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Findings Across Agricultural Public Expenditure Reviews in African Countries

Stephen D. Mink

Development Strategy and Governance Division

INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE

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AUTHOR

Stephen D. Mink (smink@starpower.net) is an independent agricultural economist based in Washington, DC.

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ABSTRACT

This paper examines whether the consensus reached by the late 2000s among African Union member countries and their external partners on the need to reverse the decades- long decline in spending for essential public goods and services in agriculture has begun to result in improved levels and quality of national expenditure programs for the sector. It synthesizes evidence from 20 Agriculture Public Expenditure Reviews (Ag PERs) that have been carried out in countries in Africa South of the Saharan (Botswana, Burkina Faso, Cameroon, Chad, Côte d'Ivoire, Democratic Republic of the Congo, Ghana, Guinea, Liberia, Madagascar, Mozambique, Rwanda, Nigeria, Senegal, Sierra Leone, South Africa, Tanzania, Togo, Uganda, and Zambia) with World Bank assistance during 2009–2015. This synthesis focuses on several measures: (1) the level of expenditures on agriculture, with particular reference to the explicit target by African heads of state in the 2003 Maputo Declaration on Agriculture and Food Security (reconfirmed in the Malabo Declaration) to allocate 10 percent of national budgets to the sector; (2) the composition and priorities of expenditures with respect to stated national strategies, evidence of impact, and sustainability; and (3) budget planning and implementation that aims to strengthen public financial management in general, and budget coherence, outputs, outcomes, and supporting mechanisms, such as procurement and audit, in particular. This paper uses Ag PERs to analyze budgetary trends across countries, identifies major expenditure issues, and synthesizes lessons regarding spending efficiency. The analysis results in evidence-based recommendations that address, inter alia, budget planning, budget execution, and monitoring for accountability; the creation of a reliable database; more effective intra- and intersectoral coordination; and the cost-effectiveness of different spending policies for meeting various objectives.

Keywords: public expenditure, agriculture, expenditure composition, CAADP

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1. INTRODUCTION

Purpose of the Study

This paper examines whether the consensus reached by the late 2000s among African Union member countries and their external partners has begun to result in improved levels and quality of national expenditure programs for the sector. This consensus was reached in the context of the Comprehensive Africa Agriculture Development Programme (CAADP) on the need to reverse the decades-long decline in spending on essential public goods and services in agriculture. To examine this question, the study presents a synthesis of results from a set of Agriculture Public Expenditure Reviews (Ag PERs), mostly conducted as part of a program entitled "Strengthening National Comprehensive Agriculture Public Expenditure in Sub-Saharan Africa."[1]

Most of the studies completed under this program are basic diagnostic analyses of individual countries' recent expenditure performance. By compiling expenditure data using a common methodological basis, consistent with the CAADP guidance (AU/NEPAD 2005) on the scope to be considered part of the agricultural sector, the country studies aimed to establish recent trends in expenditure levels, as well as the composition and effectiveness of their implementation. While the studies generally aimed to cover the most recent ten-year period of expenditure data available, the end point differed across completed studies, the most recent of which covered up to the year 2012 or 2013.

Country Characteristics[2]

The countries covered in this study represent diverse circumstances of agriculture sector public expenditure management. The countries that participated in undertaking the studies[3] were not selected to be representative of Africa south of the Sahara (SSA) countries generally, so they should not be considered a sample from which extrapolation can be made to the subcontinent as a whole. The 20 countries encompassed in the present analysis account for approximately 70 percent of agriculture value added in SSA. The diversity that they represent illustrates the differing contexts that public sector agencies are grappling with to achieve better outcomes in the planning and deployment of resources for public development programs in the sector. The following three dimensions of this diversity, in particular, are useful to bear in mind.

Political Stability

In the period since 2000, which was covered by most of the country studies, a number of the countries went through bouts of internal instability and armed conflict that had direct ramifications on the functioning of public expenditure programs. Such circumstances were faced by Côte d'Ivoire, Guinea, Liberia, and Sierra Leone. Protracted conflict typically has a number of impacts on public expenditures in the agricultural (and other) sectors. Often, the pace of implementation and expenditures for externally funded projects, and approvals for new projects, falls off. As a result, these periods often bring a sharp decline in capital expenditures that are more dependent on external finance sources, skewing overall expenditures to personnel and core recurrent spending. Territorial insecurity can also bring about

[1] This program was funded over the 2010–2015 period by the Bill and Melinda Gates Foundation and the CAADP Multi-Donor Trust Fund, and was administered by the World Bank and coordinated with guidance from the New Partnership for Africa's Development (NEPAD) Planning and Coordinating Agency with CAADP.

[2] Countries with basic diagnostic expenditure reviews that are covered in the study are Botswana, Burkina Faso, Cameroon, Chad, Côte d'Ivoire, DRC, Ghana, Guinea, Liberia, Nigeria, Senegal, Sierra Leone, and South Africa and Togo. Tanzania completed a program impact assessment on its input subsidy implementation, and Togo completed a Medium Term Expenditure Framework. These studies can be downloaded at http://www.resakss.org/node/2113. Studies in Madagascar (Jacquet et al. 2013). Mozambique (World Bank 2011), Rwanda (Rwanda, MAAR 2011), Uganda (World Bank 2010), and Zambia (Orlowski et al. 2010) carried out under different support programs are also incorporated.

[3] Throughout this document these studies are drawn on without repeatedly citing. Additional citations are included whenever information from a second hand source is used other than the AgPERs under review.

difficulties in implementing agricultural programs that are spatially spread out, such as extension, agronomic research, or livestock health campaigns. Political instability can thus be accompanied by significant declines in overall expenditures in the agricultural sector and substantial changes in their composition that recover only upon a return to improved internal political stability.

Agricultural Diversity

The countries covered in this synthesis have agricultural sectors with very different agronomic and natural resource contexts. Some are predominantly semiarid, with cropping often limited to a single crop per year, and a heavier reliance on livestock in agricultural economies. Coastal countries typically have larger artisanal fishing opportunities, with this subsector being more important in rural economies than is the case for landlocked countries. Greater rainfall is also often related to larger forest resource endowments, and in these countries, the productive forestry sector may take on greater importance in public expenditure programs than in countries with more limited national forests. A comparison of countries' expenditure compositions may reveal differences that are a natural reflection of the different endowments with which their agricultural sectors are operating.

Agricultural Sector Role in National Economies

Public spending on agriculture would not be expected to be as large a part of overall public budgets in countries where the sector is a relatively small part of the national economy. A small share for agriculture in national gross domestic product (GDP) could result from either economic growth and diversification, or for example, substantial mining or petroleum sectors. Countries covered in this study with this characteristic are Botswana, South Africa, and to a lesser extent, Nigeria; others, such as Ghana, are moving in this direction due to their rapidly developing extractive industry sectors. Where the agricultural sector is small relative to the national economy but the share of the rural population remains substantial, the dimensions of public spending on agriculture may be quite different from those of other countries: that is, large in terms of the sector's economic importance but small as a share of the national budget.

Decentralization

Countries in SSA have made differing commitments to decentralization of public budget management. Nigeria, with a federal structure, has placed significant responsibility for some agricultural public functions with the states rather than the central government. Other countries operate with a unitary government structure, where government activities at the smallest administrative unit are functionally integrated into the hierarchy of central government ministries. For the present study, in principle, public expenditures to be tracked and assessed are those of the consolidated government—combining all levels of decentralized budget management. In practice, however, public expenditure tracking information systems in SSA do not yet have the capacity to comprehensively encompass expenditures on the sector by autonomous regional levels of decentralized governments. This is a significant shortcoming for the purposes of this study's comparative approach. Efforts have been made for each individual country study to capture consolidated government spending trends and composition, if only on the basis of extrapolation from a sample of regional spending entities. But this has proven difficult, so comparison of these countries' sector spending characteristics with those of more centralized governments needs to proceed with appropriate caveats.

The Appendix lists the country studies that are covered in this synthesis. It also indicates the extent of devolution of the expenditure authority, the years of coverage of the studies, and characteristics of the studies, including scope of agriculture covered, whether off-budget resources were estimated and included, and whether they examined if the countries had put in place any updated strategies that affected expenditures. These features will be returned to in the following sections.

2. EXPENDITURE LEVELS AND TRENDS

Classification of Functions of Government Basis for Public Expenditure in Agriculture

Since 2003, through the vehicle of the Maputo Declaration on Agriculture and Food Security of the African Union (reconfirmed in the Malabo Declaration [African Union 2014]), African heads of state have set the target of committing 10 percent of their public budgets' expenditures to the agricultural sector. Charging its implementing agency, New Partnership for Africa's Development (NEPAD), with assisting member states to achieve this and other Declaration targets, the African Union established CAADP to establish support programs and to monitor progress.

The measurement of public expenditures on agriculture required a consistent approach across countries so as to permit comparability of reports made back to the African Union. A methodology to facilitate this was developed and provided to member states by the newly established CAADP secretariat through a Guidance Note (2005). Guidance on which expenditures to include was based on an elaboration of the United Nations Classification of Functions of Government (COFOG) definitions for the agricultural sector and its subfunctions. The scope of the "agriculture sector" was defined as comprising the following: (1) four main subsectors (crops, livestock, forestry and hunting, and fisheries); (2) subfunctions enumerated in COFOG (administration, construction, operation or support activities, compensation, and grants or subsidies); and (3) additional relevant expenditures that contribute directly to increased agricultural development: those applied to (a) agricultural research; (b) multipurpose development projects with agricultural benefits; (c) net financial losses of state corporations; (d) food and nutrition security activities; (e) natural resource management and agricultural-related climate change adaptation initiatives; (f) agriculture marketing; (g) capacity development for agricultural development; and (h) regional expenditures on agriculture. Many of these expenditures would have to be apportioned, on a country basis, according to the estimated proportion of benefits accruing to the agriculture sector.

Countries that undertook Ag PERs during the 2005–2014 period often noted that their efforts to support the agricultural sector included other initiatives that were closely linked to sector performance and outcomes. For example, expenditures on rural roads and rural land administration were among the more prominent programs that some countries noted should be factored into estimates of government support for agriculture. To maintain a consistent and comparable reporting framework, Ag PERs during this period usually sought to present aggregate expenditures on a COFOG basis, as articulated in the CAADP 2005 Guidance Note, while accepting that individual countries could add a COFOG-Plus expenditure definition that expanded the scope to include such activities as expenditure on rural roads and land administration. However, the current study will focus on the Guidance Note's COFOG-based definition of the scope of agriculture sector public expenditure, because COFOG-Plus aggregates do not have consistent composition across country reports.[4]

Aggregate Expenditure Levels and Trends

The inclusion in the Maputo Declaration of a target for public spending on the agricultural sector to approach 10 percent of total public spending resulted from the perception that countries' levels at that time were falling well short of this goal and were at least partly responsible for the poor performance records of the countries' agricultural sectors. Thus, tracking progress that countries were able to make in planning and implementing expanded public expenditure programs in the sector was made a key indicator for CAADP.

[4] The NEPAD Planning and Coordinating Agency (NPCA) led an initiative to review and revise the Guidance Note, which after consultation with member states, was finalized in 2015 and disseminated beginning in 2016.

For the group of 20 country-level analyses that this study reviews, there has been general but heterogeneous improvement in resources made available to the sector over the decade since the Maputo Declaration. Half the countries reviewed attained double-digit annual average growth in public resources spent on agriculture, as shown in Table 2.1, which compares countries' outcomes in US dollars over the period for which data are available for each country.[5] Countries emerging from periods of domestic strife, such as Sierra Leone and Togo, sustained public expenditure growth of more than 20 percent annually, while others that had consistently prioritized agricultural development for some time, such as Burkina Faso, Ghana, and South Africa, maintained nearly 10 percent annual expenditure growth in the sector. No country reviewed had negative expenditure growth, though several countries fell in the slower end of the expenditure growth spectrum: Malawi (3 percent), Guinea (6 percent), and Côte d'Ivoire (4 percent).

Table 2.1 Total agriculture expenditures by country, US$ millions (nominal)

Country	2005	2009	2011	Latest year available from Ag PER	Average annual growth (%)[2]
Botswana	157	168	189	208 (2013)	6
Burkina Faso	125	250	274	—	11
Chad	67	71	60	183 (2012)	11
Côte d'Ivoire	90	96	133	120 (2012)	4
DRC		102.6	101.1	54.2 (2013)	5
Ghana[1]	125	252	334	—	8
Guinea	36	65	76	91 (2012)	6
Liberia	1	45	56	—	11
Madagascar		63.7	44.0	18.3 (2012)	
Malawi		289	288	—	3
Mozambique	121			127 (2007)	
Nigeria[3]		1207	967	536 (2012)	–14
Senegal	192	350		—	33
Sierra Leone	20	74	67	63 (2012)	21
South Africa	1,166	1,623	2,080	1,765 (2013)	9
Togo	15	38	67	—	26
Zambia	30			52 (2008)	

Source: Ag PER country data sets (ReSAKSS various years).

Notes: Ag PER = Agriculture Public Expenditure Review. [1]Off-budget expenditures not included. [2] Slope estimate from fitted line of log of country expenditure time series. [3] Federal government expenditures only. Cameroon, Rwanda, and Uganda are not included because there are no data on this parameter in these country reports.

Countries' public expenditures on the agricultural sector as a share of total budgets similarly improved, but to varying degrees, as shown in Table 2.2. Only four of the thirteen countries nearly reached or surpassed the 10 percent target of the Maputo Declaration: Burkina Faso, Ghana, Malawi, and Senegal. In addition, Sierra Leone more than doubled its share from 3.0 percent to 7.5 percent. However, for the remaining majority of countries, despite generalized growth in absolute spending on agriculture noted in the previous paragraph, shares of the countries' total budgets spent on agriculture remained below 6 percent or actually declined. This indicates that these countries' overall budgets were growing, but agriculture was not receiving as much of the increase as were other budgetary priorities.

[5] Periods differ for the country analyses. On average, nine years of data were compiled per country, with the most recent year covered varying from 2011 to 2013, depending on when the study was completed. Data availability ranges from Liberia, with only three years, to Botswana, with 13 years.

Table 2.2 Agricultural expenditures as percentage of total budget, by country

Country	2005	2009	2011	Latest year
Botswana	4.5	3.0	3.3	3.6 (2014)
Burkina Faso	9.2	10.9	9.5	
Cameroon	3.1	4.0	4.6	4.0 (2012)
Chad	7.9	3.5	4.3	6.3 (2012)
Côte d'Ivoire	2.8	3.3	—	
DRC		3.0	2.3	1.5 (2013)
Ghana[3]	8.4	10.3	11.2	
Liberia	—	7.2	6.7	
Madagascar		5.8	3.4	1.5 (2012)
Malawi	—	16.0	20.0	
Mozambique	6.9			5.4 (2007)
Nigeria[1]		6.2	3.7	2.1 (2012)
		4.1	3.4	2.2
Rwanda[2]		8.7		13.6 (2009/2010)
Senegal[3]	9.8	10.9	—	
Sierra Leone	3.0	9.0	7.5	6.8 (2012)
South Africa	1.7	1.8	1.7	1.6 (2013)
Togo	5.0	5.1	5.7	
Uganda				
Zambia[4]	4.6			6.0 (2008)

Source: Ag PER country data sets (ReSAKSS various years).

