



MAFAP SPAANA

Monitoring African Food and Agricultural Policies
Suivi des politiques agricoles et alimentaires en Afrique

**MAFAP METHODOLOGICAL IMPLEMENTATION GUIDES:
VOLUME II. ANALYSIS OF PUBLIC EXPENDITURE
ON FOOD AND AGRICULTURE**

JULY 2013



**Food and Agriculture Organization
of the United Nations**

Suggested citation:

Ghins, L., Ilicic-Komorowska, J., Mas Aparisi, A (2013). MAFAP Methodological Implementing Guides: Volume II. Analysis of public expenditure on food and agriculture. MAFAP Technical Notes Series, FAO, Rome, Italy.

© FAO 2013

FAO encourages the use, reproduction and dissemination of material in this information product. Except where otherwise indicated, material may be copied, downloaded and printed for private study, research and teaching purposes, or for use in non-commercial products or services, provided that appropriate acknowledgement of FAO as the source and copyright holder is given and that FAO's endorsement of users' views, products or services is not implied in any way.

All requests for translation and adaptation rights, and for resale and other commercial use rights should be made via www.fao.org/contact-us/licence-request or addressed to copyright@fao.org.

Information products are available on the FAO website (www.fao.org/publications) and can be purchased through publications-sales@fao.org.

This technical note is a product of the Monitoring African Food and Agricultural Policies project (MAFAP). It is a technical document intended primarily for the use of practitioners interested in implementing the MAFAP methodology for analysing public expenditure on food and agriculture.

This note has been drafted by Alban Mas Aparisi (FAO) and Léopold Ghins (FAO), and builds on previous work by Joanna Ilicic-Komorowska (OECD). It has received valuable input from Joanna Ilicic-Komorowska (OECD), Amos Kienou (DGPER, Burkina Faso), Nancy Laibuni (KIPPR, Kenya) and Sibiri Yameogo (DGPER, Burkina Faso). It has also benefited from the discussions with country partners on Public Expenditure Methodology in the MAFAP lessons learned workshop held in Addis-Ababa in June 2013. Specific examples have been taken from multiple MAFAP technical notes and databases on public expenditure analysis. All these are available on the MAFAP website.

MAFAP is implemented by the Food and Agriculture Organization of the United Nations (FAO) in collaboration with the Organisation for Economic Co-operation and Development (OECD) and national partners in participating countries. It is financially supported by the Bill and Melinda Gates Foundation, the United States Agency for International Development (USAID) and FAO.

The analysis presented in this document is the result of the partnerships established in the context of the MAFAP project with governments of participating countries and a variety of national institutions.

For more information: www.fao.org/mafap

TABLE OF CONTENTS

Part I. INTRODUCTION.....	7
1.1 Objective of MAFAP Public Expenditure Analysis.....	7
1.2 Scope.....	8
1.3 MAFAP and other public expenditure work	8
Part II. THEORETICAL BACKGROUND.....	11
2.1 What expenditure measures to consider	11
2.2 MAFAP classification	11
2.3 Estimating budgetary transfers.....	14
Complete coverage of institutions, administrative levels and financing instruments	14
Budget planning versus actual spending	15
Treatment of policy administration costs.....	16
Treatment of one-off investments versus recurrent expenditures	17
2.4 Estimating support based on revenue foregone	17
2.5. Aid and public expenditure	18
Mapping aid onto national expenditures	18
Types of external aid	19
2.6 Main indicators for MAFAP Public Expenditure Analysis.....	19
Part III. PRACTICAL GUIDELINES	21
3.1 Data needed for the analysis	21
Quantitative data.....	21
Qualitative data	22
3.2 Data collection	23
Quantitative data: expenditure	23
Qualitative data: project and programme description.....	24
3.3 Attributing MAFAP categories	24
3.4 Inputting and arranging data in Excel	28
First Excel sheet: description of measures	29
Second Excel sheet: classification of measures.....	32
Third Excel sheet: general indicators.....	33
3.5 Analysing the data.....	34
Analysis of the level of public spending directed towards the agricultural sector	34

- Analysis of composition of public spending directed towards the agricultural sector 36
- Agriculture-specific versus agriculture-supportive..... 36
- Categories of agriculture-specific and agriculture-supportive spending 36
- Analysis of the allocation of public spending across commodities 37
- Single commodities, groups of commodities and all commodities..... 38
- Structure of spending on single and groups of commodities..... 39
- Analysis of the role of aid 40
- 3.6 Writing the Public Expenditure Analysis Technical Note 40
- REFERENCES 41
- ANNEXES..... 43
- Annex 1 – MAFAP, World Bank and ReSAKSS public expenditure analysis comparison 44
- Annex 2 – Examples and reminders for all MAFAP categories 46
- Annex 3 – Public expenditure classification – proposed modified version 49
- Annex 4 – Linking in Excel 51

List of Acronyms

CAADP	Comprehensive Africa Agriculture Development Programme
COFOG	Classification of the Functions of Government
DGPER	Rural Economics Division
FAO	Food and Agriculture Organization of the United Nations
IFPRI	International Food Policy Research Institute
MAFAP	Monitoring African Food and Agricultural Policies
NGO	Non-Governmental Organization
OECD	Organisation for Economic Co-operation and Development
PER	Public Expenditure Review
PPMED	Policy, Planning, Monitoring and Evaluation Department
ReSAKSS	Regional Strategic Analysis and Knowledge Support System
USAID	United States Agency for International Development
VAT	Value Added Tax

List of Figures

Figure 1 – Schematic view of MAFAP public expenditure categories	14
Figure 2 – Inputting a program into the MAFAP public expenditure template	31
Figure 3 – Filter in the “Description of Measures” sheet of the MAFAP template.....	33
Figure 4 – Share of total public expenditure allocated to food and agriculture in Burkina Faso: planned and actual spending, 2006-2010	35
Figure 5 – Composition of public expenditure for food and agriculture in Tanzania, 2006/07-2010/11	36
Figure 6 – Composition of public expenditure for food and agriculture in Tanzania: agriculture-specific spending, average 2006/07-2010/11	37
Figure 7 – Agriculture-specific spending in support of commodities in Burkina Faso, millions of FCFA, 2006-2010	38
Figure 8 – Support for individual and groups of commodities within agriculture-specific spending in Kenya, average 2006-2010	39

List of Boxes

Box 1 – MAFAP classification of public expenditures in support of the food and agricultural sector..	12
Box 2 – Examples of coverage of institutions, administrative levels and financing instruments	15
Box 3 – Examples of actual versus budgeted expenditures	16
Box 4 – Examples of treatment of administration costs	17
Box 5 – Examples of aggregated and disaggregated data.....	22
Box 6 – Example of qualitative data	22
Box 7 – Example of quantitative data: Ghana	24
Box 8 – Examples of basic principles of classification	26
Box 9 – Example: difficult cases of classification.....	27

Part I. INTRODUCTION

The objective of this paper is to provide a clear explanation and guidance on the methodology and process used to produce the MAFAP Public Expenditure Analysis. The paper is therefore designed to be a comprehensive guide for the analyst that begins to work on a MAFAP Public Expenditure Analysis, from understanding the methodology behind the analysis to writing the technical note.

The guide follows a step-by-step structure. First, the objective and scope of the analysis and the theoretical background of the MAFAP Public Expenditure Analysis are presented (Part 1), followed by the theoretical background (Part 2). Lastly, guidance is provided to the analyst on each step required to produce the final output (Part 3): data needs and collection (sections 3.1 and 3.2), classification (3.3), input into the database (3.4), and analysis and write-up (3.5 and 3.6).

In order to use this guide effectively and produce the best public expenditure analysis, it is recommended the analyst does not skip any of those steps.

1.1 Objective of MAFAP Public Expenditure Analysis¹

African governments often lack organized information that would enable them to analyse systematically the performance of expenditures affecting the food and agricultural sectors. They recognize the need to develop such information on a regular basis in order to make rational, evidence-based policy choices, and that the development of appropriate indicators is an important prerequisite for policy analysis and efficient budgetary processes.

The need to fill these information gaps is particularly important given increasing recognition of the role that the agricultural sector has to play in raising incomes, reducing poverty and improving food security (reflected in the World Bank's 2008 World Development Report), and the range of policy commitments that have flowed from that change in policy thinking. In particular, the African Union's 2003 Comprehensive Africa Agriculture Development Programme (CAADP) framework sets a target of 6% for agricultural growth, while under the 2003 Maputo Declaration its members are committed to allocate at least 10% of public expenditure to agricultural and rural development. As aid and national resources allocated to agriculture increase, it is important to put in place systems for monitoring the effectiveness of different types of expenditure.

The composition of public expenditures in support of agriculture is just as, if not more, important than the total level. There may be trade-offs between spending in different categories (e.g. spending on rural infrastructure versus subsidies for seed and fertilizer) and there may be complementarities (e.g. between spending on extension services and the development of infrastructure that would enable farmers to get their output to market).

The indicators of public expenditures proposed here seek to keep track of both the level and composition of expenditures in support of food and agricultural sector development, and to establish a link between aid allocations and national expenditures. This should make it easier to assess whether resources are being allocated to priority areas, whether they address investment needs, and

¹ Most of Part 1 is extracted from Ilicic-Komorowska, J., 2011.

whether they are consistent with government policy objectives. Overall, they should also reveal whether aid allocations are coherent with national priorities.

1.2 Scope

The methodology proposes to capture all public expenditures in support of food and agricultural sector development over the last seven years, ideally going back to 2006. That includes expenditures from the national budget undertaken by either a central or regional government, regardless of the ministry or agency that implements the policy, and external aid provided either through local governments or specific projects conducted by an international organization.

The analysis focuses primarily on the food and agricultural sector, however, for some countries forestry and/or fisheries may constitute important parts of rural activity and can also be included within the scope of the project.

In addition, the analysis seeks to capture all public expenditures in rural areas, as they may also play an important role in agricultural sector development, even if they are not specific to the sector. The information on public expenditures in rural areas will also help to establish a view of a country's general policy environment and whether there may be a pro- or anti-rural bias in expenditures on such important areas as infrastructure, health and education.

It is important to note that the CAADP requires African countries to report their expenditures according to the United Nations Classification of the Functions of Government (COFOG). The COFOG broadly distinguishes between agriculture, fisheries and forestry. The classification proposed here is compatible with the COFOG in the sense that it also distinguishes between agriculture, fisheries and forestry. MAFAP categories not only allow calculation of COFOG-defined agriculture expenditures, but also further decomposition within those totals.²

1.3 MAFAP and other public expenditure work

The MAFAP Public Expenditure Analysis is complementary to other public expenditure works, particularly the Public Expenditure Reviews (PERs) of the World Bank and the public expenditure analysis of the Regional Strategic Analysis and Knowledge Support System (ReSAKSS). The MAFAP Secretariat is collaborating with the World Bank PER team, and the International Food Policy Research Institute (IFPRI), which facilitates the ReSAKSS public expenditure analysis, is part of the MAFAP Steering Committee.

The main areas covered by the PERs and the ReSAKSS public expenditure analyses are summarized in Annex 1. MAFAP's main contributions to public expenditure monitoring and analysis are as follows:

- MAFAP has established a monitoring system for public expenditure, by creating partnerships and building capacity within national Ministries of Agriculture or research institutes.

² Interestingly, the Maputo declaration calls for investments in agriculture that are defined more broadly than what the COFOG includes, while it is usually the latter that is used to monitor progress towards Maputo targets. A broader classification could help overcome this inconsistency, as it could provide information on agriculture spending according to the COFOG, but also on more broadly understood agricultural-supportive spending.

- The MAFAP monitoring system is exactly the same, based on the same classification and methodology in all MAFAP countries and is thus consistent throughout Africa. The classification builds on the principles for classifying agricultural policies used in the Organisation for Economic Co-operation and Development (OECD) Producer Support Estimate methodology, but also remains compatible with the COFOG.
- The MAFAP classification allows for a disaggregated analysis of public expenditure that considers how measures are implemented, rather than the objectives stated in the accounting system. This allows analysts to distinguish the various economic characteristics of expenditure measures, and to analyse the incentives they provide to agricultural sector development.
- The MAFAP methodology also allows for the analysis of expenditures according to the commodity (or groups of commodities) they intend to support.
- The indicators of public expenditure can be integrated into the calculation of MAFAP price incentive indicators, in order to assess the level of support for producers (see Volume 1 of the methodological guidelines) and the overall coherence of agricultural policies in the country.

Part II. THEORETICAL BACKGROUND³

2.1 What expenditure measures to consider

The MAFAP analysis captures all expenditure measures that generate explicit or implicit monetary transfers in support of food and agricultural sector development. Monetary transfers towards food and agriculture are thus systematically considered whether they support the agricultural sector directly (e.g. input subsidies), collectively (e.g. research) or indirectly (e.g. rural health).

By contrast, general expenditure measures that target the entire economy are not considered, even if they generate monetary transfers to agricultural sector.

Also, expenditure measures are classified according to the way in which they are implemented and **not on the basis of their objectives or economic impacts.**

This last point is extremely important and is at the core of the MAFAP classification of public expenditure.

2.2 MAFAP classification

In order to capture all public expenditures in support of the food and agricultural sector, MAFAP has established the following distinctions:

- i. A broad distinction between expenditures that are agriculture-specific (direct support for the agricultural sector), agriculture-supportive (indirect support for the agricultural sector) and non-agricultural.
- ii. Within the agriculture-specific category, a distinction between support for producers and other agents in the value chain (e.g. input subsidies), and general or collective support for the sector (e.g. research). The agents in the value chain include farmers (producers), input suppliers, processors, consumers, traders and transporters.

