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RESEARCH PAPER

Unpacking the 'Black Box' of Public Expenditure Data in Africa: Quantification of Agricultural Spending Using Mozambique's Budget Reports

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This paper undertakes a detailed examination of the availability and quality of data on public expenditures in agriculture in Africa. We consider the case of Mozambique, a country characterised by low income and low administrative capacity, but also by a policy environment that has turned a focused lens on public funding to agriculture. We explore the extent to which domestic analysts may be able to access and use such data to reliably quantify public resource allocation to the sector, and to unpack the 'black box' of what goes into country-level public expenditure statistics. We find that data are, surprisingly, freely available in great abundance. This has encouraging aspects but also pitfalls: On the one hand, data that are often out of public sight are openly accessible for Mozambican researchers to draw upon. But the drawback of high abundance emanates from its manifestation in the form of a proliferation of multiple classification systems used to create a fine disaggregation of public funds data; given Mozambique's limited public sector capacity, this has meant that each classification system leaves a lot to be desired, making it hard to use any single one to accurately and fully reliably reconstruct the amount of public resources going to agriculture. Making the hard choice to eliminate some of the classification systems, and dedicate this freed-up capacity to be more thorough on the retained ones, would better serve domestic users of such data, as well as the government, which is both a consumer and producer of these data.

Keywords: public expenditure; budget; financial data; agriculture; government spending; Mozambique

1. Introduction

Public expenditures on agriculture, health, and other sectors influence long-run growth rates, productivity, and welfare (Glomm & Ravikumar 1997). For instance, government spending on creating agricultural public goods has a significant rate of return (Alston et al. 2010; Mogues, Fan & Benin 2015), and the effects of agricultural expenditures can be pronounced in developing regions like Africa with a large rural population (Mogues & Benin 2012). Because of the importance of government investments as a policy tool to effect economic growth, development, and redistribution, the proper measurement and quantification of public expenditures has warranted academic attention, though it has received it to only a limited extent. Ironically, it is in the context of advanced countries, with a rather robust data environment regarding public resource allocation, that research has been conducted on the limitations to measurement and data systems on public spending, such as in the US (Redburn 1993) and the UK (Cameron, McLean & Wlezien 2004). In the developing country context on the other hand, where data quality is poorer, to the best of our knowledge there is no peer reviewed literature that undertakes a detailed examination of the quality and availability of public expenditure measurement in Africa—whether in the aggregate or for specific sectors such as agriculture. Two exceptions are

Mwabutwa (2017) in the context of Malawi, and Mogues and Anson (2018) who analyse the quality and consistency of cross-country (including African countries) agricultural public expenditure datasets.[1]

This very issue is the primary enterprise of this study. We seek to unpack the 'black box' of public expenditure data in the African context, using as a case study Mozambique, a low-resource economy that is in the poorest quartile of Sub-Saharan African countries (WDI 2016). This article analyses Mozambique's budget reports, in-year expenditure reports, and financial statements, to determine to what extent, with what level of detail, and with what degree of within-report and cross-report consistency, data are available on public expenditures. We focus especially on public spending in the agricultural sector, given the importance of agriculture in Mozambique in particular and Africa in general, where this sector continues to be a mainstay of employment, exports, and the economy as a whole. However, lessons from our examination of the quality, consistency and accessibility of agricultural public spending data can be easily extended, and are highly relevant, to African researchers concerned with public expenditures in other sectors, such as health, education, or transport infrastructure.

Specifically, the study addresses three questions: If Mozambican researchers seek to access and use data on agricultural spending in the country, what are the primary government data sources they would have to navigate, how accessible are these data, and how do expenditures differ across these data sources? Second, what methods of expenditure classification would they encounter in these data sources, how useful are the different classification approaches for analysts, and to what extent are the different classification methods consistent with each other when seeking to quantify agricultural public expenditures? Finally, what are potential approaches to improve the quality, consistency, and usability of public expenditure data in these primary sources, accounting for the low-resource and low-capacity environment characterising Mozambique?

Addressing these questions has broader policy relevance. Measurement challenges with regard to sectoral public expenditures have come strongly to the fore in the policy arena in Africa. A prominent case in this regard is within the context of an Africa-wide initiative to boost the agricultural sector: the Comprehensive Africa Agriculture Development Programme (CAADP). CAADP, a major initiative of the African Union, was launched in 2003 to promote agriculture-driven economic growth to reduce hunger, malnutrition, and poverty across Africa. One of its most prominent guidelines calls for African countries to expend 10 percent of total public resources on agriculture. In Mozambique, CAADP has been adopted and is manifested through the Mozambique-specific 2012 CAADP investment plan (the National Programme for Investment in the Agricultural Sector: *Programa Nacional de Investimento do Sector Agrário,* or PNISA). Prompted by the CAADP guideline on public spending, the attention of Mozambican government agencies, donor organisations, and civil society groups in the country turned to the question of how agricultural expenditures can be properly measured, quantified, and tracked. Different reports by different bodies reflected conflicting information on this front, raising the question of the reliability and transparency underlying these data and the way they were compiled.

Beyond Mozambique, a systematic review of public expenditure multi-country databases found several cases of starkly differing numbers for agricultural public expenditures in Africa for the same countries and years but across different datasets (Mogues & Anson 2018). This of course is problematic, given that African consumers of such public expenditure data—whether they be scientists and researchers, or members of the policy and civil society community—do not have the time and capacity to carefully investigate the various methodologies underlying such data sources, which may explain the differences in quantities. And these differences matter when they are used to inform policy analysis or policy itself.

The next section in this paper explores and situates Mozambique's expenditure data reports within the budget cycle, distinguishing data on initial budget allocations, revised budgets, preliminary expenditure data, and final realised spending. Section 3 documents the way that these data are organised in Mozambique's data reports, focusing on the classification systems employed to disaggregated public resource allocations. We generate figures on agricultural public expenditures derived from the different classification systems, compare these different measures, and discuss the opportunities and the weaknesses that each classification system harbours, but also remark on the overburdened classification system that seeks to do too much and thus does not generate good and easily intelligible data along any single classifier. We summarise and draw broader conclusions in the final section.

[1] This absence pertains to peer-reviewed academic literature. However, there exist a few quite insightful working papers, for example Benin (2015) and Yu and Zhang (2014). Also, there is a related but different literature that examines trends and patterns in public spending in developing countries (e.g. Yu, Fan and Magalhães 2015) or that analyses the process of undertaking public financial reform in Africa (e.g. Ajam and Furie 2016).

2. Public Expenditure Data Along the Budget Cycle

Budgeting is a critical yearly activity in the policy and budget process, specifically in making a transition from development plans to resource allocations. There are two main types of government reports in the overall planning and budget process of Mozambique: the planning documents—such as the Government Five-Year Plan (*Programa Quinquenal do Governo*, or PQG), the poverty reduction strategy, the medium-term expenditure framework, and the Economic and Social Plan (*Plano Económico e Social*, or PES)—and the budgeting and public expenditure execution reports. Some of these are issued quarterly; some annually, covering the fiscal year, January 1st to December 31th; and others at multi-year intervals.

In order for the types of stakeholders described in the earlier section to be able to conduct budgetary evaluation, fiscal policy analysis, and ultimately examine the government's performance, it is necessary to have access to and analyse public expenditure data and their sources. The currently existing modalities of recording and reporting budget and expenditure data are a result of an integrated financial management system that the government began developing in 2002, called SISTAFE (*Sistema Electrónico de Administração Financeira do Estado*), and its electronic counterpart, e-SISTAFE, which started to be rolled out in 2007 by the Ministry of Economy and Finance (MEF). e-SISTAFE generates three core reports in which state budget and public expenditure data are captured across the different stages of the budget cycle. The reports are the State Budget Laws (*Lei Orçamento do Estado*, or LOE), the Budget Execution Reports (*Relatório de Execução Orçamental*, or REO), and the General State Accounts (*Conta Geral do Estado*, or CGE).

