital (C)	—	38.70	—	62.00	—	38.22	—	9.68	—	16.04	0.00	32.93
Total	—	39.97	—	62.43	—	38.32	—	10.35	—	16.23	0.00	33.46
R share (%)	—	3.2	—	0.7	—	0.3	—	6.4	—	1.2	0.0	2.4
C share (%)	—	96.8	—	99.3	—	99.7	—	93.6	—	98.8	0.0	97.6
Ondo												
Recurrent (R)	26.23	22.80	26.42	22.97	22.30	20.60	22.76	26.84	38.54	35.54	27.25	25.75
Capital (C)	39.82	36.58	42.82	19.74	108.95	77.32	106.89	23.14	95.75	33.11	78.85	37.98
Total	66.05	59.38	69.24	42.71	131.25	97.92	129.65	49.98	134.29	68.65	106.10	63.73
R share (%)	39.7	38.4	38.1	53.8	17.0	21.0	17.6	53.7	28.7	51.8	28.22	43.7
C share (%)	60.3	61.6	61.8	46.2	83.0	79.0	82.4	46.3	71.3	48.2	71.76	56.3

Source: Based on data from offices of accountant general of Cross River, Niger, and Ondo states (2008–2012).

Table A.23 Economic composition of agricultural expenditures in Odigbo local government area, 2008–2012, million nairas

Category	2008		2009		2010		2011		2012		Average	
	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual
Recurrent (R)	0.00	0.00	0.52	0.25	0.00	0.00	0.23	0.31	0.00	0.00	0.20	0.10
Capital (C)	0.00	0.00	0.27	0.02	0.00	0.00	0.39	0.02	0.00	0.00	0.10	0.00
Total	0.00	0.00	0.79	0.27	0.00	0.00	0.62	0.33	0.00	0.00	0.3	0.1
R share (%)	0.00	0.00	65.82	92.59	0.00	0.00	37.10	93.94	0.00	0.00	20.6	37.3
C share (%)	0.00	0.00	34.18	7.41	0.00	0.00	62.90	6.06	0.00	0.00	19.4	2.7

Source: Based on data from annual financial statements of Odigbo local government area, Ondo state, from 2008 to 2011.

Table A.24 Decomposition of recurrent agricultural expenditures in Cross River and Ondo states, 2008–2012, million nairas

State/category	2008		2009		2010		2011		2012		Average	
	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual
Cross River												
Personnel	9.02	11.82	8.86	12.39	10.38	10.05	10.12	10.18	12.07	9.79	10.09	10.85
Overhead	0.51	0.43	0.48	0.45	0.24	0.21	0.34	0.20	0.35	0.20	0.384	0.30
Total	9.53	12.25	9.34	12.84	10.62	10.26	10.46	10.38	12.42	9.99	10.47	11.14
Personnel share (%)	94.6	96.5	94.9	96.5	97.7	98.0	96.7	98.1	97.2	98.0	96.2	97.4
Overhead share (%)	5.4	3.5	5.1	3.5	2.3	2.0	3.3	1.9	2.8	2.0	3.8	2.6
Ondo												
Personnel	20.50	18.54	21.37	19.54	16.40	16.17	16.65	22.05	33.87	31.75	21.76	21.61
Overhead	5.73	4.26	5.04	3.42	5.89	4.43	6.11	4.79	4.67	3.79	5.49	4.14
Total	26.23	22.80	26.41	22.96	22.29	20.60	22.76	26.84	38.54	35.54	27.25	25.75
Personnel share (%)	78.2	81.3	80.9	85.1	73.6	78.5	73.2	82.2	87.9	89.3	78.8	83.3
Overhead share (%)	21.8	18.7	19.1	14.9	26.4	21.5	26.8	17.8	12.1	10.7	21.2	16.7

Source: Based on data from offices of accountant general of Cross River and Ondo states (2008–2012).

Table A.25 Decomposition of recurrent agricultural expenditures in Odigbo local government area, 2008–2012, million naira

Category	2008		2009		2010		2011		Average	
	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual
Personnel	—	0.00	—	0.22	—	0.00	—	0.19	—	0.10
Overhead	—	0.00	—	0.03	—	0.00	—	0.12	—	0.04
Total	—	0.00	—	0.25	—	0.00	—	0.31	—	0.14
Personnel share (%)	—	0.0	—	88.0	—	0.0	—	61.3	—	37.3
Overhead share (%)	—	0.0	—	12.0	—	0.0	—	38.7	—	12.7

Source: Based on data from department of finance of Odigbo local government area, Ondo state (2008–2012).