Agriculture-specific expenditures generate monetary transfers to agricultural agents or the sector as a whole. Those agents (or the sector as a whole) must be the only, or the principal recipient of the transfers generated by the expenditure measure⁴. Agriculture-supportive measures are not strictly specific to agricultural sector, but have a strong influence on agricultural sector development, such as investment in rural development. All the measures that meet these criteria are considered in the analysis, regardless their nature, objectives or perceived economic impacts.

The detailed classification of support follows the OECD's principle of classifying policies according to their economic characteristics (i.e. the way they are implemented), which provides the basis for further policy analysis (OECD, 2008). The categories of the MAFAP methodology, however, are designed to reflect the types of policies applied in African countries. Those categories, proposed in Box 1, have been elaborated based on the experiences of various agencies, including FAO (e.g. FAO, 2006), that have worked on public expenditures in developing countries (for a comprehensive overview, see MAFAP, 2010c). Furthermore, drawing on the OECD's experience, the proposed

³ Most of Part 2 is extracted from Ilicic-Komorowska, J., 2011.

⁴ Whether they are the principal recipient will be based on qualitative assessment

classification seeks, as much as possible, to distinguish between policies providing private goods and those providing public goods, given their different economic effects.

For examples of policy measure classification and for more detailed guidance, consultation of Annex 2 – Examples and reminders for all MAFAP categories

Some categories of the classification may be amended and revised for the second phase of MAFAP. Indeed lessons learned from implementing the methodology in the first phase led to discussions on improvements of the classification. A suggested new classification can be found in Annex 3.

Box 1 – MAFAP classification of public expenditures in support of the food and agricultural sector⁵

1. Agriculture-specific policies – monetary transfers that are specific to the agricultural sector, i.e. agriculture is the only, or principal, beneficiary of a given expenditure measure

1.1 Payments to agents in the agro-food sector – monetary transfers to **individual** agents of the agro-food sector

1.1.1 Payments to producers – monetary transfers to individual agricultural producers (farmers)

A. Production subsidies based on outputs – monetary transfers to agricultural producers that are based on current output of a specific agricultural commodity

B. Input subsidies – monetary transfers to agricultural producers that are based on on-farm use of inputs:

B1 - Variable inputs (seeds, fertiliser, energy, credit, other) – monetary transfers reducing the on-farm cost of a specific variable input or a mix of variable inputs

B2 - Capital (machinery and equipment, on-farm irrigation, other basic on-farm infrastructure) – monetary transfers reducing the on-farm investment cost of farm buildings, equipment, plantations, irrigation, drainage and soil improvements

B3 - On-farm services (pest and disease control/veterinary services, on-farm training, technical assistance, extension etc., other) – monetary transfers reducing the cost of technical assistance and training provided to individual farmers

C. Income support – monetary transfers to agricultural producers based on their level of income

D. Non-classified – monetary transfers to agricultural producers individually for which there is insufficient information to allocate them into above listed categories

1.1.2 Payments to consumers – monetary transfers to final consumers of agricultural commodities individually in the form of:

E. Food aid – monetary transfers to final consumers to reduce the cost of food

F. Cash transfers – monetary transfers to final consumers to increase their food consumption expenditure

G. School meal programmes – monetary transfers to final consumers to provide free or reduced-cost food in schools

H. Non-classified – monetary transfers to final consumers individually for which there is insufficient information to allocate them into above listed categories

1.1.3 Payments to input suppliers – monetary transfers to agricultural input suppliers individually

1.1.4 Payments to processors – monetary transfers to agricultural commodities processors individually

1.1.5 Payments to traders – monetary transfers to agricultural traders individually

⁵ The “non-classified” categories were formerly labeled as “other”. It was considered that this label was misleading, as it gives the impression that it encompasses “other categories”, and therefore it has been replaced.

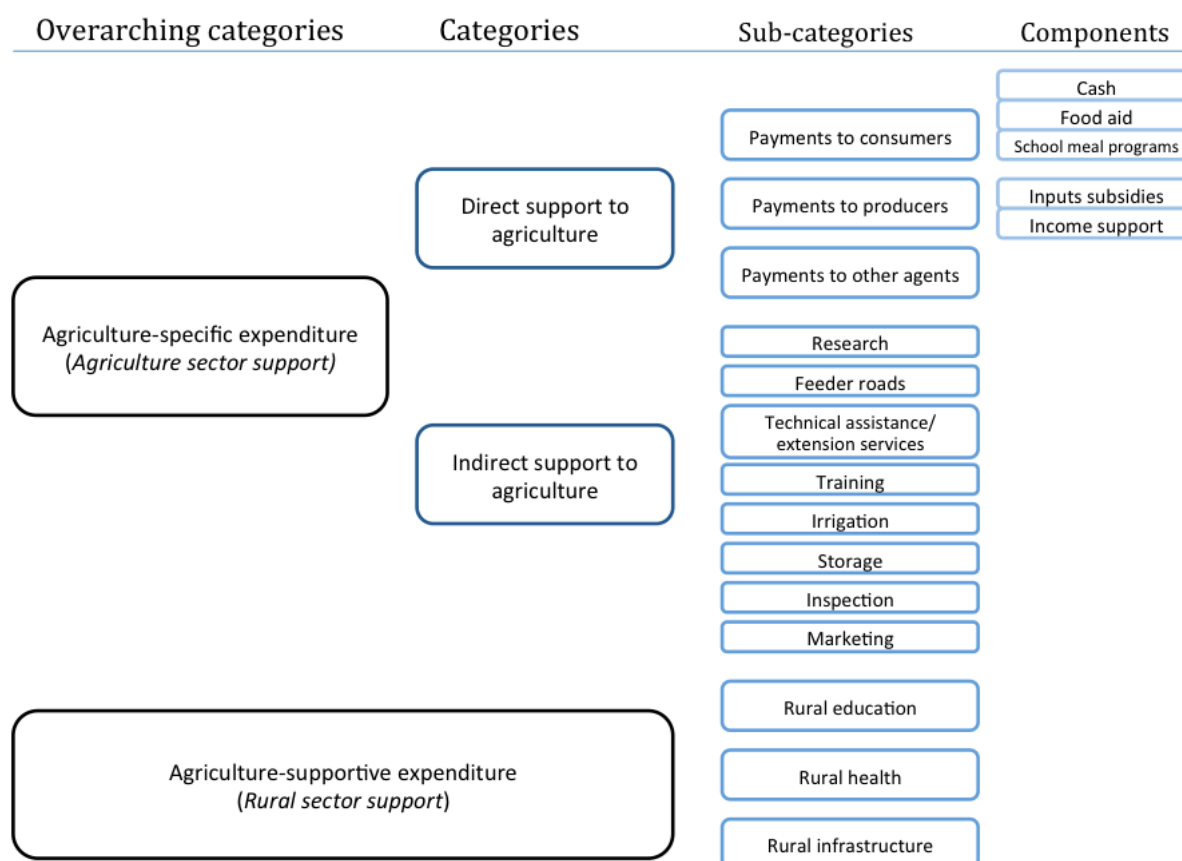
<p>1.1.6 Payments to transporters – monetary transfers to agricultural commodities transporters individually</p> <p>1.2 General sector support – public expenditures generating monetary transfers to agents of the agro-food sector collectively</p> <p>I. Agricultural research – public expenditures financing research activities improving agricultural production</p> <p>J. Technical assistance – public expenditures financing technical assistance for agricultural sector agents collectively</p> <p>K. Training – public expenditures financing agricultural training</p> <p>L. Extension/technology transfer – public expenditures financing provision of extension services</p> <p>M. Inspection (veterinary/plant) – public expenditures financing control of quality and safety of food, agricultural inputs and the environment</p> <p>N. Infrastructure (roads, non-farm irrigation infrastructure, other) – public expenditures financing off-farm collective infrastructure</p> <p>O. Storage/public stockholding – public expenditures financing public storage of agro-food products</p> <p>P. Marketing – public expenditures financing assistance in marketing of agro-food products</p> <p>R. Non-classified – other transfers to the agro-food agents collectively for which there is insufficient information to allocate them into above listed categories</p> <p>1.3 Non-classified – public expenditures generating monetary transfers to the agro-food sector, for which there is insufficient information to allocate them into above listed categories</p> <p>2 Agriculture-supportive policies – public expenditures that are not specific to agriculture, but which have a strong influence on agricultural sector development</p> <p>S. Rural education – public expenditures on education in rural areas</p> <p>T. Rural health – public expenditures on health services in rural areas</p> <p>U. Rural infrastructure (rural roads, rural water, rural energy and other) – public expenditures on rural infrastructure</p> <p>V. Non-classified – other public expenditures on rural areas benefiting agricultural sector development for which there is insufficient information to allocate them into above listed categories</p>
--

The above classification encompasses all support for agriculture. While direct support for producers – input subsidies, equipment, cash, etc. – and other agents is captured in category 1.1, collective support - research, technical assistance, agricultural infrastructure, etc. - is captured in category 1.2. Both categories are under the overarching category 1, which relates to policies in direct support of the food and agricultural sector.

Policies that benefit the agricultural sector indirectly are taken into account in the overarching category 2. Rural health, rural education and rural infrastructure (energy, rural roads, etc.) fall under category 2.

The hierarchy of categories may seem difficult to determine when looking at Box 1. Another schematic way to look at it is presented below in Figure 1.

Figure 1 – Schematic view of MAFAP public expenditure categories



Source: Authors

Transfers in support of food and agricultural sector development may be provided in two forms: actual budgetary transfers, such as production subsidies, and the revenue foregone by governments, such as tax concessions. Both types of transfers should be included in the calculations, however, it has proven highly difficult to quantify and classify revenue foregone in the first phase of MAFAP. This does not mean that revenue foregone should be left out of the calculations, but rather that it will require additional efforts to estimate it in countries where it has not previously been classified.

2.3 Estimating budgetary transfers

Complete coverage of institutions, administrative levels and financing instruments

It is important to identify all budgetary expenditures in support of the food and agricultural sector, regardless of the source of financing (national versus external aid). All financing through public institutions should be covered, as implementation and funding of some measures occurs outside the agricultural ministries. This means that the analyst should not only look for expenditures in the Ministry of Agriculture and Finance but also in other Ministries (Education, Health, etc.). Furthermore, funding at all administrative levels should be considered as many relevant policies may be financed at various levels of government (central, state, district, regional). Finally, all public finance instruments should be covered, regardless of whether they come from the regular budget or are financed with extra-budgetary funds that do not constitute part of the regular national budget but are used for implementation of specific programmes.

Box 2 – Examples of coverage of institutions, administrative levels and financing instruments

- Example 1: School meal programmes (agriculture-specific expenditure)

Most agriculture-specific expenditure will be part of the Ministry of Agriculture budget. However, this may not always be the case. For instance, school meal programmes (category G) will often be financed through the budget of the Ministry of Education or Health rather than the Ministry of Agriculture. In some countries, such as Mali, the Ministry of Finance tracks policy measures related to agriculture even when they are not financed by the Ministry of Agriculture. In such cases, school meal programmes can be identified easily. However, not all countries have the same financial system. It is important to ensure all expenditures related to agriculture are covered, even those financed outside of the Ministry of Agriculture.

- Example 2: Rural infrastructure (agriculture-supportive expenditure)

Oftentimes, agriculture-supportive expenditure (rural development) will not be in the Ministry of Agriculture budget. This can be the case for rural energy (Ministry of Energy), rural education (Ministry of Education), rural health (Ministry of Health) and rural roads (Ministry of Transport). The analyst should be aware of this when collecting data (see section 3.2 below).

- Example 3: Rice Initiative in Mali

Some expenditures may not be included in the national regular budget. This is the case for special governmental programmes, such as the Rice Initiative in Mali. That initiative, although it represents an important share of national expenditure, is financed through a special fund that does not appear in the Ministry of Finance's books for agricultural expenditure. The analyst should be aware of such programmes and include them in their calculations.

- Example 4: District level funding in Uganda

In most African countries, decentralization is an ongoing process. As such, certain projects and programmes will be implemented not by the central government but by other authorities such as a district, a circle, a region, etc. For example, in Uganda, the National Agricultural Advisory Services (NAADS) are partly funded and implemented by local governments. The budgeted and actual expenditures at the district level for the NAADS were thus identified and counted in the analysis. Ideally, the analyst should ensure that all decentralized public expenditures are taken into account.

Budget planning versus actual spending

Actual spending should always be the first data to be sought during data collection, and budget allocation data should always be the last (but has to be collected). When estimations are done on an annual basis, the amounts effectively disbursed may not be available for the most recent years. In this case, budget allocations will be used as a proxy and will be updated the following year to reflect actual spending. Experience from previous MAFAP public expenditure work has shown that is easier

to obtain the latest actual expenditure in West African countries than in East African countries. However, even in East Africa, actual expenditure was collected for two countries out of three⁶.

Expenditure should also be classified according to source: either donor or national. This allows for comparison of budget allocations and actual spending by source to establish the efficiency of public expenditures and the importance of aid (see section 2.5 for details).

Box 3 – Examples of actual versus budgeted expenditures

- Example 1: Burkina Faso

In Burkina Faso, the state budget accounts report both budgeted and actual expenditures for all projects and programmes, updated with a one-year lag. In collaboration with the Ministry of Finance, it was thus possible to obtain actual expenditure data.

- Example 2: Kenya

In Kenya, actual expenditure is updated with a two-year lag, and is difficult and sensitive to obtain. Also, some expenditure is reported as “actual” in the budget books despite not being actual disbursements in the MAFAP sense, i.e. money actually spent. This misleading label has proven time-consuming for the team currently collecting the “real” actual expenditure. The analyst should always double check whether expenditure data is actual, and identify correctly sources for actual expenditure (see section 3.2 below).