Remarkably, all of these data, in their full detail, are publicly accessible on the website of MEF's National Directorate of Budget (*Director Nacional do Orçamento*, or DNO).[2] This is not a common occurrence in Africa, given that often one may at best be able to access highly aggregated summaries of budgets and expenditures freely online, and needing to rely on contacts within the ministries of finance or other responsible agencies for any hope of access to more detailed data. A limitation exists in the physical accessibility of Mozambique's data, however, in that these are available online as PDF files, and not also as databases easily transferred into spreadsheets. This may limit Mozambican researchers' ability to conveniently undertake data analysis without an extensive data entry effort. Nonetheless, even the availability in the current form is impressive in continental comparison. Consistent with this, a survey of budget transparency shows that of the 29 African countries reviewed, only four countries performed better than or equal to Mozambique in terms of making key budget documents available to the public (IBP 2015).[3] We next examine in more detail the nature of the data available in the LOE, REO, and CGE reports.

State Budget Laws (LOE)

LOE is a tool that financially quantifies the resources needed to achieve the policy goals defined in the PES. The LOE predicts revenues and expenditures, and consequently serves as an economic forecast for the state's revenue and spending over the period of a year. Planned expenditures are presented according to administrative and economic classifications (more on these in Section 3). The Ministry of Planning and Development (MPD) writes the PES, and based on that, MEF formulates the annual proposed LOE. Once the budget is published, ministries and agencies are authorised to spend money, consistent with the legal appropriations for each agencies and the categories as per the economic classification.

Budget Execution Reports (REO)

The REO is a government document that aims to review on a periodic basis the implementation of public expenditure within the period in reference. It is issued quarterly by MEF's National Directorate of Public Accounts (*Direcção Nacional de Contabilidade Pública*, or DNCP). The report presents data on the execution of revenues and expenses for all public sector institutions. One of the main responsibilities of MEF is to monitor and manage in-year changes to the budget. Unforeseen circumstances or poor budgeting may make it necessary to adjust the budget (Simson, Sharma & Aziz 2011). In the course of the fiscal year, min-

[2] Specifically, the budgets (LOE) are downloadable from http://dno.gov.mz/docs/ under 'Orçamento do Estado', the in-year budget execution reports are found at http://www.dno.gov.mz/relatorios_execucao_oe.html, and the end-of-year financial statements (CGE) are at http://www.dno.gov.mz/docs/orc_estado/CGE/.

[3] These are Kenya, Rwanda, Senegal, and South Africa. The budget documents we considered are: the pre-budget statement providing broad parameters of the budget, the budget proposal submitted to parliament, the enacted budget (referred to as LOE in Mozambique), the citizen's budget displaying a simplified version of the budget, in-year reports (REO in Mozambique), the year-end report (CGE in Mozambique), and the audit report assessing compliance of the year-end report with financial and legal rules. Countries besides these four and Mozambique either do not produce one or more of these documents, or do not make one or more documents publicly available.

istries and government agencies can request reprogramming to receive additional funds if a need arises. To accomplish such reprogramming requests, usually the National Directorate of Budget (DNO) has to reallocate funds among different ministries and agencies, with an eye to preserving macroeconomic stability and fiscal responsibility principles. Consequently, the REO compares the original budget allocations (LOE) with the current in-year budget allocations. REO is a snapshot that shows the situation at the time it is issued. It is worth noting that the REO could contain data that is at the time only partially processed by the electronic system e-SISTAFE, and thus could represent only partial budget execution. Also, some units are processed in e-SISTAFE before being incorporated into an expenditure item in the REO.

General State Accounts (CGE)

The CGE, also issued by MEF's DNCP, is the government's annual consolidated financial statement, compiled after the end of the fiscal year. This data report highlights budget implementation and financial management, containing collected revenue, paid expenses, and tables of budget execution, and these data are juxtaposed against the original budget allocations also recaptured in the CGE. The CGE, after being issued, is sent to parliament and the auditor-general. The parliament forwards these accounts to the auditor-general for external audit together with parliament's suggestions on areas requiring attention. The auditor-general submits its report on the CGE financial statements back to parliament, following which the CGE is presented to the parliament's plenary, where it usually is not discussed until March, i.e. about 15 months after the budget year, due to lack of capacity within parliament to analyse this report and the budget proposal for the upcoming year at the same time.

A quantitative elucidation of the relationship between LOE, REO, and CGE

We compile and analyse aggregated data from 2010 to 2013 in order to provide a quantitative elucidation of the relationship between the data across the three core reports, LOE, REO and CGE. This analysis discusses the differences among the reports, as well as factors that may explain those differences. It is important to keep in mind that differences in the numbers between the three documents exist because each report corresponds to a different stage along the budget cycle. The aggregated data for the years 2010 to 2013 with regard to the LOE, REO, and CGE are shown in the upper panel of **Table 1**. The LOE reports the approved predicted expenditure for each respective year (line [1]). The REO accounts for the quarterly executed budget as well as the budget reallocations. The budget reallocation constitutes the updated spending ceiling, or final budget allocation, within the period in reference (line [3]). The CGE accounts for all the budget reallocations and all the transactions, including those that within the budget year were registered neither on e-SISTAFE nor in the REO (line [6]).

Several factors explain the discrepancy between budgeted and actual values, which result in an aggregate execution rate reflecting under- or overspending, as seen in the last line of table's upper panel. In addition to the earlier discussed reallocations, deviations from the planned disbursement of funds by donors, shortfalls or unanticipated excess in government revenue collection, and availability of supplementary funds, among others, can result in an execution rate above or below 100%. The initial allocation is first reported in the LOE [1], and repeated in the REO [2] and CGE [5] data reports. The reallocated budgets [3] and [6] did not result in any changes in some of the years, specifically in 2010 and 2012. However, in 2011, the budget was revised upwards once, and in 2013 twice (the second time reflected in the CGE), mainly due to an increase in revenues driven by foreign aid and international loans, and because the CGE report accounted for the previous year's ending balance.

As is apparent from lines [5] to [7], the CGE contains all the relevant information of the whole budget cycle. However, that only applies to public expenditures in the aggregate. If there is interest in analysing data on a specific sector or ministry along the full budget cycle, CGE and REO do not provide such a comprehensive snapshot because they do not contain the initial budget allocations by sector, so it becomes necessary for the analyst to resort to all three reports. The bottom panel of **Table 1** presents data for spending on agriculture and fisheries[4] from 2010 to 2013 available in the three data reports.

Contrary to the relatively minor differences in public expenditure along the budget cycle in the aggregate, public expenditure on agriculture varies quite significantly among the three reports. In particular, pronounced upward as well as downward adjustments are made to the budget along the budget cycle, from initial budget, to revised budgets, to final realised expenditures. Especially notable is that the execution

[4] This aggregation considers the Mozambican administrative classification codes 35 and 37. For further details see the subsection on "Administrative classification" within Section 3.

Table 1: Comparison of expenditure data in the three reports (in millions of Mozambican meticais[a]).