Table A.26 Summary of releases and disbursements for federal capital expenditures, 1999–2010

Year	Appropriation (naira, billions)	Act Release	Utilization	Release (%)	Utilization
1999	1.39	1.39	1.39	100.0%	100.0%
2000	3.25	3.35	3.35	103.1%	100.0%
2001	0.84	0.84	0.84	100.0%	100.0%
2002	2.78	2.78	2.78	100.0%	100.0%
2003	6.27	6.27	6.27	100.0%	100.0%
2004	9.10	9.10	9.10	100.0%	100.0%
2005	4.17	4.17	4.17	100.0%	100.0%
2006	12.56	11.14	10.15	88.7%	91.1%
2007	17.63	4.59	4.02	26.0%	87.6%
2008	97.03	51.22	16.74	52.8%	32.7%
2009	81.71	81.08	65.81	99.2%	81.2%
2010	39.02	39.02	39.02	100.0%	100.0%

Source: Based on data from documents provided by Nigeria, FMARD (1999–2010).

Note: Fiscal 2008 and 2009 data relate to the Federal Ministry of Agriculture and Water Resources, not Federal Ministry and Rural Development.

Table A.27 Federal Ministry of Agriculture and Rural Development capital expenditures, 2012

Category	Budget	Actual	Deviation	% Budget	% Actual
Rice	1.32	0.80	(0.51)	12.0%	14.9%
Cotton	0.23	0.14	(0.09)	2.1%	2.6%
Cocoa	1.10	0.54	(0.56)	10.0%	9.9%
Cassava	0.84	0.42	(0.42)	7.7%	7.8%
Sorghum	0.43	0.37	(0.06)	3.9%	6.9%
Soybeans	0.29	0.17	(0.11)	2.6%	3.2%
Maize	0.42	0.31	(0.11)	3.8%	5.8%
Horticulture—tomato development	0.04	0.02	(0.02)	0.4%	0.4%
Horticulture—citrus development program	0.04	0.03	(0.02)	0.4%	0.5%
Crop processing zones	1.04	0.40	(0.64)	9.4%	7.4%
Agriculture (trees and crops)	5.74	3.21	(2.54)	52.3%	59.4%
Other critical value chains	0.02	0.01	(0.01)	0.1%	0.1%
Livestock	0.34	0.17	(0.17)	3.1%	3.1%
Fisheries	0.11	0.04	(0.08)	1.0%	0.7%
Agricultural land resources	0.06	0.02	(0.04)	0.6%	0.3%
Total for agricultural value chains	6.27	3.44	(2.84)	57.1%	63.6%
Administration	0.09	0.06	(0.03)	0.8%	1.1%
Construction of agricultural facilities	0.15	0.06	(0.09)	1.3%	1.0%
Special programs	0.13	0.03	(0.10)	1.2%	0.5%
Youth and women in agribusiness investment program	0.43	0.11	(0.32)	3.9%	2.0%
Rural development	0.79	0.43	(0.37)	7.2%	7.9%
Irrigation	0.15	0.07	(0.08)	1.3%	1.2%
Cooperatives	0.02	0.01	(0.01)	0.2%	0.2%
Research and development	0.49	0.08	(0.41)	4.5%	1.6%
Monitoring and evaluation	0.20	0.10	(0.10)	1.8%	1.8%
Parastatals—colleges and research institutes	2.26	1.02	(1.24)	20.6%	18.9%
Total	10.98	5.40	(5.58)	100.0%	100.0%

Source: Nigeria, FMARD (2012).

Box A.2 List of Federal Ministry of Agriculture and Rural Development's parastatals

Colleges of Agricultural Education

1. Federal College of Produce Inspection and Stored Products Technology, Kano
2. Federal College of Animal Health & Production Technology, Plateau
3. Federal College of Agriculture, Ondo
4. Federal College of Agriculture, Ishiagu, Ebonyi
5. Federal College of Freshwater Fisheries Technology, Niger
6. Federal College of Animal Health & Production Technology, Vom
7. Federal College of Freshwater Fisheries Technology, Baga, Borno
8. Federal College of Fisheries & Marine Technology, Lagos
9. Federal College of Horticulture Dadin-Kowa, Gombe
10. Federal College of Agriculture, Moore Plantation, Oyo
11. Federal College of Veterinary & Medical Laboratory Technology, Vom
12. Federal College of Land Resources Technology, Owerri, Imo
13. Federal College of Land Resources Technology, Kuru Jos, Plateau
14. Federal Cooperative College, Ibadan, Oyo
15. Federal Cooperative College, Kaduna, Kaduna
16. Federal Cooperative College, Oji River, Enugu
17. College of Agriculture and Animal Science, Division of Agriculture, ABU, Kaduna
18. Stored Product Research, Kogi
19. Division of Agricultural College ABU, Kaduna
20. University of Agriculture Abeokuta, Ogun