Treatment of policy administration costs

Administration costs include costs of formulation, implementation and evaluation of agricultural policies and generally should not be included in the calculations of support for the agro-food sector. This is because they are not policy transfers as such. However, when support is provided via services (e.g. extension, training, research or inspection), expenses associated with delivery of the services (e.g. salaries of extension advisors, salaries of inspection officers or researchers) should be included in the calculations.

The data on administration costs not included in the public expenditure calculations will be collected separately. This will make it possible to establish the share of administration costs in overall government spending and contribute to analysis of the efficiency of public expenditures. The analyst can refer to Annex 2 for further explanation.

⁶ In Kenya, collection of actual expenditure data has proven especially difficult but remains possible.

Box 4 – Examples of treatment of administration costs

- Example 1: Irrigation project concept phase

For many projects, such as an irrigation project, detailed activities include a concept phase, which consists of project design. The cost of the concept phase is 100% composed of wages to the persons in charge of designing the project. However, these should not be counted as administrative costs. Indeed, the designing of the project is a service that allows for implementation of the irrigation activity. It should thus be counted as irrigation (N or B2).

- Example 2: Researchers' wages

Usually, a large share of a research project's funds will be allocated to researchers' wage. Such wages will often be reported under the administrative costs section of the project's budget or description. However, the MAFAP analysis will consider the wages as research, since they allow for implementation of the research activity.

Treatment of one-off investments versus recurrent expenditures

Both investments and recurrent expenditures should be recorded on an annual basis using actual spending information. If the actual expenditure data are not available then budget allocations will need to be used instead, and the overall budget for a given investment will need to be allocated over time according to the investment implementation plan. Conceptually, it is similar to the commitments versus disbursements issue and should be handled in the same way.

It is important to note, however, that one-off investments have different economic impacts than recurrent expenditures. Although investment funds may be disbursed over a relatively short time period, the benefits may be enjoyed over several consecutive years. In the public expenditure classification we are seeking to record actual year-to-year spending to analyse the government's efforts to enhance sector development. However, when analysing the profitability of investments, those investments will need to be allocated over time. Standard methods, such as net present value (NPV) may be employed to evaluate investments at hand.

It has been difficult to assess investments versus recurrent expenditures in the first phase of MAFAP, especially in West African countries. However, phase II will put more emphasis on this aspect of the methodology.

2.4 Estimating support based on revenue foregone

Support may be provided in forms that do not imply actual transfers from the government's budget, but at the cost of the revenue foregone either by the government or other economic agents. Given that such support creates implicit transfers to producers (or other agricultural sector agents) they should also be estimated and included in the classification of public expenditures.

The measurement of transfers based on revenue foregone is largely an empirical task, involving assumptions and judgement about the appropriate reference against which to measure the transfer. Therefore, a good understanding is needed of both the implementation mechanisms underlying such policies and the broader economic context.

As stated above, experience has shown that estimating revenue foregone is a very difficult task. Although it has not been possible to assess revenue foregone in phase I, we intend to add it to the public expenditure analysis in phase II. Calculation of revenue foregone will be carried out after the calculation of the policy transfers has been validated.

There may be several types of support based on revenue foregone, such as tax concessions, preferential lending (from banks to agricultural sector agents) or administered input prices (e.g. a state owned enterprise that charges lower prices for inputs to agricultural producers). In the African context, tax concessions will be the most common type of support that generates revenue foregone transfers to agricultural agents. Tax concessions may apply to income, Value Added Tax on purchased inputs, on fuel taxes, etc. These items should be included in estimated support if they address the agricultural sector specifically or if the agricultural sector is their main beneficiary, based on a qualitative assessment.

Tax concessions are understood as a provision of fiscal advantage to a group of individuals (here agricultural agents) or to a particular activity (here agricultural sector activities) by reducing tax liability and may take the following forms:

- Exemptions: amounts excluded from the tax base
- Allowances: amounts deducted from the benchmark to arrive at the tax base
- Credits: amounts deducted from tax liability
- Rate relief: a reduced rate of tax applied to a class of taxpayers or taxable transactions
- Tax deferral: a relief that takes the form of a delay in paying tax

Each of these measures provides economic incentives to agricultural agents in a manner similar to a programme involving budgetary expenditure.

The support associated with tax concessions can be measured by establishing a counterfactual (i.e. a group of individuals or an activity that does not benefit from this preferential taxation) and quantifying the monetary value of the reduction in tax liability by comparing the value of tax revenues from the counterfactual and the tax concession target group. A complete and reliable quantification of tax concession can be a complex empirical exercise requiring significant amount of resources and information. Therefore, only those that unambiguously provide benefits to agricultural sector and can be estimated within a reasonable time frame and with adequate accuracy should be captured.

2.5. Aid and public expenditure

Mapping aid onto national expenditures

The MAFAP Public Expenditure Analysis aims to cover all public expenditure directed towards agriculture, whether it is financed by the government or donors.

MAFAP phase I has shown that donor contribution to public expenditure can be traced directly from the Ministry of Finance, Ministry of Agriculture and implementing Ministries in charge of projects/programmes directly or indirectly related to food and agriculture. Donor disbursements will indeed be clearly separated from national disbursements for all projects and programmes in the budget books.

It may be the case, however, that certain donors do not go through the State financial system when implementing a project or programme in the country. For instance, the analyst may discover that a project reported by the Ministry of Agriculture's unit in charge of cooperation with donors does not appear in any budget book. In that case, it will be difficult to capture this expenditure. The only way to do so will be by directly contacting donors through the relevant Government focal point to obtain budget statements.

Non-Governmental Organizations' (NGOs) contributions to food and agriculture cannot be counted in MAFAP Public Expenditure Analysis, except in rare exceptions. Indeed, NGOs very often receive funds from private sources, which is beyond the scope of the MAFAP analysis, as it focuses on public expenditure. For those NGOs that are 100% financed by public funds, their contribution can be added to the analysis, provided their actual expenditure directed towards food and agriculture is clearly identified.

Types of external aid

Donors provide aid via both grants and loans. It is important to distinguish between these two types of aid, as loans may have important impacts on the economy via the accumulation of debt and debt servicing requirements. Moreover, short-term loans for current expenditures have significantly different economic effects than longer-term loans for investment projects. It may be difficult to obtain this information, but MAFAP phase I has revealed that in some countries the difference between loans and grants has been recorded, typically in national budget books but sometimes in other sources. In such cases, this distinction should be clearly made in the database and analysis.

2.6 Main indicators for MAFAP Public Expenditure Analysis

The MAFAP Public Expenditure Analysis allows the analyst to compute a variety of detailed indicators, resulting in a robust analysis of public expenditure in a given country. The main indicators that will be generated are as follows:

- **Level**

The MAFAP analysis will indicate the level of global public expenditure going to the food and agricultural sector, both in terms of allocated and actual expenditure, and in absolute and relative value. It will also clarify the share of policy transfers and administrative costs, recurrent and capital expenditure, donor and government contribution, loans and grants, and actual and budgeted expenditure. All expenditure related to the food and agricultural sector will be considered, including fisheries, forestry and rural expenditure (health, education, infrastructure, energy).

- **Composition**

MAFAP goes beyond the aggregated level and gives a wealth of details on the composition of expenditure. This represents **the core** of the MAFAP Public Expenditure Analysis. While most public expenditure studies focus on the level (i.e. meeting the Maputo target) and allocation in terms of accountability standards (such as COFOG), the MAFAP Public Expenditure Analysis generates highly disaggregated results that can inform policy-makers and development practitioners on the structure of budgetary support for food and agriculture.

As stated in section 2.2, the OECD-derived MAFAP analysis looks at the economic characteristics of policy measures i.e. the way they are implemented. This disaggregation by category (see Box 1) is unique and innovative in Africa. MAFAP will therefore provide absolute and relative values on the composition of public expenditure to agriculture by project and programme, and by activities actually implemented within these projects and programmes.

Another interesting result of the MAFAP analysis in terms of composition is the disaggregation of public expenditure by commodities and by groups of commodities supported.

Combining the disaggregated results for commodity and activity support will allow for the computation of a wealth of additional information, such as the share of one or several projects in the total expenditure on the food and agricultural sector, or the share of one or several projects in the total expenditure on one commodity.

As an example, the analyst will be able to determine the share of input subsidies in the total budget for food and agriculture, the share of input subsidies that goes to a specific commodity, and the share of certain projects/programmes in the total input subsidy expenditure.

- **Share of aid**

MAFAP will also provide information on the share of aid in each project and programme, category of activity and supported commodity.

Quantitative indicators will be combined with qualitative data on the budgetary process and on the objectives and activities of projects and programmes to produce a public expenditure technical note

Part III. PRACTICAL GUIDELINES

3.1 Data needed for the analysis

The MAFAP Public Expenditure Analysis requires highly disaggregated quantitative data, together with detailed qualitative data on public expenditure measures. The methodology seeks to capture all public expenditures that are undertaken in support of food and agricultural sector development over the most recent years, ideally going from 2006 to the most recent year for which there is data. Data on food and agriculture, forestry and fisheries should be considered.

Quantitative data

Two types of quantitative data are needed: aggregated, mainly for level analysis, and disaggregated, mainly for composition analysis. Examples are provided in Box 5 below.

At the aggregated level, the data needed is:

- Overall national public expenditure, actual and budgeted, in order to calculate the share of the budget going to agriculture.

At the disaggregated level, the data needed is:

- Expenditure from the national budget, via either the central or regional government, regardless of the ministry that implements the policy.
- Disaggregated data by policy measure (project, programme, or initiative).
 - For all measures, expenditure that is budgeted and actually spent, for the last seven years at least, ideally since 2006.
 - For all measures, expenditure from donors and government.
 - For all measures, details on the level of government implementing the measure (e.g. sub national, regional, or district level).

Expenditures to be considered are:

- Expenditures to individual agricultural agents (e.g. input subsidies), or to the sector as a whole (e.g. agricultural research). This type of expenditure is referred to as **agriculture-specific expenditure**. Agricultural agents, or the sector as a whole, must be the only, or the principal recipient of the transfers generated by expenditure measures in this category.
- Expenditures in support of rural development, such as rural infrastructure, rural education and rural health, as these also have an important role in indirectly supporting agricultural sector development. These expenditures are referred to as **agriculture-supportive expenditures**.

All the measures that comply with these criteria are considered, regardless of their nature, objectives or perceived economic impacts.

Furthermore, general public expenditure measures available throughout the entire economy are not considered, even if they generate monetary transfers to the agricultural sector. **Private expenditure is not considered.**

Box 5 – Examples of aggregated and disaggregated data

- Example 1: Aggregated expenditure in Tanzania

In Tanzania, the MAFAP team collected data on the overall State budget from the Ministry of Finance. The total budget reached 8881.3 billion of Tanzanian Shillings in 2009/10. The team then collected food and agricultural expenditure data from over 170 projects/programmes and various Ministries (Agriculture, Education, Lands, etc.). The total expenditure identified for food and agriculture was of 1198.9 billion Tanzania shillings in 2009/10, of which 789.3 billion were actually spent. This represents a 77 percent actual expenditure ratio, with a 9.3 percent share of the total budget actually going to food and agriculture in 2009/10. For each policy measures, the share of donor contribution was also determined, and amounted to 40 percent during the 2008/09-2010/11 period.

- Example 2: Disaggregated expenditure in Burkina Faso

In Burkina Faso, the team was able to determine, for each year of the 2006-2010 period, the share of food and agricultural expenditure that was sectoral (agriculture-specific) and the share that occurred via rural expenditure that supported agriculture indirectly (agriculture-supportive). The share of agriculture-specific expenditure was 55 percent in 2010, versus 39 percent in 2007. Within agriculture-specific expenditure, the share of payments to producers (mainly capital) was 38 percent during the 2006-2010 period, and the share spent in support of cotton specifically was 13 percent. Within agriculture-supportive expenditure, the share of rural education was 36 percent.

Qualitative data

Two types of qualitative data will be needed to produce the MAFAP Public Expenditure Analysis.

The first data set needed is a clear description of the budgetary process in the country: institutional architecture, if possible with a diagram, together with a detailed explanation of the functioning of the budget. This will prove essential to understanding the policy context and identifying the data holding institutions. While the former will be useful for the analysis, the latter will speed up and render more effective the data collection process. In addition, the description of the budgetary process serves as an introduction to the public expenditure analysis *per se*.

Box 6 – Example of qualitative data

- Example: Repertory of agriculture projects and programmes of Mali

In Mali, all data on projects and programmes was collected from a repertory that is produced on an annual basis by the Planning and Rural Statistics Unit of the Ministry of Agriculture. This repertory presents all the projects and programmes for agricultural development in the country, with the implementing agency, objectives and most importantly the planned activities, which are at the core of the MAFAP classification. Such a repertory should be looked for, and if it does not exist, the analyst should identify literature on projects and programmes in the country.

The second qualitative data requirement is a thorough description of all food and agriculture measures that will be considered in the analysis: objectives, activities, status of implementation of activities, commodities targeted and level of government implementing the project. Each measure, whether it is a project, a program or a governmental initiative, should be well documented to facilitate MAFAP classification. Qualitative data is therefore compulsory for the MAFAP analysis.

In brief

- MAFAP requires aggregated and disaggregated quantitative data on public expenditure, together with qualitative data on the budgetary process and clear descriptions of all policy measures implemented.
- MAFAP aggregated data entails actual and budgeted estimates for the total government budget, total amount spent on agriculture, administrative costs and policy transfers, recurrent and capital expenditures, donor and government contributions, loans and grants - all actual and budgeted.
- MAFAP disaggregated data includes all expenditure measures implemented in support of food and agriculture in the country. There are two main categories of measures: agriculture-specific, i.e. individual or general support for the sector, and agriculture-supportive, i.e. indirect support through rural development.