Report Data included in the report	2010	2011	2012	2013
Total Expenditures				
LOE				
Budget [1]	117,977	132,403	163,035	174,955
REO[b]				
Initial budget allocation [2]	117,977	132,403	163,035	174,955
Current budget [3]	117,977	141,757	163,035	194,873
Realised expenditures [4]	107,710	131,248	139,838	180,988
CGE				
Initial budget allocation [5]	117,977	132,403	163,035	174,955
Final budget allocation [6]	117,977	141,757	163,035	196,372
Realised expenditures [7]	109,820	125,932	144,590	190,564
Execution rate [7]/[1]	*93.09%*	*95.11%*	*88.69%*	*108.92%*
Agriculture expenditures				
LOE				
Budget [8]	6,177	6,396	5,155	8,124
Agriculture (adm. code 35)	*4,694*	*3,781*	*4,057*	*6,832*
Fisheries (adm. code 37)	*1,483*	*2,615*	*1,098*	*1,292*
REO[b]				
Final budget allocation [9]	5,210	7,742	6,104	6,633
Budget execution [10]	4,045	4,013	3,817	4,938
CGE				
Final budget allocation [11]	5,703	5,666	5,420	6,331
Realised expenditures [12]	4,283	4,092	3,906	5,045
Execution rate [12]/[8]	*69.34%*	*63.98%*	*75.77%*	*62.10%*
Ag+Fisheries/Total [12]/[7]	*3.90%*	*3.25%*	*2.70%*	*2.65%*

Notes: [a] Unless otherwise indicated. [b] Cumulative data from the fourth quarter report.

rate of the original budget is strikingly low, ranging from about 62% to 76%, compared to the much higher execution rate of the aggregate budget. Indeed, the Public Expenditure and Financial Accountability (PEFA) evaluations have pointed out that the absence of clear and strict rules regarding budget reallocations has reduced the credibility of the institutional budgets (Lawson et al. 2016).

3. The Classification and Coding Systems for Budgets and Expenditures

A state budget should be classified and presented in a way that facilitates policy analysis and promotes accountability (World Bank 1998). A budget classification system is a public finance management tool designed to provide statistics that allow policymakers and analysts to study developments in the financial operations, financial position, and liquidity situation of the public sector in a consistent and systematic fashion (IMF 2014), as well as to determine the manner in which the budget is recorded, presented and reported. As such, the classification system has a direct impact on the transparency and coherence of the budget. **Table 2** summarises and briefly describes the expenditure and budget classification systems available in Mozambique's e-SISTAFE electronic system for public finance management.

However, many of these are not in active use. Expenditures are most commonly recorded against the administrative, economic, functional, and programmatic classifications (Jacobs, Hélis, and Boule 2009). We next describe these systems and their use in Mozambique, provide insight into how the budget and expenditure items are coded within these classifiers, and discuss the likely utility and clarity of these classifications for data-users in the country.

Table 2: Classifiers available on e-SISTAFE.

Classifier	Objectives/description
Functional	Organises public spending based on the purpose underlying the expenditures. The functional classification is based on the internationally developed Classification of the Functions of Government (COFOG), in use by the United Nations, the International Monetary Fund, and the Organisation for Economic Co-operation and Development (OECD), among other international organisations. This classifier categorises public spending into, for example, health, education, defence, etc.
Administrative	Identifies the government body or institution responsible for budget formulation and execution. Administrative classification organises public spending, for example, in spending undertaken by the ministry of agriculture, ministry of public works, the president's office, etc.
Economic	Allows identification of the economic nature or type of the expenditure. Like the functional classification, international standards have also been developed for the economic classification. The two broad categories are recurrent and capital spending, within recurrent spending are salaries, expenses on goods and services, subsidies to stakeholders, etc.
Programmatic	Expresses public expenditures in terms of the government's programmatic objectives, goals, and outcomes to be achieved. Components of expenditures by this classification often map directly into specific governmental policies. Examples are spending on: good governance, poverty reduction, combatting HIV/AIDS, etc.
Territorial	Allows registration of expenditure according to the territorial division of the country (central, provincial and district, and allocation to each jurisdiction at the provincial and district levels).
Priority sectors	Is used according to Mozambique's Government Five-Year Plan and its Poverty Reduction Strategy.
Currency	Used for coding of the currency used by donor and lenders of the state.
Budget unit	Identifies the state body or institution responsible for budget formulation and execution. This is very similar to, though not identical with, the administrative classification.
Budget coverage	Classifies according to the legal administration of the institution. Its main objective is to comprehensively incorporate all the central government and subnational institutions as well as state enterprises.
Sectoral	Is an extension of the programmatic classifier. It details the actions that are part of sectoral, provincial, or local plans.
Sectional	Is an extension of the sectoral classifier. It details the actions need to be implemented by a cost centre.
Management	Allows for individual accounts as defined by SISTAFE law: public institutions, autonomous institutions, municipalities, and state companies.
Financial status	Identifies the financial status according to its financial and administrative autonomy.

Note: e-SISTAFE = *Sistema Electrónico de Administração Financeira do Estado* (Mozambique's integrated financial management information system).

Administrative classification

The administrative classification links budget allocation and spending to a governmental organisation, such as a ministry, directorate, or other cost centre, thus allowing the data user to identify agencies' responsibilities in public expenditure management. In Mozambique, the codes for the administrative classification are detailed up to nine digits. However, most of the reports use only up to the six-digit code level. Under the two-digit code level, ministry of agriculture is coded as 35, while the ministry of fisheries is coded as 37. Appendix Table A.1 presents for an overview this classification system at the two-digit code level for the whole public sector, while **Table 3** provides the basic structure of this classification system up to the four-digit level (in terms of the coding system in operation through 2012) for the ministries of agriculture and fisheries. Each four digit code pertains to a distinct agency. For example, 3501 references the 'mother' ministry of agriculture, while 3503 pertains to the food security secretariat, 3505 the institute of irrigation, etc. These two are separate agencies, although subordinate to the mother ministry.

Until the 2012 LOE, the administrative classification up to the six-digit level linked the administrative classifier to the territorial classifiers (for an overview of the latter, see Appendix Table A.2). In other words, just adding the territorial two-digit suffix to any government agency leads to the six-digit administrative classifier. For example, the ministry of agriculture's Provincial Directorate of Agriculture in Nampula province

Table 3: Administrative classification of the Ministry of Agriculture and Ministry of Fisheries, up to the four-digit level of the 2012 coding system.

Description [1]	Coding structure		
	Until 2012 [2]	As of 2013 [3]	
Ministry of Agriculture	***35***	***35***	
Ministry of Agriculture	*3501*	*35A*	*00 0141*
Food and Nutritional Security Technical Secretariat	*3503*	*35A*	*00 1541*
National Institute of Irrigation	*3505*	*35A*	*00 5041*
Provincial Directorate of Agriculture	*3521(01–11)*	*35(B-L)*	*00(0141/2141)*[a]
Cotton Institute delegation	*3522*	*35(C-I)*	*00 1941*
Delegation of the National Cashew Institute	*3528*	*35(C-K)*	*00 2041*
Provincial Delegation of Agriculture Promotion	*3529*	*35(D-J)*	*00(1241/1341/1541)*
Mozambique Cotton Institute	*3581*	*35A*	*00 1641*
National Cashew Institute	*3582*	*35A*	*00 2141*
Agrarian Research Institute of Mozambique	*3586*	*35A*	*00 3641*
Agriculture Promotion Centre	*3590*	*35A*	*00 4341*
Training Institute on Land and Cartography Administration	*3591*	*35A*	*00 3341*
National Centre for Cartography and Remote Sensing	*3592*	*35A*	*00 4841*
Agricultural Development Fund	*3593*	*35A*	*00 4941*
Ministry of Fisheries	***37***	***37***	
Ministry of Fisheries	*3701*	*37A*	*00 0141*
National Board of Fisheries	*3702*	*37A*	*00 0641*
School of Fisheries	*3707*	*37A*	*00 0541*
Provincial Fisheries	*3721*	*37(B-K)*	*00 0141*
Delegations of National Aquaculture Development	*3726*	*37(B-G)*	*00 0341*
Fisheries Development Fund	*3781*	*37A*	*00 0841*
National Institute for Fisheries Research	*3782*	*37(A-K)*	*00(1241/0541)*
National Institute for Development of Small-Scale Fisheries	*3783*	*37(A-K)*	*00(0941/2041)*
National Institute of Fish Inspection	*3784*	*37(A-K)*	*00(1141/0441)*
National Institute of Aquaculture Development	*3786*	*37A*	*00 1041*

[a] Here, and analogously elsewhere in this table, '*35(B-L) 00(0141/2141)*' means that, depending on the province in question, the code may be 35B00 0141 or 35B00 0141 for the Niassa or the Cabo Delgado Provincial Ministry of Agriculture, respectively, etc. Furthermore, the code for the central or provincial mother ministry of agriculture changed, so that depending on the year, for example, Niassa's provincial mother ministry of agriculture was coded either as 35B00 0141 or 35B00 2141.

used to be coded as 352103, where 35 stands for the ministry of agriculture and its subordinate institutions, 21 for Provincial Directorates, and 03 for Nampula province. As of the year 2013, the administrative classification has changed, by replacing the territorial suffix with a letter after the ministry level (see **Table 3**, column [3]). Consequently, the 2013 code for the ministry of agriculture's Provincial Directorate of Agriculture in Nampula province is 35D 00 0141, where D represents Nampula province and 0141 represents the primary agency for agriculture (which would be the ministry at the central level, and the directorate at the provincial level).