Agricultural Research Institutes

1. Agriculture Research & Rural Management Institute, Ilorin, Kwara
2. National Cereals Research Institute, Badeggi, Niger
3. National Veterinary Research Institute, Vom, Plateau
4. National Root Crops Research Institute, Umudike, Abia
5. National Institute for Oil Palm Research, Benin, Edo
6. Institute for Agricultural Research, Zaria, Kaduna
7. Lake Chad Research Institute, Maiduguri, Sokoto
8. National Institute of Oceanography & Marine Research, Lagos
9. Cocoa Research Institute, Ibadan, Oyo
10. National Institute for Fresh Water Fisheries Research, Niger
11. Nigeria Stored Product Research, Ilorin, Kwara
12. National Horticultural Research Institute, Ibadan, Oyo
13. Rubber Research Institute of Nigeria, Benin, Edo
14. National Agricultural Extension & Research Liaison Services, Zaria, Kaduna
15. Institute of Agricultural Research & Training, Ibadan, Oyo
16. National Animal Production Research Institute, Zaria, Kaduna
17. Nigeria Institute of Animal Sciences, Abuja, FCT

Box A.2 Continued

Agencies

1. National Quarantine Services, FCT
2. National Center for Agriculture Mechanization, Ilorin, Kwara
3. Office of the Permanent Representative to Food and Agriculture Organization of the United Nations
4. Veterinary Council of Nigeria
5. Nigeria Agricultural Insurance Corporation, FCT
6. Agricultural Research Council of Nigeria, FCT
7. National Agricultural Seed Council, FCT
8. Nigeria Agricultural Cooperative and Rural Development Bank, Kaduna
9. Federal Agricultural Coordinating Unit, FCT
10. Strategy Grain Reserve, FCT
11. Rural Access Mobility Project, FCT
12. Commercial Agriculture, FCT
13. National Agricultural Seeds Agency, FCT
14. Fresh Water Station—Brackish Water Station, Rivers
15. National Program on Agriculture and Food Security, FCT

Source: Authors.

Table A.28 Expenditures and budget execution in total agricultural and state spending, 2008–2012 (%)

Year	Budget (million nairas)	Actual	A/B (%)	Budget (million nairas)	Actual	A/B (%)
Cross River	Agriculture			Total		
2008	37.8	40.4	106.9	2,305.5	2,305.5	100.0
2009	23.2	22.4	96.6	3,103.0	2,471.0	79.6
2010	20.5	12.3	60.2	2,714.2	1,782.4	65.7
2011	41.6	16.3	39.3	2,266.9	2,266.9	100.0
2012	30.8	11.9	38.5	3,247.9	3,138.3	96.6
Average	30.8	20.7	68.3	2727.5	2392.8	88.38
Niger	Agriculture			Total		
2008	1,688.6	40.0	2.4	55,457	1,534.5	2.8
2009	1,849.7	62.4	3.4	69,090	2,003.2	2.9
2010	1,209.9	38.3	3.2	11,594	264.8	2.3
2011	3,956.4	10.3	0.3	12,961	288.9	2.2
2012	5,323.0	16.2	0.3	95,440	2,092.5	2.2
Average	2,805.5	33.4	1.9	48,908.4	1,236.8	2.5
Ondo	Agriculture			Total		
2008	66.1	59.4	89.9	2,278.2	2,163	94.9
2009	69.2	42.7	61.7	2,173.8	1,608	74.0
2010	131.3	97.9	74.6	2,576.2	2,124	82.4
2011	129.7	50.0	38.5	3,198.8	1,902	59.5
2012	134.3	68.7	51.1	3,420.3	1,264	37.0
Average	106.1	63.7	63.2	2,729.5	1,812.2	69.6

Source: Based on data from ministries of agriculture and finance of Cross River, Niger, and Ondo states and Office of Accountant General of Ondo state (2008–2012).

Note: *2012 data are for January–June.