3.2 Data collection

MAFAP establishes a monitoring system for food and agricultural policies, including public expenditure. The data collection process should thus be carried out by establishing sustainable partnerships between the Ministry of Agriculture and/or the research institute where the MAFAP team is located, and data depositories. The main data holder will be the Ministry of Finance, but line ministries including the Ministry of Agriculture may also hold valuable data, especially with regards to the qualitative data. In most cases, data collection will not be easy, and will represent one of the longest and hardest parts of the analysis. The analyst should be ready to work intensively to obtain satisfactory data, as this will prove highly rewarding when carrying out the analysis.

Quantitative data: expenditure

As stated above, the main data holder will be the Ministry of Finance. It is important to devote time and efforts to building a lasting partnership with the Ministry, as this will facilitate the collection of easily updatable data. FAO can provide assistance through letters of recommendation and data collection missions. Furthermore, collaboration with the International Monetary Fund (IMF) during the data collection phase is envisaged in pilot MAFAP countries. To obtain the required data, it may be useful to organize a discussion with technical partners in the Ministry of Finance in order to explain the objective and scope of MAFAP. A solid understanding of the budgetary process will help ensure efficient data collection, especially for **disaggregated data on projects and programmes**.

Line ministries are also important for additional data, especially on rural health, rural education and rural infrastructure (Ministries of Health, Education, Transport, Prime Minister's office, Public Works, etc.) and of course Ministries of Agriculture will need to be considered in the data collection process.

Collection of electronic data is preferable; nevertheless data will often be provided as hard copies. In such cases, the data will need to be manually inputted into the MAFAP Excel template. The analyst should refer to section 3.4 for instructions on correctly inputting MAFAP data. However, before moving on to this step, one will need to classify the data (section 3.3).

Box 7 – Example of quantitative data: Ghana

Example: Collecting quantitative data in Ghana

In Ghana, the data on food and agricultural expenditure is scattered. Data on projects and programmes that have been implemented by the Ministry of Agriculture are located in the Finance Directorate of the Ministry. Data on projects and programmes that have been implemented outside the Ministry of Agriculture are located in the Ministry of Finance. However, one unit of the Ministry of Finance holds data on governmental expenditure on projects and programmes, and another on donor expenditure. The qualitative data on project and programme content and activities has mainly been gathered by a unit of the Ministry of Agriculture: the Policy, Planning, Monitoring and Evaluation Department (PPMED). It is therefore an intensive task to collect and compare the data in order to conduct the best and most disaggregated analysis possible.

Qualitative data: project and programme description

The main data holder for qualitative data will often be the Ministry of Agriculture. In some countries, booklets/reports will exist that reference all projects and programmes in the agricultural sector and provide detailed descriptions thereof. For all measures not included in such reports, or in the absence of such reports, a literature review will be required, as well as interviews with local experts. This will allow for an understanding the objectives and most importantly the nature of the activities implemented under each project, programme and initiative.

In brief

- It is equally important to collect expenditure data and descriptions of projects/programmes.
- Data on expenditure will mainly be collected from the Ministry of Finance, usually in hard copy form. Some data can also be collected from line Ministries.
- Data for project/programme descriptions can be collected from reports referencing all projects in the country, literature reviews and interviews with local experts.

3.3 Attributing MAFAP categories

Once the required data has been collected, the next step is to classify it according to the MAFAP Public Expenditure categories (listed in Box 1). As stated above, we highly recommended analysts consult Annex 2 for detailed guidance on each of the MAFAP categories.

The expenditure measures are considered and classified according to the way in which they are implemented and not on the basis of their objectives or economic impacts. For classification, it is important to keep in mind that:

- Substantial efforts will be required to identify the specific activities of each project and programme so that they can be classified, though this has been achieved in MAFAP countries for phase I. However it will most probably not be possible to determine the share of each activity in the project's budget, and a proxy will have to be used. See page 29, First Excel sheet: description of measures.
- Categories are attributed based on **how measures are being implemented, not on objectives**. For instance, if a program named "Technical assistance program X" also involves input subsidies and agricultural infrastructure activities, the analyst will need to include these categories in the classification.
- Externalities are not taken into account in the classification, only primary effects. For instance, if a well is built to provide water for livestock (e.g. in a livestock project) in an area that does not belong to an individual farmer, it is considered collective agricultural infrastructure (N) and not rural infrastructure (U). It may also benefit the surrounding population as a whole, which can use the well for other purposes, but this is considered a positive externality of the livestock well, and hence should not be taken into account when classifying the measure.
- Measures that are planned but not implemented are not counted in the classification.
- All expenditures that ensure the activity implemented is successful are counted as policy transfers and not administrative costs, which differs from the accounting distinction between the two. Hence the salaries of researchers/technical officers in the field, the cost of building a school or a laboratory, cars and telephone for data collectors are not classified as administrative costs (see Box 9 – Example: difficult cases of classification).
- The analyst should classify all public expenditure measures according to the MAFAP categories. If the analyst does not know which category to attribute to the measure, MAFAP partners can be contacted for advice. If the analyst does not have sufficient information, or if (in very rare cases) the measure does not fit in any category, only then can the analyst put the measure under a "non-classified" label (see Figure 1).

Box 8 – Examples of basic principles of classification

Example 1: Irrigated surface development project of Baguinéda, Mali

When looking at the name of the project and the stated objectives – developing irrigation infrastructure for rice cultivation - the analyst may be tempted to classify the project under N – agricultural infrastructure (see Box 1 for MAFAP categories). However, a closer look at the project’s actual activities reveals that vaccination infrastructure for livestock are also built (category M – inspection), village markets (category P – marketing), and a rural road to connect two villages (U – rural infrastructure). The analyst should therefore not stop at the project’s description or stated objectives, but examine the implemented activities.

Example 2: Digging ponds under a national food security programme in Kidal, Mali

This programme entailed the activity of digging ponds to be used for various agricultural purposes. When classifying the activity, the analyst will first determine whether the ponds’ primary effect is to boost agricultural productivity or to serve as a public good for the village. In this case, the ponds’ primary effect was to support agriculture and animal husbandry. The category U – rural infrastructure should therefore not be considered, even if the pond may benefit non-agricultural population as an externality (secondary effect). The analyst is left with two options: agricultural infrastructure (N), or on-farm capital (B2). Since the ponds were created on each of the individual plots supported under the programme, they represent an on-farm improvement and thus capital. Their primary effect is indeed individual and not collective. The correct category is on-farm capital, B2.

Example 3: Activity that was never implemented in the Agriculture Sector Programme, Tanzania

This is a theoretical example. The Agriculture Sector Programme of Tanzania was classified under various MAFAP categories, corresponding to each of its different activities. However, it could have been the case that a certain activity stated in the original project budget was never implemented – for instance training for farmers. If this had been the case, the training for farmers would not have been counted in the classification of the project. Indeed, the MAFAP Public Expenditure Analysis looks at the agricultural activities actually supported, not those that are merely intended.

The two most overarching categories of the MAFAP classification are **agriculture-supportive** and **agriculture-specific** (see Box 1 and Figure 1).

When classifying policies, the analyst should consider:

- 1) If the measure implemented provides direct individual support (i.e. input subsidies), general support (i.e. research) or indirect support through rural development (rural road, energy, health, education) to the agricultural sector. If it supports agriculture directly, it should be classified as **“agriculture-specific”**. If it supports agriculture indirectly, it should be classified as **“agriculture-supportive”**.
- 2) If the measure belongs to the agriculture-specific category, there are several possible sub-categories. Most are straightforward and easy to attribute correctly. Some difficulties may

arise in the classification process, however; in this case the analyst can refer to Box 9, to the examples provided in Annex 2, or consult the Secretariat for guidance.

Box 9 – Example: difficult cases of classification

Some difficult cases of classification may arise. MAFAP experience has revealed that the same difficulties often recur:

Infrastructure versus capital

The capital category (B2) refers to inputs that are provided directly to producers at the farm-gate level (e.g. equipment). The infrastructure category (N) refers to infrastructure that benefits groups of producers (e.g. a feeder road). It may be difficult to evaluate how much an infrastructure's primary effect is private (exclusive, thus B2) and how much is it a public good (collective, thus N). As an example, the activity may be the building of an irrigation canal. If the canal's primary effect is to irrigate an area without specific pipes connecting to individual farmers' land, then it is considered agricultural infrastructure (N). If the canal is connected to individual plots through smaller pipes, its primary effect is to benefit farmers individually and the activity is therefore considered capital (B2). Similarly, if a project activity consists of buying 500 fishing nets and giving fishing nets to individual fishers, it is considered an individual support (capital, B2) as it is providing exclusive private goods.

Rural infrastructure versus agricultural infrastructure

The difference between rural infrastructure (U) and agricultural infrastructure (N) is that rural infrastructure benefits the whole rural population (including individuals not working in agriculture). For instance, a dam providing electricity to the population will be classified as U, whereas a dam for irrigation will be classified as N. It is important to note once again that the classification is based on the primary effects, and not the longer-term effects of the measure. If a feeder road is built to connect farms to a larger road or to a market, this primary effect means that the feeder road is agricultural infrastructure (N). It may in the longer run benefit a rural community as a whole, but should not be classified as a rural road (U), the primary effect of which is to connect villages to cities.

Administrative costs

As specified above (see 2.3 Estimating budgetary transfers), MAFAP has a narrow definition of administrative costs. This definition is based on an analytical perspective and not on an accounting one: when support is provided through services (research, extension, etc.) the costs incurred for these services should be considered policy transfers. Thus, items labelled as administrative costs in a project's account may not be counted as MAFAP administrative costs. For instance, the salary of a researcher, which finances the research service itself, will be counted as Research (I) according to the MAFAP classification. The building of a room to train farmers on agricultural techniques will be counted as training (K), and so on.

It is important to complete this stage before starting to input the data into Excel. Indeed, the MAFAP classification represents the main value added of the exercise and if data is poorly classified, the analysis will not be of sufficient quality.

In order to classify all activities, we highly recommend analysts use the Word template (description file) provided by MAFAP (see website). The classification is then carried out as follows:

- The analyst lists and numbers each measure (project, program or initiative) in the Word template.
- The analyst writes a short description under each measure (a paragraph at most), with the objectives and the main activities that are either underway or have already been carried out. The status of implementation of activities needs to be made clear.
- The analyst attributes a MAFAP category to each activity listed in the measure descriptions, and provides an explanation for why each category was chosen. This is very important, for two reasons. The first one is that explaining why a specific category was assigned to the measure will help the analyst in making sure the choice is the right one. The second is that it will also help the Secretariat or any reviewer of the document to have a clearer understanding of the motivation behind the analyst's choice.
- The completed word file is sent to the Secretariat for discussion, and goes back and forth until all classifications have been validated.

Once the classification of all measures is validated, the data can be inputted.

In brief

The analyst should:

- Use the MAFAP Description File template in Word
- List and number all measures considered in the analysis
- Provide description of objectives and activities
- Spend time assigning the right MAFAP categories to each activity
- Send to the Secretariat for discussion and validation

3.4 Inputting and arranging data in Excel

This step requires the analyst to use the MAFAP Public Expenditure database template. This Excel template contains 9 sheets:

- 1) Description of measures
- 2) Pub exp classification
- 3) Other indicators
- 4) Levels
- 5) Composition
- 6) Commodity analysis 1
- 7) Commodity analysis 2
- 8) Commodity analysis 3
- 9) Role of Aid

The sheets 1-3, 6 and 7 are dedicated to data input and organization. Once this is done, the template automatically provides indicators and graphs on the other sheets. As such, the reliability and quality

of the full analysis directly depends on the input phase for sheets 1-3, 6 and 7, to which a lot of attention has to be dedicated. The following subsections explain how to carry out this phase, step by step. Section 6 deals with the reorganization tasks to be done in sheets 6 and 7 and analysis of the indicators and graphs automatically generated from the data.

First Excel sheet: description of measures

Before starting to insert the data, the analyst has to indicate on the top of each sheet the name of the country and the unit in which the amounts are expressed (absolute, thousands, millions or billions of Local Currency Units (LCU)). The analyst then needs to input each agricultural program or project individually, row by row. A project may contain several activities (see section 3.3). In that case, each of them is listed individually under the project/program heading. For each project or program, the analyst needs to fill in the corresponding columns. The content that corresponds to each column category is described in detail below.

- **Public expenditure measure:** this requires providing the official name of the program. The analyst should try to be as precise and specific as possible, in order to allow for easy differentiation between projects. For instance, it is inappropriate to use a common denomination for a wide range of programs, like “Roads division”. The name of the program should be unique.
- **Ministry:** this requires indicating the ministry or official body in charge of the program.
- **Type of budget:** this requires indicating whether the program is related to capital or recurrent budget.
- **Repartition key:** usually, programs consist of different activities. Sometimes, data on the respective weights of these activities is provided, for example if the expenditure amounts related to each specific activity of a program are provided. However, it is often the case that, although the constituent activities of a project are known, their relative importance in the budget is not. In that case, the project’s total expenditure is divided by the number of activities.
- **Detailed description:** this requires providing a detailed description, as indicated in the MAFAP Description File or the Terms of Reference. The description should be a concise synthesis of the scope, focus and main objectives of the program, preferably not exceeding 65 words.
- **Subsector:** this requires determining to which subsector the program corresponds. One of the three columns (Agriculture, Fisheries or Forestry) has to be filled in with a lowercase “x”.
- **Commodity:** this requires indicating whether the program targets a single commodity, a group of commodities or all commodities. The analyst has to fill the “single” or “group” column with the full names of the commodities considered; the “all” column, when selected, has to be filled in with a lowercase “x”. The “single” or “group” categories should be chosen only if the analyst can specifically determine to which single commodity or group of commodities the program corresponds.
- **Source of financing:** this requires establishing whether the program is funded through national, donor or mixed sources. The appropriate column has to be filled in with a lowercase “x”.