It is apparent that the administrative coding of public expenditures, both before and after 2013, is able to identify the distinct agency and the government tier and jurisdiction where it operates. It does not, however, identify units within the agencies. For example, the mother ministry of agriculture is subdivided into directorates, such as the directorate for veterinary services, directorate for agricultural extension, etc. The administrative classification does not provide unique codes to these directorates. This is an important shortcoming, in light of the value of obtaining public expenditure information by the different activities the various directorates of a ministry undertake.

Table 4 shows the levels of public expenditures for agriculture based on the administrative classification, and using data from the three main reports. Columns [2] and [4] account for the budget reallocations in each report, while [3] and [5] account for the executed spending reported.

As discussed in Section 2, there is relatively weak control over agricultural budgeting, resulting in realised expenditures amounting to just slightly more than 60% of the initial budget allocation. This mean

Table 4: Public expenditures on agriculture in 2013, by administrative classification (in millions of Mozambican meticais[a]).

Administrative classifier[b]		LOE [1]	REO realloc. [2]	REO exec. [3]	CGE realloc. [4]	CGE realised [5]	Execution rate [5]/[1]
35	***Ministry of Agriculture***	***6,832***	***5,418***	***3,998***	***5,012***	***4,111***	***60.2%***
3501	*Ministry of Agriculture*	*1,516*	*1,710*	*1,343*	*1,508*	*1,371*	90.4%
3503	*Food and Nutritional Security Technical Secretariat*	*15*	*13*	*13*	*17*	*17*	113.3%
3505	*National Institute of Irrigation*	*33*	*0*	*0*	*38*	*29*	87.9%
3521	*Provincial Directorate of Agriculture*	*1,137*	*1,270*	*1,029*	*1,428*	*1,097*	96.5%
3522	*Cotton Institute Delegation*	*28*	*22*	*20*	*21*	*21*	75.0%
3528	*Delegation of the Cashew Institute*	*101*	*99*	*95*	*98*	*98*	97.0%
3529	*Provincial Delegation of Agriculture Promotion*	*29*	*28*	*27*	*27*	*27*	93.1%
3581	*Mozambique Cotton Institute*	*187*	*182*	*179*	*180*	*179*	95.7%
3582	*National Cashew Institute*	*161*	*126*	*71*	*200*	*71*	44.1%
3586	*Agrarian Research Institute of Mozambique*	*319*	*477*	*149*	*299*	*145*	45.5%
3590	*Agriculture Promotion Centre*	*261*	*264*	*133*	*159*	*134*	51.3%
3591	*Training Institute on Land and Cartography Administration*	*29*	*26*	*25*	*25*	*25*	86.2%
3592	*National Centre for Cartography and Remote Sensing*	*89*	*84*	*51*	*48*	*48*	53.9%
3593	*Agricultural Development Fund*	*2,929*	*1,118*	*862*	*961*	*848*	29.0%
37	***Ministry of Fisheries***	***1,292***	***1,215***	***940***	***1,318***	***934***	***72.3%***
3701	*Ministry of Fisheries*	*175*	*227*	*201*	*220*	*201*	114.9%
3702	*National Board of Fisheries*	*66*	*73*	*63*	*74*	*63*	95.5%
3707	*School of Fisheries*	*30*	*31*	*29*	*54*	*29*	96.7%
3721	*Provincial Fisheries*	*105*	*110*	*108*	*46*	*46*	43.8%
3726	*Delegations of National Aquaculture Development*	*19*	*56*	*21*	*45*	*10*	52.6%
3781	*Fisheries Development Fund*	*148*	*200*	*178*	*175*	*163*	110.1%
3782	*National Institute for Fisheries Research*	*120*	*137*	*103*	*132*	*107*	89.2%
3783	*National Institute for Development of Small-Scale Fisheries*	*463*	*174*	*111*	*365*	*187*	40.4%
3784	*National Institute of Fish Inspection*	*96*	*94*	*73*	*93*	*75*	78.1%
3786	*National Institute of Aquaculture Development*	*71*	*113*	*51*	*113*	*51*	71.8%
Agriculture + Fisheries		8,124	6,633	4,938	6,331	5,045	62.1%

Notes: [a] Unless otherwise indicated. [b] This table references the administrative coding system that was in place through 2012, although the coding system subsequently changed effective 2013 (for further details on this change, see Table 3). The previous coding structure is used here for easier subsequent comparison with the data in Table 10.

Table 5: Economic classification, up to the three-digit code level.

Code	Description	Code	Description
1	Current Expenditure	2	Capital Expenditure
11	Personnel costs	21	Capital goods
111	*Wages and salaries*	*211*	*Construction*
112	*Other staff costs*	*212*	*Machinery, equipment, and furniture*
12	Goods and services	*213*	*Means of transport*
121	*Goods*	*214*	*Other capital goods*
122	*Services*	22	Capital transfers
13	Debt burden	*221*	*Capital transfers to public administrations*
14	Current transfers	*222*	*Capital transfers private administrations*
141	*Current transfers to public administrations*	*223*	*Capital transfers to households*
142	*Current transfers to private administrations*	*224*	*Other capital transfers*
143	*Current transfers to households*	23	Financial operations
144	*Current transfers abroad*	*231*	*Active financial operations*
15	Subsidies	*232*	*Passive financial operations*
16	Years ended	24	Other expenses of capital
161	*Pay back*		
162	*Back payments of goods and services*		
163	*Pension retroactive*		
164	*Other payments for six-month periods ended*		
17	Other current expenditure		

aggregates a wide distribution of budget execution, with less than a third of the Agricultural Development Fund budget spent, the agricultural programme with the single largest size in the original budget, and on the other hand the mother ministry of fisheries spending 15% above the original allocation. The table shows that there are nontrivial differences in the budget figures along the budget cycle, not only between initial allocation and final expenditures, but also between the reallocated budgets in the REO versus CGE (columns [2] vs. [4]), and between realised/executed spending in the REO vs. CGE ([3] vs. [5]). Thus, analysts need to be well aware of how the figures in the columns represent different stages in the budget cycle—an issue ignored in a good deal of public expenditure analysis.

Economic classification

The economic classification of expenditures links the budget to economic categories, such as expenditures for goods and services or capital expenditures. The economic classifier of expenditures in Mozambique aims to identify the nature of the expenditure, according to the following five levels: The first level indicates the economic categories of current and capital expenditures (see **Table 5**, which presents the economic classification up to the three-digit code level). The second level indicates the aggregate group of expenditure, such as personnel costs (code 11 in **Table 5**) or goods and services (code 12). The third, fourth, and fifth levels indicate further economic breakdown of expenditure. For instance, the retirement expenditure category is coded as 143101, where the first level (code 1) is current expenditure, second is current transfers (code 14), third is current transfers to households (code 143), fourth is civil servants' pensions (code 1431), and finally the fifth level is retirement spending for civil servants, for a complete code of 143101. The formal economic classification system for Mozambique provides a breakdown to the level of a six-digit code (five levels).