Table A.29 Expenditures and budget execution in agricultural and state spending for Akamkpa and Odigbo local government areas, 2008–2012 (%)

Year	Budget (B) (million nairas)	Actual (A)	A/B (%)	Budget (million nairas)	Actual	A/B (%)
Akamkpa	Agriculture			Total		
2008	1.61	1.61	100.0	0.0	16.4	0.0
2009	0.00	0.00	0.0	64.7	43.8	67.6
2010	0.00	0.00	0.0	33.6	41.2	122.6
2011	0.64	0.01	1.6	27.3	31.7	116.2
2012	2.10	0.03	1.4	26.4	15.4	58.3
Average	0.9	0.3	20.6	30.4	29.7	72.9
Odigbo	Agriculture			Total		
2008	0.00	0.00	0.00	0.00	0.00	0.0
2009	0.79	0.27	34.2	76.37	13.65	17.9
2010	0.00	0.20	0.00	50.98	22.76	44.6
2011	0.63	0.33	52.4	22.73	20.29	89.3
Average	0.4	0.2	21.7	37.5	14.2	38.0

Source: Based on data from department of finance of Odigbo local government area, Ondo state (2008–2012).

Table A.30 Budget execution in agricultural spending by recurrent and capital expenditures for Cross River and Ondo states, 2008–2012 (%)

State/Category	2008 A/B	2009 A/B	2010 A/B	2011 A/B	2012 A/B	Average
Cross River						
Recurrent	128.5	137.5	96.6	99.3	80.4	108.5
Capital	99.5	69.1	20.9	19.2	10.3	43.8
Ondo						
Recurrent	86.9	86.9	92.4	117.9	92.3	95.3
Capital	91.9	46.1	71.0	21.6	34.6	53.0

Source: Based on data from offices of accountant general of Cross River and Ondo states (2008–2012).

Note: A/B = actual/budget.

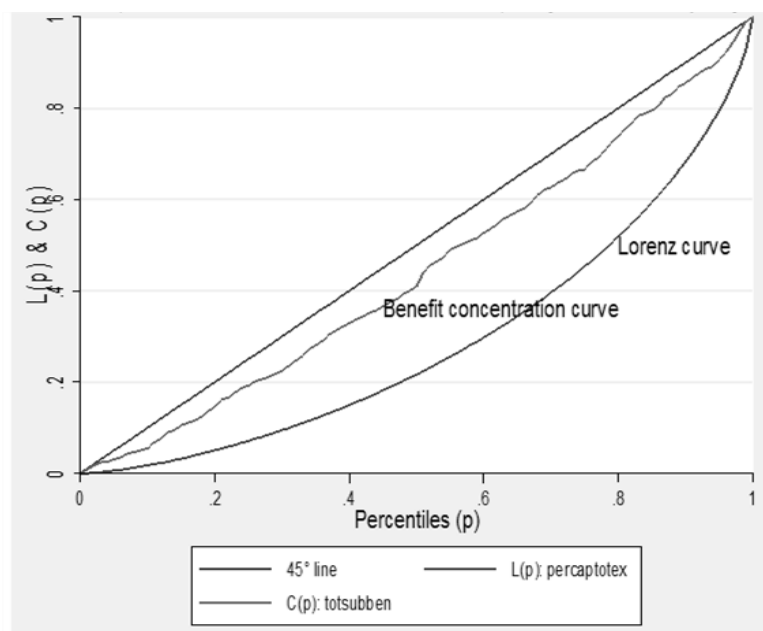
Table A.31 Budget execution in recurrent spending by personnel and overhead expenditures for Cross River and Ondo states, 2008–2012 (%)

State/Category	2008 A/B	2009 A/B	2010 A/B	2011 A/B	2012 A/B	Average
Cross River						
Personnel	131	139.8	96.8	100.6	81.1	109.9
Overhead	84.3	93.8	87.5	58.8	57.1	76.3
Ondo						
Personnel	90.4	91.4	98.6	132.4	93.7	101.3
Overhead	74.3	67.9	75.1	78.4	81.2	75.4

Source: Based on data from offices of accountant general of Cross River and Ondo states (2008–2012).