- **Government level:** this requires indicating the government level in charge of the program. The distinction is only made between national and sub-national, as a rough indicator of decentralization. The relevant column is filled in with a lowercase “x”.
- **MAFAP proposed category:** this is one of the most important categories, since it is the basis of a good analysis. The analyst has to attribute a MAFAP category to the project, or to project activities if there is more than one. Categories should be assigned following the agreed Word file (...) and be performed for each program or each activity constituent of the program. **These steps are not to be skipped !**
- **Notes:** this column is intended to contain any comments or remarks regarding the program, be it with respect to its attribution to some of the above categories or to the quality of the data collected.
- **Budgeted and actual spending amounts, donor/national/aid:** budgeted amounts are expenditure commitments. Actual spending contains expenditures that are effective disbursements. National spending includes expenditures from the national budget, carried out through either the central or regional governments, regardless of the ministry that implements the policy. Donor spending is external aid, provided either through local governments or specific projects conducted by international organizations. Total spending is the sum of donor and national spending. The amounts corresponding to these categories are ideally filled in from 2006, up to the most recent year available.

As an example, the progressive completion of the 12 categories and of the yearly amounts results in a table similar to the figure below. Use of a consistent and unified colour scheme to work easily on the template is also essential.

analyst encounters any problems, a quick and useful check is to run a filter on the “MAFAP proposed category” column and search for any suspicious blanks.

2. **Consistency test with public expenditure classification:** this test simply ensures that the sum of the amounts for each MAFAP category (using the formula presented above) is the same as the total amount for each MAFAP category as given in the second Excel sheet. This test has to be calculated at the bottom of the “Description of measures” sheet, in the light blue rows below each category sum.

Second Excel sheet: classification of measures

The previous steps consisted in describing and arranging all projects and programs in the country, their related activities, and the associated amounts and MAFAP categories. The next step involves clustering together activities that have been attributed the same MAFAP categories. The best way to proceed is to:

- Going to the “description of measures” sheet and running a filter on the first MAFAP category, A.
- Going to the “classification of measures” sheet and adding under the A row all A activities from the “description” sheet, row by row.
- Repeating the same process for all MAFAP categories,
- Copy/paste cannot be used in this process. It is **extremely important** to link the information between the two sheets (see Annex 4 – Linking in Excel)

Figure 3 – Filter in the “Description of Measures” sheet of the MAFAP template

The example covers the “B1” MAFAP category projects for Uganda. As can be seen in the screenshot, a filter is applied to the “MAFAP proposed category” column. Each project or activity must then be imported using a manual link. In the template, the columns follow each other horizontally.

PUBLIC EXPENDITURE MEASURE	DATA SOURCE	MINISTRY	TYPE OF BUDGET	EPARTITION	Detailed description	SUBSECTOR			MAFAP PROPOSED CATEGORY	NOTES	Donor
						Agriculture	Fisheries	Forestry			
<i>Provide the official name of the program</i>	<i>Provide source of data (e.g. Line ministry, development or recurrent budget etc.)</i>		<i>Indicate whether the program is related to development or recurrent budget</i>	<i>Indicate the weight of the program constituents in a program</i>	<i>Provide detailed description of the programme as indicated in MAFAP documents and ToR</i>						
Sustainable Land Management Project	Budget MFPED	MAAIF	Development		(description)	x					
Sustainable Land Management Project	Budget MFPED	MAAIF/MoLG	Development		(description)	x					
Farming in Tsetse Controlled Areas (FITCA)	Budget MFPED	MAAIF	Development		(description)	x					
Creation of Tsetse and Trypanosomiasis free areas	Budget MFPED	MAAIF/MoWE	Development		(description)			x			
Agricultural Production, Marketing & promotion of Regional integr	Budget MFPED	MAAIF	Development		(description)	x					
Uganda Cotton Development Organisation	Budget MFPED	MAAIF	Development		(description)	x					
Energy for Rural Transformation	Budget MFPED	MAAIF	Development		(description)	x					
Energy for Rural Transformation - MoWE	Budget MFPED	MAAIF	Development		(description)	x					
Value Addition to Fruit Drying project	Budget MFPED	MAAIF	Development		(description)	x					
Conditional transfers to PMA NSCG	Budget MFPED	MoLG	Development		(description)	x					
district health - total	Budget MFPED	MoLG	Development		(description)	x					
COMMODITY			SOURCE OF FINANCING			GOVERNMENT LEVEL		MAFAP PROPOSED CATEGORY	NOTES	Donor	
Single	Group	All	National	Donor	Co-financed	national	sub-national				
								<i>Indicate proposed MAFAP classification category</i>			
Vegetable Oil					x	x		B1		0	
		x						B1		0	
	Tea/Cocoa				x	x		B1		1629553	
		x			x	x		B1		0	
Tea			x			x		B1		0	
Coffee			x			x		B1		0	
Cotton			x			x		B1		52535422	
		x	x			x		B1		0	
		x	x			x		B1		0	
		x	x				x	B1		0	
		x	x				x	B1		0	

Source: MAFAP public expenditure database for Uganda

After all MAFAP categories have been imported, the analyst should fill in the full table by computing aggregated values for the categories that are composed of sub-categories. The sums to be performed are indicated in the template (e.g. “1.2 General sector support” equals the sum of the I category to the Q category).

Once the table is fully completed, the analyst needs to check for mistakes by:

- Crosschecking policy transfers amounts in the third section of the “Pub exp classification” sheet against those of the “Description of measures” sheet;
- Crosschecking the total amounts for each category in the “Pub exp classification” sheet against those of the “Description of measures” sheet (as prescribed in the second test described in the previous section).

Third Excel sheet: general indicators

The third sheet of the template (“Other indicators”) offers additional indicators and is the starting point of the MAFAP data analysis. It requires the analyst to:

- Input data on overall national public expenditure, actual and budgeted, expressed in LCU. It is important to express the amounts in the same units of LCU (absolute, thousands, millions or billions) as those used in the two first sheets;

- Fill in the required rows by linking them with the corresponding “Description of measures” and “Pub exp classification” rows.

Since the “Other indicators” sheet offers values that are commonly computed in public expenditure studies, it can be useful to compare the figures obtained with similar numbers in other publications. For instance, the portion of total public budget devoted to the agricultural sector in the form of policy transfers and policy-related administrative costs has been provided in several studies of the 2006-2010 period covered by MAFAP⁷. Similarly, other figures can be reviewed and crosschecked⁸.

In brief

The analyst should:

- Go through sections 2,3 and 4 before starting to input the data
- In the first sheet, report each program and activity row-by-row, fill all the columns; pay special attention to the “MAFAP proposed category”.
- Perform tests and checks regularly, and **not move to the second sheet before having fully completed and verified the first sheet.**
- Input values only on the “Description of measures” sheet – all the figures in the following sheets should be linked to it (except the total budgetary data on the third sheet)
- After completing the second or the third sheet, cross-check the values with the preceding sheet(s); further, confront the figures with values from published sources for consistency

3.5 Analysing the data

After the data has been properly inputted in sheets 1-3 of the template, the next step is to analyse the data. The MAFAP template automatically generates graphs that provide analytical content on public expenditure trends. In most cases, graphs can be analysed in two ways:

1. Static analysis, which compares various categories (commodity, MAFAP classification, share of aid, etc.);
2. Dynamic analysis, which reveals trends and changes over time.

The following section outlines the basic analyses that can be performed with the database.

Analysis of the level of public spending directed towards the agricultural sector

This sheet contains a graph comparing the share of the total public budget devoted to the agricultural sector across years, in terms of budgeted and actual spending. Most importantly, a dotted line representing the Maputo objective is displayed, allowing the analyst to determine whether the country has complied with the Maputo objective for the covered years⁹. The analyst can:

⁷ See, for instance, ONE DATA REPORT (2013), “A Growing Opportunity: Measuring investments in African Agriculture”, www.one.org, US-WA.

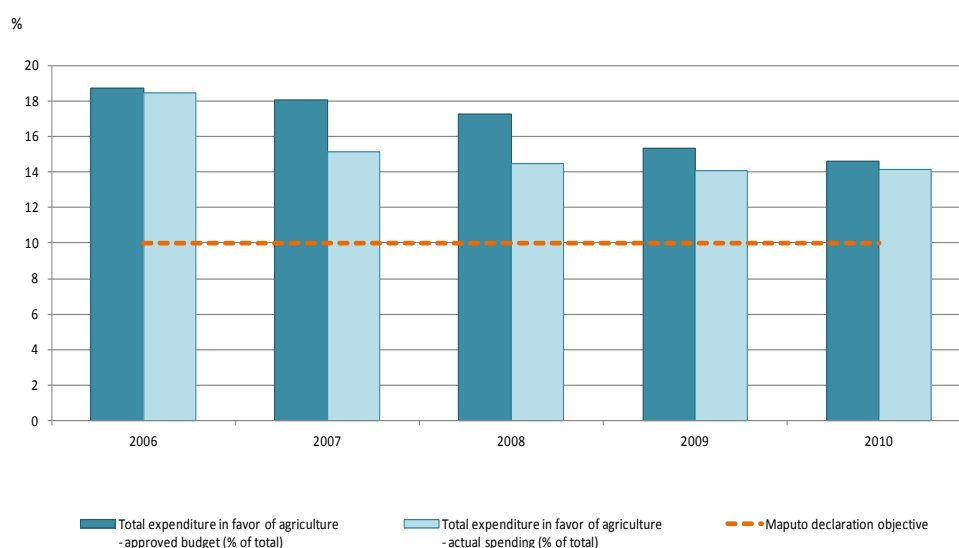
⁸ See various public expenditure reviews (IMF, WB) or ReSAKSS publications, among others.

⁹ See Assembly of the African Union, Second Ordinary Session, 10-12 July 2003, Maputo, Mozambique, decl. 7, p. 1: “We, the Heads of State and Government of the African Union (AU), assembled in Maputo at the Second Ordinary Session of the Assembly, 10 to 12 July, 2003

- Examine whether the country complied with the Maputo objective for the period as a whole, or identify the years in which it did not;
- Examine the trend of the values, i.e. whether the country is moving towards the Maputo objective.

For instance, an examination of the figures for Burkina Faso between 2006 and 2010 shows that spending on agriculture was above the Maputo objective, but there is a downward trend in the share of public expenditure that the country devotes to the sector.

Figure 4 – Share of total public expenditure allocated to food and agriculture in Burkina Faso: planned and actual spending, 2006-2010



Source: own calculations based on budgetary data collected by MAFAP

In addition, the analyst can:

- Observe the possible discrepancy between the percentages determined on the basis of budgeted amounts and the percentages determined on the basis of actual spending;
- Make comparisons with other countries for which similar figures are available and comment accordingly.

In our Burkina Faso example, we see that the actual share of spending is lower than the budgeted share for the whole period. It appears that commitment to agricultural spending is greater at the stage of budget approval than when it comes to actual spending. Moreover, Burkina Faso can be compared with a similar neighbouring country, Mali. Burkina Faso has higher percentages of public expenditures devoted to the agricultural sector for the whole period.

What do we learn?

This part of the analysis mainly provides information on the trend of spending on food and agriculture in the country, which can be used to inform policy-makers and other stakeholders on the state of the Maputo declaration target in the country.

(...) agree to adopt sound policies for agricultural and rural development, and commit ourselves to allocating at least 10% of national budgetary resources for their implementation within five years”.

Analysis of composition of public spending directed towards the agricultural sector

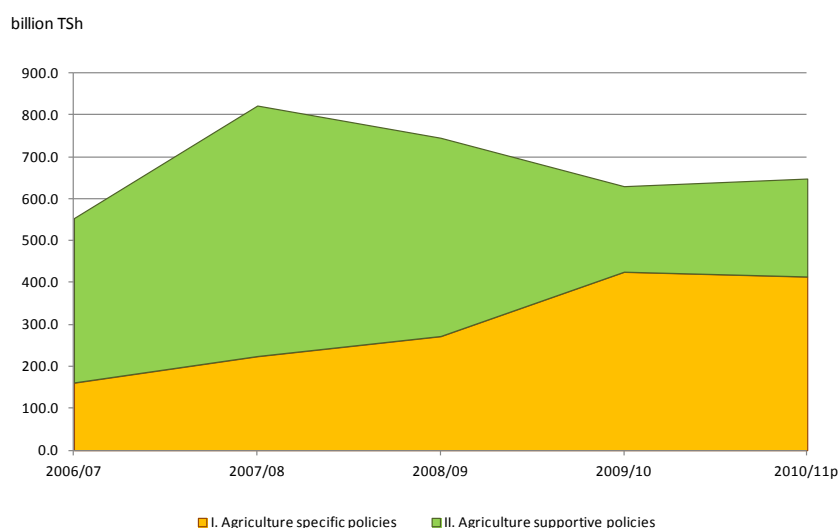
This sheet provides material for comparing the relative importance and composition of agriculture-specific and agriculture-supportive spending (see 2.1 for definitions).

The comparison of these two categories helps the analyst to evaluate the degree of sectoral support for agriculture. Indeed, the higher the share of “agriculture-specific expenditure”, the more sectoral and targeted the support. On the other hand, a high share of “agriculture-supportive expenditure” suggests that the government has a broader approach to agricultural development through rural infrastructure, health and education.