Notes: [1] Federal consolidated government. [2] 2009 was a six-month transition budget.[3] Off-budget expenditures not included. [4] Not including forestry.

Beyond share of total expenditures, the level of countries' efforts to improve spending on agriculture can be assessed along two other dimensions. One is expenditure in relation to the size of the agricultural sector, and another is expenditure in relation to the rural population.

The first dimension can be measured as public expenditure on agriculture as a share of agricultural sector value added (in GDP). Because agriculture sectors in most SSA countries are dominated by private sector activity (including small-scale farming), the scale of public spending should be neither too low nor too high with respect to sector size. Very low public spending could indicate inadequate provision of public goods and services, and of investment in public infrastructure, with potentially negative consequences for promotion and productivity of private spending in the sector. Conversely, very high spending could indicate an overly dominant public sector that risks displacing the private sector from activities it would normally provide, or could result from channeling public resources to support programs or subsidies that sustain private activity that otherwise would face profitability constraints.

The second dimension can be measured simply as public expenditures on agriculture on a rural population per capita basis. For almost all SSA countries included in this study, agriculture remains the dominant sector of employment for rural populations. Therefore, there is an important social imperative for economic development plans to foster agricultural growth as a means of improving rural employment and incomes.

Table 2.3 compares countries' public spending on agriculture as a share of sector GDP. Botswana stands out with its public expenditures standing at more than half of sector GDP, indicating a sector that is heavily propped up by government spending. With the mining sector driving the national economy, and the agricultural sector quite small but still the main source of employment for a significant part of the rural population, the government is pouring resources into agricultural programs to support these communities and their economic activities. Three countries—South Africa, Malawi, and Senegal—engage in public spending on agriculture worth about 20 percent of the sector value added. The remaining countries reviewed have spending that is less than 10 percent of the sector value added; among these, Chad, Côte d'Ivoire, and Sierra Leone had government spending of 3 percent or less of sector value added in the most recent year for which data are available.

Table 2.3 Agricultural expenditures as percentage of agricultural GDP, by country

Country	2005	2009	2011	Latest year
Botswana	86	58	49	61 (2013)
Burkina Faso	11	17	15	
Cameroon				4.1 (2012)
Chad	2	2	1	3 (2012)
Côte d'Ivoire	2	2	2	2 (2012)
DRC		2.3	1.9	0.9 (2013)
Ghana[2]	3	3	4	
Guinea	5	6	7	9 (2012)
Liberia	—	7	8	
Madagascar	—	3.1	2.1	0.9 (2012)
Malawi	—	20	19	
Mozambique	7.5			5.9 (2007)
Nigeria		2.7	2	1 (2012)
Rwanda[1]		3.4		11.6 (2009/2010)
Senegal[2]	15	27 (2007)	—	
Sierra Leone	2	6	4	3 (2012)
South Africa	19	20	22	23 (2013)
Togo	2	4	6	

Source: Ag PER country data sets (ReSAKSS various years).
Notes: [1] 2009 was for a six-month transition budget. [2] Off-budget expenditures not included. Uganda and Zambia are not included because there are no data on this parameter in these country reports.

Table 2.4 compares countries' public spending on agriculture on a rural per capita basis. This comparison reveals that, for the majority of countries reviewed, annual public spending falls in the US$10–30/per capita range, a figure that has grown in recent years. Senegal's spending had already jumped to more than $50 per rural capita by the latter part of the 2000s, while South Africa's reached in excess of $100 per capita. Botswana was again the outlier with more than $200 spending per capita. Thus, while Botswana is only spending 3 percent of its total budget on agriculture, well short of the Maputo Declaration target, in US dollars per rural capita, this figure is nearly ten times Burkina Faso's per capita spending, despite Burkina Faso's near attainment of the 10 percent target.

Table 2.4 Agricultural expenditures per capita of rural population (US$)

Country	2005	2009	2011
Botswana	186	195	219
Burkina Faso	12	22	23
Chad	9	8	6[3]
Côte d'Ivoire	10	10	14
DRC		2.8	1.7
Ghana[1]	—	21	28
Guinea	6	9	11
Liberia	0.7	4.7	10.0
Madagascar	—	4.5	3.0
Malawi		23	22
Mozambique	8	8 (2007)	
Nigeria[2]		13.5	10.6
Senegal[1]	29	51 (2007)	—
Sierra Leone	6	21	19
South Africa	61	85	108
Togo	4	10	17

Source: Ag PER country data sets (ReSAKSS various years).
Notes: [1] Off-budget expenditures not included. [2] Federal government expenditures only. [3] Reached $19 spending per rural capita in 2012. Cameroon, Rwanda, Uganda, and Zambia are not included because there are no data on this parameter in these country reports.

It is important to highlight that in the analysis above, and in the individual country studies, aggregate public expenditures on agriculture include a category of "off-budget expenditures." These are expenditures from either domestic or external resources that are not captured in the budget information systems managed by the government ministries responsible for fiscal affairs.[6] Off-budget expenditures were not found to be significant in all countries but were in a sufficient number of countries, so they were taken into account. The most common manifestation of off-budget expenditures results from external-partner financing of development projects, which provide public-type investments in goods and services for agriculture sector development. These resource commitments or expenditures are authorized by the government but without being captured in the annual national budget management system. Instead, the expenditures of the external partner's resources occur separately, through a project management unit with separate procurement and accounting systems. Off-budget expenditures of domestic resources can occur if there are resource flows or accounts available to government authorities (as sometimes happens in special initiatives managed by the president's office) that are not included in the normal planning, authorization, and implementation of annual budgets.

There are pros and cons to including such off-budget resources in expenditure analyses. The logic for including them is that they represent part of the aggregate resources available for realizing governmental efforts to develop the nation's agricultural sector. For externally financed projects, their activities typically proceed only on the basis of a legal agreement, which implies government control of and assent to the activities undertaken. CAADP entails a Mutual Accountability Framework whose intent is to improve the effectiveness of resources deployed to agricultural development by clarifying and reinforcing sound principles of financial resource management. At the core of these goals is the importance of ministries of finance becoming clear on the full extent of publicly controlled resources available to agricultural sector development initiatives (including those in budget allocations to ministries and agencies in the agricultural sector) and monitoring the results of the coordinated management of resource expenditures to achieve sector objectives. An accountability framework for budget expenditures for agricultural outcomes is considerably weakened if the ministries responsible for public initiatives in the sector can rightly argue that their ministries of finance cannot hold them responsible for the outcomes of externally funded activities whose finance and implementation do not come to the ministries as part of budget processes and information systems.

Two considerations in particular weigh against including such off-budget resources in expenditure analysis. First, despite the potential control that negotiating over a project's legal agreements provides to governments, this may be available more in theory than in practice. External partners may simply withdraw the offer of money if they are not permitted to impose their own fiduciary systems on the resources they use. In this light, it would be problematic to hold sector ministries to full account for use that is part of an assessment of government expenditures for agriculture. This leads one to conclude that it is more appropriate to measure government, rather than public, expenditures.[7]

The second consideration is more practical. Measuring off-budget expenditures is quite difficult for the agricultural sector—let alone the public sector activity across the board. For the country reports covered in this study, gathering this information was a time-consuming task that involved collecting information from each external partner, based on disparate documents with different formats for presenting information. Compiling aggregates proved difficult, and getting disaggregates for economic and functional components of this spending, to be able to incorporate this information with government spending for component analysis, was perhaps the most difficult aspect of collecting data. Further, including these off-budget expenditures in the agricultural sector total implies that, for any comparison of sector spending with total public spending, the latter would need to comprehensively capture such off-

[6] This is usually a ministry of finance, although in some governmental configurations, the planning of the annual investment budget is done by a ministry of planning, and in others, a ministry of planning is responsible for maintaining the information system for overseas development assistance.

[7] This issue was examined by the NPCA as part of the updating of the Guidance Note, and the revision of this Note sharpens the focus to concentrate on government rather than public expenditures, that is, to put off-budget expenditures outside the definition of expenditures to include.

budget expenditures across *all* sectors of government activity. In any event, for the country reports covered in this study, total public spending does not include off-budget expenditure, and hence ratios that use this as the denominator will be higher than if the off-budget expenditures were consistently included in both the numerator and denominator.

With these caveats in mind, the importance of off-budget expenditures can be seen in Table 2.5. Nearly half the countries reviewed had off-budget resources that financed public-type activities in the agricultural sector, mostly from externally funded projects. For some countries, these resources dominated overall public spending on agriculture. Their magnitude has been highest for Liberia, where they accounted for about two-thirds of public spending in the agricultural sector, and they are also important in Malawi (one-third) and Burkina Faso (one-fifth). Several countries emerging from periods of national strife, such as Guinea and Togo, have managed to reduce the importance of off-budget expenditures as a result of strengthening their domestic resource mobilization and budgetary processes. It is also important to note that the other half of country reports found that national budget processes and information systems were including externally funded projects in their budget data.

Table 2.5 Off-budget funding of agricultural expenditures, US$ million and as percentage of total agriculture budget

Country	2005	2009	2011
Botswana	n.a.	n.a.	n.a.
Burkina Faso			
US$ millions	23	49	55
% of agriculture budget	18	20	20
Cameroon	n.a.	n.a.	n.a.
Chad			
Côte d'Ivoire			
US$ millions	14	54	
% of agriculture budget	19	40	
Ghana[1]	—	—	—
Guinea			
US$ millions			
% of agriculture budget	46	29	11
Liberia			
US$ millions		28	47
% of agriculture budget		62	72
Malawi			
US$ millions	—	—	
% of agriculture budget		39	35
Senegal[1]	—	—	—
Sierra Leone	n.a.	n.a.	n.a.
South Africa	n.a.	n.a.	n.a.

Source: Ag PER country data sets (ReSAKSS various years).

Notes: n.a. means not applicable. [1] Off-budget expenditure not included. For Mozambique, off-budget expenditures were negligible from 2007.

Execution Rates

The expenditure assessment described in the previous section was performed on the basis of actual spending and budgetary outcomes. This differs—sometimes markedly—from planned expenditures, and most frequently represents a shortfall from expected spending levels.

Persistent divergence between planned and actual spending can indicate a range of problems. Diagnosing the causes of such divergence is important to identify where potential solutions may lie, and will be explored in more detail in Section 4. In the context of the CAADP aim to increase spending in agriculture, it suffices to note that if actual spending consistently falls short of planned levels, it poses a problem for funders (whether ministries of finance or external partners). They may have difficulty accepting the proposition that even more resources should be reserved for the agricultural sector, when resources they previously allocated are not being fully used.

The extent of this issue is discernible from data in Table 2.6, which show execution rates as a ratio of actual expenditure outcomes to planned levels. Looking first at execution rates for overall public resource expenditures for agriculture (last column), it is evident that some countries, such as Malawi and Sierra Leone, have struggled in recent years to spend just two-thirds of the resources allocated to sector activities. To disentangle this issue, it has proven useful in the country reports (where the data permit) to disaggregate execution rates by economic type (recurrent or investment) and by source of finance (domestic or external).

Recurrent budgets consist of wage (plus other personnel benefits) and nonwage (for example, goods and services for operations and maintenance [O&M]) items. Typically, these items are financed from domestic sources of revenue generation. Payment of public servant wages can take on particular political significance (for example, in contract negotiations, promptness of payment under stress from fiscal constraints), and governments prefer not to rely on external sources of funding to manage these—just as external partners are reluctant to finance other countries' civil servants. In usual circumstances, governments will do their utmost to ensure that civil servants are paid, and from Table 2.6 it can be seen that execution rates on the wage component are higher than for any other component—typically above 90 percent. Nonwage recurrent expenditures are another matter. The expenditure items in this category are less visible and more easily deferrable if budget resources become tight during the implementation year.[8] As a result, execution rates are generally not as high as for the wage component of recurrent expenditures.

The investment budget has different characteristics than the recurrent budget and influences governments' ability to actually spend up to planned levels. Looking first at the investment budget in aggregate, the planning and implementation of investment activities are usually more complicated and harder to manage than recurrent expenditures, particularly where significant scaling-up efforts are under way, as was seen for these countries in Section 2. Investment projects may be inscribed in budgets for approval by the legislative branch before they are ready to be fully implemented, such that the actual onset of spending is delayed despite the resources having been inscribed. Procurement plans may not be drawn up until budgets are made available, leading to delays late into the budget year of contract finalization and the planned start of expenditures.

Execution rates for investment budgets also differ discernibly based on whether the source of finance for the investment is domestic or external. Externally funded investment projects (as alluded to in the earlier discussion of off-budget expenditures) often apply donor-fiduciary and management requirements through project management units. These can add complexity to rules and additional layers of decisionmaking compared with domestically financed investments that follow government procedures. This complexity leads to slow implementation and delayed expenditures, seen in Table 2.6 as lower execution rates for investments with external funding compared with those with domestic funding.

[8] In this category, for example, are utility bill payments for government departments, maintenance on public buildings, government vehicle transport and repair costs, and chalk for schools.

Table 2.6 Execution rates of agricultural expenditures (%)

Country and years	Wages	Nonwage recurrent expenditures	Internally funded investment/ capital	Donor-funded investment/ capital	Investment, all funding sources	Total agricultural expenditures
Botswana						
2012	95	101			83	
2013					110	
Burkina Faso						
2004–2011	90	72	84	59		
Chad						
2012						85
2003–2012						92
Côte d'Ivoire						
1999–2010	90	62	35	23		
Democratic Republic of the Congo						
2008–2010						70
2011–2013						34
Madagascar						
2007	93	84	69	20	27	37
Malawi						
2009/2010–2011/2012)	87	76	82	44		73
Nigeria[1]						
2008–2012					104	98
Senegal						
2005–2010	100	94	89	n.a.		
Sierra Leone						
2012			68	n.a.		70
Togo						
2002–2010	104	71	69	23		

Source: Ag PER country data sets (ReSAKSS various years).

Notes: [1] Federal expenditures only. Note: Mozambique's country report presented no quantitative analysis owing to data shortcomings.