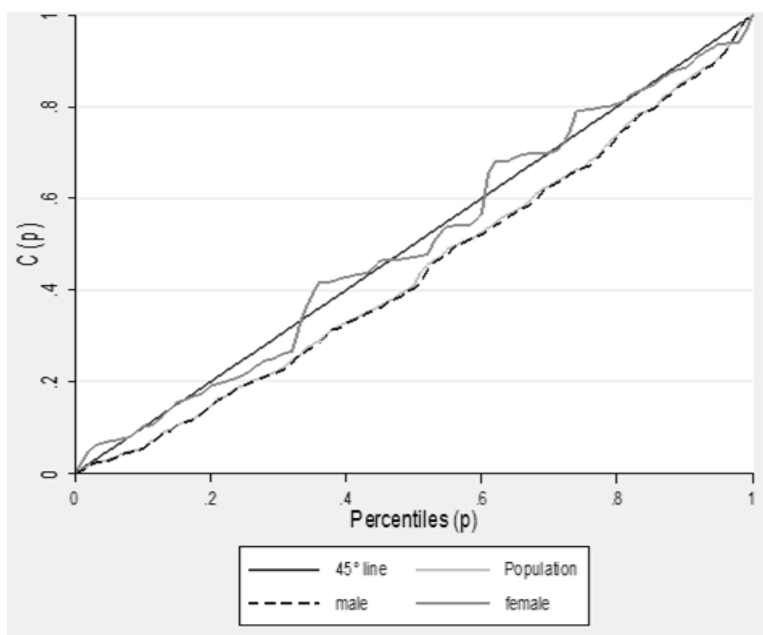
Note: A/B = actual/budget.

Figure A.1 Comparison of Lorenz and concentration curves for public spending on fertilizer subsidy in Nigeria



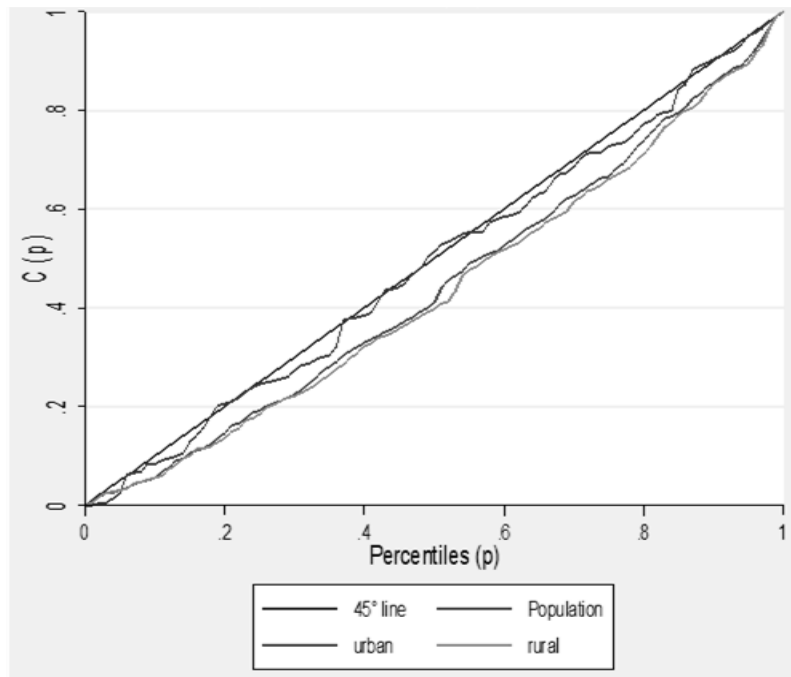
Source: Authors' computation based on data from Nigeria, FMARD (2003–2008).

Figure A.2 Gender comparison of fertilizer subsidy expenditure benefit concentration curves



Source: Authors' computation based on data from Nigeria, FMARD (2003–2008).

Figure A.3 Rural-urban comparison of fertilizer subsidy expenditure benefit concentration curves



Source: Authors' computation based on data from Nigeria, FMARD (2003–2008).