Agriculture-specific versus agriculture-supportive

The graph below the composition table (which contains the total actual spending for each MAFAP category, for each year) displays the trends in agriculture-specific and agriculture-supportive spending. As an example, consider the evolution of these two categories of spending in Tanzania from 2006/07 to 2010/11.

Figure 5 – Composition of public expenditure for food and agriculture in Tanzania, 2006/07-2010/11



Source: own calculations based on budgetary data collected by MAFAP

Figure 5 indicates that public expenditure on the agricultural sector became increasingly specialized over the period studied, with a growing portion of spending represented by agriculture-specific policies (in yellow).

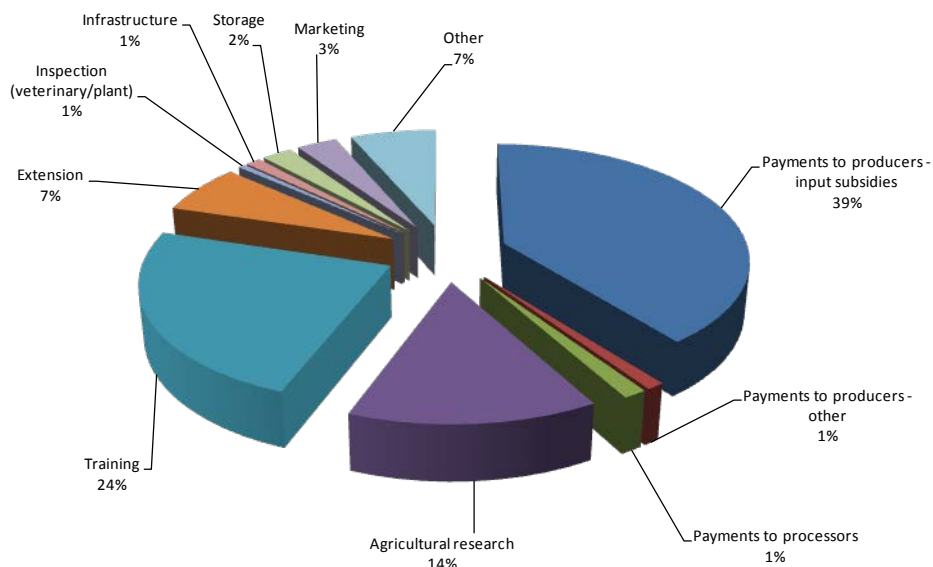
Categories of agriculture-specific and agriculture-supportive spending

A group of six plots is given to the right of the composition table. The plots show the detailed composition of agriculture-specific and agriculture-supportive spending, respectively. The analyst can:

- Determine the three most important categories for both, and comment accordingly;
- Observe how they change over the period. Detection of potential outsider categories is also important.

For example, in Tanzania, agriculture-specific spending appears to consist mainly of payments to producers in the form of input subsidies, training and agricultural research for the years 2006/07 to 2010/11.

Figure 6 – Composition of public expenditure for food and agriculture in Tanzania: agriculture-specific spending, average 2006/07-2010/11



Source: own calculations based on budgetary data collected by MAFAP

Observation of the pie charts for each year reveals that input subsidies tended to become more important over the period. The breakdown of agriculture-supportive spending (not shown) reveals that agricultural infrastructure represented the largest portion, while spending on rural education appears to be in decline over the study period.

What do we learn?

This part of the analysis tells us which agricultural activities receive support and which do not. This information can be vital when assessing whether public expenditure are targeting the areas with the biggest gaps for agricultural development, but also whether the allocation of the agricultural budget corresponds the government's stated objectives. This latter point is an indicator of policy coherence in the country. Other interesting findings that can be derived include the weighting of agriculture-specific expenditure, such as the share of expenditure going to research or to input subsidies.

Analysis of the allocation of public spending across commodities

The commodity analysis consists of sheets 6-8. Sheet 6 (commodity 1) is identical to the "Pub exp classification sheet", sheet 2. The analyst will use sheet 6 as a starting point to reclassify the agriculture-specific projects according to the commodities they involve. The commodity analysis does not take agriculture-supportive projects into account, as they never target a commodity.

The analyst should:

- Start with single commodities, in alphabetical order, by importing all the corresponding projects from sheet 6 (commodity 1) to sheet 7 (commodity 2). For example, running a filter

on the commodity name “cassava”, in the corresponding column of sheet 6, and making individual links for each project on sheet 7 under the “cassava” category. The analyst should always link and not copy/paste.

- Next, import to sheet 7 all the projects related to a group of commodities or to all commodities.
- Sum up all the projects associated with a commodity, a group of commodities and all commodities to obtain aggregated values.

The analyst should also check the data has been successfully imported from sheet 6 to sheet 7.

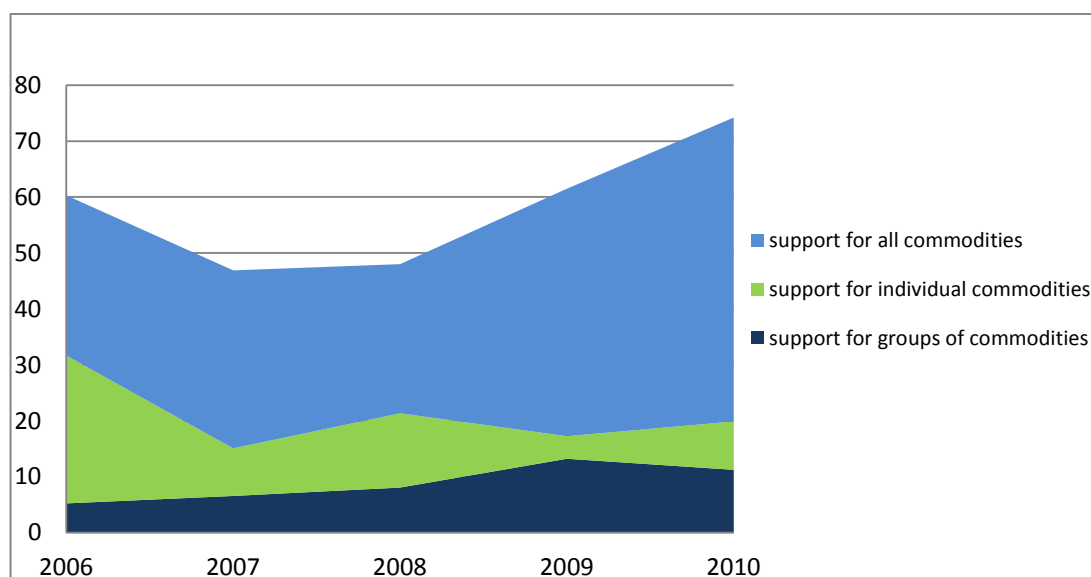
Check if: [sum of spending on single commodities]+[sum of spending on groups of commodities]+[sum of spending on all commodities]=[agriculture-specific spending]. This check ensures that no project is left out.

Once agriculture-specific spending has been split into single commodities, groups of commodities and all commodities, the analyst should perform an analysis based on sheet 8, in which graphs are automatically generated.

Single commodities, groups of commodities and all commodities

The commodity table in sheet 8 (commodity 3) contains the total actual spending for each single commodity and group of commodities. It is linked to a graph that shows the trends in public expenditure on single commodities, groups of commodities and all commodities. The analyst can use this graph to evaluate the importance of commodity-targeted support versus general support for agriculture, on a dynamic basis.

Figure 7 – Agriculture-specific spending in support of commodities in Burkina Faso, millions of FCFA, 2006-2010



Source: own calculations based on budgetary data collected by MAFAP

For example, Burkina Faso appears to devote most of its agriculture-specific expenditures to supporting all commodities. Support for single commodities declined over the period of study, while spending directed towards groups of commodities increased.

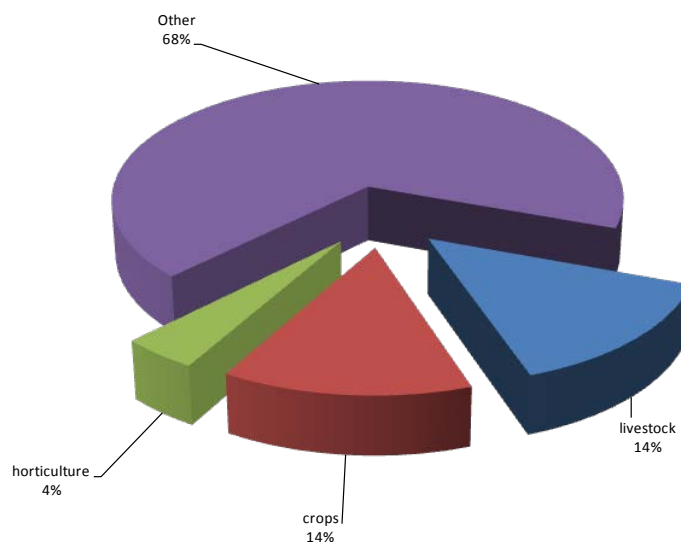
Structure of spending on single and groups of commodities

The commodity table in sheet 8 is also linked to several pie charts that provide information on the structure of spending on single or groups of commodities. The analyst can use the pie charts to:

- Determine the three single commodities, and the three groups of commodities that receive the highest share of agriculture-specific public expenditure;
- Determine the three single and groups of commodities that receive the biggest share of agricultural-expenditure targeting single, and groups of commodities respectively.
- Analyse the trend of support for single and groups of commodities, and check for eventual outsiders;
- Generate additional graphs to facilitate a more detailed understanding of spending patterns. A useful analysis is to generate pie charts depicting the relative importance of the three single commodities receiving the most support and the relative importance of the three groups of commodities receiving the most support with respect to agriculture-specific spending.

As an example of this latter point, consider the relative importance of the three most supported groups of commodities in Kenya in terms of agriculture-specific spending for the period 2006-2010.

Figure 8 – Support for individual and groups of commodities within agriculture-specific spending in Kenya, average 2006-2010



Source: own calculations based on budgetary data collected by MAFAP

As we see, livestock accounts for around 14 percent of agriculture-specific spending, a considerable amount.

The analyst can use these graphs to interpret the agricultural context of the country. Commodities or groups of commodities that are heavily traded or important for food security should be given special attention. For example, Burkina Faso dedicates 13 and 7 percent of agriculture-specific spending to cotton and rice, respectively. The former commodity is heavily exported and the latter is essential to food security – this information paves the way for further analysis.

What do we learn?

This part of the analysis identifies the level of support for various commodities. This can be compared with the government’s objectives in order to assess policy coherence (e.g. diversification of agriculture, or increased focus on livestock). It is also possible to determine the extent to which agricultural expenditure targets specific crops or, on the contrary, adopts a generalized approach to agricultural development. In addition, quantifying policy transfers in support of specific crops can be helpful for the other pillar of the MAFAP analysis, the price incentives analysis.

Analysis of the role of aid

Sheet 9 (role of aid) generates a stacked bar chart that allows the analyst to determine the relative importance of donor and national expenditures for each MAFAP classification category. The analyst can:

- Observe the relative importance of donor spending in the most important MAFAP categories (e.g. agriculture-specific and agriculture-supportive spending, input subsidies, infrastructure, etc.);
- Observe trends in donor spending for each category.

Such analysis is useful in determining the main types of activities that are supported by donors and those for predominantly funded through the national budget. By considering the “Description of measures” sheet, the analyst can also determine which programs and projects are most strongly supported by donors or the government.

3.6 Writing the Public Expenditure Analysis Technical Note

The final output to be derived from the MAFAP Public Expenditure Analysis is the Public Expenditure Analysis Technical Note. The Note should include the various analyses described in this guideline, follow a coherent structure and provide recommendations to policy-makers. It will contain an introductory section presenting the budgetary process in the country, followed by chapters on the level and composition of public expenditure based on the analysis presented in section 3.5.

Examples of existing MAFAP Technical Notes can be found on the MAFAP website.

REFERENCES

Balié J., Barreiro-Hurlé, J., Bellu, L., Conforti, P., Komorowska, J., Maetz, M., Morales Opazo, C. & Tortora, P. 2009. *MAFAP Methodology paper*. MAFAP, FAO, Rome.

Kienou, A., Yameogo, S., Ilicic-Komorowska J. & Mas Aparisi A. 2012. *Analysis of public expenditures in support of food and agriculture development in Burkina Faso*. Technical notes series, MAFAP, FAO, Rome and DGPER, Ouagadougou.

Ilicic-Komorowska, J. 2010. *A proposed methodology for measuring government expenditure in support of food and agriculture sector development and application in the case of Uganda, project paper*. Project Paper, FAO, Rome and OECD, Paris.

Ilicic-Komorowska, J. 2011. *Kenya capacity building training material for public expenditure*. FAO, Rome and OECD, Paris.

Ilicic-Komorowska, J., Keita, N. & Mas Aparisi, A. 2012. *Public expenditures in support of food and agriculture development in Mali, 2006-2010*. Technical notes series, MAFAP, FAO, Rome and IER, Bamako.

Ilicic-Komorowska, J. & Laibuni, N. 2012. *Public expenditures in support of food and agriculture development in Kenya, 2006-2010*. Technical notes series, MAFAP, FAO, Rome and IER, Bamako.

Ilicic-Komorowska, J., Okoboi, G., Nampewo, D. & Shinyekwa, I. 2012. *Public expenditures in support of food and agriculture development in Uganda, 2006-2010*. Technical notes series, MAFAP, FAO, Rome and IER, Bamako.

Ilicic-Komorowska, J. Pascal H., Maro F. & Barreiro-Hurlé J. 2012. *Public expenditures in support of food and agriculture development in the United Republic of Tanzania, 2006-07/2010-11. A preliminary assessment*. Technical notes series, MAFAP, FAO, Rome and ESRF, Dar es Salaam.