Countries pursuing the CAADP objective of scaled-up support for their agricultural sectors thus have a balancing act to manage in mobilizing finances to fund sector activities—particularly investment ones. They can rely on funding more ambitious investment plans using domestic resources, which are more easily managed but tend to be scarce. Alternatively, greater efforts can be made to mobilize external resources, but these are more difficult to manage. What is apparent from Table 2.7 (which shows the share of agricultural public expenditures that are domestically financed) is that finding the appropriate balance remains a precarious budget management task. The majority of countries remain reliant on external financing for more than half of their aggregate expenditures on agriculture, which is the source of finance that is shown in Table 2.6 to be the most difficult to manage to reasonable execution rate outcomes. Some countries, such as Burkina Faso, appear to be on a longer-term path toward greater reliance on domestic financing as part of expenditure growth trajectories, but others, such as Sierra Leone, are grappling with kick-starting sector investment scale-up through greater reliance on external financing.

Table 2.7 Finance of agricultural expenditures from domestic sources (% of total)

Country	2005	2009	2011
Burkina Faso	24	37	48
Cameroon	94	91	92
Chad – Investment	40	38	43
Côte d'Ivoire		62	
Ghana[1]	73	61	63
Guinea	41	35	48
Liberia		21	38
Madagascar		40[2]	
Malawi		51	39
Mozambique	33	33[3]	
		49[4]	
Senegal[1]	45	41	
Sierra Leone	54	20	26
South Africa			
Togo		64	

Source: Ag PER country data sets (ReSAKSS various years).

Notes: [1] Off-budget expenditures not included. [2] 2008 data.[3] 2007 data. [4] 2009 budget plan. Botswana, Nigeria, Rwanda, Uganda, and Zambia are not included because there are no data on this parameter in these country reports.

3. EXPENDITURE COMPOSITION

This section turns from assessing aggregate levels of expenditure on agriculture to issues related to the composition of these expenditures. The basic question here is whether budgets are being devised so as to spend resources on the right things. The "right" things will be defined by a country's sectoral strategy and will usually be guided by some combination of sector growth; distributed impact on populations working in crops, livestock, fisheries, and forestry; and often, their contribution to national food security. For this synthesis study, four dimensions of expenditure composition will be explored: allocation by agriculture subsector (also known as functional composition), allocation by recurrent and capital budget element (economic composition), allocation by private versus public goods classification, and allocation by spatial distribution (particularly by government/administrative units, whether deconcentrated or decentralized).

Allocation by Agricultural Subsector

Countries' agricultural sectors are based on diverse agroecological characteristics, and as a consequence, have different comparative scales of crop, livestock, fishery, and forestry activities for measuring sector activities and growth potential. Countries with drier climates are likely to be sectors more reliant on livestock; countries with long coastlines will have more important capture-fishing subsectors, while areas of higher rainfall may enjoy larger forestry endowments and potential.

As a starting point for assessing the appropriateness of subsector composition for the purpose of public expenditures, it could be expected that governments would spend more on the promotion of subsectors that make up a larger share of total agriculture. An indicator to put this in quantitative terms is the ratio of a subsector's share of total public agriculture expenditure to its share of agriculture sector value added. A value of one to one for this ratio indicates that a government is giving the subsector as much importance in expenditures as the subsector's economic size warrants.

It is important not to ascribe too much value to budgets matching subsector expenditures to economic size, however. One main reason for this caution is that countries will differ as to how active the private sector is across their various subsectors. A country may have a private sector that is much more active in one subsector than another, let's say in forestry compared with livestock, and therefore it would be a lesser expenditure priority for the government. Nonetheless, it is useful to quantify the ratio described above, and where values diverge significantly from the ratio of one to one, to be alerted that further inquiry into the sufficiency of public expenditure levels in this subsector is warranted.

Only some of the country reports reviewed in this study present the sector value-added and expenditure data in a way that is useful for consistent comparison of this functional composition analysis across countries. Four countries in the sample do so, and their results are presented in Table 3.1. A number of issues are flagged by the ratios presented in this table. First, the largest value, 3.3, for the crop subsector in Botswana, indicates that the government's allocation of budget resources to crop activities is more than three times as important in the budget as the subsector is to the agricultural sector. This discrepancy is in a context where the value added for crop activities was roughly the same size as it was for livestock during recent years. This indicates that the country is pushing very hard to get results from the crop sector and reflects concerns about national and household food security and the substantial food import costs that the economy bears. Despite these efforts in the crop sector, results have not been commensurate, and the country report emphasizes the importance of closely scrutinizing the expenditure program in the crops sector to test its economic viability.

Table 3.1 Expenditure composition: ratio of subsector expenditure share to share of agriculture GDP

	Botswana	Ghana	Guinea	Togo
Crops	3.3	1.2	1.3	0.7
Livestock	0.9	0.3	0.4	0.4
Fisheries	—	0.2	1.4	0.9
Forestry	—	0.5	0.2	

Source: Ag PER country data sets (ReSAKSS various years).

Ghana also gives more importance to expenditures on crop subsector activities in its agricultural budget than the subsector's importance to the whole agricultural sector, resulting in a ratio of 1.2 (Table 3.1). Disaggregating this result further reveals that the ratio for the cocoa subsector is 3.1, while that for all other crops is 0.9. Ghana has had significant success with its cocoa subsector during the past decade, but the authorities have recognized that the comparatively poorer performance of the larger noncocoa crop subsector needs to be redressed, and in the last several years budgets have begun to rebalance the crops budget in the direction of food and other cash crops. In addition, the low ratios for livestock (0.3) and fisheries (0.2) indicate that these have been comparatively neglected in budget allocations, which the government has begun to redress with, for example, a sectorwide project in fisheries addressing small-scale fishing and regulatory capacity. Guinea presents another case where the crop subsector has been prioritized in expenditure allocation, as has been the fisheries subsector, to the apparent detriment of funding activities in the livestock and forestry subsectors.

Togo is a different case because about one-quarter of its expenditures are for a disaggregated category of administrative "overheads"—expenditures at the central level that could not be easily allocated to functional subsectors for this analysis. Holding these expenditures to the side lowers the ratio values for the subsectors and gives the statistical artifact that they are all below a value of one. Nonetheless, the value of 0.4 for the livestock subsector is comparatively low compared with the other subsectors and flags the potential value of reassessing public expenditure opportunities in this subsector.

Allocation by Recurrent and Capital Budget Element (Economic Composition)

It is also useful to analyze total public expenditures on agriculture on the basis of disaggregation into economic components—that is, their recurrent and investment parts. Recurrent expenditures can be further split into personnel costs and other recurrent costs that usually comprise goods, services, and transfers. Each of these components and the balance among them will be discussed in the following paragraphs.

Table 3.2 shows the share of aggregate recurrent expenditures within total agricultural expenditures across countries. The CAADP focus on national agricultural investment programs indicates a preoccupation with increasing the level and quality of investment as the basis for improving sector outcomes, but as will be discussed later, there are pitfalls in paying inadequate attention to budgeting for recurrent activities, which contributes to progress toward such sector objectives. That said, there is no strong evidence from Table 3.2 of a strong shift away from recurrent and toward investment expenditures across the countries studied. Several countries do show a decline in the share of recurrent expenditures, but others show an increase; just as striking is the wide range in the share of recurrent expenditures across countries.

Table 3.2 Agriculture recurrent expenditures, share of total agriculture spending (%)

Country	2005	2009	2011	Latest year
Botswana	91	60	70	57 (2014)
Burkina Faso		20–25		
Chad				34 (2003–2012)[3]
Côte d'Ivoire		66		
DRC		26	50	70 (2013)
Ghana[1]	58	60	40	
Guinea	35			42 (2003–2012)
Liberia	68	83	79	
Madagascar		26	38	61 (2012)
Malawi		84	90	
Mozambique	24	27[4]		
		25[5]		
Rwanda		35		10 (2009/2010)
Nigeria[2]		13	23	30 (2012)
Senegal[1]	39	39		
Sierra Leone	94	91	78	80 (2012)
South Africa	68	71	84	77 (2013)
Togo		73		
Uganda	73.5	75.4		

Source: Ag PER country data sets (ReSAKSS various years).

Notes: [1] Off-budget expenditures not included. [2] Federal expenditures only. [3] Wage, debt, transfers, and other recurrent. [4] 2007 data. [5] 2009 budget plan. Cameroon and Zambia are not included because there are no data on this parameter in these country reports.

There are measurement inconsistencies across countries that are difficult to fully correct so as to clarify cross-country comparisons; notably the embedding of recurrent costs in investment project budgets and the improper categorization in national budget reporting (for example, in Nigeria) of input subsidies as capital rather than in the recurrent (transfer) category. This measurement issue regarding personnel compensation and also nonwage recurrent budgets in most cases leads to underrecording of actual levels in overall sector resource availability. This is because often-significant recurrent activities are embedded in development projects, with associated expenditures captured in the capital rather than the recurrent budget information systems. For instance, an external donor–supported project to strengthen public extension services may result in hiring additional extension agents and expanding extension activities during an institutional capacity-building investment phase, with an expectation that some or all of this expansion will continue using the government's own resources after the project completion. In the country's budget information systems, though, this expenditure during the project phase is recorded as a development rather than a recurrent expenditure.

Several country studies have attempted to quantify the extent of this measurement through a thorough analysis of representative samples of projects. In Burkina Faso, the actual share of current expenditures (personnel and operations) in the total budget of the three ministries involved in the agricultural sector was estimated at 20–25 percent, and two-thirds of this share were funded by projects not featured in the official budgets of the ministries. In the Malawi country study, over the 2000/2001–2011/2012 period, the noncapital element in actual development expenditures was estimated at 63 percent (of which 4 percent were for salaries and 59 percent were for other recurrent expenditures), leaving only 37 percent of the development budget for real capital expenditures. For Cameroon, an estimated 20 percent of the investment budget was actually funding operational expenses rather than capital asset creation.

This common occurrence of recurrent expenditures being embedded in the development budget raises two fundamental problems. First, this situation does not allow the ministries concerned to effectively manage their current expenditures because they have no clear view and have only few levers with which to control them. Second, this situation emphasizes the problem of the sustainability of interventions: What becomes of the provisions required to supervise and maintain investments carried out

after the project that supported them comes to an end? In a number of the countries reviewed in this synthesis, accounting for recurrent costs for investment maintenance is one of the weak links in the budget planning of ministries involved in the agricultural sector, which lack a systematic mechanism for addressing this issue.

These measurement issues notwithstanding, the expenditure focus (and interest?) of governments and their external donors under CAADP and national agricultural development programs has been much more on ramping up capital expenditures than on the appropriateness of recurrent expenditures. There are risks if this focus leads to the neglect of adequate recurrent expenditures. Some of the country studies have begun to identify these risks, though more in qualitative than quantitative terms.

From many of the country studies, two examples of public functions appear to be underfunded: core budget planning and implementation, and sector regulatory functions. Underfunding budget planning and monitoring and evaluation (M&E) capacity in ministries negatively affects the quality and impact of public spending on agriculture in a number of ways. On the capital budget, underprepared projects can be rushed onto the budget for implementation because of inadequate staffing and result in delayed startup, underutilization of budgeted resources, and diminished impact on the ground. Inadequate support for central and technical department staff to undertake project and program M&E results in reduced ability to track results and make adjustments to improve impacts or reorient approaches. While it is understandable that politically attuned ministers are reluctant to divert budget resources from frontline activities of direct benefit to constituencies to unglamorous back-office functions, the country studies generally reveal that, despite a significant scale-up of public expenditures on the sector, there has been no or little increase in these core administrative functions that provide the sorts of information that are essential to steer the endeavor based on evidence.

Core public regulatory functions that are recurrent appear to be underfunded at a time when the need for them is growing because of evolving sector strategies that are spreading through many countries in SSA. Two examples of this underfunding, related to the expanding roles that are being promoted for private sector supply to farmers of fertilizer and seed, are the regulatory capacities to ensure good quality and fair labeling of these products in the input market chains. Although there can be debate over the appropriate balance of public regulation and private sector self-regulation, which may evolve as the market chains mature, while they are relatively new and quickly evolving, a core capacity for regulatory oversight in the private sector is essential. Much of this capacity, in budget terms, is recurrent: inspectors, mobility on the ground to reach retail markets (for fertilizer) and seed production fields, payment for laboratory tests, and communications campaigns to inform farmers and input market participants. The budgets for adequately providing these regulatory functions are relatively small in the context of most countries' overall sector budgets, and not a single recurrent budget line item is simple for public expenditure analysis to pick up. Nonetheless, while not quantified in the available country studies, where the issue has been examined in more detail (for example, in Nigeria), it is clear that the potentially positive impact of expanded access by farmers to fertilizer and seeds because of government-funded activities risks dilution owing to some portion of this expansion consisting of poor-quality inputs.

Funding an appropriate level and balance of recurrent and capital expenditures is a dynamic context of choices and trade-offs. Public sector employees, when adequately accompanied by operational budgets, provide core services and goods to the agricultural sector but can also be a potent lobbying group seeking higher compensation to the detriment of funding of other sector priorities. Operational budgets, which are essential for agricultural agent mobility and service provision, such as extension and animal vaccination campaigns, are vulnerable to underfunding and lack a robust constituency in times of fiscal tightening. Capital expenditures on such things as public infrastructure and institutional capacity provide assets for longer-term growth, the maintenance of which creates the need for larger O&M budgets in the future. Decisions about these levels and balances are difficult, if only because of the strategic and political complexities involved. For the countries reviewed in this synthesis, an additional constraint to informed management of these choices is the weakness and incompleteness of coverage among budget information systems on which decisionmakers in the relevant ministries must rely.

The share of personnel compensation (wages and benefits) in agricultural sector budgets is quite diverse across the countries but reveals several things (see Table 3.3). First, the two countries for which the agricultural sector size is the smallest in relation to the overall economy—Botswana and South Africa—devote the largest share of total public agricultural spending to personnel costs. This is most likely because of their stage of overall economic transition, and the recognition that delivery of recurrent public services to the agricultural sector are more important than committing significant public resources to investment. The majority of other countries in Table 3.3 have personnel costs that constitute roughly 25 percent or less of overall public spending on agriculture. There is no evidence of a broad trend of declining personnel cost shares across countries, and the countries with increasing costs, such as Madagascar, were maintaining civil servants on payrolls while social strife led to external financing for investment activities in the sector a drying up.

Table 3.3 Agriculture public wage spending, share of total agriculture spending

Country	2005	2009	2011	Latest year
Botswana	39	45	45	36 (2014)
Burkina Faso		10–15		
Chad				12 (2003–2012)
Côte d'Ivoire		36		
DRC		25	41	33 (2013)
Ghana[1]	27	22	27	
Guinea	23	26	22	27.5 (2003–2012)
Liberia	35	48	27	
Madagascar		17	23	44 (2012)
Malawi				
Rwanda		30		30 (2009/2010)
Nigeria[2]		11	20	27 (2012)
Senegal[1]	7	6	—	
Sierra Leone	43	35	40	42 (2012)
South Africa	38	43	53	52 (2013)
Togo	29	17	9	
Uganda	9.9	9.8		

Source: Ag PER country data sets (ReSAKSS various years).