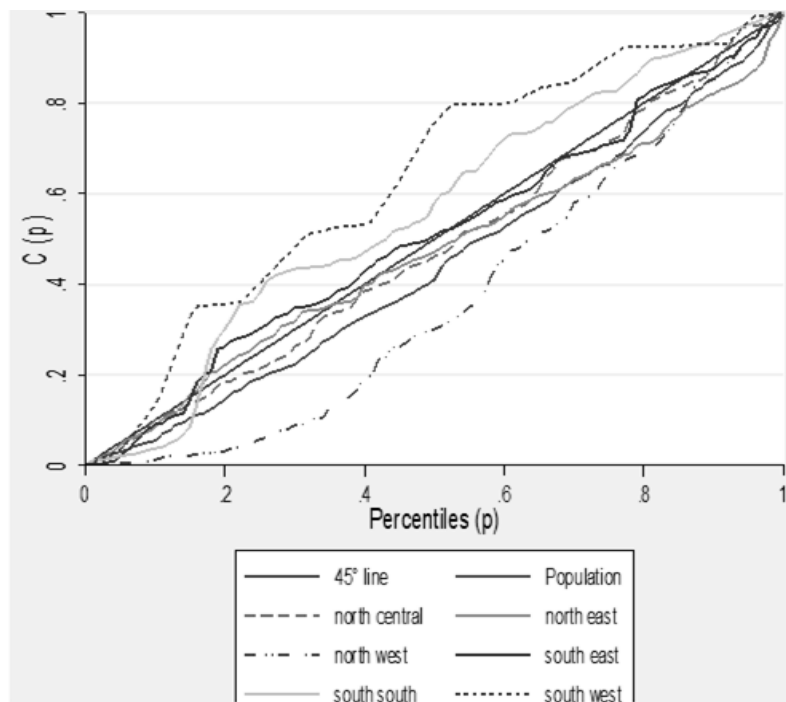


Figure A.4 Zonal comparison of fertilizer subsidy expenditure benefit concentration curves

Source: Authors' computation based on data from Nigeria, FMARD (2003–2008).

REFERENCES

- Akande, S. O., A. S. Olomola, and A. O. Olokesusi, eds. 2013. *Effective Budget Implementation in Nigeria: Opportunities and Constraints*. Ibadan, Nigeria: Nigerian Institute of Social and Economic Research.
- Akramov, K. 2010. *Decentralization, Agricultural Services, and Determinants of Input Use in Nigeria*. Nigeria Strategy Support Program Brief 16. Washington, DC: International Food Policy Research Institute.
- AU (African Union) and NEPAD (New Partnership for Africa's Development). 2005. *Guidance Note for Agriculture Expenditure Tracking System in African Countries*. Midrand, South Africa.
- Benin, S., and B. Yu. 2013. *Complying with the Maputo Declaration Target: Trends in Public Agricultural Expenditures and Implications for Pursuit of Optimal Allocation of Public Agricultural Spending*. Regional Strategic Analysis and Knowledge Support System Annual Trends and Outlook Report 2012. Washington, DC: International Food Policy Research Institute.
- CBN (Central Bank of Nigeria). 2014. Central Bank of Nigeria Statistics database. Accessed July 16. <http://statistics.cbn.gov.ng/cbn-onlinestats/Default.aspx>.
- Davoodi, H.R., E. R. Tiongson, and S. S. Asawanuchit. 2003. How Useful are Benefit Incidence Analyses of Public Education and Health Spending? IMF Working Paper 03/227. Washington, DC: International Monetary Fund.
- Druilhe, Z. and J. Barreiro-Hurlé. Fertilizer subsidies in sub-Saharan Africa. Agricultural Development Economics (ESA) Working Paper No. 12-04. Rome: Food and Agriculture Organization of the United Nations.
- Fan, C. S., C. Lin, and D. Treisman. 2009. Political Decentralization and Corruption: Evidence from Around the World. *Journal of Public Economics* 93 (1–2): 14–34.
- FAO (Food and Agricultural Organization of the United Nations). 2012. *The State of Food and Agriculture*. Rome. ———. 2014. FAOSTAT database. Accessed June 4. <http://faostat.fao.org>.
- Gbeneol, P. 2003. Nigeria on Track to Achieve the MDGs. Thisdaylive. Accessed June 5, 2014. <http://www.thisdaylive.com/articles/gbeneol-nigeria-on-track-to-achieve-the-mdgs/144631/>.
- IFPRI (International Food Policy Research Institute). 2014. SPEED (Statistics of Public Expenditure for Economic Development) database. Accessed June 5. www.ifpri.org/book-39/ourwork/programs/priorities-public-investment/speed-database.
- IMF (International Monetary Fund). 2014. *Government Finance Statistics Manual*. Washington, DC.
- Liverpool-Tasie, L., O. Kuku, and A. Ajibola. 2011. *A Review of Literature on Agricultural Productivity, Social Capital and Food Security in Nigeria*. Nigeria Strategy Support Program Working Paper 21. Washington, DC: International Food Policy Research Institute.
- Rosario G., J. S. Cuenca, and E. C. Villanueva-Ruiz. 2008. *Benefit Incidence of Public Spending on Education in the Philippines*. Discussion Paper Series No. 2008-08. Makati City, Philippines: Philippine Institute for Development Studies.
- Mogues, T., M. Morris, L. Freinkman, A. Adubi, and S. Ehui. 2012a. "Agricultural Public Spending in Nigeria." In *Public Expenditures for Agricultural and Rural Development in Africa*, edited by T. Mogues and S. Benin, 68–108. New York: Routledge.
- Mogues, T., B. Yu, S. Fan, and L. McBride. 2012b. *The Impacts of Public Investment in and for Agriculture: Synthesis of the Existing Evidence*. IFPRI Discussion Paper 1217. Washington, DC: International Food Policy Research Institute.
- Muhtar, M. 2005. Debt Relief: We Have a Lot to Celebrate. In Adegrooye, G. (ed.) *Driving Reforms: Selected Statements of Key Reform Drivers*. Abuja, Nigeria: Bureau of Public Service Reform.
- National Technical Working Group on Agriculture and Food Security. 2009. *Report of the Vision 2020 National Technical Working Group on Agriculture & Food Security*. Abuja, Nigeria.