It is important to highlight that the economic classification of expenditure, as shown in **Table 5**, is not to be confused with another categorisation widely used in Mozambique, which distinguishes between operational (*funcionamento* in Portuguese) and investment (*investimento*) expenditures. The 'investment' category should not be assumed to represent expenditures contributing to public capital formation, or capital

Table 6: Agriculture and fisheries public expenditure in 2013 by economic classification and operational/investment distinction (in millions of Mozambican meticais).

Operational/investment categorisation and economic classifier (categories)	LOE [6]	CGE realloc. [7]	CGE realised [8]	Execution rate [7]/[6]
Operational category (funcionamento)	***1,760***	***1,662***	***1,388***	***78.9%***
Staff expenses	1,004	957	914	91.0%
Good and services	671	615	422	62.9%
Current transfers	83	73	37	44.6%
Capital goods	2	2	1	50.0%
Others	0	15	14	n/a
Investment category (investimento)[a]	***6,364***	***4,669***	***3,657***	***57.5%***
Total	8,124	6,331	5,045	62.1%

expenditures.[5] This 'operational/investment' categorisation is a long-standing approach in Mozambique and is used in all the data reports (that is, the LOE, the REO, and the CGE). It was agreed on with the International Monetary Fund and the World Bank in order to differentiate in the state budget the expenditures funded by donors, at the time typically associated with the 'investment' category, from those financed domestically, associated with the 'operational' category. However, the definition of this categorisation has been diluted over time: the 'investment' category began to include domestic funding sources, given government counterpart funding in donor-supported projects.

Table 6 shows the agriculture and fisheries public expenditures in 2013 by economic classification as well as by operational/investment categorisation, comparing LOE and CGE reports. While the public finance data reports disaggregated 'operational' expenditures by economic classification, the same is not done for the (far larger in size) 'investment' category. The fact that, as the table shows, it is the investment category that contributes the most to a poor budget execution rate strengthens the argument that this category would need to be further disaggregated by economic classification, in order to gain meaningful insights into the reasons for the large degree of underspending, so that the DNO can exercise more effective monitoring and spending control.

Functional classification

The functional classification (Classification of the Functions of Government, or COFOG) has shown to be of relevance to a broad variety of analyses (IMF 2014). It classifies expenditures according to their socioeconomic purposes. In Mozambique, the internationally defined COFOG system was officially adopted in 2005, although the functional presentation of the budget is not formally approved by parliament and therefore is not legally binding.

The distinction between economic and functional classifications can be summarised as the difference between what expenditures are spent on versus what expenditures are for. The economic classification described above details the particular items on which resources are expended—that is, expenditures on salaries, goods and services, capital formation, and so on—while COFOG organises public expenditures in such a way as to provide information about the purposes toward which these expenditures are undertaken, that is, expenditures to provide agricultural services, health-care, road infrastructure, and so forth. The functional classification often is close, but rarely equivalent, to the administrative structure of government. This is because public expenditures in an agency, such as the President's office, may pertain to a sector such as agriculture. In principle, then, the functional classification would gather public expenditure data on agriculture (as one example of a function), irrespective of which agency is responsible for the budget item.

Appendix Table A.3 outlines the internationally established functional classification of public expenditures according to COFOG and includes subcategories below the first COFOG level only for functions related to agriculture expenditure: those that either constitute or encompass agriculture-related functions. There are 10 broad categories, which are at COFOG level 1. Several familiar functions, such as health (COFOG code 07) or education (COFOG code 09) are level 1 categories. Agriculture and related functions are collectively

[5] See Mogues et al. (2012: 49) for a detailed explanation of capital expenditures.

treated as a category at the second and lower levels. Specifically, agriculture is found below the level 1 category of 'economic affairs' (coded as 04). The main agriculture-related category (coded as 042) groups together crop and livestock agriculture, forestry, and fishing and hunting. Another level 2 subcategory under economic affairs is R&D, with code 048; under that, at level 3, is agricultural R&D (code 0482). For an easy overview of both the levels and the functions of the categories related to agriculture, level 1 categories are shaded in Appendix Table A.3, level 2 categories are unshaded, and level 3 categories are italicised. The last column of the table summarises the relation to agriculture functions.

Mozambique's organisation of expenditure data by functional classification is broadly consistent with the Government Finance Statistics Manual 2014 (IMF 2014), except for minor variations at the third and fourth levels of the classification. For example, this classification scheme includes agriculture-related function codes such as 04213 'Prices and Agricultural Productivity' or 04214 'Rural Extension.' The functional classification and coding used in Mozambique up to level 4 is shown in **Table 7**. In Mozambique, expenditure by functional categorisation down to level 2 (which identifies agriculture) is reported in the REOs and CGEs, but not in the LOE. **Table 7** summarises the functional classification of realised agricultural expenditures obtained from the CGEs for the years 2010 to 2013. A review of this table shows that roughly 60 percent of the total agricultural expenditure is aggregated in an 'Other' type of category, namely 'Agriculture, Forestry, Fishing, and Hunting NEC', where NEC stands for 'not elsewhere classified' (code 04291). This means that the existing *de facto* functional breakdown does not provide the meaningful insights it was intended to have.

Programmatic classification

The programmatic classification organises expenditures according to programmes that are designed to meet particular government policy objectives. A programmatic classification is intended to be supportive of the priority setting of the budget by being based on outputs (OECD 2007). Mozambique's programmatic classification of strategic planning has the following hierarchical structure: (i) at the highest stage in this classification hierarchy is the Central Objective for the Government Five-Year Plan (*Objetivo Central do Programa Quinquenal do Governo*, or OCPQG), (ii) next below that are Strategic Areas (Áreas *Estratégicas,* or AE), then (iii) Strategic sub-areas (*Subárea Estratégico*, or SAE), (iv) Programmes of Government (*Programas de Governo*, or PG), (v) Subprogrammes of Government (*Subprogramas de Governo*, or SPG), (vi) and finally at the bottom of the hierarchy, Budget Actions.

Table 7: Agricultural public expenditures (CGE realised expenditure), by functional classification level 4 (in millions of Mozambican meticais).

Code	Description	2010	2011	2012	2013
04211	Land management[a]	0			
04212	Agrarian reform	5	24	45	13
04213	Prices and agricultural productivity	3	4		
04214	Rural extension	63	158	107	405
04215	Veterinary	89	96	66	61
04216	Pest control	40	25		52
04219	Other services NEC	297	275	226	166
04221	Forestry			11	
04231	Fishing	603	470	546	614
04232	Hunting[a]	0			
04241	Livestock	38	18	6	6
04251	Irrigation	260	301	223	398
04291	Agriculture, forestry, fishing, and hunting NEC	2,105	2,017	1,894	2,972
042	Agriculture, forestry, fishing, and hunting	3,502	3,386	3,124	4,687

Notes: NEC = not elsewhere classified. [a] Zero in 2010 in Land Management and Hunting are positive values rounded. The actual numbers are 0.072 MMT and 0.215 MMT respectively.

The Central Objective for the Government Five-Year Plan (OCPQG) classifier aims to show the organisation of the strategic macro objectives of the government, which are defined in the PQG. This classifier captures six objectives in three-letter codes (BGD, CPD, DEC, DHS, RCI, and RDS) the descriptions of which are shown in **Table 8**. If a programme does not fit into one of these six defined OCPQG objectives, additional codes are used for such programmes. The Strategic Area (AE) classifier organises categories under each OCPQG objective, each Strategic Area (AE) is further broken down into Strategic Sub-Areas (SAE), and so forth (**Table 8** shows codes and descriptions only up to the AE level).

A programmatic classification is rather complex to define, and even more so to apply. Because of this, this classification is not applied with as high a degree of comprehensiveness as the concept of functions of government could in principle be applied (the *de facto* application of the functional categories and its shortcomings has been discussed above). When a functional classification is applied properly, all of the activities of government are categorised inside one function or another, in a mutually exclusive and exhaustive fashion. The programmatic classifiers, on the other hand, refer only to certain types of public expenditure that are of particular interest to government strategy, and thus do not exhaustively capture all public expenditure related to a specific function.