Notes: [1] Off-budget expenditures not included. [2] Federal expenditures only. Cameroon, Mozambique, and Zambia are not included because there are no data on this parameter in these country reports.

The majority of countries in this review have increased public investment expenditures both in value terms and as a share of overall public sector budgets. There are exceptions, and as the last column in Table 3.4.a shows, investment levels actually declined over the country studies' review periods for Chad, Côte d'Ivoire, and Madagascar, related to the difficulty of mobilizing external finance for investment during prolonged periods of civil strife. In the more frequent case of countries increasing investment over time, the resulting investment shares nonetheless differ markedly across countries.

Table 3.4.a Relation of nonwage recurrent (goods and services) spending to investment spending, change

Country	Period	Ratio of nonwage recurrent expenditures to investment expenditures		Investment change, end/start, current values
		Start of period	End of period	
Chad	2004–2011	0.03	0.02	0.94
Côte d'Ivoire	2000–2010	0.52	4.51	0.46
DRC	2007–2013	0.12	0.29	0.96
Ghana	**2004–2011**	**0.85**	**0.43**	**1.61**
Guinea	2004–2012[1]	0.04	0.05	1.61
Nigeria	2008–2012[2]	0.02	0.04	0.71
Sierra Leone	**2004–2012**	**16.13**	**5.13**	**7.33**
Togo	**2002–2010**	**0.19**	**0.12**	**5.09**
Madagascar	2007–2012[1]	0.14	0.35	0.19
Mozambique	**2002–2007[1]**	**0.04**	**0.03**	**2.95**

Source: Ag PER country data sets (ReSAKSS various years).

Note: Shading denotes countries with both growth in investment (change > 1) and a decline in the ratio of nonwage recurrent to investment expenditures for the period. [1] Indicates country studies for which the nonwage recurrent expenditure is equivalent to goods and services. For other countries, current transfer expenditures may also be included in the nonwage recurrent figures. [2] Federal expenditures only.

Where the effort to increase public investment in the agricultural sector has succeeded, an emerging concern is whether recurrent expenditures have grown commensurately to ensure that the O&M of the assets created are adequate and that the investments are sustainable. A simple way to determine this is to look at the balance between nonwage recurrent expenditures and investment spending, particularly in countries achieving strong investment-level growth. This balance is shown in Table 3.4.a for both the start and end of the periods covered in the country studies. With the exception of Guinea, all the other countries achieving growth in investment spending did not have matching growth in nonwage recurrent expenditures (in fact, the ratio declined over time). Indeed, for Botswana, Ghana, and Sierra Leone, the ratio of nonwage recurrent to investment expenditures declined by half or more.

While these declines signal a potentially worrisome imbalance within the economic composition of budgets, and portend investments vulnerable to inadequate maintenance and nonsustainability, this issue requires more detailed examination than was undertaken in the country studies. For one thing, what constitutes an appropriate ratio is not clear. Moreover, the appropriate level may differ from country to country depending on the composition of their investments, which may be less O&M intensive in some countries than others. The range of ratios is striking in Table 3.4.b. Sierra Leone may be an outlier, emerging from a long period of internal strife during which agricultural investment dried up, but Guinea faced similar internal strife yet apparently prioritized investment with very few budget resources going to nonwage recurrent expenditures. While it seems reasonable to conclude that the three countries that have kept their nonwage recurrent spending at less than 5 percent of investment expenditures are likely to face sustainability issues, a more disaggregated analysis by type of investment would help clarify what nonwage recurrent budgets would be required as investment efforts grow.

Table 3.4.b Ratio of nonwage recurrent spending on goods and services to investment spending, selected years

Country	2005	2009	2011	Latest Year
Botswana	5.7	0.38	0.83	0.49 (2014)
Burkina Faso		0.129		
Chad				0.33 (2003–2012)
Côte d'Ivoire		0.882		
DRC		0.02	0.19	0.29 (2013)
Ghana[1]	0.738	0.95	0.216	
Guinea	0.184			0.228 (2003–2012)
Liberia	1.03	2.05	2.47	
Madagascar		0.122	0.240	0.455 (2012)
Rwanda		0.384		0.041 (2009/10)
Nigeria[2]		0.017	0.03	0.042 (2012)
Senegal[1]	0.78	0.80		
Sierra Leone	8.50	6.22	1.72	1.9 (2012)
South Africa	0.937	0.965	1.93	1.08 (2013)
Togo		2.07		
Uganda	241	267		

Source: Ag PER country data sets (ReSAKSS various years).

Notes: [1] Off-budget expenditures not included. [2] Federal expenditures only. Cameroon, Malawi, Mozambique, and Zambia are not included because there are no data on this parameter in these country reports.

Allocation by Public or Private Goods Classification

An important issue in agricultural sector budget policy is the elevated priority some governments give to financing private goods and services. These are items whose costs are normally borne by private enterprises, such as farms or others in agricultural value chains, as part of their economic activities. Governments may contribute to the finance of these if their use is judged insufficient and perhaps constrained by breakdowns in market functioning such as credit, information, and risk. In SSA, the most common examples in agriculture are government subsidization of costs to farmers for purchasing inputs such as fertilizer or improved seeds, and in an increasing number of countries, providing mechanization services.

An in-depth analysis of this issue was carried out for Latin American countries during the 1990s which concluded that not only were countries spending substantial portions of their public budgets on private goods, but over time, the countries that spent more on private goods experienced lower growth in their agricultural sectors and performed worse on rural poverty reduction (see Lopez, 2005 for a summary).

In a resource-constrained budget environment, a possible consequence of governments using public resources to finance private goods is that this leaves fewer resources available to adequately fund goods, services, and investments that are squarely public sector responsibilities.

Teams that carried out the country studies were asked to take a first step toward assessing this issue in SSA by examining public agricultural expenditure decomposition by public and private categories. Comprehensively categorizing all expenditures was difficult, but most studies were able to take the more piecemeal approach of assessing expenditures on the most usual larger subsidies of agricultural inputs (fertilizer, and sometimes seeds and mechanization services) and their potential repercussions on classic public goods, such as agricultural research.

Input Subsidies

There was little consistency across countries as to how the fiscal costs of input subsidies were recorded in budgets, so the studies had to sort out the data issues to get to a comparable basis. Fertilizer subsidies reveal the main comparability problems. Some countries (for example, Nigeria) inappropriately record

subsidies from their own resources as development expenditures, whereas the standard (International Monetary Fund) method records these as a current transfer. Other countries (for example, Togo) record in their budgets the full cost of fertilizer acquisition by public procurement without netting out any partial payment subsequently recovered from farmers as par to the domestic fertilizer program mechanism. In yet other countries (for example, Liberia and Cameroon), there is no unified national policy on fertilizer subsidies, yet different development projects (using either domestic or external financing) subsidize inputs to varying degrees for project beneficiaries as part of project interventions. Finally, special funds, such as Mozambique's Agricultural Development Fund and District Development Funds, accounted for nearly 25 percent of sector expenditures in 2007 and covered a variety of input subsidies without being distinguishable in budget accounts.

Expenditure data issues aside, spending on fertilizer subsidies are compared across countries in Table 3.5. The period covered by the data available for the country studies (generally 2008–2011) coincides with the sharp world food price increase beginning in 2008 and its immediate aftermath. Many countries in SSA, dependent on food imports, and concerned by world supply disruptions and increasing import costs, sought to spur domestic production through improved access to fertilizer and other inputs and by managing increased world market costs of these fertilizers through domestic subsidization.

Table 3.5 Public and private goods in agricultural spending, fertilizer subsidy

Country	Period	Subsidy in market price (%)	Share of subsidy in agriculture budget (%)
Burkina Faso	2008–2011	40	5
Côte d'Ivoire	2008–2010		33
			[9% for 1999–2010]
Ghana	2008–2011		79
Cocoa		65–85	87.5
Non-cocoa		42	12.5
Guinea	2011–2012	53	15
Liberia	2008–2011	95	~60
Malawi	2005		58
	2011		66
Nigeria[1]	2003–2008	25	4.7
Senegal	2005–2009		23
Sierra Leone	2008–2011		< 3
Togo	2005–2010	35–40	9
Rwanda	2009	40	
Uganda	2008/2009		14
			(all inputs)
Zambia[2]	2008		74

Source: Ag PER country data sets (ReSAKSS various years).

Notes: [1] Federal expenditure only. Additional state-level subsidies ranged from 10 to 74 percent. [2] Includes costs of the Food Reserve Agency. For other countries, fertilizer subsidies were negligible (for example, Botswana, Madagascar) or not extractable from the country studies (for example, Cameroon, Chad, and Mozambique). Empty table cells are due to lack of data in the country reports.

For one group of countries, the fertilizer subsidies grew to two-thirds or more of the total agricultural sector budget: Ghana, Malawi, and Zambia, while Liberia's expenditures on fertilizer subsidies nearly reached this level. Most other countries for which data are available appear to have limited fertilizer subsidies to less than 10 percent of total public expenditures on agriculture.

At these extraordinarily high levels of absorption of public expenditures by subsidizing private inputs in the first group of countries, the impact and sustainability of these expenditures have come, not surprisingly, under intense scrutiny. While not the focus of the present synthesis, the effectiveness of these subsidies is the subject of an emerging literature, both on an individual country basis and in a comparative context (Agricultural Economics 2013). As a result of these ongoing examinations, countries have continued to adjust their input-subsidy programs, with some of these changes coming after the periods of the country expenditure studies under review. Zambia and Tanzania, for instance, have largely dismantled their fertilizer subsidy programs, and Tanzania is still exploring whether to replace it with an input credit subsidy program. Malawi has persisted with the basic architecture of its fertilizer subsidy program (FISP); the country study assessment concludes that whatever the merits and demerits of the FISP, it is difficult to conclude that funding of core public goods such as agriculture research and extension has suffered because of the scale of the input subsidies, as Malawi's expenditure effort on research (see below) places it among the better performing countries on the subcontinent.

Research

Agricultural research is typically considered a public good, particularly in developing countries. In such countries, there is little private sector research due to difficulties in recouping investment in crop and livestock research owing to the limited scope for commercializing resulting technologies. Public agricultural research efforts are measurable and comparable across countries by comparing expenditures on them as a share of agricultural sector GDP. The Africa Union's Executive Council in 2006 issued its Khartoum Decision regarding science and technology. This directive established an objective of earmarking 1 percent of GDP for applied research.[9]

For the purposes of the country studies, agricultural research activity carried out by the public sector was considered to be located primarily in public research institutes and secondarily in public universities. Conceptually, it was also thought appropriate to include research conducted within the country by CGIAR institutes when the institute conducted research on the basis of a memorandum of understanding with the national authorities, and the research was primarily of benefit to agroeconomic systems predominantly in the country where the research was taking place.

In practice, only a few country study teams—Malawi, Cameroon, and Sierra Leone—tried to collect information on expenditures from resident CGIAR institute research programs, with varying degrees of success. Efforts to ascertain expenditures on agricultural research taking place within the public education system were unfruitful.

The expenditure efforts made in public agricultural research is compared across countries in Table 3.6. As is visible from the column showing results culled from the country studies, only four countries—Botswana, Malawi, South Africa, and Uganda—met the Khartoum Decision's target of public spending on agricultural research equivalent to 1 percent or more of sector GDP. Most other countries reached only one-third or even less of this target level. This means that three out of four countries in the sample were falling significantly short of providing sufficient budget resources for a public good so critical to the productivity and growth of the agricultural sector.

To check the robustness of this conclusion, because the study teams had confronted problems getting expenditure data from all the relevant institutions, a comparison instead can be made with information compiled into Agriculture Science and Technology Indicators (ASTI).[10] The initiative that provides these indicators surveys countries and reports on national agricultural research expenditure data. The expenditures are categorized as salary-related expenses, operating and program costs, and capital investments by government, nonprofit, and higher education agencies. The ASTI results are shown in the last column in Table 3.6 for the most recent year available, 2011. The ASTI indicator values are higher

[9] Compare this with the Forum for Agricultural Research in Africa (FARA)'s 2006 Framework for African Agricultural Productivity (FAAP) recommendation for NEPAD that public expenditures on agricultural research be at least 2 percent of agricultural GDP.

[10] See ASTI data download tool at http://www.asti.cgiar.org/data/.

for a number of countries (though usually where the Ag PER country study result is for a number of years earlier), and the ASTI results confirm that only the four above countries met the 1 percent target. The ASTI results are broadly consistent with the conclusion that three-fourths of countries are falling significantly short of the financing target for provision of agricultural research.

Table 3.6 Public and private goods in agricultural spending, agricultural research, and percentage of agricultural gross domestic product

Country	Period	Public research expenditures (% of Ag GDP)	
		Ag PER studies	IFPRI/ASTI, 2011
Botswana	2005–2012	5.3	2.6
		2.4	
Burkina Faso	2004–2011	0.3	0.4
Cameroon	2011	0.14	n.a.
Chad			0.1
Côte d'Ivoire	1999–2010	0.23	0.4
DRC	2010–2013	0.31	0.2
Ghana	2011	0.25	0.7
Guinea	2012	0.07	0.2
Liberia	2012/2013	0.27	0.5
Madagascar		n.a.	0.2
Malawi	2007/2008–		1.0
noncash crops[1]	2011/2012	1.64	
Mozambique	2007	0.24	0.3
Nigeria[2]	2010	2	0.3
Rwanda	2009/2010	0.38	0.7
Senegal	2005–2009	0.27	0.8
Sierra Leone		n.a.	0.2
South Africa	2013/2014	1.4	2.2
Togo	2010	0.23	0.4
Uganda	2006/2007	1.9	1.1
Zambia	2008	0.08	0.4

Source: Ag PER country data sets (ReSAKSS various years) and IFPRI/ASTI (2015).

Notes: Ag GDP = agricultural gross domestic product; Ag PER = Agriculture Public Expenditure Review; ASTI = Agriculture Science and Technology Indicators; GDP = gross domestic product. [1] Malawi: cash crops (for example, tobacco, tea, and sugar cane) research is conducted by nongovernmental entities. [2] 2010 federal capital expenditures on "parastatal" agencies, which include research institutes, were 1 million naira out of a total agriculture budget of 9.7 million naira (1990 naira).

A pressing concern about countries that have consecrated major shares of their public expenditures to subsidize private good inputs is that they have reduced the budget available for providing public goods such as agricultural research. This dynamic may be in play for a number of countries that are failing to reach the target of the Khartoum Decision. It warrants noting, however, that a country often spotlighted as spending unwarranted budget resources on fertilizer subsidies, Malawi, appears to be meeting this 1 percent target for agricultural research.