- NEPAD (New Partnership for Africa's Development) and AU (African Union). 2003. *Comprehensive Africa Agriculture Development Programme*. Midrand, South Africa.
- Nigeria, BOF (Budget Office of the Federation). 2014. *Citizens' Guide to the Federal Budget 2014*. Abuja, Nigeria: BOF, Federal Ministry of Finance.
- Nigeria, FMARD (Federal Ministry of Agriculture and Rural Development). 2010. *National Agricultural Investment Plan 2011–2014*. Abuja, Nigeria.
- . 2011a. *Agricultural Transformation Agenda: We Will Grow Nigeria's Agricultural Sector*. Abuja, Nigeria.
- . 2011b. "Syndicate Group Discussion Paper on the Decentralization of the Federal Ministry of Agriculture and Rural Development towards Implementation of the Agricultural Transformation Agenda at the Ministerial Retreat Held in Minna on December 19–20, 2011." Unpublished. Abuja, Nigeria.
- . 2011c. *Final Report of the Agricultural Extension Transformation Agenda*. Accessed December 5, 2014. <http://unaab.edu.ng/attachments/Final%20Extension%20Report.pdf>.
- Nigeria, FMAWR (Federal Ministry of Agriculture and Water Resources). 2009. *Nigeria ECOWAP (Economic Community of West African States Agricultural Policy) / CAADP (Comprehensive Africa Agriculture Development Programme) Compact*. Abuja, Nigeria.
- Nigeria, NBS (National Bureau of Statistics). 2010. *NBS/CADP (Commercial Agriculture Development Project) Baseline Report*. Abuja, Nigeria.
- Nigeria, NBS (National Bureau of Statistics) and FMARD (Federal Ministry of Agriculture and Rural Development). 2012. *Collaborative Survey on National Agriculture Sample Survey (NASS), 2010/2011 Draft Report*. Abuja, Nigeria.
- Nigeria, NPC (National Planning Commission). 2010. *Nigeria Vision 20:2020, Abridged Version, 1st NV20:2020 Medium-Term Implementation Plan (2010–2013)*. Abuja, Nigeria.
- Olomola, A. 1999. "Restructuring Nigeria's Fiscal System: Rationale, Strategies and Policies." In *Fiscal Federalism and Nigeria's Economic Development*. Proceedings of the 1999 Nigerian Economic Society Annual Conference, Ibadan, Nigeria.
- . 2012. "State Budgetary Allocations: An Appraisal of Budget Implementation and Effects in Nigeria." Paper presented at Nigerian Institute of Social and Economic Research seminar series, Ibadan, Nigeria, September 11.
- Ondo State ADP (Agricultural Development Project). 2012. "Report of the Year 2012 and Proposal for Year 2013 Extension Activities." Paper presented at the Annual National Extension Review and Planning Meeting, Zaria, Nigeria, November 19–23.
- OPM (Oxford Policy Management). 2000. Medium-Term Expenditure Frameworks: Panacea or Dangerous Distraction? *Oxford Policy Management Review* 2: 1–4.
- SPARC (State Partnership for Accountability, Responsiveness, and Capability). 2014. Public Financial Management database. Accessed June 4. <http://www.sparc-nigeria.com/PFM/>.
- World Bank. 1998. *Public Expenditure Management Handbook*. Washington, DC.
- . 2007. *World Development Report 2008*. Washington, DC.
- . 2011. *Practitioners' Toolkit for Public Agriculture Expenditure Analysis*. Washington, DC.
- . 2012. *Federal Government of Nigeria: 2012 Public Financial Management Performance Reports. Vol. 2. Public Investment Management (PIM) Efficiency Review*. Washington, DC.
- . 2014. *World Development Indicators 2014*. Washington, DC. <http://data.worldbank.org/data-catalog/world-development-indicators>.