According to the actually applied programmatic classification in Mozambique, in 2013, the only clearly traceable strategic area (AE) linked to the agricultural sector is that of 'Agriculture, Livestock, Forestry, and Wildlife,' with allocations to both central and provincial levels for a total of 5,436 million meticais, as shown in **Table 9** (see code DEC-AGR). Expenditure data classified using these programmatic classification codes as shown in **Table 9** are only available in the LOE. Expenditure information in the REO and CGE documents do not use this programmatic classification system anywhere, making it impossible to trace actual expenditures by these programmatic codes, or to determine budget execution rates based on these codes.

Priority-sector classification

While the programmatic classifier is not present in the REO and CGE, a similar-in-spirit classifier is reported in the REO and CGE documents. This is an organisation of expenditures that are considered 'priority sectors' according to poverty reduction strategies of the government. The priority sectors according to which expenditures are reported in, for example, the CGE 2013 are: Education; Health; Infrastructure; Millennium Challenge Account; Agricultural and Rural Development; Governance, Security and Judicial System; and Other Priority Sectors. In this case, the priority programmes do not have designated codes, but only titles (e.g. Education, etc. as denoted above). Then, under each such title/sector are organised public expenditures by administrative classification, with the corresponding administrative codes.

For example, the agriculture and rural development priority-sector expenditure is meant to correspond to the sum of spending related to the agricultural sector and rural development undertaken within all institutions, not only in the ministries of agriculture and fisheries. **Table 10** presents the expenditures with their corresponding administrative codes that are considered to fall under the 'agriculture and rural development' priority-sector.

Within the administrative classifiers categorised under the Office of the President, there is spending by government through local development funds by the district administrations), in which agriculture related spending may be significant (see **Table 10**). At the district level, institutions are not represented using the traditional administrative classifiers found at central or provincial levels. Instead, at this local level the key agencies are referred to as 'services', and one service may cater to more than one sector. For example, agricultural activities are undertaken both under District Services for Economic Activities (SDAE) as well as under District Services for Planning and Infrastructure (SDPI). Both services also undertake non-agricultural activities. This, of course, can make it difficult to know how much goes just for agriculture at the district level, given that district expenditure data are reported primarily at the level of the services.

The priority-sector classification system, as it is used in Mozambique, is fairly nonformal in its nature. Despite changes in the accounting rules over the past few years, this classification system still does not provide a reliable instrument to comprehensibly aggregate agricultural expenditure. For example, since 2012, agricultural expenditure by priority sector classification has shown a greater than three-fold increase (see **Table 10**). Indeed, district administrations (code 0122), through the district development fund, made an extreme jump to more than 139-fold from 2011 to 2012. Both the increase of agricultural spending from one year to the next by over 250%, driven by the increase of one component by about 13,000%, raises serious questions about whether this is a genuine increase in spending of given categories, or a reclassification to boost the reported aggregate agricultural spending figures.

Table 8: Programmatic classification categories.

OCPQG Code	AE Code	AE Description
OCPQG Objective BGD: *Good Governance, Decentralisation, Combatting Corruption and Promotion of a Culture of Accountability*		
BGD	AAE	Administration of State Apparatus
BGD	DAL	Decentralisation and Development of Local Government
BGD	ICS	Information and Media
BGD	OST	Order, Public Safety and Tranquillity
BGD	RSJ	Reform of the Justice Sector
BGD	RSP	Public Sector Reform
OCPQG Objective CPD: *Consolidation of National Unity, Peace, and Democracy*		
CPD	DMC	Democracy
CPD	DMG	Demining
CPD	UNI	National Unity
OCPQG Objective DEC: *Combatting Poverty and Promoting the Culture of Work: Economic Development*		
DEC	AGR	Agriculture, Fishery, Forestry and Livestock
DEC	AMB	Environment
DEC	COM	Trade
DEC	DIE	Development of Infrastructure
DEC	DRU	Rural Development
DEC	GMD	Macroeconomic Management and Financial Systems Development
DEC	IND	Industry
DEC	PAI	Promotion and Attraction of Investment
DEC	PES	Fishery
DEC	RCM	Mineral Resources
DEC	THE	Work, Health and Safety and Employment
DEC	TRC	Transport and Communications
DEC	TUR	Tourism
OCPQG Objective DHS: *Combatting Poverty and Promoting the Culture of Work: Human and Social Development*		
DHS	AGS	Water and Sanitation
DHS	CTI	Science, Technology and Innovation
DHS	CUL	Culture
DHS	DPT	Sports
DHS	EDU	Education
DHS	HAB	Housing
DHS	HIV	HIV and AIDS
DHS	JUV	Youth
DHS	LDD	National Liberation and Defence of Sovereignty and Democracy and the War-Disabled—Demobilisation
DHS	MAS	Women, Family, and Social Action
DHS	SAU	Health
OCPQG Objective RCI: *Reinforcing International Co-operation*		
RCI	REX	External Relations
OCPQG Objective RDS: *Strengthening Sovereignty*		
RDS	DSN	Defence of National Sovereignty

Table 9: LOE 2013 Agricultural budget, by programmatic classification (in million Mozambican Meticais).

Level	Code	Description	2010	2011	2012	2013
OCPQG Objective	**DEC**[a]	**Combating poverty and promoting the culture of work – economic development**	**38,580**	**50,371**	**69,305**	**61,427**
Strategic Area (AE)	**DEC-AGR**	**Agriculture, livestock, forestry and wildlife**	**3,163**	**2,731**	**3,019**	**5,436**
Strategic Sub-area (SAE)	***DEC-AGR-00***	***Agriculture, livestock, forestry and wildlife***	***2,207***	***2,731***	***3,019***	***5,436***
	DEC-AGR-00-AGR01	*Administrative institutional support*		68	353	299
	DEC-AGR-00-AGR02	*Agricultural production and productivity*	199	2,396		121
	DEC-AGR-00-AGR03	*Management of natural resources*	2,008			
	DEC-AGR-00-AGR04	*Production oriented market*		245	3	12
	DEC-AGR-00-AGR06	*Use and utilisation of land*		22	270	
	DEC-AGR-00-AGR11	*Agricultural production*			1,424	4,266
	DEC-AGR-00-AGR12	*Agricultural productivity*			90	172
	DEC-AGR-00-AGR13	*Natural resource management*			879	565
	DEC-AGR-01	***Food security***	***956***			
	DEC-AGR-01-AGR02	*Agricultural productivity*	929			
	DEC-AGR-01-AGR03	*Natural resource management*	27			
	DEC-DRU-00	***Rural development***		***3,028***	***2,786***	***1,998***
Total	DEC-AGR + DEC-DRU-00	Agriculture, livestock, forestry and wildlife + rural development	3,163	5,759	5,805	7,434

Note: [a] The total expenditure at the DEC level contains more than the AE level expenditures shown here. The other AE level expenditures of DEC are not shown here for economy of space, since they do not relate to agriculture.

Promises and pitfalls of using public expenditure data along Mozambique's classification systems

Mozambique's public financial management system has improved substantially since the 1990s, with the introduction of e-SISTAFE. One of the outcomes of reform efforts is the abundant availability of highly detailed public finance data to any Mozambican analyst, through free online access of data reports over multiple years. But the existence of so many classifiers reduces the public expenditure data reports' usability. First, there are a number of classifiers within Mozambique's accounting system that are not in fact actively used in the official reports (see **Table 2**). Second, even some of those classifiers on the basis of which official reports present spending data are only very partially applied—for example, only for budgets but not realised expenditures (or vice versa), or only to a subsection of the overall budget. Consequently, in order to precisely define the expenditure of the ministry of agriculture and its agencies by administrative and economic classification, one must reconstruct public expenditures across hundreds of report pages. This renders the task of quantifying agricultural public expenditures unwieldy for analysts who are not technical staff in MEF or MPD, or otherwise do not have the capacity and time to dedicate to developing a very intimate acquaintance with the detailed methods in the LOE, REO and CGE reports.