Regardless of the level of budget resources being committed to agricultural research, there appears to be considerable scope for improving the impact of the resources available through better coordination. As became apparent through the country studies, agricultural research in most countries is being undertaken across a variety of institutions: public institutes, universities, branches of CGIAR institutes and nongovernmental organizations, along with private sector mechanisms in some countries. What is rare is for there to be a coordination mechanism that brings such institutions together periodically to ensure that potential synergies are being capitalized upon, overlaps avoided, and critical gaps identified and addressed. Such institutional fragmentation means that there is scope to improve the impact of public expenditures on agricultural research through better coordination of research program planning.

Allocations Across Spatial Distribution

In almost all countries, agriculture is practiced across diverse agroecological conditions and by a multitude of farmers with different sized enterprises that are predominantly small scale. To provide public goods and services to this diverse clientele, it is generally accepted that the decisionmaking on and administration of public expenditures should be devolved to the appropriate level of government authority. Appropriate devolution of authority over budget management should lead to better outcomes from the expenditures on public goods and services committed to the agricultural sector.

Deconcentration and Decentralization

Countries make different decisions on how to pursue such devolution of authority, influenced of course by how the wider governance decision is affected by sectoral, political, and administrative authority considerations rather than agriculture alone. One approach retains an integrated, hierarchical political structure, in which national and regional administrative units (for example, provinces and districts) operate a single budget for which size and allocative decisions are taken centrally. In these systems with centralized budget authority, implementation may still be *deconcentrated*, with efforts made to get sector ministry and agency staffing located closer to farmers, and procurement and expenditure management put under the responsibility of staff located outside of the central ministry except for the largest initiatives.

The other main approach is *decentralization* of both fiscal (revenue mobilization and allocation) and administrative (implementation) authority. This decentralization usually specifies that selected functions be placed in the hands of regional authorities, who are accountable to local populations through elections. These local authorities are responsible for planning revenue sources and expenditure activities. The breadth of functions that are decentralized is often specified constitutionally, may depend on administrative capacity at the regional level, and varies over time in the course of nation building. In agricultural sectors, functions that tend to be decentralized in these political systems are extension, training, and animal disease and plant pest management.

The country studies covered in this synthesis varied widely in their ability to assess public expenditures on agriculture across this deconcentration and decentralization dimension. Data constraints proved to be the main limitation, such as when major portions of expenditure could not be disaggregated, or were simply not available, at levels below the central government. Budget information systems often did not have the capacity to disaggregate external funding by regional spending unit, and only a couple of the studies undertook the laborious ad hoc process of constructing the dataset to do this by manually collecting the needed information from individual donor institutions. In decentralized systems, there were two main constraints. Some decentralized countries collected information centrally on regional budgets and spending, but only in aggregate and with insufficient detail to isolate efforts in agriculture. In other countries, there was simply no centralized data system that captured public spending by local authorities. Recourse was made by several study teams (for example, for Nigeria) to select and analyze a few regions' spending on agriculture, but these limited samples were insufficient for robust extrapolation to national aggregates.

Despite these limitations, broad characteristics and observations can be gleaned from the country studies. For the studies with sufficient information, Table 3.7 identifies the countries by deconcentration or decentralization, and the extent to which such budget making or implementation is happening subnationally. Of the 12 countries, information is available for seven on deconcentrated expenditures, while the remaining five use decentralized systems.

Table 3.7. Devolution of agricultural spending, regional and local authorities (shares of total)

	Deconcentration						
	Burkina Faso[1]	Chad[2]	Ghana	Liberia	Togo	Mozambique	Zambia
Regional and local authorities	82.5	4	27	0	2	19	14
	Decentralization						
	Nigeria	Cameroon[3]	Rwanda	Sierra Leone	South Africa		
Regional and local authorities	47	15	5	19	*57*		

Source: Ag PER country data sets (ReSAKSS various years).

Notes: [1] Burkina Faso shows the location of expenditures, but from the country study, the authority over these expenditures is not identifiable as central or regional. [2] Recurrent budget only. [3] Cameroon uses investment budget only.

The countries managing unified budget systems remain in fact largely concentrated. More than 80 percent of public expenditures on agriculture in most of these countries is managed by the ministries' central departments, and for three countries (Liberia, Chad, and Togo), it is over 95 percent. The main exception is Ghana.[11] Ghana has locally elected district authorities that manage budgets, but these are not significant in aggregate agriculture public spending, and hence Table 3.7 shows the deconcentration of expenditures under the central government budget. Over the decade covered by the Ghana country study, 73 percent of expenditures were managed by central ministry and agency staff, while the remaining 27 percent were managed by ministry staff located in regional and district offices.

The countries in Table 3.7 with more long-standing decentralized political systems likewise have higher decentralization of public spending in agriculture. In South Africa, the provinces account for 57 percent of the total, and in Nigeria, the states are thought to account for somewhere in the neighborhood of half of total public spending on the sector. Sierra Leone, which instituted a decentralized political system with elected district authorities beginning in 2002, has cautiously extended budgetary decentralization in the agricultural sector to reach 19 percent of aggregate public expenditures. Rwanda introduced decentralized political authority in 2007, experienced some initial capacity constraints for local administration and budget management, and by 2010 had only reached five percent of aggregate budget expenditure on agriculture managed by these new structures.

Cameroon began to implement decentralization at the fiscal level with the 2010 budget. The powers identified for eventual transfer to local authorities by prime ministerial decree were as follows: (1) for the Minister of Agriculture and Rural Development (MINADER), the acquisition of seeds and pesticides, surveillance of and combating phytosanitary diseases, the development of small-scale rural infrastructure, and community mobilization for local development; (2) at Ministry of Fishery, Livestock and Animal Husbandry (MINEPIA), the establishment and management of communal animal husbandry and agropastoral perimeters, delimitation and coordinated management of agropastoral areas, and protection of underground and surface water resources through community monitoring; (3) at the Ministry of Forests and Wildlife (MINFOF), management of forests transferred by the state becoming communal forests, supervision of communal forests, supervision of community wildlife areas, management of financial resources collected from royalty payments for forestry concession leases payable to municipalities (20 percent), and supervision and management of the portion payable to neighboring communities (10 percent). These powers were transferred gradually, however. Thus, over the period of the country study, the only responsibilities for the development of rural infrastructure that had been

[11] The information in Table 3.7 for Burkina Faso shows the *location* of expenditures, but the country study does not identify the authority over this expenditure as either central or subnational.

transferred were the establishment and management of infrastructure to MINADER, of equipment for animal husbandry to MINADER, and of the management of communal forests, management of financial resources collected from royalties for communal forests as well as management supervision of royalties payable to neighboring communities to MINFOF. By 2012, approximately 15 percent of the capital budget was being managed in a decentralized manner.

Trends in the value of devolved expenditures are shown in Table 3.8 for the limited number of countries for which data permit exploring this dimension. These data show increases in all cases, thus confirming the momentum, if slow, toward devolution of expenditures in many of the countries covered in the synthesis. The rapid increase in a number of countries flags the importance of building expenditure implementation capacity at the local level, and in the case of decentralization, of expenditure planning capacity as well.

Table 3.8 Evolution of devolved spending, selected countries

Country	2005	2009	2011	% change
Burkina Faso (CFAF billions)	n.a.	101	105	4
Cameroon (CFAF billion)			15[3]	
Côte d'Ivoire (CFAF billion)	72	133	—	85
Rwanda (RWF millions)	n.a.	949		
Sierra Leone (Le billions)	2[2]	6	13	650
Togo (CFAF billions?)	15	37	66	352
Zambia (%)	22	14[1]		
K billions	73	103[1]		41

Source: Ag PER country data sets (ReSAKSS various years).

Notes: CFAF = Central African franc; K = kwacha; Le = Leone; RWF = Rwandan franc; n.a. means not applicable. [1] Data available for 2008.

Geographic Distribution of Expenditures: Targeting by Efficiency or Equity?

Some country studies were able to disaggregate public agricultural expenditures by region, allowing an exploration of the extent to which the expenditures appeared to serve efficiency or equity objectives. Giving priority to agricultural sector growth would suggest concentrating public expenditures on regions of the country with better resource endowments (for example, rains, soils), larger agricultural sectors, and robust growth opportunities. A higher priority for equity outcomes, by contrast, would suggest concentrating public agriculture expenditures on regions with higher poverty (by headcount or proportion) in rural farming communities.[12] These issues are explored in the country studies on Burkina Faso, Ghana, Sierra Leone, Togo, and Cameroon, which are reviewed next.

In Burkina Faso, the geographic distribution of expenditures appears to be guided more by criteria of efficiency than by equity. Expenditure data representing 93 percent of the total for 2007–2011 could be disaggregated to the regional level. Comparison with the contributions of each region to the value of total crop production reveals that the regions with high agricultural potential (the western and southwestern regions of the country—Boucle du Mouhoun, Hauts-Bassins, Cascades, and Sud–Ouest) also receive the largest share of public support. These regions generated 46 percent of crop production over the period 2002–2006 and received 47 percent of public agricultural expenditures over the period 2007–2011. However, the distribution of agricultural expenditures in relation to the number of poor by region shows an unequal allocation of public resources. Although 32 percent of the poor lived in the regions of Centre–Nord, Centre–Sud, Nord, and Plateau Central in 2003, these regions received only 17

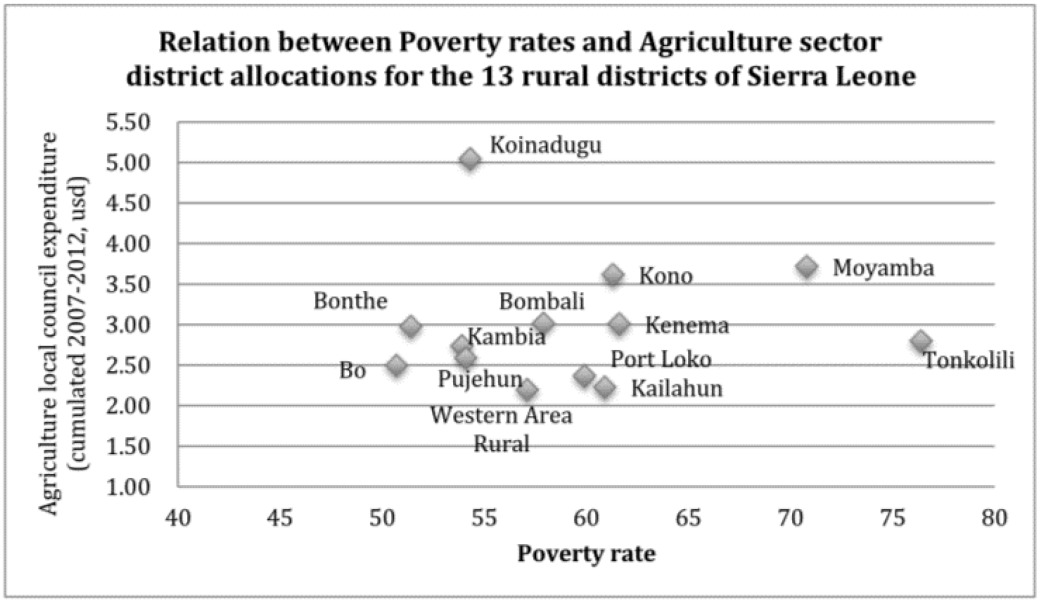
[12] Although as part of a national strategy, poverty alleviation could be well served by helping people shift out of agriculture over time by fostering economic growth in other sectors and promoting urban economic activity.

percent of public agricultural expenditures from 2007 to 2011. Yet while only 11 percent of the poor lived in Cascades and Hauts-Bassins, these regions received 28 percent of agricultural investments.

For Ghana, geographic distribution of expenditures can be attributed only for the Ministry of Agriculture's expenditures channeled through its Regional and District offices (RADUs and DADUs). Budgets administered by the Ministry's core and technical departments, which make up nearly three-fourths of its expenditures over the 2001–2011 period, could not be regionally disaggregated. The disaggregatable expenditures show a significant bias toward the Greater Accra region, which on a per capita or land area basis, receives more than twice the expenditure resources of the next highest region. In terms of equity orientation, there is only a mildly positive correlation between regions' poverty incidence and their level of expenditure through RADU/DADU accounts. The poverty incidence is highest in the north's three regions (Upper East, Northern, and Upper West), and while the Upper East follows Greater Accra in expenditure levels, the other two northern regions are in the bottom tier of the ten regions' expenditure distributions. It may be that large projects and other activities for which the expenditures are managed under the Ministry's core and technical departments' budgets are targeted more to the poorer regions, but during this period, the RADU/DADU expenditures were not achieving a purpose that benefited the poor.

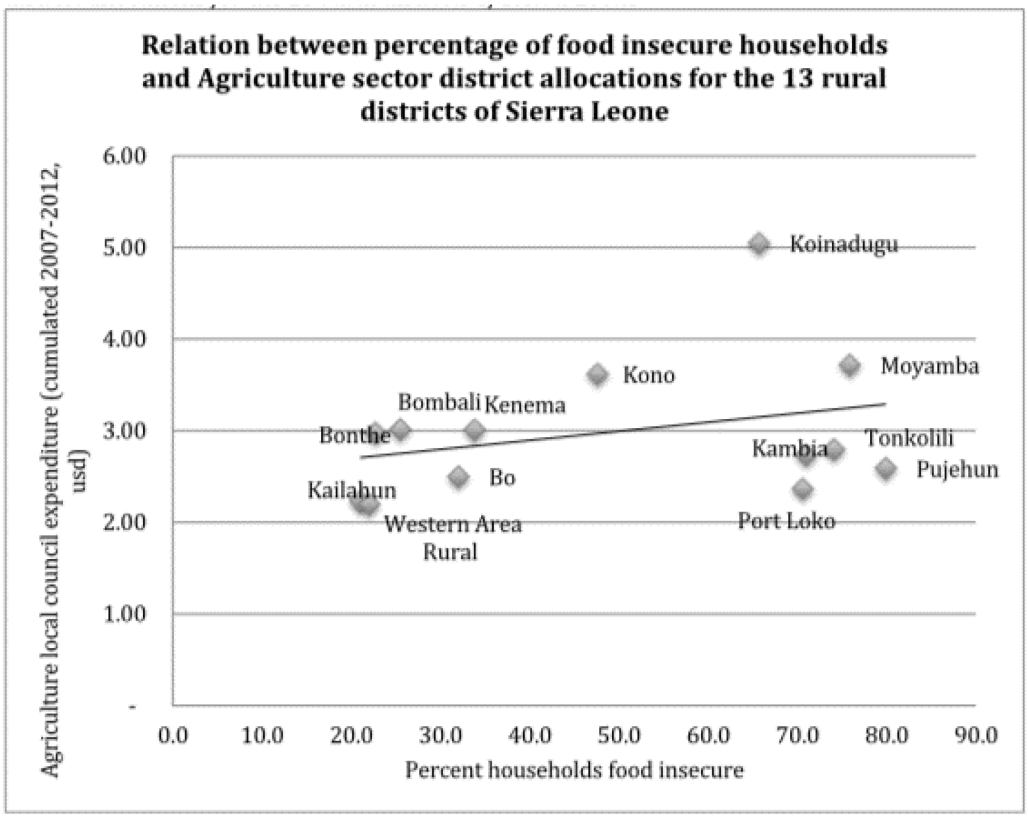
For Sierra Leone, only the 19 percent of sector expenditures made through the agricultural budgets of the districts provide the disaggregation needed for an assessment of the geographic dimension of expenditure. Figure 3.1 brings together data on district-level budget allocations and data on poverty rates and reveals a moderately strong relationship between allocations and poverty rates for rural districts (Koinadugu District being an outlier). The data show only a modest relationship between the food insecurity rate (percentage of households that are food insecure) and agriculture sector budget allocations granted to local councils (Figure 3.2).