RECENT IFPRI DISCUSSION PAPERS

For earlier discussion papers, please go to www.ifpri.org/pubs/pubs.htm#dp.
All discussion papers can be downloaded free of charge.

1394. *International rice trade and security stocks: Prospects for an expanded Asian international rice reserve*. Paul A. Dorosh and Abigail Childs, 2014.
1393. *The US agricultural act of 2014: Overview and analysis*. Carl Zulauf and David Orden, 2014.
1392. *The changing landscape of agriculture in Ghana: Drivers of farm mechanization and its impacts on cropland expansion and intensification*. Nazaire Houssou and Antony Chapoto, 2014.
1391. *Beyond agriculture versus nonagriculture: Decomposing sectoral growth–poverty linkages in five African countries*. Paul Dorosh and James Thurlow, 2014.
1390. *Agriculture, incomes, and gender in Latin America by 2050: An assessment of climate change impacts and household resilience for Brazil, Mexico, and Peru*. Lykke E. Andersen, Clemens Breisinger, Daniel Mason-D'Croz, Luis Carlos Jemio, Claudia Ringler, Richard Robertson, Dorte Verner, and Manfred Wiebelt, 2014.
1389. *Does rice farming shape individualism and innovation?: A response to Talhelm et al. (2014)*. Jianqing Ruan, Zhuan Xie, and Xiaobo Zhang, 2014.
1388. *On food security stocks, peace clauses, and permanent solutions after Bali*. Eugenio Diaz-Bonilla, 2014.
1387. *Economics of tractor ownership under rainfed agriculture with applications in Ghana*. Nazaire Houssou, Xinshen Diao, and Shashidhara Kolavalli, 2014.
1386. *Land rights knowledge and conservation in rural Ethiopia: Mind the gender gap*. Agnes R. Quisumbing and Neha Kumar, 2014.
1385. *The patterns of patents in China*. Zhuan Xie and Xiaobo Zhang, 2014.
1384. *Understanding the rapid reduction of undernutrition in Nepal, 2001–2011*. Derek D. Headey and John Hoddinott.
1383. *Two-tier asymmetric information as a motive for trade, trade policies, and inefficient trade agreements*. Antoine Bouët, David Laborde, and David Martimort, 2014.
1382. *The tide that does not raise all boats: An assessment of EU preferential trade policies*. Maria Cipollina, David Laborde, and Luca Salvatici, 2014.
1381. *The impact of India's rural employment guarantee on demand for agricultural technology*. Anil K. Bhargava, 2014.
1380. *Towards understanding economic growth in Africa: A reinterpretation of the Lewis Model*. Xinshen Diao and Margaret McMillan, 2014.
1379. *The nutritional returns to parental education*. Harold Alderman and Derek D. Headey, 2014.
1378. *Evidence-based research and its effect on policymaking*. Nurul Islam, 2014.
1377. *The development push of refugees: Evidence from Tanzania*. Jean-François Maystadt and Gilles Duranton, 2014.
1376. *Food safety and developing markets: Research findings and research gaps*. Laurian Unnevehr and Loraine Ronchi, 2014.
1375. *Costing alternative transfer modalities*. Amy Margolies and John Hoddinott, 2014.
1374. *Do girls pay the price of civil war?: Violence and infant mortality in Congo*. Olivier Dagnelie, Giacomo De Luca, and Jean-François Maystadt, 2014.
1373. *Variable returns to fertilizer use and its relationship to poverty: Experimental and simulation evidence from Malawi*. Aurélie Harou, Yanyan Liu, Christopher B. Barrett, and Liangzhi You, 2014.
1372. *Drought risk reduction in agriculture: A review of adaptive strategies in East Africa and the Indo-Gangetic Plain of South Asia*. Nicola Cenacchi, 2014.
1371. *The political economy of MGNREGS spending in Andhra Pradesh*. Megan Sheahan, Yanyan Liu, Christopher B. Barrett, and Sudha Narayanan, 2014.
1370. *Assessing progress made toward shared agricultural transformation objectives in Mozambique*. Todd Benson, Tewodaj Mogues, and Sileshi Woldeyohannes, 2014.

**INTERNATIONAL FOOD POLICY
RESEARCH INSTITUTE**

www.ifpri.org

IFPRI HEADQUARTERS

2033 K Street, NW
Washington, DC 20006-1002 USA
Tel.: +1-202-862-5600
Fax: +1-202-467-4439
Email: ifpri@cgiar.org