In particular, the functional classification of government expenditures would be of significant interest to a wide range of policy analysts. However, Mozambique agricultural expenditure organised along COFOG lines provides a breakdown of agricultural spending for less than half of what it considers to fall under this function. This may not be a barrier to those analysts who are solely interested in deriving the totality of

Table 10: Agricultural and rural development realized expenditure (CGE), by priority-sector and administrative classification (in millions of Mozambican meticais).

Broad priority-sector categories and administrative classification		2010	2011	2012	2013[b]
Agriculture		**3,719**	**3,980**	**10,358**	**13,354**
01	**Office of the President**	**14**	**39**	**5,446**	**6,923**
0122	*District Administrations*	*14*	*39*	*5,446*	*6,923*
03	**Office of the Prime Minister**	**100**	**34**		
0311	*Development Agency of the Zambeze valley*	*100*	*34*		
26	**Ministry of Planning and Development**[c]	**225**	**558**	**1,101**	**1,446**
2601	*Ministry of Planning and Development*	*225*	*220*	*191*	*267*
2607	*National Institute of Statistics*			*268*	
2609	*Millennium Challenge Account Program*		*338*	*462*	*548*
2628	*Special Economic Zones*			*18*	
2681	*Development Agency of the Zambeze valley*			*65*	*558*
2683	*Centre for Investment Promotion*			*47*	
2685	*Office for Accelerated Development Economic Areas*			*48*	
2687	*Fund for Economic Rehabilitation*			*1*	*72*
35	**Ministry of Agriculture**	**3,380**	**3,349**	**2,998**	**4,024**
3501	*Ministry of Agriculture*	*1,186*	*1,185*	*1,218*	*1,364*
3503	*Food and Nutritional Security Technical Secretariat*		*7*	*7*	*17*
3521	*Provincial Directorate of Agriculture*	*1,316*	*1,003*	*817*	*1,032*
3522	*Cotton Institute Delegation*	*1*	*8*	*14*	*21*
3528	*Delegation of the Institute for Promotion of Cashew Nuts*	*29*	*37*	*52*	*98*
3529	*Provincial Delegation of Agriculture Promotion*			*23*	*27*
3581	*Mozambique Cotton Institute*	*48*	*62*	*91*	*179*
3582	*Institute of promotion of cashew nuts, INCAJU*	*194*	*291*	*115*	*71*
3586	*Agrarian Research Institute of Mozambique*	*306*	*265*	*177*	*149*
3590	*Agriculture Promotion Centre*	*196*	*245*	*110*	*134*
3591	*Training Institute on land and cartography adm.*	*16*	*21*	*20*	*25*
3592	*National Centre for Cartography and Remote Sensing*	*25*	*36*	*25*	*51*
3593	*Agricultural Development Fund (FDA)*	*63*	*190*	*327*	*854*
37	**Ministry of Fisheries**			**813**	**961**
3701	*Ministry of Fisheries*			*241*	*201*
3702	*National Board of Fisheries*			*45*	*63*
3707	*School of Fisheries*			*19*	*29*
3721	*Provincial Fisheries*			*69*	*108*
3726	*Delegations of the National Aquaculture Development*			*8*	*21*
3781	*Fisheries Development Fund*			*151*	*163*
3782	*National Institute for Fisheries Research*			*78*	*107*
3783	*National Institute for Development of Small Scale Fisheries*			*121*	*142*
3784	*National Institute of Fish Inspection*			*44*	*75*
3786	*National Institute of Aquaculture Development*			*37*	*51*
Rural Development				**198**	**194**
25	**Ministry of State Administration**			**81**	**79**
2501	*Ministry of State Administration*			*77*	*68*
2509	*National Institute of Disaster Management*			*4*	*8*
2521	*Provincial Directorate of Support and Control*				*4*
41	**Ministry of Industry and Trade**			**118**	**115**
4101	*Ministry of Industry and Trade*			*110*	*109*
4121	*Provincial Directorate of Industry and Trade*[a]				*0*
4185	*Institute for Promotion of small and medium enterprises*			*7*	*5*
Total Agricultural and Rural Development		3,719	3,980	10,557	13,548

Notes: [a] Zero in 2013 Provincial Directorate of Industry and Trade stands for a rounding issue. The actual number is 0.30 MMT. [b] The 2013 data was matched to the administrative coding system that was in place through 2012, although the coding system subsequently changed effective 2013 (for further details on this change, see Table 3). This is done for easier comparison of the data across years in this table. [c] This also includes rural development expenditure.

agricultural spending. However, even for them it is not possible to verify what type of agricultural activities over 60% of these expenditures support. As a result, it is not optimal for use in an aggregation process for policy or analytical purposes.

There is greater disaggregation in the organisation of government public accounts along administrative lines, with expenditures grouped by the ministries and agencies undertaking the expenditures. Also, the administrative classification is applied fully along the budget cycle, from the initial budget allocation to realised expenditures in audited financial statements. Perhaps the most significant shortcoming of this classification in Mozambique's data reports is that the breakdown stops at whole agencies, and does not continue to major units or divisions within agencies. To see why this may be a problem, the National Directorate for Promotion of Rural Development (DNDPR), which is part of the Ministry of State Administration, should be accounted for in agriculture, given its large focus on providing agricultural extension to farmers. However, since it is a directorate within a different ministry that does not otherwise focus on agriculture, there is no administrative classification that identifies DNDPR's activities. So, adding a budgetary allocation code at the sub-agency level would allow one to clearly identify functionally differentiated actions within an agency, as well as to explicitly define transparent rules to aggregate expenditure. Consequently, strengthening the administrative classifier by further disaggregating it to directorates within agencies seems a reasonably simple and plausible way to enhance the quality and usability of the public expenditure data.

The economic classification, in use across all of Mozambique's major public expenditure data reports, is helpful for gaining insights on how expenditures on functions or sectors break down by salaries, capital equipment, operational expenditures such as goods and services, etc. However, the active use in Mozambique of the 'operational/investment' classifier (*funcionamento* and *investimento* in Portuguese), in parallel to the more conventional economic classifier, functions as a source of high potential confusion for analysts, given that it seems close to the recurrent/capital distinction of the economic classification, but this is not so. If the operational/investment categorisation is to be retained, it should be reconceived as a category that can be directly mapped into the existing economic classification, to avoid the potential confusion. Furthermore, when examining the data underlying the operational and investment categories, the latter is currently the largest source of underspending in agriculture, which clearly impacts midterm planning. The proper mapping of the operational and investment categories into the economic classification may allow MEF and the legislative body to increase their control over budget execution by increasing clarity about the concrete sources of low budget execution, and thus reduce budget underspending.

In the absence of administrative coding of directorates within ministries, as discussed above, one source for identifying these additional agricultural expenditures is the so-called priority sectors classifier, which was detailed in **Table 10**, and includes, for example, spending by government through local development funds, where agriculture-related spending may be significant. However, caution is warranted in the process of extracting agricultural expenditure data undertaken by other ministries in this way, since doing so relies on the assumption that the government has properly identified such public expenditures as being properly associated with agriculture. Both the trends observed in **Table 10**, such as the more than 130-fold increase in the expenditures of district administrations claimed to be associated with agriculture from one year to the next, as well as the possibility that policy dialogue and external mandates to spend more on agriculture could create incentives to assign more budget items to the sector, are examples of why care is needed in relying on the priority-sector categorisation in correctly identifying agricultural public expenditures.