Figure 3.1 Relation between poverty rates and agriculture sector district allocations in Sierra Leone



Sources: Author's creation based on Sierra Leone, MoFED (2011) for district council budget and World Bank (2013) for latest poverty data.

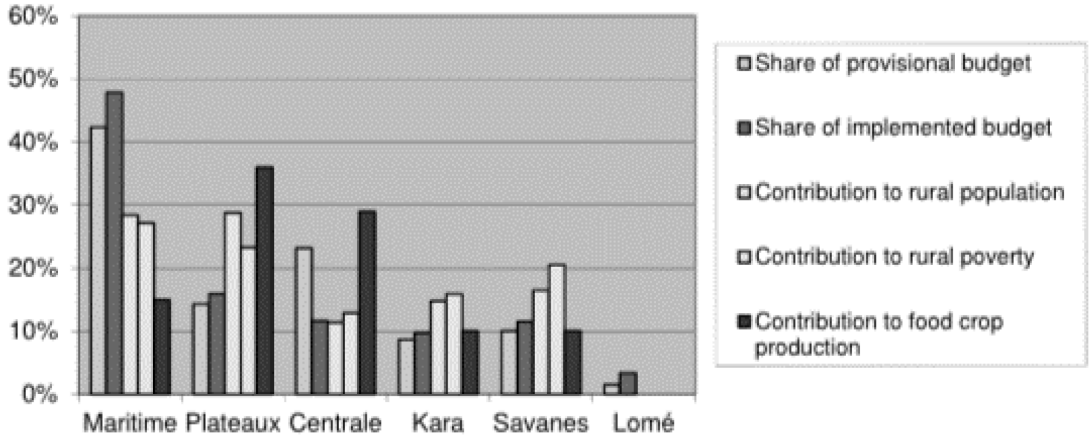
Figure 3.2 Relation between food insecurity and agriculture sector district allocations in Sierra Leone



Sources: Author's creation based on Sierra Leone, MoFED (2011) and WFP (2011).

For Togo, a geographic analysis of expenditures must be limited owing to data constraints to the Ministry for Agriculture, Livestock and Fisheries (MAEP) provisional and implemented capital expenditure budgets for 2002–2010. These account for 75 percent of total public agriculture expenditures. Figure 3.3 compares the contribution of each region to rural population, rural poverty, and national food crop production (68 percent of agricultural GDP). This allocation scheme illustrates a strong expenditure bias in favor of the region closest to Lomé, the maritime region, which absorbed almost half of the investment resources even though it accounts for only 28 percent of the rural population, 27 percent of rural poverty, and 15 percent of the country's food crop production. The Plateaux region, by contrast, which accounts for 29 percent of the rural population, 23 percent of rural poverty, and provides 36 percent of the national food crop production, benefited from only 16 percent of capital expenditures.

Figure 3.3 Togo regional distribution of ministry of agriculture budgets compared with population, rural poverty, and food crop production, 2002–2010



Sources: Togo, MAEP (various years) for the provisional and implemented budgets and food crop production and authors' calculations based on IMF (2010) for the contributions to population and rural poverty.
Note: The contribution of each region to national food crop production is based on the sum of grain production, tubers, and legumes for the country in 2010/2011, expressed in metric tons.

The Cameroon country study assessed the allocation to its ten regions of investment expenditure for the two main ministries engaged in the agriculture sector: for crops, MINADER, and for livestock, MINEPIA, over the 2006–2012 period. The overall picture that emerges (Table 3.9) is that the regions with the highest rates of poverty do not receive additional investment resources, which hampers attempts to reduce poverty. There is a heavy bias favoring the North–West Region, which received an average allocation of 19 percent of investment funds, whereas the region's share of domestic crop production and rural population was only 7 percent and 12 percent, respectively, while its 51 percent incidence of rural poverty is below that of the country's poorest, northern regions. In addition, the West and South–West Regions received investment allocations that far exceeded their contribution to domestic crop production and their share of the rural population. By contrast, the Far North Region—accounting for 27 percent of the country's rural population and 10 percent of crop production, with a rural poverty incidence of 66 percent—received only 15 percent of allocations.

Table 3.9 Cameroon regional allocation of agriculture investment

Region	Average allocation (%), 2006–2012	Rural population (%), 2012	Poverty incidence (%), 2007	Regional distribution of poverty (%)	Food staple production (%), 2007–2011
Adamaoua	6.2	6.0	53.0	6.9	4.0
Centre	11.9	10.0	41.2	7.9	21.0
Est	2.6	5.0	50.4	5.9	16.0
Extrême–Nord	14.8	27.0	65.9	29.9	10.0
Littoral	4.3	2.0	31.1	2.7	10.0
Nord	11.8	14.0	63.7	15.7	4.0
Nord–Ouest	18.9	12.0	51.0	13.0	7.0
Ouest	13.0	11.0	28.9	7.7	10.0
Sud	1.3	5.0	29.3	2.4	10.0
Sud–Ouest	15.3	8.0	27.5	5.5	7.0
Total	100.0	100.0	n.a.	100.0	100.0

Source: Ag PER country data sets (ReSAKSS various years).

4. BUDGETARY PLANNING AND IMPLEMENTATION PROCESSES

Government processes for preparing and implementing public budgets in the agricultural sector were examined in the country studies and reveal common areas where the impact of expenditures could be improved. This section reviews these findings grouped by three levels in the hierarchy of budget-making and implementation. The first level is that of establishing sector strategies, and the general budgetary context for the government as a whole, with the latter usually managed by the ministry of finance. The second level is that of annual preparation and approval of the sector budget and its presentation features. The third level is that of the actual implementation of the annual budget, including M&E activities that potentially feed back into the planning and budget preparation steps.

As will be evident throughout this section, the agricultural sector ministries heavily depend on the core economic management ministries, particularly the ministry of finance, and a ministry of planning, if one exists, throughout this hierarchical budget process. Shortcomings in outcomes may have their causes within the sector administration, but frequently, a set of constraints at the ministry of finance or planning level also leads to unsatisfactory results, and indicates the need for jointly established and pursued agendas for improving both core and sector ministries.

Many country studies were accompanied by draft action plans (sometimes as separate documents) to follow up on the recommendations of the reports. These draft action plans were taken into technical validation workshops where they were worked on further, and with the expectation that the finalization of the action plans would be taken onboard by national authorities. Portions of the action plans often required verification and further consultations with other critical partners, such as ministries of finance, because implementation would need their collaboration. In this way, the Ag PERs aimed to facilitate the articulation of practical agendas on which ministries of agriculture could work with other partners. However, assessing the progress made toward the desired outcomes of these action plans was not in the scope of the current synthesis.

Budget Context for General Planning

Guidance Provided by Sector Strategies on Spending

During the periods reviewed in almost all the country studies covered in this synthesis, the broad agricultural sector strategy was established or updated. Such strategies aim to establish priorities for action, but for those in effect for the periods under review, they lack key elements and sufficient detail to guide subsequent budget planning as needed to implement their public expenditure components. Ideally, the sector strategy document will have clear objectives presented in a specific, measurable, achievable, and time-limited way. These elements are needed for inclusion of a results framework (objectives, indicators) that will subsequently inform the activities of M&E. A good practice is for the sector strategy to translate its objectives into broad, programmatic areas for action, indicating multiyear public expenditure targets and their main differences from the expenditure outcomes of the most recent implementation period.

Most sector strategy documents for the periods covered by the country studies fall well short of this ideal. The better cases, such as Ghana's agricultural strategy, accompany the forward-looking program area description and prioritization with expenditure targets and a results framework that identifies measurable indicators and quantifies targets. The majority, though, remain at the qualitatively defined description of priorities, lacking expenditure targets and results frameworks. Sector strategies with these latter shortcomings provide almost no guidance for annual budget preparation and progress monitoring.

As a result of these shortcomings of sector strategies, very few country studies on public sector expenditures were able to marshal evidence on whether there had been any expenditure shifts since the establishment of the new sector strategies. Only three out of the 19 country studies—Côte d'Ivoire, Ghana, and Togo—presented such an assessment of expenditures before and after the establishment of a

sector plan (Appendix Table A.1). A few more country studies (seven in total) were able to provide some assessment, if only quantitative, of whether the expenditure pattern since the establishment of a sector strategy appeared consistent with the priorities laid out in these strategies. This outcome reinforces the observation that sector strategies need to be substantially more specific on expenditure implications and results frameworks if they are to serve as concrete, assessable guides to public spending in the sector.

Sector Medium-Term Expenditure Frameworks and National Agriculture Investment Plans

Medium-term expenditure frameworks (MTEFs) are frequently prepared by countries in SSA. This multiyear expenditure planning in some cases is limited to the macroeconomic level, led by the ministry of finance, which for the sectoral level provides only an aggregate budget allocation to each sector ministry for subsequent disaggregation into a proposed annual budget. A few countries also accompany the macro MTEF with a set of sectoral MTEFs, which further disaggregate the multiyear budget planning to this level. Other assessments have examined the strengths and weaknesses of preparing macro MTEFs during the past decade in SSA, and these need not be reviewed here. The main relevant point is that only a few countries have routinely prepared sector MTEFs for agriculture on a rolling, multiyear basis and used these effectively to translate sector strategies into detailed annual budget proposals. Some countries attempted, a decade or more ago, to prepare both macro and sectoral MTEFs but foundered when outcomes at the macro level (for example, own revenues, exchange rates, donor fund mobilization) greatly diverged, rendering the sector MTEF inoperable. Sector ministries' appetites for participating in the administratively demanding preparation of sector MTEFs are usually absent unless the macro MTEF has stabilized into a platform that is accurate, predictable, and implementable under the direction of the ministry of finance.

Most countries' agricultural sector ministries have relied instead on preparing national agriculture investment plans (NAIPs) to translate sector strategies into expenditure targets detailed for the strategy's prioritized programs. These NAIPs provide second-best guidance to annual budget preparation but are limited by two important shortcomings. First, NAIPs typically focus on investment, and do not provide guidance on recurrent expenditure requirements despite the fact that provision of key sector public goods and services is more dependent on recurrent than investment budget allocations. Second, NAIPs are significantly motivated by a fund-mobilization objective geared to scaling up sector activity. As a result, their investment projections usually come with often unrealistic sudden increases in investment from the most recent realized budget performance to the first NAIP target year, and identify significant funding gaps that grow larger in future years. Presented with a target annual budget envelope by their ministry of finance that falls short of the NAIP aspirations, and needing to cover both recurrent and investment activities, sector ministries may confront difficult allocation trade-offs on which the sector strategy and NAIP provide little concrete guidance.

Legislative Budget Authorization

Another important element of the budget context is the expeditiousness with which the legislative branch deliberates on and approves the annual budget proposed by the executive branch. Delays in budget approval can arise in this inherently political process, which can push budget resource availability months into the implementation year. The countries covered in this synthesis have a range of experience in this area, not only across the sample but also over time in some countries, depending on the synchrony between executive and legislative branches, and between administrative disciplines and traditions. The performance of agricultural sector ministries on budget implementation obviously derives from these larger forces and may reflect the situation where line ministries only begin to get releases of annual budget resources well into the budget year, making it difficult to use them effectively in the months remaining.

Annual Budget Planning and Presentation

Most countries undertaking public expenditure studies by sector reviewed in this synthesis acknowledge the shortcomings of budgets presented as activity and project listings and the benefits of moving to a program-budget approach. The latter presents budgets organized by objectives and the associated programs to attain these objectives, and are better articulated within sector strategies. Shifting to program budgets is a significant reform, though, and must be spearheaded by ministries of finance with capacity-building to enable rollout across line ministries and accompany it with a budget information system overhaul.

Despite the complexity of the transition to program budgeting, some countries included in this synthesis are nonetheless moving gradually to this strategy- and results-based approach of budgeting from the traditional means-based one. The most ambitious such reform is being implemented systematically across West African Economic and Monetary Union (WAEMU) countries with the guidance of their Framework for Multiyear Programming and Program Budgets. The six Directives of this Framework (WAEMU 2009) have resulted in guidance and support for implementing program budgets at the national level, with full transition to be achieved by 2017. In anticipation of this goal, the Burkina Faso public expenditure study organized its historical budget data on agricultural expenditures into program categories consistent with the anticipated program budget structure so as to facilitate forward planning based on past realizations.

Countries need to give adequate attention to their capacity for coordinating across ministries and authorities engaged in budget processes in the agricultural sector. The apex structures, whether committees or other institutions, need processes and incentives to manage the budgetary interfaces where their activities will have the greatest impact on coordination. Too numerous are examples such as a water storage reservoir being completed by a ministry of water resources with no activity yet under way for completing the associated irrigation infrastructure under the responsibility of a ministry of agriculture.

The existence of significant off-budget funding of sector activities (usually those of external development partners) poses a budget management problem for most of the line ministries responsible for agriculture in the countries covered in this synthesis. If information on such resources is not integrated into planning a country's internal resources for budget implementation, the consequence is uncoordinated and inefficient activities with inferior outcomes. The best, but also most difficult, solution is for the country's core economic management ministry(ies) to collaborate with external development partners to integrate information on such resources into budget planning and information systems. Where this cooperation is not forthcoming, more ad hoc solutions can still be valuable, such as parallel information gathering and partial integration into budget planning and monitoring, as some countries charge a unit within the agricultural or finance ministry to do. This solution enables valuable steps to be taken toward a stronger and more comprehensive mutual budget accountability system.

There is considerable scope for improving budgeting of recurrent and development expenditures in most of the countries reviewed for this synthesis. Two aspects in particular warrant attention. The first is to address the cost-accounting weaknesses and incentives that lead to recurrent expenditures to be improperly included in the development budget. As discussed previously, this muddling of cost accounting can lead to nonsustainability over time for both recurrent activities and capital assets.