OECD. 2008. *OECD's Producer Support Estimate and Related Indicators of Agricultural Support, Concepts, Calculations, Interpretation and Use (The PSE Manual)*. OECD Paris.

ANNEXES

Annex 1 – MAFAP, World Bank and ReSAKSS public expenditure analysis comparison

It can also be interesting to compare aggregated level MAFAP results with other public expenditure data sources, particularly ReSAKSS and the World Bank. It must be noted, however, that data from these sources is gathered according to a different methodology, often with a more restricted scope. The following table outlines the salient specificities of those alternative data sources and MAFAP data.

	MAFAP PE Analysis	WB PER	ReSAKSS PE Analysis
Nature of the exercise	Monitoring system of the level and composition of food and agriculture public expenditure, established within the Ministry of Agriculture/research institute in African countries with FAO's assistance. Carried out by local and FAO staff.	Reviews of the efficiency and allocation of agricultural public expenditure, carried out by World Bank staff and local consultants.	One-off reviews of the level and composition of public expenditure in African countries that have signed the CAADP Compacts, to assess their status with regards to the CAADP targets (especially Maputo), carried out by IFPRI staff and local consultants.
Objective	Develop a national level monitoring system that will inform policy makers and development stakeholders on the level and composition of agricultural spending. Compare the composition of agricultural spending with policies affecting prices in the country and policy objectives in order to assess policy coherence.	Promote more efficient budgetary processes (particularly expenditure frameworks). Formulate evidence-based recommendations to improve technical and allocative efficiency of public expenditure on agriculture.	Follow the implementation of the CAADP commitments through public expenditure in member countries of the African Union.
Scope	Agriculture-specific and agriculture-supportive (i.e. rural development, e.g. health, education, infrastructure) measures, based on the Organisation for Economic Co-operation and Development (OECD) classification and COFOG-compatible. Initial period of study: 2006-2011. 10 countries to be assessed for the 2006-2012 period.	Agriculture-specific measures, as defined by the Classification of the Functions of Government (COFOG): Agriculture, Livestock, Fisheries, and Forestry. It also includes, for certain countries, agriculture-supportive (i.e. rural development) measures, sometimes labelled "COFOG plus". Period of study from 5 to 10 years. More than 10 countries for the 2006-2012 period.	Agriculture-specific measures, as defined by the Classification of the Functions of Government (COFOG): Period of study: 2000-2010. Calculation of the Maputo target for all African Union countries, 3 detailed studies.
Ministries and institutions covered	All ministries that manage measures that benefit only or mainly the agricultural sector.		

Classifications and disaggregation	<p>Classification based on how measures are implemented (“economic characteristics” of measures) and comparable between countries. Disaggregated with information on each project, program and activity, on commodity targeted and level of government (centralized/decentralized).</p> <p>Budgeted amount versus actual spending. Loans versus grants. Recurrent versus development. Revenue foregone.</p>	<p>Typically based on policy objectives.</p> <p>Derived from existing disaggregation in the country and hence differ from country to country. Increasingly based on COFOG as countries start to adopt it more and more. Looking at an aggregated level: Agriculture, Livestock, Fisheries, and Forestry.</p> <p>Two types of disaggregation: by function (similar to MAFAP but more aggregated and not based on implementation criteria) and economic area.</p>	<p>Classification based on COFOG for aggregated data. Disaggregated data presented according to each country-specific classification system.</p>
Admin costs	<p>Excluded from the main classification, treated separately.</p>	<p>Included in the classification</p>	
Budget/Actual expenditure	<p>Included in the classification</p>		
Recurrent/Development	<p>Included in the classification</p>		
Revenue foregone	<p>Included</p>	<p>Excluded</p>	
Aid	<p>At the country level: included in classification and further analysis; analysis of off-budget expenditure</p>	<p>Included in the classification and further analysis; analysis of off-budget expenditures</p>	<p>Included in the classification and further analysis; off-budget aid not analysed.</p>
Analysis	<p>Analysis of trends in overall level of expenditure.</p> <p>Contrasting budgeted amounts with actual spending.</p> <p>Alignment of categories of spending with government objectives and analysis of complementarities/trade-offs between different categories of spending; analysis of whether spending occurs in categories with highest returns, but only by contrasting with existing indicators.</p> <p>Analysis of spending on individual commodities and groups of commodities.</p> <p>Depth of analysis always the same.</p>	<p>Analysis of trends in overall level of expenditure.</p> <p>Technical – capacity to use resources at a cost that achieves efficiency gains (actual spending versus budgeted amounts; cost effectiveness of programmes and tracking surveys that follow the money throughout the whole system from the budget to the recipient).</p> <p>Allocative efficiency – degree to which resources are allocated in conformity with government objectives and highest returns (depending on depth of the study the latter is done either by contrasting with existing indicators or appropriate specific survey, econometric or modelling techniques)</p> <p>The depth of the analysis applied depends on the particular PER.</p>	<p>Analysis of trends in overall level of expenditure.</p> <p>Mainly assessing public expenditure with regards to commitments made in Maputo (i.e. Maputo target).</p> <p>Analysis of aggregated composition, depending on each country’s classification system.</p>

Annex 2 – Examples and reminders for all MAFAP categories

In order to help the analyst, examples for each of the classification categories are presented in the below. Categories named “non-classified” are not presented here. To see the full classification, please see Box 1 of the methodology guidelines.

Administrative costs	The analyst will often classify categories as administrative costs. However, as explained above, administrative costs in the MAFAP typology differ from administrative costs as usually reported in budget accounts. This may create confusion for the analyst. The running costs of projects that deliver agricultural services should not be counted in administrative costs, but be associated with the category of this service. For instance, the wage of a researcher is classified as research (see I), the cost of renovating an agricultural school is counted as training (see K), the cost of a feasibility study for an irrigation infrastructure project that is being implemented should be counted as agricultural infrastructure, or capital (see N, B2). However, the running costs of Ministries, the training of Ministry officials, the projects that consist in designing a new agricultural policy or strategic framework should be counted as administrative costs.
A. Production subsidies based on outputs	No production subsidies based on outputs were identified in the five MAFAP countries where the analysis was carried out. This category applies to monetary transfers to agricultural producers that are based on current output of a specific agricultural commodity.
B1. Variable inputs	Activities such as seed subsidies, fertilizer subsidies, and credit – including construction of a microfinance institution building and wages of employees, if subsidized by public money – should be included in this category. Indeed, the buildings/wages will support implementation of the activity (see section 2.3 on administrative costs). If the public monetary transfers support inputs that are not variable such as equipment, see B2.
B2. Capital	Activities such as equipment (e.g. fishing nets), machinery (e.g. threshers), on-farm irrigation and infrastructure, and cattle (e.g. draft animals) should be included in this category. Every activity the primary short-term effect of which is to benefit individual farmers through capital will be counted in B2. If an irrigation measure targets 500 farmers but involves on-farm improvements for each of those farmers (such as irrigation pipes, stone barriers, etc.) it is considered under B2. If a measure primarily affects a group of producers (e.g. micro-dams for irrigation, feeder roads, water reserve for livestock) it will be considered agricultural infrastructure (N).
B3. On-farm services	Activities such as on-farm training and technical assistance, and on-farm inspection and disease control should be included in this category. Every activity the primary short-term effect of which is to benefit individual farmers through services will be counted under B3. In MAFAP countries where the analysis was carried out, B3 mainly contains on-farm disease control policy measures.
C. Income support	This category was seldom used in the MAFAP analyses. However, it applied in some rare policy measures where producers received cash transfers or subsidies based on their level of income.
D. Food aid	Activities such as vouchers to buy food and cash transfers to buy food should be included in this category. Several policy measures related to food aid may not be under the Ministry of Agriculture budget but under other Ministries. Also, several food aid projects/programmes will be implemented by the World Food Programme and may not be reported in the government budget accounts (as in Tanzania).
G. School meal programmes	School meal programmes will often be reported in budget accounts outside of the Ministry of Agriculture. In Burkina Faso, for instance, school meal programmes were financed through the Ministry of Education. We recommend checking UNICEF and World Food Programme projects in the country, as they are often the main donors funding school meal

	programmes (as in Tanzania and Burkina Faso).
1.1.3, 1.1.4, 1.1.5, and 1.1.6: Payments to input suppliers, processors, traders, and transporters.	These four categories have seldom been used in the MAFAP analyses. The category 1.1.4, payments to processors, has been the most widely used of the four. It includes activities such as payments to milk processing units (Mali), payments to develop small processing industries (Tanzania), and payments to develop meat processing infrastructure (Mali). Category 1.1.3, Payments to input suppliers, was used in the case of Burkina Faso for a project supporting phosphate suppliers.
I. Research	Activities such as funding of crops or livestock research institutes, rural/agricultural economics institutes, and seed/crop variety/livestock breeding research projects should be included in this category. Funding of research facilities and paying the researchers' wages, should also be included under research and not administrative costs (see section on administrative costs). Payment of data collectors' wages for research projects should also be included under research.
J. Technical assistance	Activities such as collective assistance with farming techniques (Mali), collective assistance with improving seed use (Burkina Faso), and collective assistance with sustainable land management (Uganda) should be included in this category. In general, all activities that involve teaching agricultural techniques to agents working in the agricultural sector will fall under this category. If the activity is carried out on an on-farm basis, it represents a direct service to individual producers and should be counted under B3 rather than J. Wages for staff providing technical assistance, costs of transport for the staff and required vehicles, and the building of facilities are all part of the technical assistance service that should be counted as J, and not as administrative costs.
K. Training	Activities such as funding of training institutes (Tanzania), collective classroom training on sustainable farming practices (Mali), accounting and farm management training (Uganda), and training of trainers should be counted as training. In general, all activities that involve agents working in agriculture and receiving group training will fall under this category. Training of civil servants working for the Ministry of Agriculture will be counted as administrative costs and not as training. The wages of staff providing training, the cost of training trainers, of transport and of required vehicles, and the building of training facilities should be counted as K, and not as administrative costs. It can be difficult to separate technical assistance from training. In theory, technical assistance is more focused on assistance with farming techniques in open air whereas training is considered more as classroom education. However, due to the difficulty of distinguishing the two categories, a proposed change to the classification is to merge them, together with extension services (see below) and create a new category called agricultural schools for agricultural training institutes and schools. See Annex 3 for more details on the proposed modified MAFAP classification.
L. Extension services	Activities such as farmer field schools and extension services provided on a collective basis should be included in this category. Extension services will often be similar to training (see description above).
M. Inspection	All inspection activities the primary effect of which is collective and is not delivered on-farm (for on-farm inspection, see B3) should be included in this category, such as funding of veterinaries (Burkina Faso), building of vaccination areas and laboratories (Mali), inspection of fish quality for marketing (Uganda), and inspection of drugs, cosmetics and medical devices at port of entry (Tanzania). Wages of staff providing inspection, costs of transport and required vehicles, and building of inspection facilities should be counted as M, and not as administrative costs
N. Infrastructure	Agricultural infrastructure is a complex category. First, a distinction must be drawn between agricultural infrastructure and rural infrastructure. Agricultural infrastructure refers to all infrastructure the primary effect of which is to support the agricultural sector. Where infrastructure is a collective good for the rural population (e.g. a dam for energy, planting of a forest, rural roads, etc.) it should not be counted in N, but in U (see category

	<p>U). The externality (secondary effect) of the infrastructure should not be taken into account in the classification – for instance, if a well for livestock will benefit all villagers who want to drink water, it is nevertheless classified as agricultural infrastructure because its primary effect is to water livestock.</p> <p>Another difficulty to be aware of is the distinction between on-farm capital (B2) and infrastructure. Infrastructure that primarily benefits the sector as a whole, or agents on a collective basis, is considered agricultural infrastructure (N); and all infrastructure that primarily benefits individual producers (i.e. that is built on-farm) is considered capital for the farmer, and classified as B2. For example, a well that is built on a farm is capital (B2), and a micro-dam to irrigate a whole area is agricultural infrastructure.</p> <p>The other hurdle when using the Infrastructure category is that most agricultural infrastructure has been classified under other categories. Indeed, the primary effect of agricultural infrastructure is often related to another existing category. For instance, village market infrastructure can be classified as P (marketing), storage infrastructure as O (storage), training facilities as K (training), etc.</p> <p>In the end, most of the activities classified as N will be feeder roads (not rural roads – classified as U) and off-farm irrigation.</p>
O. Storage	Activities related to storage, mainly the building of storage infrastructure and storage shops, payment of stock keepers' wages, and maintenance of warehouses should be included in this category.
P. Marketing	Activities such as the building of agricultural markets, support for marketing of agricultural products, support for commodity boards (tea, coffee, etc.) and support for enterprises should be included in this category. There can be a conflict of categories between training and marketing when an activity consists of training regarding a marketing strategy and marketing techniques (business management, etc.). In that case, the activity will be classified under marketing, as the training is intended for marketing and not agricultural production.
S. Rural education	Activities such as the building of schools in rural areas, school programmes in rural areas, and wages of rural teachers should be included in this category. School meal programmes should be counted in category G.
T. Rural health	Activities such as the building of rural hospitals, nurseries and medical centres, and the wages of rural doctors paid by the state should be included in this category.
U. Rural infrastructure	Activities such as the building and maintenance of rural roads, rural energy and rural water supply systems should be included in this category. It thus includes roads which connect two villages together, dams that primarily produce energy, and wells or water reservoirs that are primarily used for domestic purposes by the rural population (not for agriculture).