Figure 1 gathers and compares figures on total realised expenditures on agriculture obtained from CGE reports, calculated based on the functional, administrative, and priority-sector classification systems—as well as agricultural expenditure figures obtained from two major cross-country public expenditure databases, namely the International Monetary Fund's Government Finance Statistics, and the International Food Policy Research Institute's SPEED database (Statistics on Public Expenditures for Economic Development) (IFPRI 2015). The latter two sources did not have data available for the last two years, 2012 and 2013, at the time of this research. Overall, we see that the figures vary across the different classification systems used, in some cases wildly so. For example, while the lowest figures in 2010 and 2011 were 82% and 83%, respectively, of the highest figures—reflecting a nontrivial variation, in 2012 and 2013 the analogue shares were more dramatic, 30% and 35% respectively. The outsized estimates derive from the priority-sector classification, which jumped drastically from its two previous years. A more in-depth examination beyond the scope of this analysis would be warranted to determine whether this was a real increase on agricultural spending at the local government level, or a reclassification of previously existing spending that used to not be considered as agriculture, possibly in response to the imperative from the Africa-wide CAADP (Comprehensive Africa Agriculture Development Programme) process to spend more on agriculture.

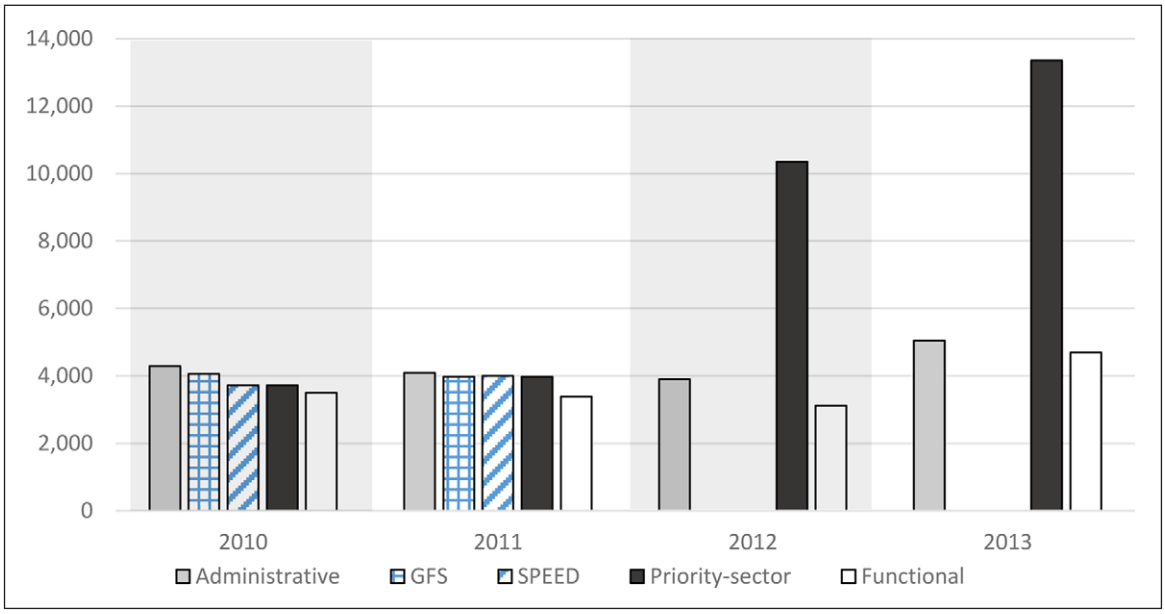

Figure 1: Comparison of agricultural public expenditures across different data sources, 2010–2013 (in millions of Mozambican meticais).

Notes: GFS = Government Finance Statistics; SPEED = Statistics on Public Expenditures for Economic Development.

It should be expected that the agriculture COFOG includes expenditures from agencies besides the ministries of agriculture and of fisheries. This is because expenditures on a particular function are often undertaken by government agencies that have a partial mandate for the particular function. Agriculture is a good example of the dispersion of functional spending across various agencies. For instance, the Ministry of Water Resources invests in irrigation for crop production, and the Ministry of Education funds agricultural training. Consequently, COFOG's agricultural expenditure should be larger than the expenditure of the ministries of agriculture and fisheries combined. However, contrary to expectation, the functional-classification based figures are lower than the administrative-classification based figures. In fact, the figures based on the functional classification are the lowest across all measures.

4. Discussion

Public expenditures can serve as a prime instrument in Africa to spur development and economic growth, especially for the continent's vast rural population. Ever since the African Union adopted a guidance in 2003 for African countries to spend at least 10% of their budgets on agriculture, the lens of African researchers, policy makers, and civil society has been focused on the data needed to measure and quantify agricultural public expenditures across countries. However, there have been persistent inconsistencies in reports on the amount that is spent on agriculture across Africa and to some extent other developing countries.

These academic and policy concerns motivate this paper, which empirically examines an African case study—Mozambique, a low-resourced economy even by the continent's standards—to determine what primary data are in fact available to quantify the volume and make-up of government fund allocation in the agricultural sector. Our examination of detailed primary data on Mozambique's public expenditures sheds broader light on measures that could be taken across African countries, so that researchers can at least partially overcome the twin challenges of inconsistency and lack of clarity about already available and reported agricultural spending figures.

We find that there is a surprising degree of openly available and highly detailed data on government budgets, budget executions, and final realised expenditures in Mozambique. Thus, like in some other African countries (e.g. Kenya and Malawi), but unlike in others, physical inaccessibility is not always the primary constraint that data users face. However, data users will have to carefully navigate multiple indicators of public resources that vary along the budget cycle, from initial budget allocation to realised expenditures. Such navigation will naturally require a solid understanding of the country's budgetary processes. Furthermore, for any stage in the budget process, public expenditures are disaggregated in multiple different ways—along administrative, economic, functional, programmatic, and priority-sector related classification systems. In our analysis, using each of these to re-aggregate up agricultural public funds results in different figures. In

some cases these figures differ by a nontrivial but still manageable amount (at least for those analysts who are interested in ballparks rather than precise figures). In other cases, however, these different methods of re-aggregations produce wildly different results. These mainly emanate from the priority-sector classification, in which one budget item classified as being part of agriculture spending increased more than 130-fold, at the time when Mozambique joined the African Union initiative mandating that 10% of total expenditures go to agriculture.

In the environment of low income and low administrative capacity that characterises the public sector of many African countries, including Mozambique, these systems must guard against the use of too many classification systems in use. With data on public spending broken down in fine detail for each classification, it is not surprising that deficiencies in the consistency and organisation of any one classification leaves much to be desired. For example, the effort and time spent by ministries of finance and other officials in African nations disaggregating public expenditures along programmatic and priority-sector classifications—which in our empirical analysis are already fairly incomplete, available only for one or two stages in the budget cycle, not particularly transparent, and thus of little use—could be saved by dropping these two classifications from public expenditure classification systems, even though they tend to be popular with donor agencies and thus often requested by them. If instead this time were dedicated to refining those classification systems of most direct value to ministries of finance and line ministries—such as the administrative classification—by assigning budget codes not only to whole agencies but to directorates within agencies, such data could be highly useful for more credibly identifying public expenditures on agriculture, and for that matter on other functions and sectors. This will also free up capacity to to strengthen the currently weakly implemented, but analytically and conceptually important, functional classification system.

Generally, with the remarkable detail on public funds data available to the public in Mozambique and selected other African countries, despite some of the data's drawbacks and the demands on ability to use them, it behoves higher-capacity domestic researchers to undertake the effort to use the existing detailed primary data to re-aggregate sectoral spending, rather than to solely rely on secondary figures, especially given the 'black box' nature of much of such readily available statistics.

Additional Files

The additional files for this article can be found as follows:

- **Table A.1.** Administrative classification at the Two-digit code level. DOI: https://doi.org/10.5334/dsj-2018-009.s1
- **Table A.2.** Territorial classification at the Two-digit code level. DOI: https://doi.org/10.5334/dsj-2018-009.s1
- **Table A.3.** Classification of the Functions of Government (COFOG), with details on agriculture. DOI: https://doi.org/10.5334/dsj-2018-009.s1

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Competing Interests

The authors have no competing interests to declare.

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