Improved separation and adequate budgeting of recurrent expenditures out of the development budget are needed. Second, there needs to be better integration of planning recurrent and development expenditures. Few countries appear to have budgeting processes that link the planning of these two categories, and in some sector ministries, there are even separate units that independently put forward budget proposals for the two budget components. Integrated planning of an appropriate balance between recurrent and investment activities, benefiting from improved cost accounting of the two categories, would help minimize cases of investments lacking funds for O&M, and of underfunded provision of recurrent public goods and services.

Also affecting investment maintenance budgeting is the division of roles and means between central government and local councils, and between public authorities and beneficiaries. Often these roles

are not planned in advance or agreed to among parties. Problems arise when responsibility for funding maintenance is assigned without that party having adequate financial means to fund the activity. Avoiding such problems, and the consequent rapid depreciation of completed investments, must start with adequate preparation and agreement from an early investment planning stage.

Several countries included in this synthesis have decentralized governments with significant amounts of public spending for agriculture under the responsibility of local authorities. Additional countries are committed to decentralization are in the early stages of implementation. For these countries, the impact of consolidated public expenditure on agriculture across central and local layers of government will vary depending on the extent of budgeting coordination and cooperation. Budget information systems at the different levels that allow a consolidated view of public activities and related budget plans and realizations could help make better use of scarce budget resources. Such budget information would provide a foundation for improved synergies and reduced waste through coordination across the central and local levels.

Annual budget planning can also be weighed down by overambitious investment project and program preparation calendars. Sector ministry planning staff are often short-handed, overburdened, and confront constraints in capacity while getting new projects to an adequate stage of readiness vis-à-vis the annual budget cycle and political commitments. A consequence is that new investment projects may be inscribed in the annual budget and allocated startup funds despite not being ready for timely startup. Apart from the inefficiencies of an undercoordinated launch of components, the costs of slow startup, unused budgeted resources, and lowered budget execution rates come into play. Overcoming such problems will involve both strengthening project preparation capacity in ministries (likely through recruitment and adequate recurrent budgets) and achieving greater discipline within sector ministries to apply project readiness criteria before inscribing projects in annual budgets.

Annual Budget Implementation for Improved Technical Efficiency

Better budget information systems are needed to support course corrections and adjustments at the sector-ministry level during the budget year. For real-time budget management by agricultural sector ministries, most countries are now operating systems put in place on computerized platforms by ministries of finance that have the capacity for, and in some cases already provide, real-time online access to budget information in sector ministries.[13] Effort is still needed in most countries to generalize access to such capacity, improve the quality of the data, and strengthen analysis for time-management decisions. Moreover, expanding the coverage of these improved systems to include agencies and institutions under the central ministry but located outside the capital needs to be done consistently through investments in communications infrastructure and information technology capacity, and these take time. In Nigeria, for example, from the time the central agriculture ministry departments were brought into the online budget information system, it took another three years to integrate most of the 40-plus agencies and institutes reporting to the ministry. And these entities accounted for nearly half of the ministry's recurrent budget.

It would also be valuable for ministries of agriculture to work with ministries of finance to make the budget information systems more flexible, with authority sufficiently defined to enable sector ministries to add their own identifier parameters to the budget information system. Apart from the core system designed and controlled by the ministry of finance, this would allow additional parameters to be associated with budget lines, such as subsector, crop, or region (administrative and/or agroecological zone) that would enable expenditure monitoring and analysis disaggregated by such characteristics.

Most countries covered in this synthesis during the review period made progress toward reforming and strengthening national procurement systems. At the national level, this usually entailed variants on updating the public procurement law to meet international standards, reinforcing a central public procurement authority, deconcentrating procurement capacity in line ministries, and revising a procurement manual. In some countries, thresholds for procurement types (price comparisons, domestic

[13] Often called an Integrated Financial Management Information System (IFMIS) or its equivalent in French, SIGFIP.

competitive bidding, international competitive bidding) are being adjusted to gain the cost-benefits of more transparent competition and the time benefits of greater delegation of procurement steps to decentralized capacity. Some countries are also increasing transparency by establishing a publicly accessible, online interface for public procurement.

Agriculture ministries are not in the driver's seat for these national procurement system reforms, but they can take the initiative to participate as early pilot ministries in the phased rollout of implementation. The line ministries have greater control over adequate planning in advance of the annual budget cycle of ministry procurement plans. Ministries in the sector can prepare procurement plans at the same time as the annual budget and aim to have tender documents available at the start of the budget year so that tenders can be issued as soon as the budget is approved, releases start, and bid evaluation committees form. Progress at the national level on strengthening the overall procurement process, and at the sector-ministry level on implementation and timeliness, are key capacities for driving engagement with donors to channel their development finance support to be implemented on budget and within national procedures.

Improving budget execution rates to reduce the gap between planned and actual expenditures (Table 2.6) is needed to improve the quality of outcomes of budgeted activities. As seen earlier, there are usually a number of reasons for poor execution rates, and because these involve numerous partners in budget management, they will need consensual agendas to go beyond finger-pointing over responsibility and to make real progress. From the countries reviewed in this synthesis, it is generally true that particular attention needs to focus on development expenditures—especially where they are externally financed—to improve predictability of releases from ministries of finance and to strengthen procurement planning and implementation.

Numerous countries are struggling with an institutional landscape of numerous project implementation units (PIUs), outside of sector ministry civil service and administrative structures, each operating within a narrow horizon of responsibility for a particular, usually externally funded, investment project. The establishment of a project PIU is often done at the insistence of an external funder, who reasons based on some mix of need for fiduciary accountability to the funder, for rapid capacity creation so that the investment can proceed quickly, and to bypass cumbersome national institutional processes and limited capacity. Among the drawbacks are that PIUs may operate outside of national treasury systems and off-budget, entail separate procurement policies that have their own complexity, fail to contribute to the core investment-management capacity-building that is needed within the sector ministries, and have spheres of policy involvement that overlap but inadequately coordinate with other PIUs or national policy. Recognizing these drawbacks, some countries, such as Sierra Leone, are changing their stance on PIUs and aiming to consolidate their number or at least to integrate their project management into line ministry functions. While this institutional reform of public investment management is under way in a number of countries, there will undoubtedly be a mix of results and impacts on expenditure implementation. Nonetheless, it is a necessary step toward integrating budget management and making expenditure accountability cohere across the full set of public sector activities, so the issue is more one of pace than of principle.

Two other public fiscal management reforms whose implementation can contribute significantly to improved technical efficiency of expenditure management are a treasury single account (TSA) system and a centralized civil service information system. A TSA aims to rationalize the chaotic situation that characterizes a number of countries where ministries have been permitted to establish a plethora of separate accounts for different agencies, projects, and functions. The TSA reform, driven by a ministry of finance and accountant general, reduces these, applies a common accounting framework to the remaining consolidated accounts, and captures all of them in a single, integrated information system. This reform aims to considerably improve the efficiency of resource management, the transparency of account management, and the effectiveness of audits. Clearly, vested interests in parts of the public administration may resist this change, but where the political momentum is favorable, participation in the reform by agricultural sector ministries will contribute to a stronger link between budget resource mobilization and expenditure impacts.

Similarly, civil service management in many SSA countries is emerging from an era of manual personnel management information systems. These systems suffered from inaccuracies, the costs of inscribed *ghost workers*, cumbersome extracting of information useful for human resource planning, and weakness in supporting individual personnel actions. Rationalizing civil service management systems to improve the accuracy of information and its availability for timely personnel decisionmaking within a clear hierarchy on civil service matters is an important step toward getting better results from the personnel resources in place to manage sector ministry programs. Such reform is typically managed by the national civil service commission. The interest to agricultural sector ministries comes when phased rollout involves pilot ministries, in which the early participation of agricultural sector ministries bring earlier gains in effectiveness of their human resources and expenditures on them.

It is clear from the countries covered in this synthesis that M&E capacity is weak and failing to provide decisionmakers with information that contributes to evidence-based foundations for managing expenditures. M&E systems that provide information on the links between expenditures and sector outcomes will be discussed below in Section 5, but here it warrants noting that at the level of budget implementation, better M&E systems are needed as well. This need is being addressed in some countries in part by strengthening computerized information systems that provide real-time access to budget information and simplify the update of standard analytical tables to better inform midcourse resource and activity adjustments. There is also a clear need for more human capacity in agricultural ministries' budget departments for budget analysis. Analysts could identify, in a timely way, when budget implementation is getting off course and when solutions need to be devised based on priority during the budget year.

M&E capacity is an important part of improving execution rates, but it can also underpin improved budget analysis and help justify budget proposals that sector ministries make for the coming year. Moreover, where budget information systems have not yet fully integrated off-budget resources, M&E can be strengthened to improve information on donor-financed projects and financial status. It can thereby improve the accountability of donors to meet their financial commitments, and the accountability of ministers of agriculture to encompass these projects within coherent management of the resources made available to provide public goods, services, and investments to attain sector objectives.

5. CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The great deal of heterogeneity across countries must be borne in mind in formulating crosscutting conclusions and recommendations, as these differences obviate a simple conclusion.

In this study, much was learned about conducting Ag PERs, as they were implemented progressively over almost five years. Refinements in approach were introduced along the way, though not all issues were resolved in time to achieve an entirely consistent application of details across all the studies. Many of the lessons enriched technical discussions among practitioners in workshops during 2014 and 2015 and are being fed into a revised CAADP Guidance Note for public agriculture expenditure analysis, and for a Guidance Note on conducting Ag PER Lite.[14]

Expenditure Levels and Trends: Are SSA Countries Making Progress Toward Sufficient Public Spending on Agriculture?

In general, no. In US dollar terms, impressive growth has occurred during 2005–2012, and the majority of countries reviewed increased the share of the total government budget going to agriculture. However, in only four of 20 countries did spending reach 10 percent of the total budget in the latest year, and one of these, Malawi, did so by major subsidization of farmers' fertilizer purchases. Seven of the 20 countries had no increase in agriculture's share of the total budget over the period, despite nearly half the countries' public expenditures on agriculture barely reaching 5 percent of sector GDP. In short, low spending on agriculture is being accompanied by slow growth in budget share.

Improving budget execution rates needs to be part of making the case that the sector can make good use of additional public resources. Narrowing the gap between planned and actual expenditures involves numerous partners in budget management and so will need building of consensual agendas to make real progress. Particular attention needs to focus on improving implementation of development expenditure especially where this involves external partners' finance and fiduciary systems. Another focus is on improving the predictability of releases from ministries of finance, strengthening agriculture sector ministry procurement planning and implementation, and improving their budget information management systems to inform within-year budget implementation so that resources are used more effectively.

Expenditure Composition: Are SSA Countries Allocating Expenditures to the Right Subsector Activities?

Some countries appear to be underspending on livestock, forestry, and fishery subsectors in comparison with their economic importance. A few countries have been overspending on cash crops, most notably Ghana on its cocoa subsector. The indicator used for reaching these conclusions is blunt. Even so, with these subsectors' shares of expenditures widely diverging from their share of sector GDP, a strong case can be made for more detailed examination of the effectiveness of the level of public sector engagement in promoting private sector activity and productivity.

[14] As of early 2016, the first was finalized and took into account two validation workshops conducted by NPCA in early 2015, one for Anglophone African Union member countries and one for Francophone countries. The Ag PER Lite manual was completed and proceeding to testing in a handful of pilot countries.

Expenditure Composition: Are SSA Countries Overspending on Bloated Public Sector Payrolls in the Agricultural Sector?

The majority of countries reviewed have public personnel costs in the 25–35 percent range of total expenditures. Fragile states have declining shares as stability returns; however, budgets appear to rebound without significant civil service expansion or increases in personnel emoluments. In fact, human resource constraints appear in the country study analyses of these countries as holding back the quality of budget planning and implementation.

Expenditure Composition: Are SSA Countries Adequately Funding Recurrent Budgets for Providing Key Public Goods and Services in Agriculture?

The evidence here is more anecdotal but indicates that countries are not strategically planning and funding recurrent activities to achieve effective levels of public goods and services in agriculture. Forward budget planning in almost all countries is limited to a formulation of national investment plans and annual budgets. Recurrent budget planning is typically conducted as an incremental adjustment to prior year levels. Yet significant policy shifts, such as expanding reliance on private markets for providing inputs, do not appear to be accompanied by funding regulatory capacity to measure the quality of these inputs on markets, which is a recurrent function. Such strategic recurrent activities are often difficult to discern in recurrent budgets; however, their underfunding risks negative outcomes for sector performance that could be outsized in economic and political dimensions relative to the rather small budget costs of public goods provision.

Expenditure Composition: Is Investment Expenditure Growing?

The majority of countries reviewed have sustained, substantial growth of investment expenditures in the range of doubling to seven-fold growth over a period of less than a decade. Fragile countries emerging from conflict are among those achieving the fastest growth of investment expenditure. Growth was by no means universal, though, and almost one-third of the countries reviewed experienced a decline in investment expenditure over the time frame, with the most severe declines occurring in countries facing domestic political upheaval (for example, Côte d'Ivoire and Madagascar).

Expenditure Composition: Are SSA Countries Adequately Funding Recurrent Goods and Services to Maintain Realized Capital Investments?

A definitive answer is not possible on this question based on the country studies, but there are grounds for concern. Most of the countries that have experienced rapid investment growth have also allowed a decline in the ratio of M&E budgets (nonwage goods and service expenditures) to investment budgets. This might indicate an emergent underfunding of M&E and potential nonsustainability of recent investments. But the very wide variance of this ratio across the countries is difficult to explain from the country studies. This is a priority area for deeper examination in future expenditure analyses, which should look at such dimensions as measurement consistency and the impacts of countries' investment portfolio compositions.

Expenditure Composition: Are SSA Countries Adequately Funding Public Goods and Services, Such as Agricultural Research?

Only four countries—Botswana, Malawi, South Africa, and Uganda—met the Khartoum Decision's target of public spending on agricultural research equivalent to 1 percent or more of sector GDP. Most other countries were at only one-third or even less of this target level. This means that three out of four countries in the sample were falling significantly short of providing budget resources sufficient to provide this public good that is so critical to the productivity and growth of the agricultural sector.

Can Budgetary Planning and Implementation Process Improvement Contribute to Better Expenditure Performance?

Budget process capacity varies considerably across the countries reviewed, and there is undoubtedly scope for continued improvement. This needs to start from a stronger foundation provided by periodic sector strategies. These strategies need more detailed and quantitative translation into expected expenditure priorities and adjustments from the most recent implementation period, accompanied by a monitorable results framework. Further, annual budget planning can improve upon joint planning of recurrent and capital budgets by cleaning up recurrent spending that is *hidden* in investment project budgets. Shortcomings need to be addressed in almost all the countries to undertake M&E of outputs and outcomes of expenditures the sector undertakes.