Annex 3 – Public expenditure classification – proposed modified version

The modified version of the MAFAP classification (below) has been drafted in light of feedback from MAFAP team members. The proposed changes are as follows:

- To change all categories named “other” into “non-classified”. The “other” label has been deemed misleading, as it suggests to the reader that it contains specific “other” categories that are not spelled out. Instead, the “non-classified” label reflects the fact that information was not available to allow classification. This change has already been mainstreamed in the MAFAP classification.
- To merge “payments to input suppliers” (1.1.3), “payments to traders” (1.1.4), “payments to processors” (1.1.5) and “payments to transporters” (1.1.6), which were seldom used during MAFAP phase I.
- To fragment the “agricultural infrastructure” category (formerly N) into “Feeder Roads and livestock tracks” (M) and “Off-farm irrigation” (N). The rationale behind that choice is that much agricultural infrastructure is related to a specific function already in the classification: marketing (P), storage (O), or even research and training (I and K, respectively). Fragmenting N into two function categories would simplify the classification and also provide more insight into irrigation.
- To merge training, technical assistance and extension, as they have proven very similar and difficult to distinguish. The creation of a new category entitled “agricultural schools” that would be specific to training institutes and schools has also been proposed.

Proposed Modified MAFAP classification of public expenditures in support of the food and agricultural sector

Agriculture-specific policies – monetary transfers that are specific to the agricultural sector i.e. agriculture is the only, or major, beneficiary of a given expenditure measure

1.1 Payments to agents in the agro-food sector – monetary transfers to **individual** agents of the agro-food sector

1.1.1 Payments to producers – monetary transfers to individual agricultural producers (farmers)

A. Production subsidies based on outputs – monetary transfers to agricultural producers that are based on current output of a specific agricultural commodity

B. Input subsidies – monetary transfers to agricultural producers that are based on on-farm use of inputs:

- **B1. Variable inputs** (seeds, fertiliser, energy, credit, other) – monetary transfers reducing the on-farm cost of a specific variable input or a mix of variable inputs
- **B2. Capital** (machinery and equipment, on-farm irrigation, other basic on-farm infrastructure) – monetary transfers reducing the on-farm investment cost of farm buildings, equipment, plantations, irrigation, drainage and soil improvements
- **B3. On-farm services** (pest and disease control/veterinary services, on-farm training, technical assistance, extension etc., other) – monetary transfers reducing the cost of technical assistance and training provided to individual farmers

C. Income support – monetary transfers to agricultural producers based on their level of income

D. Non-classified – monetary transfers to agricultural producers individually for which there is insufficient information to allocate them into above listed categories

1.1.2 Payments to consumers – monetary transfers to final consumers of agricultural commodities individually in the form of:

E. Food aid – monetary transfers to final consumers to reduce the cost of food

F. Cash transfers – monetary transfers to final consumers to increase their food consumption expenditure

G. School meal programmes – monetary transfers to final consumers to provide free or reduced-cost food in schools

H. Non-classified – monetary transfers to final consumers individually for which there is insufficient information to allocate them to the above listed categories

1.1.3 Payments to traders, processors, transporters, input suppliers – monetary transfers to agricultural inputs suppliers, agricultural commodities processors, traders, transporters, individually

1.2 General sector support – public expenditures generating monetary transfers to agents **of** the agro-food sector **collectively**

I. Agricultural research – public expenditures financing research activities improving agricultural production

J. Training, technical assistance and extension services – public expenditures financing technical assistance for agricultural sector agents collectively or collective provision of extension services

K. Agricultural schools – public expenditures financing agricultural training

L. Inspection (veterinary/plant) – public expenditures financing control of the quality and safety of food, agricultural inputs and the environment

M. Feeder roads and livestock tracks – public expenditures financing roads mainly benefiting agents working in agriculture

N. Off-farm irrigation (roads, non-farm irrigation infrastructure, other) – public expenditures financing off-farm collective irrigation schemes

O. Storage/public stockholding – public expenditures financing public storage of agro-food products

P. Marketing – public expenditures financing assistance in marketing of agro-food products

Q. Non-classified – other transfers to agro-food agents collectively for which there is insufficient information to allocate them to the above listed categories

2 Agriculture-supportive policies – public expenditures that are not specific to agriculture, but which have a strong influence on agricultural sector development

R. Rural education – public expenditures on education in rural areas

S. Rural health – public expenditures on health services in rural areas

T. Rural infrastructure (rural roads, rural water) – public expenditures on rural infrastructure

U. Non-classified – other public expenditures on rural areas benefiting agricultural sector development for which there is insufficient information to allocate them to the above listed categories

Annex 4 – Linking in Excel

Linking sheets of the database together is absolutely necessary during the MAFAP Public Expenditure Analysis, as it will save enormous amounts of time for the analyst, and will lower the risk of mistakes as compared to the use of copy/paste. This annex will show the analyst how to link the different Excel sheets together, as this has proved to be an important difficulty for the country partners who worked on the first phase of the project. The example below describes how to link a row in the sheet “public expenditure classification” with the corresponding row in the sheet “description of measures”.

Step 1 – Create a new row in the sheet “pub exp classification”.

A	B
COUNTRY: UGANDA	
All amounts are in thousands of Ush	
DATA SOURCE	
<i>L.Victoria Environment Management Programme</i>	Budget MFPED
<i>National Wetland Project - Phase 3</i>	Budget MFPED
<i>Capacity Building for Disaster Management</i>	Budget MFPED
<i>Northern Uganda. Social Action Fund Project</i>	Budget MFPED
<i>Conditional transfers to PMA NSCG</i>	Budget MFPED
<i>Conditional transfers to Agric. Development. Centres</i>	Budget MFPED
<i>Conditional transfers to Production and Marketing</i>	Budget MFPED
L. Extension	
<i>Farm Development department</i>	Budget MFPED
<i>Crop production department</i>	Budget MFPED
<i>Increasing Mukene for Human Consumption</i>	Budget MFPED
<i>Sustainable Land Management Project</i>	Budget MFPED
<i>Agricultural extension</i>	Budget MFPED
<i>Farm Income Enhancements and Forestry Conservation</i>	Budget MFPED
<i>Dissemination of NERICA & Improved Rice</i>	Budget MFPED
<i>Sustainable Irrigated Rice Production in eastern Uganda</i>	Budget MFPED
<i>National Agricultural Advisory Service</i>	Budget MFPED
<i>Presidential Initiative on Banana Development</i>	Budget MFPED
<i>Value Addition- Tea Industry</i>	Budget MFPED
<i>Value Addition to Fruit Drying project</i>	Budget MFPED
<i>Poverty Alleviation Programme</i>	Budget MFPED

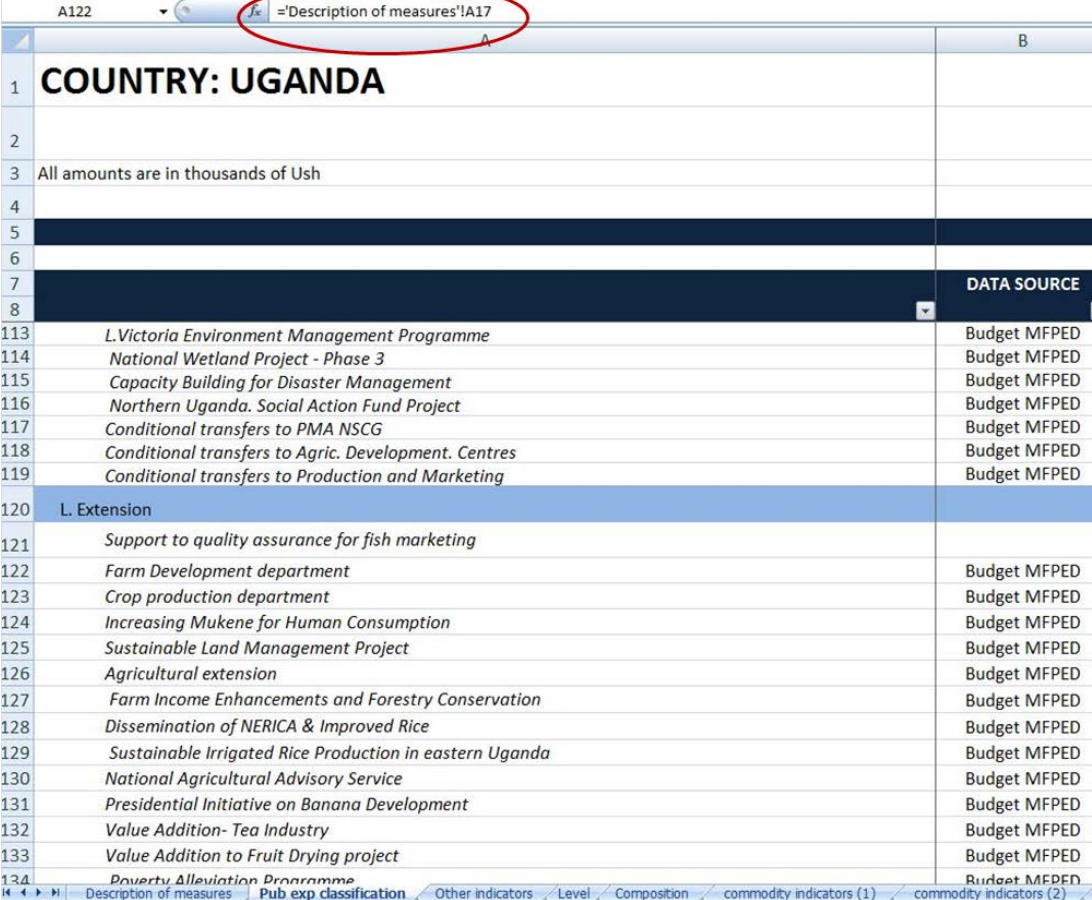
Step 2 – Type the key = in the row.

A	B
COUNTRY: UGANDA	
All amounts are in thousands of Ush	
	DATA SOURCE
<i>L.Victoria Environment Management Programme</i>	Budget MFPED
<i>National Wetland Project - Phase 3</i>	Budget MFPED
<i>Capacity Building for Disaster Management</i>	Budget MFPED
<i>Northern Uganda. Social Action Fund Project</i>	Budget MFPED
<i>Conditional transfers to PMA NSCG</i>	Budget MFPED
<i>Conditional transfers to Agric. Development. Centres</i>	Budget MFPED
<i>Conditional transfers to Production and Marketing</i>	Budget MFPED
L. Extension	
=	
<i>Farm Development department</i>	Budget MFPED
<i>Crop production department</i>	Budget MFPED
<i>Increasing Mukene for Human Consumption</i>	Budget MFPED
<i>Sustainable Land Management Project</i>	Budget MFPED
<i>Agricultural extension</i>	Budget MFPED
<i>Farm Income Enhancements and Forestry Conservation</i>	Budget MFPED
<i>Dissemination of NERICA & Improved Rice</i>	Budget MFPED
<i>Sustainable Irrigated Rice Production in eastern Uganda</i>	Budget MFPED
<i>National Agricultural Advisory Service</i>	Budget MFPED
<i>Presidential Initiative on Banana Development</i>	Budget MFPED
<i>Value Addition- Tea Industry</i>	Budget MFPED
<i>Value Addition to Fruit Drying project</i>	Budget MFPED
<i>Poverty Alleviation Programme</i>	Budget MFPED

Step 3 – Go to the sheet “description of measures” and click on the row you want to link, on the corresponding cell (here A118).

	A	B	
117	MAAIF Coordination	MAAIF	the main preparatio support th Investmen ministry a
118	Support to quality assurance for fish marketing	MAAIF	This proje marketing
119	Markets & Agricultural Trade Improvement	MoLG/MAAIF	This proje produce i
120	<i>Markets and Agriculture Trade Improvement Projects (MATIP)</i>	MoLG	Markets &
121	<i>Markets & Agricultural Trade Improvement</i>	MAAIF	Markets &
122	Regional NERICA Research and Training Centre	MAAIF	The traini to cater fo countries
123	<i>Regional NERICA Research and Training Centre</i>	MAAIF	training
124	<i>Regional NERICA Research and Training Centre</i>	MAAIF	reserach
125	Agriculture and Rural Development	MAAIF	The main farming te
126	Establishment of a Tea Factory in Kabale	MAAIF	Activities

Step 4 – Press “Enter” on your keyboard. The rows are now linked!



A		B
1	COUNTRY: UGANDA	
2		
3	All amounts are in thousands of Ush	
4		
5		
6		
7		
8		DATA SOURCE
113	L.Victoria Environment Management Programme	Budget MFPED
114	National Wetland Project - Phase 3	Budget MFPED
115	Capacity Building for Disaster Management	Budget MFPED
116	Northern Uganda. Social Action Fund Project	Budget MFPED
117	Conditional transfers to PMA NSCG	Budget MFPED
118	Conditional transfers to Agric. Development. Centres	Budget MFPED
119	Conditional transfers to Production and Marketing	Budget MFPED
120	L. Extension	
121	Support to quality assurance for fish marketing	
122	Farm Development department	Budget MFPED
123	Crop production department	Budget MFPED
124	Increasing Mukene for Human Consumption	Budget MFPED
125	Sustainable Land Management Project	Budget MFPED
126	Agricultural extension	Budget MFPED
127	Farm Income Enhancements and Forestry Conservation	Budget MFPED
128	Dissemination of NERICA & Improved Rice	Budget MFPED
129	Sustainable Irrigated Rice Production in eastern Uganda	Budget MFPED
130	National Agricultural Advisory Service	Budget MFPED
131	Presidential Initiative on Banana Development	Budget MFPED
132	Value Addition- Tea Industry	Budget MFPED
133	Value Addition to Fruit Drying project	Budget MFPED
134	Poverty Alleviation Programme	Budget MFPED



FOOD AND AGRICULTURE
ORGANIZATION OF
THE UNITED NATIONS



MAFAP
SPAAA

supported by the *Bill and Melinda Gates Foundation*