Budget information systems appear to be improving with expanded rollout of computerized systems by ministries of finance and accountant general offices. There appears to be work remaining to extend these to often geographically remote sector agencies and institutes, and to establish budget analysis capacity in the sector ministries for monitoring expenditures and adjusting them within the budget year. Further, ministries of finance need to be encouraged to put in place budget information systems that can capture off-budget external partner financing of projects that are delivering public goods and services. While such expenditures remain off-budget, the coordination and accountability of activities undertaken with this financing will remain inadequate.

Two other aspects of budget processes emerged from the country studies as likely to grow in priority. They require attention over a number of years to build the capacity for improved quality of budget outcomes. The first is a shift to program budgeting for the government budget, as some countries have committed to do. Where this has been decided at the national level, agriculture sector ministries are usually among those in early phases of transition and rollout, and this warrants pursuing. Backward-looking reconfiguration of sector public expenditures by program categories to provide a recent history of composition and trends is a useful exercise to benchmark the programs and their expenditure foundation specifics. The second aspect is decentralization, toward which countries are moving from political commitment to implementation in both administration and fiscal management of government functions. Where momentum toward implementation is accelerating, it is critical that budget information systems and information sharing across levels of government enable budget planning that leverages potential synergies and avoids duplication of expenditure efforts in the sector.

Has the Past Decade's Increased Expenditure Effort in Favor of the Agricultural Sector Resulted in Improved Sector Performance?

Unfortunately, from the country studies reviewed, it is not possible to firmly link expenditure performance to sector outcomes. This is due in part to inconsistencies in the level of focus on this aspect across the studies but also to lack of M&E data and analysis within sector ministries, relatively short time frames of analysis, and the methodological difficulty of discerning public sector activity impact, which remains quite small compared with those resulting from private sector activity and from external factors (for example, weather and world markets).

Are the Country-Level Ag PERs Resulting in Better Budget Management?

It is not possible to point to concrete follow-up actions that followed on the analysis and recommendations of every country study, but positive examples demonstrate what is possible and can be learned from. An inventory of these examples can be categorized into the following: (1) improved strategy planning and monitoring: (2) improved expenditure levels and composition; (3) strengthened budget processes for better expenditure management; (4) strengthened communications and accountability; and (5) mobilization of external funding resources. As the program that financed these studies progressed and gained experience, it became more routine for the study teams to develop a draft action plan that was improved during the study's technical validation workshop and was then turned over

to the sector authorities for further use and/or formalization. Assessment of the political-economy contexts for driving the studies' recommendations into actions also elicited much interest and sharing of experience by participants in several cross-country workshops.

Recommendations

The focus here is mostly on recommendations for undertaking sector public expenditure reviews. The first four address areas in which there has not yet been much follow-up by countries, and for which stronger and more detailed analysis of country expenditures would be helpful:

- Recurrent budget sufficiency to sustain completed investments: work would be valuable for developing cost norms (ranges) for M&E requirements for typical investment categories.
- Recurrent budget sufficiency to provide essential public goods and services: based on a short list of core items that are typically recurrent, more granular recurrent budget analysis will be needed to establish common practices across a range of countries, as well as to establish norms.
- Coordinating central and decentralized expenditure authorities. Budget information systems to inform such coordination are needed. Experience and practice regarding such information systems from regions outside of Africa could be helpful to learn from. Also important would be to bring case study material to SSA countries embarking on decentralization, to draw attention to the political-economy aspects of budget cooperation across decentralized government levels while focusing on the agricultural sector.
- Linking expenditures to sector outcomes: further assessment among practitioners is needed about whether country-specific agricultural public expenditure reviews are the best type of study within which to analyze these links. Wherever this assessment leads, the completed Ag PER studies already provide a solid basis for identifying specific types of information that M&E capacity could focus on to better inform expenditure decisions.

Looking ahead to how agricultural public expenditure analysis could be carried out more effectively in support of the African Union's CAADP objectives, the following recommendations can be made:

- Once a baseline analysis has been established with a core diagnostic Ag PER, countries should anticipate more routinely (annually if possible) updating the basic analysis in the form of an Ag PER "Lite," for which a Guidance Note could be established.
- Capacity should be built within the subcontinent to undertake Ag PERs, including human capacity for undertaking the analytical work by exploring options for establishing a network of practitioners.
- Countries should build the routine updating of Ag PER into the national dialogue on sector expenditure priorities. The analysis could feed into annual budget preparation, into deliberations of the legislative branch committee(s) responsible for the sector, and into the multistakeholder Joint Sector Reviews, as are being supported and promoted by CAADP.
- Countries are well served to coordinate the M&E improvement needs for better Ag PER analysis with broader sector M&E strengthening, which is being supported in some countries through the establishment of country Strategic Analysis and Knowledge Support System (SAKSS) programs.

APPENDIX: SUPPLEMENTARY TABLE

Table A.1 Features of country studies included in this synthesis

Country	Years covered	Sector expenditure scope	Off-budget inclusion	Decentralization/ deconcentration	a) Sector plan, year approved b) Before/after expenditure analysis c) Consistency with plan analysis
Botswana	2000–2013	Fisheries and commercial forestry not included but insignificant	Off-budget not an issue	Deconcentration, to 26 district offices	a) National development plans b) No c) No
Burkina Faso	2004–2011	COFOG	Yes	Decentralization (2004, 2006) and deconcentration	a) Strategy for accelerated growth and sustainable development (SCADD) b) No c) Yes
Cameroon	2003–2012	COFOG	Yes	Decentralization (from 2009)	a) Rural sector development strategy (revised 2006) b) No c) No
Chad	2003–2012	COFOG	Yes	Deconcentration limited	a) Schéma Directeur Agricole (SDA, 2006–2015) et le Plan Quinquennal Agricole (2013–2018); CAADP Compact (2013) and Programme National d'Investissement dans le Secteur Rural (2014) b) No c) No
Côte d'Ivoire	1999–2012	COFOG	Yes	Deconcentration, but minimal	a) Programme National d'Investissement en Agriculture (2010) b) Yes c) No
DRC	2007–2013	COFOG	Partially, as aggregate commitments over the period	Decentralized to provinces	a) Note de Politique Agricole et de Développement Rural (2009) b) No c) No
Ghana	2001–2011	COFOG		Deconcentration to region and districts units (decentralized district expenditures not analyzed)	a) METASIP (2011) b) Yes c) Yes

Table A.1 Continued

Country	Years covered	Sector expenditure scope	Off-budget inclusion	Decentralization/ deconcentration	a) Sector plan, year approved b) Before/after expenditure analysis c) Consistency with plan analysis
Guinea	2003–2012	COFOG	Yes	Deconcentration	a) Politique Nationale de Développement de l'Agriculture Vision (2015, 2007); PNIASA (2011) b) No c) No
Liberia	2006/ 2007– 2011/ 2012	COFOG	Integration of expenditures from donor-financed projects only began in 2012	Fifteen counties, but autonomous expenditures are limited	a) The Food and Agricultural Policy and Strategy (FAPS) (2009); associated investment plan (2010). b) No c) No
Madagascar	2007–2012	COFOG	Yes	Decentralization Law (2004) implementation still in transition; deconcentration of Agriculture Ministry to 22 regions and Livestock Ministry to 16 regions, neither reflected in budget analysis of the country study; lack of manpower is a constraint at deconcentrated level	a) Programme Sectoriel Agricole (2007) b) No c)
Malawi	2000/2001– 2012/2013	COFOG, but forestry data unavailable	Yes, data available for 2007/2008– 2011/2012	Decentralization, but district councils are responsible for only ~1% of total sector expenditures	a) Agricultural Sector Wide Approach (2010) b) No c) Yes
Mozambique	2001–2007	COFOG	Off-budget is minimal	Decentralization from 2007, with 50% of OIIL investment transfer to districts assumed used for agriculture	a) b) No c) No
Nigeria	2008–2012	COFOG less forestry	Off-budget is minimal	Decentralized	a) Agriculture Transformation Agenda (2011) b) No c) Yes

Table A.1 Continued

Country	Years covered	Sector expenditure scope	Off-budget inclusion	Decentralization/ deconcentration	a) Sector plan, year approved b) Before/after expenditure analysis c) Consistency with plan analysis
Rwanda		MINAGRI central, ISAR, RADA, OCIR-CAFÉ, and OCIR-THE, district earmarked transfers, RARDA, and external funding	Exists (USAID) but not estimated or included	MINAGRI budget included, but not districts	a) PTSA I (2004); PTSA II (2009) b) No c) Yes, qualitative
Senegal	2005–2009	COFOG	Off-budget expenditure exists but not included in the analysis	Deconcentration	a) Grande Offensive Agricole pour la Nourriture et l'Abondance (GOANA) (2008); la Grande Muraille Verte (2008) b) No c) No
Sierra Leone	2004–2012	COFOG	Exists; mostly taken into account in aggregates	Decentralization, with 13 rural district councils	a) National Sustainable Agriculture Development Plan (2010) b) No c) No
South Africa	2002/2003–2013/2014	COFOG	No	Decentralization, with 9 provinces	a) Strategic Plan for South African Agriculture (2001); Comprehensive Agricultural Support Programme (2004) b) No c) No
Togo	2002–2011	COFOG	Yes	Deconcentrated	a) PNIASA (2010) b) Yes c) Yes
Uganda	2001/2002–2008/2009	COFOG for expenditure aggregates; disaggregated analysis does not include COFOG components of forestry, water for production, and activities related to agricultural land	Partial (two external partners only)	Decentralized	a) MAAIF Development Strategy and Investment Plan (2006) b) No c) Yes

Table A.1 Continued

Country	Years covered	Sector expenditure scope	Off-budget inclusion	Decentralization/ deconcentration	a) Sector plan, year approved b) Before/after expenditure analysis c) Consistency with plan analysis
Zambia	2000–2008 actuals; 2009–2010 budgets	Not COFOG; covers Ministry of Agriculture and coops only; excludes input subsidy (FSP) and FRA, except for aggregates			

Sources: Individual country Ag PER and their data sets.

Note: CAADP = Comprehensive Africa Agriculture Development Programme; COFOG = United Nations Classification of Functions of Government; FRA = Food Reserve Agency; FSP = Fertilizer Support Programme; ISAR = Rwanda Agricultural Research Institute; METASIP = Medium Term Agriculture Sector Investment Plan; MINAGRI = Ministry of Agriculture and Animal Resources; OCIR = Operational Capability Improvement Request; OCIR-THE = Rwanda Tea Authority; OIIL = Local Initiative Investment Budget; PNIASA = National Program for Agricultural Investment and Food Security; PSTA = Strategic Plan for the Transformation of Agriculture; RADA = Rwanda Agriculture Development Authority; RARDA = Rwanda Animal Resources Development Authority; USAID = United States Agency for International Development.

REFERENCES

Agricultural Economics. 2013. Special Issue: Input Subsidy Programs (ISPs) in Sub-Saharan Africa (SSA)." *Agricultural Economics* 44 (6): 545–734.

African Union. 2014. *Malabo Declaration on Accelerated Agricultural Growth and Transformation for Shared Prosperity and Improved Livelihoods.* Johannesburg.

African Union Executive Council. 2006. *Decision on the Report on the Conference of Ministers of Science and Technology*. Doc. EX.CL/224 (VIII) 1 20 EX.CL/Dec.255 (VIII). Eighth Ordinary Session, January. Khartoum, Sudan.

Africa Union/NEPAD (New Partnership for Africa's Development). 2005. *Guidance Note for Agriculture Expenditure Tracking System in African Countries.* Johannesburg.

ASTI/IFPRI (Agricultural Science and Technology Indicators/International Food Policy Research Institute). 2015. Washington, DC: Agricultural Science and Technology Indicators. http://www.asti.cgiar.org/data.

FARA (Forum for Agricultural Research in Africa). 2006. *Framework for African Agricultural Productivity*. Accra, Ghana.

IMF (International Monetary Fund). 2010. *PRSP-F – Document Complet de Stratégie de Réduction de la Pauvreté 2009-2011*. Report N° 10/33.Washington, DC.

Jacquet, L. and I. Andriamarozaka. 2013. *Madagascar: Revue de Depenses Publiques dans le Secteur Agricole, 2007-2011.* Rome: Food and Agriculture Organization.

Lopez, R. 2005. "Under-investing in Public Goods: Evidence, Causes, and Consequences for Agricultural Development, Equity, and the Environment." *Agricultural Economics* 32 (Supplement s1): 211–224.

Orlowski, D., C. Coulter, M. Mwala and M. Orlowski. 2010. *Zambia: 2010 Public Expenditure Review. Background Paper - Agricultural Innovation and Public Expenditure.* April.

Rwanda, MAAR (Ministry of Agriculture and Animal Resources). 2011. *Public Expenditure Review in the Agricultural Sector in Rwanda, from 2008 to June 2010*. December.

ReSAKSS (Regional Strategic Analysis and Knowledge Support System for Southern Africa). Various years. Basic Agricultural Public Expenditure Reviews. www.resakss.org/node/2113.

Sierra Leone, MoFED (Ministry of Finance and Economic Development). Various years. District Council Budget Data. Freetown: Local Government Finance Department.

Togo, MAEP Various years. Food Crop Production Data. Lomé: Directorate for Agricultural Statistics, Data Processing and Documentation. Lomé: Directorate of Administration and Financial Affairs.

WAEMU (West Africa Economic and Monetary Union). 2009. Directive 01/2009/CM/WAEMU on Transparency Code for Public Financial Management. Ouagadougou, Burkina Faso.

———. 2009. Directive 06/2009/CM/WAEMU on the Budget Law. Ouagadougou, Burkina Faso.

———. 2009. Directive 07/2009/CM/WAEMU on the General Regulation for Public Accounting. Ouagadougou, Burkina Faso.

———. 2009. Directive 09/2009/CM/WAEMU on the Government Chart of Accounts. Directive 10/2009/CM/WAEMU on the Government Financial Operations Table. Ouagadougou, Burkina Faso.

World Bank. 2010. *Uganda: Agriculture Public Expenditure Review*. Report No. 53702-UG. Washington, DC.

———. 2011. *Mozambique: Analysis of Public Expenditure in Agriculture. Volume I: Core Analysis.* Report No. 59918-MZ. Washington, DC.

———. 2013. *A Poverty Profile for Sierra Leone.* Washington, DC: Poverty Reduction and & Economic Management Unit; Freetown: Statistics Sierra Leone.

WFP (World Food Programme). 2011. *The State of Food Security and Nutrition in Sierra Leone 2011: Comprehensive Food Security and Vulnerability Analysis.* Rome.

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